

FY2013

Annual Report

(Provisional English Translation)

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).

FY2013 Nuclear Regulation Authority Annual Report

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Chapter 1 Introduction

Section 1 Organization of the NRA

1. Affairs under the Jurisdiction of the Nuclear Regulation Authority

The Nuclear Regulation Authority (NRA) was established in September, 2012, in response to the MARCH 11, 2011, accident at the Fukushima Daiichi Nuclear Power Station owned by the Tokyo Electric Power Company (hereinafter referred to as “TEPCO’s Fukushima Daiichi NPS”). On the basis of the lessons learned from this accident, the NRA has undertaken an administrative role related to nuclear emergency preparedness, applying the latest technical expertise including issues related to nuclear regulations and nuclear security that were previously under the jurisdiction of other related administrative agencies. These matters also include the formulation of the Nuclear Emergency Response Guideline based on both the provisions of the Atomic Energy Basic Act (Act No. 186 of 1955) and the Act on Special Measures Concerning Nuclear Emergency Preparedness (Act No. 156 of 1999). From April 2013, the NRA has also been responsible for administrative affairs related to safeguards based on international commitments, radiation monitoring, and regulations on the use of radioisotopes. On March 1, 2014, the Incorporated Administrative Agency, the Japan Nuclear Energy Safety Organization (hereinafter referred to as the “Japan Nuclear Energy Safety Organization” or “JNES”) and all of its activities were integrated into the NRA.

Table 1 Major NRA Activities

- | |
|--|
| <ol style="list-style-type: none">(1) Ensuring safety in the use of nuclear energy (Regulations on nuclear energy-related business and facilities, and on the use of nuclear fuel material)(2) Regulations on physical protection of nuclear material (nuclear security) and related issues among relevant ministries and agencies(3) Adjustment of affairs among relevant ministries and agencies concerning radiation monitoring(4) Fostering human resources to ensure nuclear energy safety(5) Investigation of causes of nuclear reactor accidents and resultant damage(6) Formulation of the Nuclear Emergency Response Guidelines(7) Regulations on safeguards based on international commitments(8) Prevention of radiation hazards (regulations on radioisotopes, etc.)(9) Implementation of radiation monitoring |
|--|

* Affairs mentioned in (7) to (9) have been under the jurisdiction of the NRA since April 2013.

2. Chairman and Commissioners

The NRA is composed of the Chairman and four Commissioners (Table 2). In FY2013, the NRA held 47 NRA Commission Meetings for discussion, evaluation, decision making (hereinafter, regular meetings and extraordinary meetings are referred to as “Commission Meetings”).

**Table 2 Terms of Office of the Chairman and Commissioners
(as of March 31, 2014)**

		Term
Chairman	Shunichi Tanaka	5y.
Commissioner (substitute for the Chairman)	Kunihiko Shimazaki	2y.
Commissioner	Toyoshi Fuketa	3y.
Commissioner	Kayoko Nakamura	3y.
Commissioner	Kenzo Oshima	2y.

3. Organization of the Secretariat of the NRA

The Secretariat of the NRA is responsible for the NRA’s administrative affairs, and the NRA Human Resource Development Center (facilities) is responsible for the NRA’s affairs related to human resources development and training. As of March, 2014, the number of staff was 1025. The FY2013 budget (after budget revision) was 63,273 million yen* (the Cabinet Office has a separate 33,766 million yen* budget, after revision, as the nuclear disaster countermeasures-related budget)

**Table 3 Breakdown of FY2013 Budget (after Budget Revision) of the NRA
(million yen)**

	FY2013 budget (after budget revision)
General account	9,066
Special account for energy measures	46,053
Special account for reconstruction from the Great East Japan Earthquake*	8,155
Total	63,273

* The entire budget is allocated to the Reconstruction Agency.

* These amounts include the Reconstruction Agency’s special account for reconstruction after the Great East Japan Earthquake.

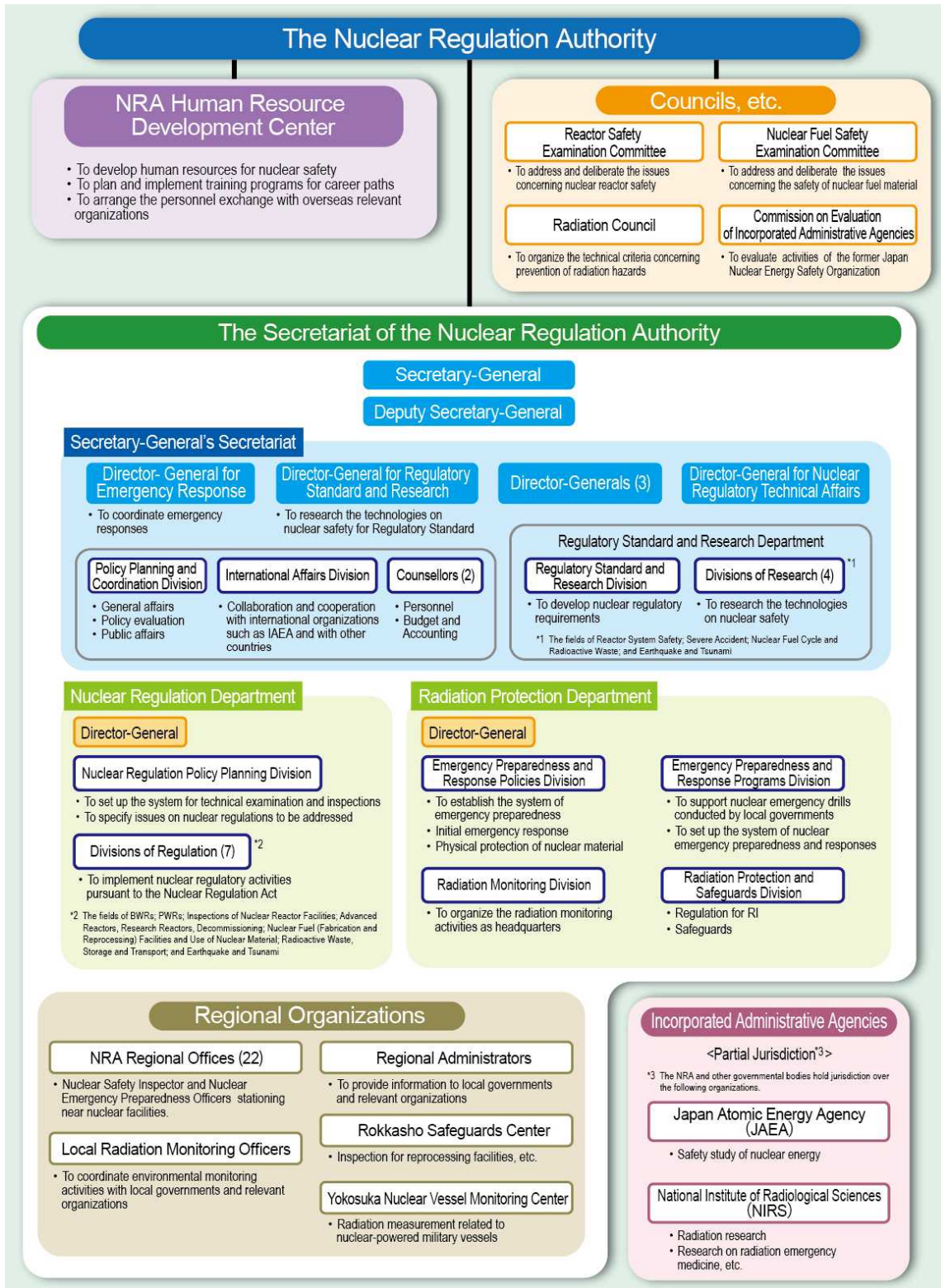


Figure 1 NRA Organization (as of March 31, 2014)

Section 2 Major Activities in FY2013

The structure and activities of the NRA were substantially expanded in FY2013. From April, 2013, the following areas have been under the jurisdiction of the NRA: affairs related to radiation monitoring, regulations for preventing radiation hazards due to radioisotopes and safeguards for ensuring that nuclear fuel material is used exclusively for peaceful objectives. In March, 2014, the organization and affairs of the Japan Nuclear Energy Safety Organization were integrated into those of the NRA. In parallel, the NRA Human Resource Development Center was established to enhance the overall expertise of the NRA. The Secretary-General's Secretariat, the Nuclear Regulation Department, and the Radiation Protection Department were also organized.

Internationally, the NRA has cultivated ties with international organizations and relevant governments, including meetings of the International Nuclear Regulators Association (INRA) in May and September, 2013. In January, 2014, the NRA officially issued a request to the International Atomic Energy Agency (IAEA) for a mission visit by the International Physical Protection Advisory Service (IPPAS) and committed the NRA to take the IAEA's Integrated Regulatory Review Service (IRRS) towards the end of 2015.

Regarding the nuclear facilities to be installed at TEPCO's Fukushima Daiichi NPS, which was designated a "specified nuclear facility" in November, 2012, the NRA Commission received a plan for implementing measures (hereinafter referred to as the "implementation plan") for ensuring the operational safety of the facilities from the Tokyo Electric Power Company (hereinafter referred to as "TEPCO") in December. After reviewing the implementation plan, the NRA Commission identified some points for further consideration and then approved the plan in August, 2013. Subsequently, the NRA checked TEPCO's actions, such as its reduction of the high-level contaminated water and removal of fuel from the Unit 4 spent fuel pool. In addition, the NRA conducted both land and sea radiation monitoring in both land and sea area in accordance with the "Comprehensive Monitoring Plan," in cooperation with relevant ministries, the Fukushima prefectural government, and other organizations. In November, the NRA Commission underwent an inspection by the IAEA's marine monitoring experts.

In November 2013, for the return of evacuees to their homes, the NRA Commission focused on the individual dose and proposed a range of the activities and measures related to the reduction of exposure doses and the mitigation of health concerns as a basic concept of safety and security measures for evacuees to return home.

In FY2013, the NRA Commission enforced new regulatory requirements for nuclear facilities based on 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”). The new regulatory requirements include strengthening measures against severe accidents and the introduction of a system for adopting the latest technical findings into existing facilities (backfit system). In July 2013, the NRA Commission started a review of the adoption by commercial power reactors to the new regulatory requirements and then, in December, of the conformity of nuclear fuel cycle facilities.

The former Nuclear and Industrial Safety Agency had conducted examinations and concluded that additional investigations of fracture zones in the sites of six power stations were required. The NRA Commission then held meetings by experts recommended by relevant scientific societies and conducted site inspections and evaluations on the fracture zones of the six power stations.

The NRA Commission repeatedly reviewed and then revised sections of the October 2012 Nuclear Emergency Response Guideline. As revised in June, 2013, the Guideline specifies a framework and method for implementing emergency monitoring and a procedure for the prior distribution of stable iodine. In September, the framework for the Emergency Action Level (EAL), which serves as a basis for implementing emergency protective measures, was revised with consideration given to the new regulatory requirements for commercial power reactors. To enhance the efficacy of actions based on these NRA reviews, the chapter covering nuclear emergency responses in the Basic Disaster Prevention Plan was revised in January, 2014.

On October 11-12, 2013, a comprehensive nuclear emergency response drill was conducted for the Sendai Nuclear Power Station of the Kyushu Electric Power Co., Inc. (hereinafter referred to as “Sendai NPS”) by the Japanese Government, the nuclear operator, local public bodies, and other parties and the NRA.

The NRA Commission then held a debriefing session after the emergency drills conducted and evaluated their effectiveness.

To ensure nuclear security, the Convention on the Physical Protection of Nuclear Material was adopted in 2005. The Japanese government adopted an amendment to the Convention, a “Bill for Partial Revision of the Act on Punishment of Acts to Endanger

Human Lives by Generating Radiation” as a domestic legislative measure at a Cabinet meeting in February, 2014, and introduced the draft to the 186th Diet.

Chapter 2 Activities for Building More Trust in the Nuclear Regulation Authority (NRA)

Section 1 Reinforcement of the NRA Structure

A review of the adoption by nuclear power stations of the new regulatory requirements began and the Japan Nuclear Energy Safety Organization was integrated into the NRA. Because the NRA is now required to address an increasingly large number of matters its structure and budgets were strengthened in FY2013.

Coinciding with the beginning of the conformity review, in September 2013 the number of NRA staff was increased from 527 to 545 with the addition of 18 reviewers.

A “Bill of the Act on the Dissolution of the Japan Nuclear Energy Safety Organization” based on Clause 4, Article 6 of the Supplementary Provisions of the Act for Establishment of the Nuclear Regulation Authority was introduced to the 185th extraordinary Diet session by the Government on October 25, 2013, and approved on November 15. The Japan Nuclear Energy Safety Organization was dissolved in accordance with the Act on March 1, 2014, and the affairs of the Organization were placed under the NRA’s jurisdiction.

The NRA is required to conduct strict and impartial reviews and inspections and to take appropriate actions for dealing with TEPCO’s Fukushima Daiichi NPS, ensuring nuclear emergency preparedness, as well as addressing the issues placed under the NRA’s jurisdiction. Therefore, the number of NRA staff was further increased from 545 to 1025, including staff engaged in temporarily increased duties due to the integration. From April 1, 2014 NRA staff numbers were 1015 following administrative streamlining. In addition, the following five sections were newly established by the NRA: 1. A department controlling the management and operation of the NRA; 2. A “Secretary-General’s Secretariat,” which is composed of the “Regulatory Standard and Research Department,” which mainly consists of the members of the safety research section of the former Japan Nuclear Energy Safety Organization; 3. the “Nuclear Regulation Department,” which conducts reviews and inspections in accordance with the Reactor Regulation Act and administers activities for TEPCO’s Fukushima Daiichi NPS; 4. the “Radiation Protection Department,” which formulates Nuclear Emergency Response Guidelines, constructs monitoring systems, and lays down regulations for nuclear security, the prevention of radiation hazards, and safeguards based on international commitments; 5. the “NRA Human Resource Development Center,” which specializes in the development of nuclear regulation experts (Figure 2).

The NRA has also established the Reactor Safety Examination Committee, the Nuclear Fuel Safety Examination Committee, and the Radiation Council in accordance

with Article 13 of the Act for the Establishment of the Nuclear Regulation Authority.

For the Reactor Safety Examination Committee and the Nuclear Fuel Safety Examination Committee, in order to ensure the transparency and neutrality required in selecting items to be investigated and discussed and of appointing appropriate persons as members, requirements for the selection and appointment and the method for selecting judges were determined at the 41st Commission Meeting of FY2013 (February 5, 2014). The NRA Commission Meeting also determined that the NRA would direct the two Examination Committees to provide advice on when to take action on the basis of the analysis of collected information on accidents and issues occurring in Japan and other countries and on the trends in regulations in other countries. (In accordance with the determination, the selection of members was approved at the fourth Commission Meeting of FY2014 (April 16). The first joint review meeting of the Reactor Safety Examination Committee and the Nuclear Fuel Safety Examination Committee was held on May 12, 2014.)

The Act on Technical Standards for Prevention of Radiation Hazards (Act No. 162 of 1958) provides that the Radiation Council will hold consultation meetings addressing the standardization of technical requirements for radiation hazard prevention in response to requests for advice received from the executives of the relevant administrative bodies. The appointment of members was approved at the 46th Commission Meeting of FY2013 (March 13, 2014). (In accordance with the determination, the 127th general meeting of the Radiation Council was held on April 4, 2014.)

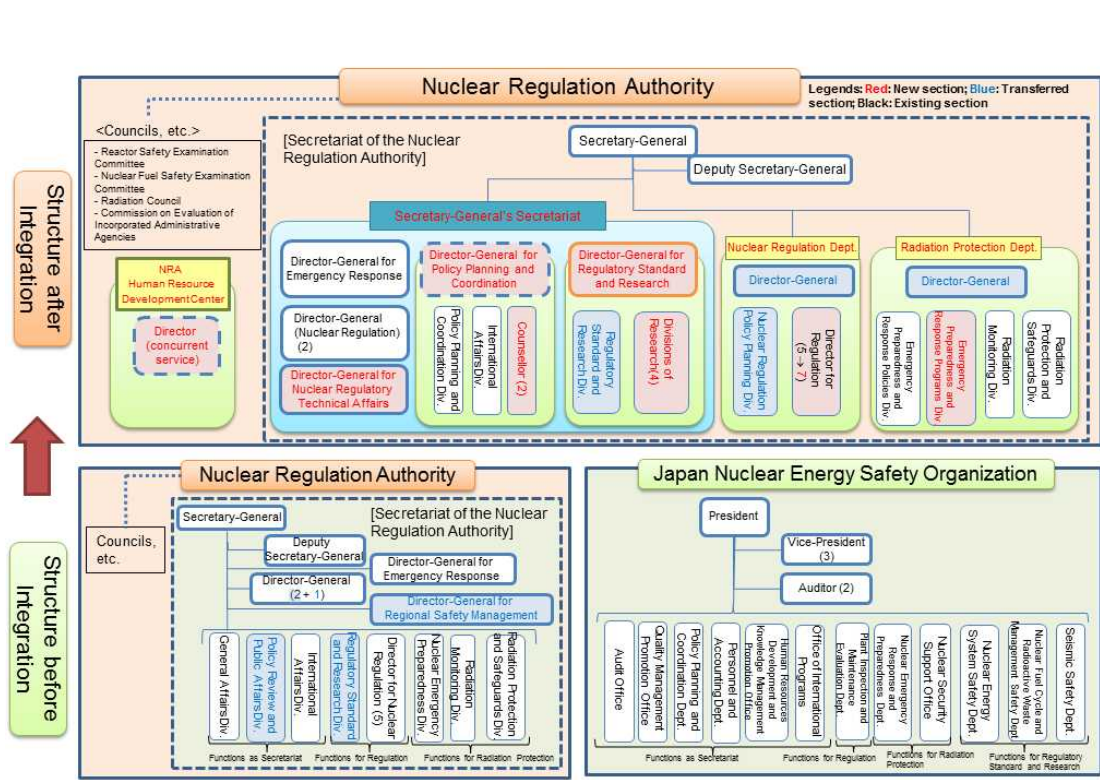


Figure 2 Changes in NRA's Structure due to Integration of Japan Nuclear Energy Safety Organization

Section 2 Ensuring Transparency and Neutrality

1. Ensuring Transparency in Decision Making

To restore trust in nuclear regulation it is essential to ensure transparency in decision making. For the purpose of clarifying processes and discussions leading to final decisions, the NRA determined a “Policy on Ensuring Operational Transparency of the NRA” at the inaugural NRA Commission Meeting of FY2012 (September). It outlined the basic policies for ① building an information release system not subject to disclosure request requirements, ② thoroughly adhering to disclosing discussions, and ③ thoroughly adhering to the principle of administration based on written documents. The Policy further provides that the details of discussions, minutes, and reference materials used at the meetings of the NRA Commission, Committees, and Study Teams, should, in principle, be disclosed.

In accordance with the Policy, the NRA Commission in FY2013, as before, prepared summaries of the proceedings of all nuclear regulation meetings attended by three or more members and interviews between the NRA Chairman, NRA Commissioners, or the officials of the NRA Secretariat and the regulated parties. The summaries were then announced together with the names of the attendees and the reference materials used. The summaries of the significant meetings and interviews were reported at the NRA Commission Meetings. Two or more members attended each of the interviews with the regulated parties regardless of whether or not the interviews related to regulatory matters, and the schedules of the interviews and the status of their implementation were made public.

As was the case in FY2012, the NRA Commission held 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 Commission Meetings and other study meetings were broadcast live on YouTube and niconico internet video sites, whenever possible. Otherwise the recorded videos and abridged editions of those meetings that were not broadcast live were released. In addition, for the convenience of video viewers, the reference materials used at Commission Meetings and other study meetings were posted on the NRA Website in the same way as in FY2012, so that the materials would be available as soon as each meeting started. The minutes of Commission Meetings were posted on the NRA Website the following day, and those of various other study meetings around one week after the meeting.

As was the case in FY2012, a press conference was held by the NRA Chairman once a week, and regular NRA briefings were held twice a week. Unscheduled press

conferences were also held as necessary. A total of 141 press conferences were held in FY2013. Press conferences were broadcast live and recorded videos were released in the same manner as for Committee Meetings and various other study meetings. The minutes of the press conferences by the NRA Chairman were posted on the NRA Website on the same day, when possible, and those of the regular NRA briefings on the next day.

2. Ensuring Neutrality in the Decision Making Process

To restore trust in nuclear regulation, it is indispensable to ensure the neutrality of persons involved in the decision making process. Therefore, the NRA Commission defined the “Code of Conduct related to Ethics for NRA Chairman and Commissioners” at the first Commission Meeting of FY2012 (September 19, 2012). The Code stipulates that the Chairman and the Commissioners must not receive donations from nuclear operators during their term of office and that they disclose any donations they received in the three years immediately prior to assuming office. Further, they should disclose any situation involving their students finding jobs at nuclear operators. (As for the Chairman and Commissioners who were in office at the end of FY2013, such information was disclosed at the time of presenting personnel proposals to the Diet on July 26, 2012.)

The fourth Commission Meeting of FY2012 (October 10, 2012) decided on 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.” This regulation requires a thorough disclosure of information 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 initially examining the safety of individual electric utilities facilities or when reexamining earlier assessments of individual facilities, persons may be selected as external experts only if they have not served as executives of the relevant electric utilities in the last three 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 individual facilities. (The Requirements were revised in March, 2013, to include nuclear fuel cycle facilities in their targets). Similar requirements were also established for the appointment of Reactor Safety Examination Committee members, the Nuclear Fuel Safety Examination Committee members, and the Radiation Council members.

In FY2013, as was the case the previous year, on the basis of the Requirements,

self-reported personal data on the members of various study meetings were disclosed on the NRA Website. Since the members of the expert meetings on investigation of fracture zones in NPS sites would reexamine earlier inspection results of individual facilities, academic experts who had never been involved in safety reviews of these nuclear facilities were chosen as the members from a pool of experts recommended by related scientific societies.

3. Ensuring Independence and Activities for Avoiding Self-isolation and Self-righteousness

Independent decision making is important for proper regulation and is emphasized by many global nuclear regulatory organizations as one of the most significant factors of their organizational philosophy. However, regulatory organizations must avoid becoming ‘isolated’ and making indulgent and self-centered decisions. Therefore, the NRA, which was established as a highly independent, so-called “Article 3-based Commission,” states not only that “we shall make decisions independently, based on scientific and technological information, free from any outside pressure or bias” but also that “we shall be open to all opinions and advice from Japan and the international community and avoid both self-isolation and self-righteousness” in its Guiding Principles for Activities defined in FY2012.

Since it is essential to foster communications with Japanese domestic organizations regarding these principles, the NRA held study meetings attended by external experts, to draw on their knowledge, and held hearings with other professionals and operators.

To seek opinions on the NRA’s activities from experts from a wide variety of fields, on September 30, 2013, the NRA Chairman Tanaka and Commissioner Oshima exchanged opinions with members of the accident investigation committees established in the Diet, in the Japanese Government, and in private organizations, as well as with persons engaged in NPO activities.

To gain knowledge both within and outside Japan, to promote a better understanding of regulations, and to establish relationships enabling prompt responses to emergencies, the NRA held talks with related professionals and operators to enhance communication on the premise that information would be disclosed to ensure sufficient transparency.

As part of the formulation of new regulatory requirements and the revision of the Nuclear Emergency Response Guideline, the NRA sought public comments on eight themes in accordance with the Administrative Procedure Act (Act No. 88 of 1993) and publicized the NRA’s views on these public opinions. The NRA also actively sought wider public comments and participation on a total of five themes that fell outside the

scope of the Administrative Procedure Act.

The NRA in FY2013 followed the previous year's procedures and operated a system for accepting regular public opinions and questions via a call center and a page on the NRA Website (on average, the NRA received around 10 opinions and questions via the webpage and around 25 opinions and questions via the call center every day).

4. Thorough Operation Quality Control

After the results of the simulation of the spread of radioactive materials were publicized in October, 2012, errors were repeatedly found in the results. Given this fact, the NRA strengthened the simulation quality control process which relies on massive amounts of data by checking the purpose of the simulations and the system for performing the simulations so that the work would be performed correctly. This process was operating effectively in FY2013.

Section 3 Securing Personnel and Enhancing Their Expertise

Nuclear regulation is an administrative field requiring highly professional and technical judgments to be made in a wide range of areas, such as reactor engineering, seismic and anti-tsunami assessments, radiation protection, and probabilistic risk assessment. It is essential that a sufficient number of highly professional personnel be employed and their expertise be continuously enhanced.

To satisfy these requirements for current staff, the NRA introduced training programs according to a planned schedule, as was the case in FY2012. They include training sessions covering a wide range of topics, from basic knowledge to advanced expertise. These programs took into consideration the revision of the Reactor Regulation Act, specifically including ① specialized training for nuclear regulation targeting Nuclear Safety Inspectors and Nuclear Emergency Preparedness Officers who require legal status, ② practical inspection training using full-size simulation equipment and facilities and skills practice for learning the mechanisms and measuring methods of potential abnormal events and ③ operation control practice covering responses to major accidents by using plant simulators. To maintain and enhance the staff's expertise in nuclear power engineering, the NRA arranged lectures using graduate school level textbooks. On March 1, 2014, when the Japan Nuclear Energy Safety Organization was integrated into the NRA, the "NRA Human Resource Development Center" (facilities) was established with the aim of dramatically strengthening the human resources development function and enhancing the expertise of NRA staff.

As was the case in FY2012, the NRA sent three staff members to graduate school studies in relevant fields in Japan and sent other staff members to international organizations, such as the IAEA. The NRA also began preparations to dispatch staff members to foreign nuclear regulatory organization, such as the US Nuclear Regulatory Commission (NRC).

The NRA in FY2013 recruited 33 new graduates and 29 mid-career workers with expertise and experience by placing four public advertisements. All will play important roles in future nuclear regulation administration. The NRA decided to implement further effective actions to secure more highly-motivated members of staff. To recruit professional staff from FY2014, the NRA, which used to accept visits to government offices only in late June every year, will now accept such visits starting in the spring as is the case with other engineering-related government offices. To recruit more new graduates that have specialized in nuclear power engineering, the NRA established an independent test system, known as the "recruiting test for staff in nuclear power

engineering” (equivalent to the test for general staff), and published a guide for the test in March, 2014. In addition, in an area where the organization needs to focus, the NRA started recruitment of technical research and investigation staff via public advertisements. In February 2014 the NRA began to recruit 80 experienced staff to conduct reviews of conformity to the new regulatory requirements, inspections appropriate to the on-site facilities, and nuclear emergency preparedness based on close communication with local public bodies.

To ensure the independence and neutrality of regulations, Clause 2, Article 6 of the Supplementary Provisions of the Act for Establishment of the Nuclear Regulation Authority provides that “to ensure the independence of regulations for safety in the utilization of nuclear energy, the staff members of the Secretariat of the NRA including both its executives and other staff may not be transferred to any government organizations that have jurisdiction over affairs concerning nuclear energy promotion except in cases where there is a particularly absolute necessity with consideration given to the motivation, aptitude, etc. of the member during the five years following the enforcement of the Act” (the so-called “no-return rule”). During the period from the NRA’s inauguration to April 1, 2014, a total of 132 NRA personnel transferred from the NRA to other government offices., including 59 to the Ministry of Economy, Trade and Industry and 45 to the Ministry of Education, Culture, Sports, Science and Technology. Among these persons, 13 engineers moved to the actual Ministry of Economy, Trade and Industry, but none moved to the Agency for Natural Resources and Energy. In the current NRA Secretariat, many personnel, mainly young persons, would be willing to return to their assignor organizations, but time is required to evaluate such personnel in terms of their aptitude and other abilities. The NRA Secretariat will continue to hire highly-motivated and experienced personnel in order to maintain the organization’s independence by improving its human resources development process, the treatment of its personnel and establishing its own system for recruiting personnel. In addition, the NRA Secretariat will periodically publish a progress report and trends in the transfer of personnel to other government offices aiming for overall improvement based on the suggestions provided by the Diet accident investigation committee.

Section 4 Collaboration and Cooperation with International Organizations and Foreign Countries

Following FY2012, the NRA undertook measures to enhance nuclear regulation through active collaboration and cooperation with international organizations and foreign nuclear regulatory organizations. The NRA actively disseminated information on regulatory activities based on lessons learned from the accident at TEPCO's Fukushima Daiichi NPS, international safety standards, and the latest scientific and technical information. The NRA also actively incorporated experiences and knowledge obtained from nuclear regulations in other countries into Japan's regulatory requirements.

1. International Nuclear Regulators Association (INRA)

From 5-8 May, 2013, the NRA hosted the 32nd INRA meeting in Tokyo and Fukushima Prefecture as chair country. Top officials from the nuclear regulatory organizations of nine countries¹ attended the meetings. NRA Chairman Tanaka and Commissioner Fuketa attended and gave presentations on the organizational framework of the NRA, current regulatory activities, and new regulatory requirements. They also participated in discussions on a wide variety of topics including the implementation of regulatory activities taken in the participating countries after the accident at TEPCO's Fukushima Daiichi NPS which attendees visited.

On 17 September, 2013, the NRA hosted the 33rd INRA meeting in Vienna, Austria. As was the case with the May meeting, top officials from the nine nuclear regulatory organizations attended as did NRA Chairman Tanaka and Commissioner Oshima and they discussed a wide variety of topics on nuclear regulation.

2. Collaboration with International Organizations (IAEA and OECD/NEA)

- (1) Exchange of views with the IAEA Director General and the OECD²/NEA³ Director-General, and Cooperative activities related to marine monitoring

The NRA Chairman exchanged views with the IAEA Director General in September and October 2013 and with the Director-General of the OECD/NEA in

¹ Japan, the United States, the United Kingdom, France, Germany, Canada, Spain, Sweden, and South Korea

² Organization for Economic Co-operation and Development

³ Nuclear Energy Agency

September 2013.

The NRA Chairman and the IAEA Director General reached an agreement on cooperation on marine monitoring in Japan. On the basis of this agreement in November 2013, the NRA provided detailed information on the results of marine monitoring. The Director of the IAEA Marine Environment Laboratory in Monaco and other IAEA staff members collected seawater samples near TEPCO's Fukushima Daiichi NPS, visited the analysis facilities for seawater samples, and exchanged views with relevant governmental organizations.

During visits to Japan from 5-22 April and from 25 November to 4 December 2013 an IAEA mission team reviewed the decommissioning of TEPCO's Fukushima Daiichi NPS and exchanged information and views with the NRA Secretariat on marine monitoring and other topics. From 14-21 October 2013, an international follow-up mission was conducted on the decontamination of widely affected areas outside TEPCO's Fukushima Daiichi NPS. During this mission, the NRA Secretariat, the Ministry of the Environment and other organizations exchanged information and views with the IAEA mission team.

(2) Requests for IAEA's Integrated Regulatory Review Service (IRRS) etc.

On 11 December, 2013, the NRA requested the IAEA to send an IRRS Mission to Japan toward the end of 2015. The IRRS conducts comprehensive reviews on national regulatory infrastructure for nuclear safety, radiation safety and radioactive waste and transport safety in a Member State. It was further decided by the NRA on 15 January 2014 to request the IAEA to send an IPPAS mission to Japan towards the end of 2014 or the spring of 2015. The IPPAS reviews and provides advice on physical protection measures for nuclear materials and nuclear facilities in a Member State.

(3) Participation in meetings of international organizations

NRA Commissioner Oshima made presentations on the organizational and human factors in a nuclear regulatory system at the "IAEA International Conference on Effective Nuclear Regulatory Systems" held on 8 April 2013 in Ottawa, Canada and at the "Fifth IAEA International Experts' Meeting" held on 21 May 2013 in Vienna, Austria.

In addition, NRA Commissioners attended a series of international meetings of the IAEA and the OECD/NEA and exchanged views and information with experts in order to communicate with the international community on Japan's new regulatory

requirements, which were formulated based on the knowledge and lessons from the accident at TEPCO's Fukushima Daiichi NPS, international safety standards, and the latest scientific knowledge. Such meetings included:

- IAEA International Nuclear Safety Group (23-24 April 2013 and 4 -5 December 2013; Vienna, Austria; Attended by Commissioner Fuketa)
- International Technical Advisory Group on IAEA Comprehensive Report on TEPCO's Fukushima Daiichi NPS (21-22 March and 6 December 2013; Vienna, Austria; Attended by Commissioner Fuketa)
- IAEA Senior Regulators' Meeting (18 September 2013; Vienna, Austria; Attended by Commissioner Oshima)
- OECD/NEA Committee on the Safety of Nuclear Installations (6-7 June 2013; Paris, France; Attended by Commissioner Fuketa)
- Workshop on Effective Regulator's Regulatory Approaches and Characteristics, OECD/NEA Committee on Nuclear Regulatory Activities (28-30 October 2013; Stockholm, Sweden; Attended by Commissioner Oshima)
- Steering Committee, OECD/NEA Committee on the Safety of Nuclear Installations (10 March, 2014; Rockville, the United States; Attended by Commissioner Fuketa)

3. Regional and Bilateral Cooperations

(1) Cooperation agreement

On 1 April 2013, the jurisdiction of regulations governing the prevention of radiation hazards and safeguards issues was transferred to the NRA from the Ministry of Education, Culture, Sports, Science and Technology (MEXT). Following this jurisdictional transfer, the NRA signed an arrangement on the revision of the scope of cooperation with the French Nuclear Safety Authority (ASN⁴). As part of the jurisdiction transferred from MEXT, the NRA signed a memorandum of understanding on the export and import of radiation sources with the Canadian Nuclear Safety Commission (CNSC).

In September, the NRA signed an agreement on information exchange with the Office for Nuclear Regulation of the United Kingdom (ONR), a memorandum of understanding on cooperation with the Federal Service for Ecological, Technological and Nuclear Supervision of Russia (ROSTEKHNADZOR), a memorandum of understanding on information exchange with the Swedish Radiation Safety Authority

⁴ Autorité de sûreté nucléaire

(SSM⁵), and an implementing arrangement concerning cooperation in research and development of nuclear safety with the United States Department of Energy (DOE). In October, the NRA signed a memorandum of understanding on cooperation with the Nuclear Safety Council of Spain (CSN). At the 6th China-Japan-Korea Top Regulators' Meeting (TRM) held in November, an agreement was concluded on a framework for trilateral information exchange for the purpose of establishing an emergency information exchange system among the participating nuclear regulatory organizations. In February 2014, the NRA signed a memorandum of understanding on cooperation with the Radiation and Nuclear Safety Authority of Finland (STUK⁶).

The NRA exchanged information on nuclear regulation within the frameworks of bilateral cooperation.

Since the Japan Nuclear Energy Safety Organization (JNES) was integrated into the NRA in March 2014, the NRA took over a part of JNES's mission concerning cooperation with the technical support organizations of nuclear regulatory organizations.

(2) Bilateral meetings

At the INRA meeting held in May 2013, NRA Chairman met with delegates of ASN, CNSC, and SSM respectively and exchanged views on future cooperation.

In June 2013, NRA Commissioner Oshima made a presentation on lessons learned from the accident at TEPCO's Fukushima Daiichi NPS at a meeting of the European Nuclear Safety Regulators Group (ENSREG) held in Brussels, Belgium.

In August 2013, the NRA held a technical meeting of the Japan-US Joint Steering Committee and exchanged technical information on Japan's new regulatory requirements and the status of TEPCO's Fukushima Daiichi NPS.

In September 2013 in Paris, the NRA held a Japan-France Bilateral Information Exchange Meeting which NRA Commissioner Oshima and ASN commissioners attended and they exchanged information on Japan's new regulatory requirements and the status of TEPCO's Fukushima Daiichi NPS. At the IAEA General Conference in September, the NRA Chairman met with the delegates of the US NRC and DOE, ONR, ROSTEKHNADZOR, SSM, and the Federal Authority for Nuclear Regulation of the United Arab Emirates (FANR), and exchanged views on future cooperation.

In November 2013, NRA Commissioner Oshima attended the "6th TRM" held in

⁵ Strålsäkerhets myndigheten (in Swedish)

⁶ Säteilyturvakeskus (in Finnish)

Hangzhou, China, and exchanged information on common issues related to nuclear safety.

In addition, the NRA received courtesy visits of VIPs, including the heads of overseas nuclear regulatory organizations, and exchanged information with them.

4. Convention on Nuclear Safety

In September 2013, the NRA submitted the 6th National Report of Japan to the IAEA (the secretary of the Convention on Nuclear Safety) in accordance with the requirements of the Convention. The National Report must contain the details of all activities that the relevant country has implemented since the last National Report three years earlier, detailing the status of all nuclear safety obligations specified in the Convention. The review process in the framework of the Convention on Nuclear Safety starts with the submission of the National Report which is put through a preliminary review with questions and answers in written form and is then further reviewed at a meeting of delegates from all the State Parties of the Convention. Recommendations, suggestions and good practices addressed through reviews, to each State Party, are made.

The 6th National Report of Japan includes descriptions of the organizational framework of the NRA, which was established to enforce Japan's revised nuclear regulations, and NRA activities implemented in line with the new regulatory requirements for reactor facilities, which were enforced in July 2013, and the new Nuclear Emergency Response Guidelines.

The 6th Review Meeting (States Parties' meeting) was held in Vienna, Austria, on 24 March 2014 for reviewing the regulatory activities in Japan. The Japanese Government delegation consisted of delegates from the NRA, the Ministry of Foreign Affairs, and nuclear operators. In the review of the National Report of Japan, other State Parties praised Japan's activities including the establishment of an independent and stronger regulatory organization, the adoption of stricter regulatory requirements, and the introduction of backfitting to existing nuclear plants. The 6th Review meeting also pointed out the following challenges: stabilization of the site status of TEPCO's Fukushima Daiichi NPS, treatment of contaminated water, implementation of backfitting measures and improvement in safety, the enhancement of operators' safety culture through an ongoing dialogue, improvement of the management system and human resources development, and the enhancement of inspection functions.

5. External Advisers

As part of the External Adviser scheme which was established in FY2012, the NRA held a meeting in Tokyo in June 2013 to exchange views with three former heads of the nuclear regulatory organizations of the United States, the United Kingdom and France. The NRA Chairman Tanaka met individually with each of the three external advisers, and NRA Commissioners Shimazaki, Fuketa, Nakamura and Oshima also exchanged views with them. The NRA held a lecture for NRA Secretariat staff members during which the three external advisers made safety culture presentations.

The NRA Chairman Tanaka and NRA Commissioners Fuketa and Oshima exchanged views with each individual adviser both in Japan and during overseas visits.

Table 4 External Advisers ⁷

Andre-Claude Lacoste	<ul style="list-style-type: none"> ○ Former Chairman of the ASN ○ Led the Integrated Regulatory Review Service (IRRS) of the IAEA to Japan in 2007
Richard A. Meserve	<ul style="list-style-type: none"> ○ Former Chairman of the NRC ○ Chairman of the IAEA International Nuclear Safety Group (INSAG)
Michael Weightman	<ul style="list-style-type: none"> ○ Former Executive Head of the ONR ○ Led the IAEA Expert Team on Investigation into the Accident at TEPCO's Fukushima Daiichi NPS in 2011

6. Overseas Public Relations

In order to widely publicize post-accident information on TEPCO's Fukushima Daiichi NPS, the NRA each week announced the results of marine monitoring conducted near the NPS site on its website. The NRA also disclosed information on the leakage of contaminated water and the status of fuel removal from the spent fuel pool of Unit 4 of TEPCO's Fukushima Daiichi NPS.

To disseminate Japan's nuclear regulations globally, the NRA also highlights on its website basic information on issues such as laws, accidents, and monitoring.

⁷ Titles are those as of March 31, 2014.

Section 5 An Allegation System Concerning Information on Safety of Nuclear Facilities

In order to detect violations to laws and regulations by nuclear operators at an early stage and prevent nuclear disasters, the Reactor Regulation Act provides for an “allegation system concerning safety information of nuclear facilities.” Under this system the NRA investigates charges made by employees and others concerning potential violations committed by nuclear operators and, if necessary, issues directives to the relevant operators or takes other corrective measures.

To ensure the neutrality and transparency of investigations conducted by the NRA Secretariat, a Nuclear Facility Safety Information Allegation Committee consisting of external experts will be set up to oversee the system and cases will be processed as promptly as possible. Due consideration will be made to protect ‘whistle blowers’, and the operational status of the system shall be disclosed. At the end of FY2013, one case had been completed and there were no other cases pending.

Chapter 3 Activities for Ensuring the Safety of Nuclear Facilities

Section 1 Post-accident Response to TEPCO's Fukushima Daiichi NPS

1. Government Activities

The government will launch full-scale decommissioning measures and contaminated water countermeasures at TEPCO's Fukushima Daiichi NPS. In its capacity as the regulator, the NRA provides technical and expert advice on these issues to the "cabinet meeting for decommissioning and contaminated water countermeasures".

2. Approval of Implementation Plan for Specified Nuclear Power Facilities

To manage TEPCO's Fukushima Daiichi NPS using methods appropriate to the current situation, the NRA designated the NPS as "specified nuclear power facilities" on November 7, 2012, based on the Reactor Regulation Act. It required the operator to submit a plan to implement appropriate operational safety measures (Table 5) and the time limit imposed thereon. On December 7, 2012, the NRA received the TEPCO's implementation plan based on Article 64-3, paragraph (i) of the Reactor Regulation Act.

Subsequently, the NRA established "the Supervision and Evaluation Committee for Specified Nuclear Power Facilities" with responsibility for examining TEPCO's facilities based on the submitted plan. The Committee examined whether each facility described in the implementation plan, and each countermeasure, conforms to "the matters for which measures should be taken," or safety requirements, and other points, based on the results of the site inspections. The said matters, including the rapid completion of the fuel removal, were aimed at reducing the risk presented by all of the specified nuclear power facilities and to ensure the internal and external safety of the premises. In the examination, it was confirmed that the submitted implementation plan conformed to the required goal. Accordingly, the NRA acknowledged that the said plan was sufficient to provide protection from nuclear fuel materials or objects contaminated with said materials, as well as to prevent reactor-related disasters and protect the specified nuclear fuel materials. Considering the current status of TEPCO's Fukushima Daiichi NPS, the authority indicated precautions (see Table 6) to be observed when implementing the plan, and subsequently approved it on August 14, 2013. Since this initial approval, the NRA has also approved changes of seven implementation plans for confirming the fuel integrity during fuel removal, fuel handling, the installation of mobile treatment equipment and other matters, depending on the progress of the works. To check for compliance with the implementation plan, the NRA continues to monitor TEPCO's ongoing efforts with daily checks by an on-site safety inspector, three safety inspections, five pre-service inspections, and three welding inspections. (see Figure 3)

Table 5 Main Points of Necessary Measures

- (1) With the goal of completing fuel removal as promptly as possible and reducing risk at the specified nuclear power facilities, thereby ensuring safety inside and outside the premises, measures should be taken promptly and efficiently.
- (2) Regarding Units 1 to 4, decommissioning measures, including removal and storage of melted fuel rods, should be completed as early as possible, while ensuring safety in the process.
- (3) Regarding Units 5 and 6, the cold shutdown status should be maintained.
- (4) Workers' exposure doses should be ascertained and managed.

Table 6 Precautions Related to Approval of Implementation Plan

- (1) **Risk evaluation:** In the decommissioning process, associated risks remain, and the state of the process varies. Consequently, it is necessary to always verify and evaluate the severity of the risk and the degree of its impact, as well as to make efforts to reduce these risks. It is also necessary to make efforts to reduce the risk of contaminated water leaking into the soil via a seawater tube trench or power cable trench, as well as into the ocean.
- (2) **Monitoring of reactors and other equipment:** It is necessary to regularly monitor and evaluate the deterioration of the thermometers in the reactor pressure vessels and in the reactor containments, as well as the state of their functional maintenance, and also to install alternative thermometers in a planned manner in case of malfunction.
- (3) **Fuel removal:** It is necessary to establish a concrete plan for removing the fuel from Units 1 to 3.
- (4) **Storage of radioactive solid waste:** It is necessary to add a temporary storage area for solid waste with a surface dose rate of 1 to 30 mSv/h, or to take other countermeasures.
- (5) **Storage of radioactive liquid waste:** It is necessary to implement measures for controlling the inflow of underground waste, measures to enhance reliability, including renewal of welded tanks, and a plan for introducing additional equipment.
- (6) **Countermeasures against contaminated water:** It is necessary to control the inflow of contaminated water by immediate soil improvement and to complete the removal of contaminated water within the tube trenches on the seaward side at an early stage.
- (7) **Radiation protection around the perimeter of the premises:** The effective doses at the boundary of the premises are increasing significantly because of the leakage of contaminated water from underground water tanks to above-ground tanks following the accident. Consequently, it is necessary to implement countermeasures to reduce the doses as quickly as possible, thereby immediately restoring the level to less than 1 mSv/year.
- (8) **Emergency countermeasures:** It is necessary to implement, in a planned manner, measures for those areas where a safe evacuation route has not been fully established or needs to be reinforced.
- (9) **Response to tsunamis:** The risk of tsunamis (standard tsunamis) of a given height should be assumed for nuclear power stations, based on the effects of the Great East Japan Earthquake. It is necessary to conduct an appropriate safety evaluation of said tsunamis and to incorporate the results into appropriate countermeasures.
- (10) **Organizational structures:** It is necessary to continue to check whether the organizational structures described in Chapter III of the implementation plan to prevent accidents or their reoccurrence are effective, and if not, what additional measures are necessary.
- (11) **Removal of fuel debris:** It is necessary to develop the most effective means to remove fuel debris.
- (12) **Promote understanding of execution of the implementation plan:** It is necessary to make additional efforts to improve information provision.

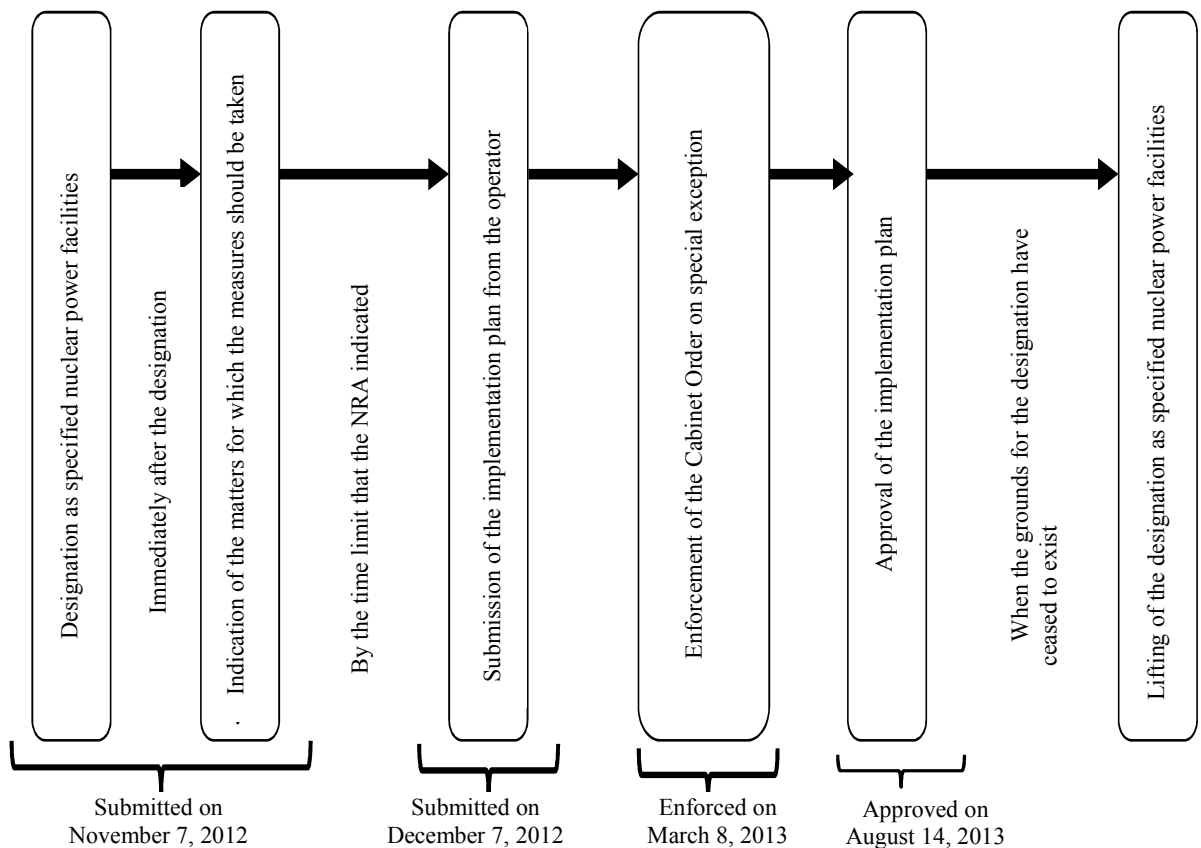


Figure 3 Action Scheme for Specified Nuclear Power Facilities and Progress

The “Cabinet Order on Special Provisions of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors for TEPCO’s Fukushima Daiichi NPS Facilities,” was established and enforced on March 8, 2013, under Article 64-4 of the Reactor Regulation Act. It was applied with the approval of the implementation plan on August 14 and subsequently the Ordinance and the Public Notice of the NRA had to be amended. The NRA established and enforced the “Ordinance for Security of TEPCO’s Fukushima Daiichi NPS Facilities and Protection of Specified Nuclear Fuel Materials,” and the “Public Notice for Stipulating Necessary Matters concerning Security of TEPCO’s Fukushima Daiichi NPS Facilities and Protection of Specified Nuclear Fuel Materials” on April 8. In the same way, the Ordinance and the Public Notice were applied to the same NPS. The relevant Ordinance and the Public Notice set forth the matters related to the management of TEPCO’s Fukushima Daiichi NPS under the implementation plan based on the provision of Article 64-3 of the Reactor

Regulation Act.

3. Responses to Accidents and Incidents

Based on Article 25 of the Act on Special Measures Concerning Nuclear Emergency Preparedness, nuclear operators are required to make appropriate emergency responses to any incident and report them under Article 62 of the Reactor Regulation Act to the appropriate minister. The NRA required TEPCO to report any accidents or malfunctions in the specified Fukushima nuclear facilities after approval of the implementation plan.

Based on these Acts, TEPCO reported to the NRA which checked the validity of TEPCO's prevention measures particularly covering any fallout effects on the stable operation of the facilities, leakage of contaminated water outside the system, and other possible impacts.

(1) Leakage of contaminated water

① Leakage from underground water tanks

On April 5, 2013, TEPCO reported to the NRA Secretariat that "it sampled and analyzed water within the outermost tarpaulin as well as drain water outside, in order to investigate the reason for the drop in the water level of the underground water tanks. High concentrations of radioactive material were detected in the sampled water, pointing to the leakage of contaminated water from the underground water tanks." The NRA Secretariat confirmed the state of the leakage at the site as well as TEPCO's response to the leakage at the Fukushima Daiichi nuclear safety inspector's office. Based on this information, the NRA Secretariat requested TEPCO to enhance measures to monitor the contaminated water, evaluate its diffusion and implement any necessary countermeasures to prevent future outflows to the ocean.

In its response, TEPCO transferred the contaminated water from the underground water tanks to above-ground tanks, installed observation holes for monitoring the effects on the environment, removed contaminated soil, and implemented other necessary countermeasures. Implementation of these countermeasures was confirmed by the Fukushima Daiichi nuclear safety inspector's office and by the Commission on Supervision and Evaluation of the Specified Nuclear Facilities.

In addition, TEPCO established a policy for the non-use of underground water tanks after emptying them of all the contaminated water. Although the overall storage capacity was thus initially reduced, the NRA Secretariat approved a change in the implementation plan to provide for additional above-ground tanks with a storage capacity exceeding the amount of generated contaminated water.

② Detection of radioactive materials in underground water near revetment, with a concentration exceeding legal and regulatory limits

On June 17, 2013, TEPCO reported to the NRA Secretariat that “because the concentration of tritium in the underground water near the revetment at the east side of the turbine building had increased to a level more than 10 times that measured in December 2012, while that of strontium also exceeded the limit stipulated in the laws and regulations, the company believed that previous fallouts were unlikely to have affected these concentrations and that the highly contaminated water in the trenches on the seaward side had leaked underground and mixed with the ground water.” The NRA Secretariat confirmed the state of the leakage at the site as well as TEPCO’s response to the leakage at the Fukushima Daiichi nuclear safety inspector’s office. The Secretariat instructed TEPCO to strengthen its monitoring of contaminated water, to immediately implement countermeasures to prevent the contaminated water from flowing into the marine environment, to immediately implement countermeasures to prevent leakage from those trenches on the seaward side that contain highly contaminated water that may have leaked underground, and to implement any other actions deemed necessary.

In response to the aforementioned instructions, TEPCO conducted soil improvement of the seaward-side revetment to prevent ground water from flowing into the marine environment. It implemented monitoring of the ground water and seawater, purification of contaminated water in the seaward-side trenches, transfer of the purified water, investigation of contamination sources through underground flow analysis, and other actions. The implementation of the countermeasures was confirmed by the Fukushima Daiichi nuclear safety inspector’s office, and through an examination of the implementation plan, as well as by the Working Group on Contaminated Water Countermeasures that was established in August, 2013 under the Commission on Supervision and Evaluation of the Specified Nuclear Facilities.

③ Leakage from the H4 tank area

On August 19, 2013, TEPCO reported to the NRA Secretariat that “water had been released from the drain valves for the weirs installed around the contaminated water storage tanks of the H4 tank area, after which it flowed beyond the weirs. Due to the high level of radiation in this water, it could not be denied that the tanks were a source of the leakage but the exact source could not be determined.” The NRA Secretariat confirmed the state of the leakage at the site as well as TEPCO’s response to the leakage

at the Fukushima Daiichi nuclear safety inspector's office. The NRA Secretariat instructed TEPCO to determine the degree of contamination outside the weirs, to identify the leakage points as quickly as possible, to monitor the perimeter of the said tank area while strengthening the monitoring of the perimeter, to remove contaminated soil, to investigate the outflow of the contaminated water into the ocean, and to implement any other actions deemed necessary.

TEPCO subsequently removed contaminated soil and undertook an environmental assessment through monitoring and other means, and also implemented countermeasures to prevent the spread of any leakage, such as replacing the old tanks with welded tanks, closing the valves of the tank weirs, raising the weirs and other actions, based on the probable cause of the leakage from the junction of the bottom of the tanks. Implementation of these countermeasures was confirmed by the Fukushima Daiichi nuclear safety inspector's office and by the Working Group on Contaminated Water Countermeasures.

On December 6, 2013, TEPCO submitted a report to the NRA secretariat on malfunctions in the power reactor facilities entitled "Leakage from Contaminated Water Storage Facilities, RO⁸ Concentrated Water (water that could not pass through a reverse-osmosis membrane and could not be desalinated in an attempt to desalinate the water retained in the turbine building from which cesium was removed) Tanks at Fukushima Daiichi NPS" that summarizes the aforementioned matters. The NRA Secretariat continues to check the progress of the countermeasures currently being implemented, such as the raising of the weirs, as well as the effectiveness of the countermeasures.

④ Leakage from B south tank area

On October 2, 2013, TEPCO reported to the NRA Secretariat that "contaminated water was dripping from the top plate at the upper part of the tank in the B south tank area and had flowed outside the weirs through the inspection scaffolds installed around the perimeter of the tanks." The Secretariat confirmed the state of the leakage as well as TEPCO's response to the leakage at the Fukushima Daiichi nuclear safety inspector's office. The Secretariat instructed TEPCO to immediately collect water within the weirs to determine the scope of the contamination, to remove contaminated soil, to sample water in the drain gutters, to prevent any overflowing water from being released into the ocean, and to implement any other actions deemed necessary.

⁸ Reverse osmosis membrane

TEPCO removed contaminated soil and prepared a procedure document specifying a method for checking water levels in the tanks as well as judgment criteria, considering that the injection of water, depending on the water gauges in the tanks with the inclination of the tank installation basis, was the probable cause of the leakage from the top plate. Implementation of the countermeasures was confirmed by the Fukushima Daiichi nuclear safety inspector's office and by the Working Group on Contaminated Water Countermeasures.

On December 6, 2013, TEPCO submitted a report to the NRA Secretariat on malfunctions in the power reactor facilities entitled "Leakage from Contaminated Water Storage Facilities, RO-Treated Water (water retained in the turbine building from which the cesium and salt content was removed) Tanks at Fukushima Daiichi NPS". The NRA Secretariat continues to check implementation and effectiveness of countermeasures such as raising the weirs.

⑤ Leakage from strainer pressure gauge

On February 6, 2014, TEPCO reported to the NRA Secretariat that "RO-treated water was leaking from the differential pressure indicator of a strainer being installed on the tube used to transfer water treated by the desalination system to the reactor injection equipment." The NRA Secretariat confirmed the state of the leakage at the site as well as TEPCO's response to the leakage at the Fukushima Daiichi nuclear safety inspector's office. The Secretariat instructed TEPCO to measure the radiation concentration of the leaked water, to determine the scope of the leakage and the amount of leaked water, to remove contaminated soil, and to implement any other actions deemed necessary.

TEPCO removed contaminated soil, and also installed a heater on the said differential pressure indicator as well as other actions, given that the freezing of the indicator mechanism was the probable cause of the leakage from the flange. Implementation of the countermeasures was confirmed by the Fukushima Daiichi nuclear safety inspector's office.

The Secretariat will check the contents of an additional report to the one on malfunctions in the power reactor facilities once it is submitted.

⑥ Leakage from H6 tank area

On February 20, 2014, TEPCO reported to the NRA Secretariat that "RO concentrated water was found to be dripping within the weirs of the tank area from the top plate at the upper part of the RO concentrated water storage (C1 tank) of the H6 tank area, while water was also found to be leaking outside the weirs through a gutter

for draining rainwater that accumulates on the top plate.” The Secretariat confirmed the state of the leakage at the site as well as TEPCO’s response to the leakage at the Fukushima Daiichi nuclear safety inspector’s office. It instructed TEPCO to implement measures to stop the leak, to determine the scope of the leakage and the amount of leaked water, to remove contaminated soil, to check for the presence or absence of any leakage from the tanks of the same type as the C1 tank causing the leakage, and to take any other actions deemed necessary.

TEPCO removed contaminated soil and implemented other actions such as installing observation holes for monitoring, enhancing the monitoring of water levels and other items, locking the valves, installing monitoring cameras and other actions. Overlooking signs of an error which was caused by the incorrect open/close state of the water valve was the probable cause. Implementation of countermeasures was confirmed by the Fukushima Daiichi nuclear safety inspector’s office, and by the Commission on Supervision and Evaluation of the Specified Nuclear Facilities, the Working Group on Contaminated Water Countermeasures, and other committees.

The Secretariat will check the content of an additional report to that on malfunctions in the power reactor facilities.

(2) Leakage from desalination system RO-3, contaminated water treatment equipment

On October 9, 2013, TEPCO reported to the NRA Secretariat that “contaminated water was leaking from a pressure hose connection that was mistakenly removed by operatives in the building containing Desalination System 3.” The leaked water was held back by leakage prevention weirs installed in the building, but six repair personnel attempting to fix the connection were externally contaminated. The Secretariat confirmed the state of the leakage as well as TEPCO’s response to the leakage at the Fukushima Daiichi nuclear safety inspector’s office and then instructed TEPCO to evaluate the contamination of the affected operatives and to implement any actions deemed necessary.

TEPCO then evaluated the level of the operatives contamination and attached identification marks to the hoses, given that the mishap was caused by the operatives failure to correctly recognize the hose to be removed. Implementation of countermeasures was confirmed by the Fukushima Daiichi nuclear safety inspector’s office.

For reference, TEPCO submitted to the Secretariat a report on malfunctions in the power reactor facilities entitled “Leakage from Desalination System (reverse-osmosis

membrane system) RO-3, Contaminated Water Treatment Equipment at Fukushima Daiichi NPS” that summarized the situation. The Secretariat continues to check the progress and effectiveness of the countermeasures currently being implemented.

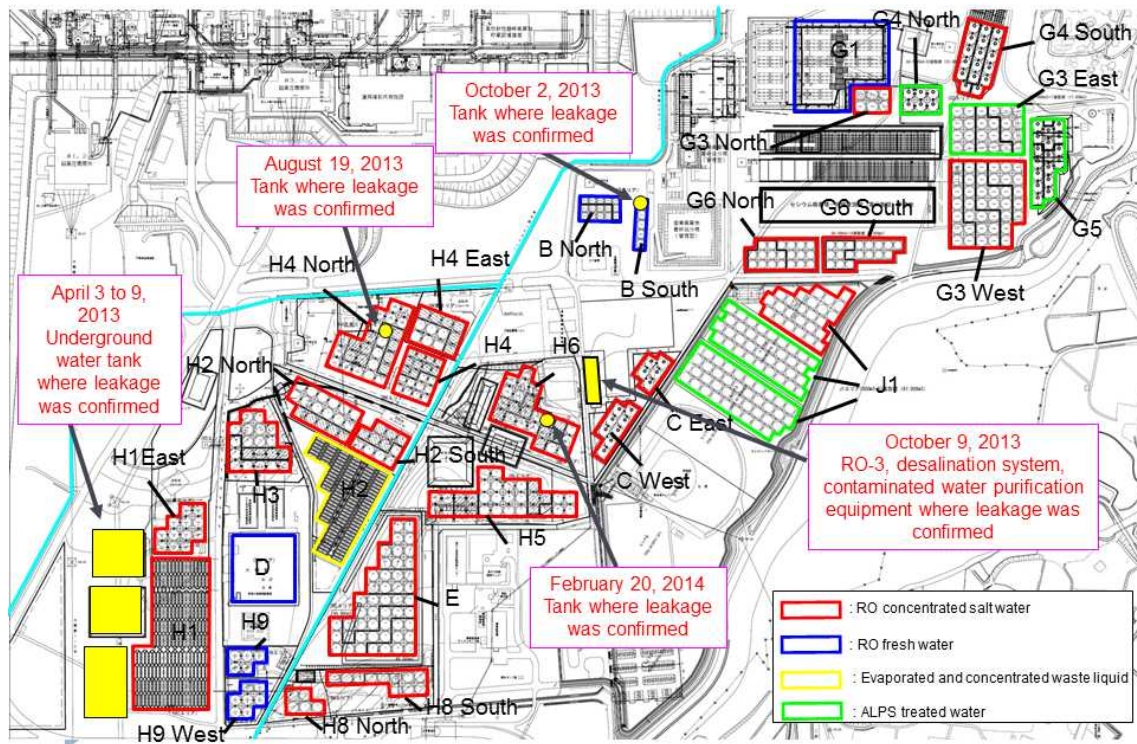


Figure 4 Current State of Site of Fukushima Daiichi NPS (Source: Tokyo Electric Power Co., Inc.)

(3) Limitation of site boundary doses

In November 2012, the NRA indicated “matters for which measures should be taken.” The NRA required that the evaluation of effective doses at the boundary of the site when additional radioactive materials are released from the facilities must not exceed 1 mSv/year. Due to the storage of contaminated water in ground tanks, however, the values exceeded the required value; the recorded values were 8 mSv/year as of December 2013 (9.7 mSv/year as of March 2014). In response to this situation, in February 2014, the NRA instructed the Tokyo Electric Power Co., Inc. to reduce the effective doses at the site boundary in a phased manner and to work toward making the

aforementioned evaluation values less than 1 mSv/year by the end of March 2016 at the latest. In addition, the NRA gave the following directions to the company, so that it can confirm the annual dosage reduction: The reduction target of the effective doses (evaluation values) at the boundary shall be less than 2 mSv/year at the end of March 2015, and the reduction target of the effective doses (evaluation values) at the boundary, as emitted by other than contaminated water in the tanks (rubble, etc.) shall be less than 1 mSv/year by the end of March 2015 at the latest.

(4) Fuel removal from Unit 4

TEPCO has been removing fuel from the spent fuel pool in Unit 4 since November 18, 2013, after the NRA checked whether the fuel handling equipment satisfies the specifications described in the approved implementation plan, the implementation state of the operative's drills, and the establishment of a security structure. Before the start of the removal, the NRA's timely examination and inspection of the implementation plan submitted by TEPCO was recognized as good practice by the IAEA.

As of March 31, 2014, 22 fresh fuel assemblies and 528 spent fuel assemblies had been completely removed. At present, 983 fuel assemblies remain in the spent fuel pool (180 fresh fuel assemblies and 803 spent fuel assemblies).

(5) Request for improvement of the workplace environment

In response to an error in field management leading to two separate instances of contaminated water leakage in October 2013, the NRA Chairman met the President of TEPCO on October 28. The NRA Chairman asked, in his position as the top man at TEPCO how the president viewed several outstanding issues: , how he intends to overcome current problems and how he intends to raise the morale of on-site workers given that the prevention of accidents depends significantly on the on-site technical abilities of personnel, their responsibilities, and morale. The president responded that he will instigate a company-wide evaluation and a transfer of personnel including those at the Kashiwazaki-Kariwa NPS and other thermal and hydropower stations to ensure that the right people were located in the right positions including at Fukushima Daiichi. He further promised to authorize any required expenditures, despite being criticized in the past for excessive cost reduction, and will reduce the personnel workload by improving the quality of the rest stations and other facilities, making water available, and eliminating other inconveniences. The NRA Chairman requested the President to implement a drastic and long-term plan, specifically to improve the workplace environment and taking on-site radiation countermeasures.

In a response to these requests, TEPCO developed its “Emergency Safety Countermeasures in Fukushima Daiichi NPS” on November 8, 2013, and implemented such measures as improvements in the working environment and the strengthening of the conventional management structure. TEPCO also decided to reconsider its conventional negotiated work contract system that stresses the hiring of medium- and long-term personnel. In addition, TEPCO developed a “New Comprehensive Special Business Plan” in January 2014. Which includes measures: ① to dramatically improve labor management practices, accelerate on-site work and enhance working conditions and ② to ensure work quality and safety through the strengthening of the management structure. The NRA Secretariat checked the on-site implementation of these changes.

On March 20, 2014, the NRA Chairman Tanaka, as well as Commissioners Fuketa and Nakamura, met TEPCO’s President again and received a report on the progress of the emergency safety countermeasures from the company’s top management.

The NRA Chairman urged TEPCO’s President and leading management figure, to improve the working environment and conditions to maintain worker safety and morale.

(6) Strengthening NRA responses

To strengthen the supervision of TEPCO’s efforts to prevent the leakage of contaminated water, the NRA added two nuclear safety inspectors to the Fukushima Daiichi nuclear safety inspector’s office in May 2013. At the end of FY2013, ten officials were overseeing TEPCO’s Fukushima Daiichi NPS.

4. Investigation into Causes of the Accident

One of the NRA’s most significant roles is to continue efforts to identify the causes of the accident at TEPCO’s Fukushima Daiichi NPS. Consequently, the NRA has preceded with its technical verification efforts.

At the 34th Commission Meeting of FY2012 (March 27, 2013), the NRA decided to set up “the Study Committee on Analysis of TEPCO’s Fukushima Daiichi NPS Accident,” which consists of Commissioner Fuketa, external experts, and officials of the NRA Secretariat, JNES officials and the Secretariat of the Nuclear Safety Research Center of the Japan Atomic Energy Agency (hereinafter referred to as JAEA). The Study Committee was established in May to help to clarify technical issues. The Committee held five meetings and four site inspections in FY2013. Specifically, the Committee studied the source of the flooding of the reactor building of Unit 1 and the route of the hydrogen inflow that was the cause of the hydrogen explosion in the reactor

building of Unit 4. The Committee decided to continue over the medium and long term with technical investigations based on the results of the reactor investigations.

5. Study on Safety and Security Measures for Evacuees to Return Home

A joint meeting of the Reconstruction Promotion Committee and the Nuclear Emergency Response Headquarters held on March 7, 2013, examined the embodiment of finely considered protection measures taken in accordance with the dose levels with the goal of lifting the evacuation order. It was agreed that a detailed viewpoint on protection measures would be formulated by the end of 2013. The NRA studied proposed measures from both scientific and technical standpoints.

In August 2013, the NRA established the “Study Team on Safety and Security Measures for Evacuees to Return Home.” The Study Team held four times meetings including hearings with related ministries and agencies, experts and the representatives of local societies, and compiled the results of these discussions on November 11. Based on these results, the NRA agreed “the Basic Concept of Safety and Security Measures for Evacuees to Return Home” on November 20. Focusing on personal exposure doses, the NRA submitted various efforts and countermeasures for reducing exposure doses or alleviating health concerns with the aim of helping local residents to return to their homes. (Table 7)

In response to these efforts and countermeasures, the ministries and agencies related to the Nuclear Emergency Response Headquarters established concrete countermeasures. On December 20, 2013, the Cabinet endorsed, the guideline “Toward Acceleration of Fukushima Reconstruction from the Nuclear Disaster”

Table 7 Main Points of the Basic Concept of Safety and Security Measures for Evacuees to Return Home

<p>(1) Concept related to dose levels</p> <ul style="list-style-type: none">• To allow local residents to return to their homes, the national government shall address the following actions, on the precondition that an annual exposure dose estimated from air dose rates falls below 20 mSv<ul style="list-style-type: none">① To aim at a long-term goal of an annual personal additional exposure dose of 1 mSv or less per year after returning home② After the lifting of the evacuation order, to reduce individual local residents' exposure doses and indicate the details of countermeasures to ease their radiation anxieties <p>(2) Concrete efforts to allow local residents to return to their homes</p> <ul style="list-style-type: none">• To develop a roadmap that summarizes the national government's measures to help local residents make intelligent judgments• To provide information on personal dose levels and to grasp and control personal doses, under national government leadership, including a detailed explanation of the measurement results• To develop countermeasures for exposure reduction, such as the development of a dose map for exposure reduction through personal actions, or the promotion of decontamination in liaison with reconstruction programs• To promote countermeasures against health-related anxieties, such as expanding health-related activities including regular health consultations by nurses and ensuring the implementation of health checks• To implement valid risk communication that is easily understood by local residents• To create a counseling system that directly helps local residents returning to their homes to reduce their exposure and to establish support centers for them
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Section 2 Radiation Monitoring Subsequent to TEPCO's Fukushima Daiichi NPS Accident

1. Comprehensive Radiation Monitoring Plan

To relevant ministries, agencies, Fukushima prefecture and other have conducted radiation monitoring in land and sea area in the wake of the Fukushima accident based on the “Comprehensive Radiation Monitoring Plan” (developed by at the Monitoring Coordination Meeting on August 2, 2011, and revised on April 1, 2013). With the overall responsibility for radiation monitoring, the NRA in this fiscal year checked and analyzed these results as well as performing its own radiation monitoring.

It published the results of these checks and analysis on its website⁹ every week.

Table 8 Major Systems under Comprehensive Radiation Monitoring Plan (as of March 31, 2014)

Target	Information aggregation or responsible entities
Environment nationwide	NRA ^{*1} , respective prefectures
Overall environment (all areas of Fukushima)	NRA ^{*1} , Nuclear Emergency Response Headquarters, Fukushima prefecture
Sea areas	NRA ^{*1} , Fisheries Agency, Ministry of Land, Infrastructure, Transport and Tourism, Japan Coast Guard, Ministry of the Environment, Fukushima prefecture
Schools, nurseries yards, others	NRA ^{*2} , MEXT, Ministry of Health, Labor and Welfare, and Fukushima prefecture
Ports, airports, parks, sewage	NRA, Ministry of Land, Infrastructure, Transport and Tourism, local public entities
River, lakes, underground water, natural parks, waste	Ministry of the Environment, Fukushima prefecture, municipalities
Cultivated soil, forest pasture and irrigation reservoirs	Ministry of Agriculture, Forestry and Fisheries, local public entities
Food Stuff	Ministry of Health, Labor and Welfare, Ministry of Agriculture, Forestry and Fisheries, municipalities
Tap water	Ministry of Health, Labor and Welfare, Nuclear Emergency Response Headquarters, local public entities

*1 The affairs were transferred from MEXT to the NRA on April 1, 2013.

*2 Partially conducted by the NRA since April 1, 2013

⁹ <http://www.nsr.go.jp/activity/monitoring/monitoring2-2.html>

2. NRA Monitoring Conducted under the Comprehensive Radiation Monitoring Plan

In FY2013, the NRA monitored the overall environment in Japan including all areas of Fukushima and sea area under the “Comprehensive Monitoring Plan.” Headquarters for radiation monitoring had been earlier transferred from MEXT to the NRA.

In the Fukushima region the NRA performed aircraft-based monitoring. In May 2013, it published air dose rate maps for the areas subject to the evaluation areas, as of March 11, 2013. In December, 30 months after the accident, the NRA released air dose rate maps within the area of 80-km radius from TEPCO’s Fukushima Daiichi NPS.

In response to requests from local public bodies, 675 portable monitoring posts and 2700 systems for real-time dose measurement were placed at schools in Fukushima and neighboring prefectures, as well as other public locations. The NRA continued to measure air dose rates at these locations, and published the results on its website in real time. In addition to these systems, the NRA placed 336 systems for real-time dose measurement and 33 portable monitoring posts in those areas subject to the evaluation order, as well as other relevant areas, in January 2014.

In cooperation with Fukushima prefecture, the NRA developed a framework allowing Fukushima prefecture and 12 municipalities in areas subject to the evacuation order to conduct monitoring according to the needs of local residents. The framework was developed through a new fund created by Fukushima prefecture in FY2013.

For sea area, organizations involved in sea area monitoring continued to conduct monitoring based on “Implementation Guide on Sea Area Monitoring” as part of the “Comprehensive Radiation Monitoring Plan,” following guidelines employed the previous fiscal year. The NRA collected and analyzed seawater and sediment from locations closed to the Fukushima Daiichi NPS, Coastal area, Off-shore area, Outer area, Tokyo Bay. The Authority established “the Committee on Marine Monitoring” in September 2013, to confirm the monitoring results of the seawater, sediment, marine biota, evaluating measurement methods and examining whether to strengthen monitoring.

In November 2013, IAEA marine radiation monitoring experts visited Japan and collected information on the seawater monitoring employed around TEPCO’s Fukushima Daiichi NPS, as well as methods for analyzing the sampled water. The experts held a hearing with the NRA and related ministries and agencies concerning the monitoring before releasing a summary report on decommissioning in December. The IAEA noted that the NRA and related Japanese organizations had developed a

comprehensive monitoring program for the supervision of radiation levels through marine monitoring but said the results produced by different laboratories should be compared and the seawater monitoring program should be sophisticated enough to assure the reliability of the data.

Section 3 Review of Regulatory Requirements under the Reactor Regulation Act

In response to the Fukushima accident, the government revised the Reactor Regulation Act under the terms of Article 17 of the Supplementary Provisions of the Act for Establishment of the Nuclear Regulation Authority. The revised Act introduced a new regulation system based on the lessons learned from the accident, the latest technological findings, trends in overseas regulations including regulatory requirements stipulated by the IAEA and other international organizations, as well as other factors. The purpose of the revised Act is to protect people's health and preserve the environment. It is also stipulated in the Act that the following measures shall be implemented for power reactor facilities; ① strengthening of measures to prevent severe accidents, ② the introduction of a system for adopting the latest technological findings and obligating approved nuclear facilities to conform to the new regulatory requirements (backfit system), ③ the introduction of the approval system for the extension of operational periods, ④ the integration into the Reactor Regulation Act of safety regulations for power reactors.

For nuclear fuel cycle facilities, the Reactor Regulation Act was revised under the terms of Article 18 of the Supplementary Provisions of the Act for Establishment of the Nuclear Regulation Authority. It is also stipulated in the Act that the following measures shall be implemented for nuclear fuel cycle facilities: the introduction of measures against severe accidents (fuel facilities and reprocessing facilities) and backfit systems (fuel facilities, research and test reactor facilities, reprocessing facilities, spent fuel storage facilities, specified waste disposal facilities, and specified waste management facilities) according to the characteristics of the facilities, and measures for the introduction of evaluations for safety improvement concerning fuel facilities, power reactor facilities, and reprocessing facilities.

1. Efforts to Establish New Regulatory Requirements

(1) New regulatory requirements for power reactors

In the revision of the Reactor Regulation Act with the establishment of the Act for Establishment of the Nuclear Regulation Authority, it was stipulated that new regulatory requirements for power reactors should be enforced on the day specified in the Cabinet Order, within a period no later than ten months (until July 18, 2013) after the enforcement date of the Act for Establishment of the Nuclear Regulation Authority.

To develop new regulatory requirements for power reactors, the NRA set up “the

Study Team on the New Regulatory Requirements for Light Water Power Reactors,” “the Study Team on the Regulatory Requirements for Light Water Nuclear Power Plants -Earthquakes and Tsunamis-,” and “the Study Team on Establishment of the New Safety Regulations for Light Water Nuclear Power Plants,” to establish the requirements for power reactor facilities.

The “Study Team on the New Regulatory Requirements for Light Water Power Reactors” and the “Study Team on the Regulatory Requirements for Light Water Nuclear Power Plants -Earthquakes and Tsunamis-” discussed requirements to tighten the design basis and measures against severe accidents, and the design basis for earthquakes and tsunamis, respectively. In examining probable risk assessment, including external events, the two teams individually discussed new regulatory requirements that would become the strictest in the world, based on lessons learned at Fukushima and overseas regulatory requirements.

After these discussions and subsequent public hearings which lasted about three weeks, the NRA developed a draft of the new regulatory requirements on April 3, 2013 (Table 9). The Authority prepared drafts of the NRA regulations, public notices and in-house rules and sought public comments between April 11 and May 10. Based on these opinions the NRA determined the New Regulatory Requirements on June 19 which were issued on June 28 and went into force on July 8.

The new regulatory requirements call for the following actions based on lessons learned at Fukushima: ① To tighten the regulatory requirements related to earthquakes and tsunamis and backfit conventional reactors ② In the event of an accident or natural disaster not covered by the revised regulatory requirements, to take measures to prevent core damage, damage to the containment vessel, or to curb the spread of radioactive material. Nuclear facilities are required to have the needed equipment and procedures already in place upon the enforcement of the New Regulatory Requirements on July 8. Furthermore, those backup facilities for which reliability must be improved are required to conform to the Requirements no later than five years after the enforcement date.

The “Study Team on Establishment of the New Safety Regulations for Light Water Nuclear Power Plants” discussed the procedures (Table 10) for enforcing the New Regulations. In April 2013, the NRA called for public comment on the regulations as part of the development of the relevant procedures and, in July enforced the Regulations concerning the Installment and Operation, of Commercial Power Reactors. In December, the NRA revised the said Regulations to promote nuclear operators’ voluntary activities for safety improvement of nuclear facilities. The purpose of the revision was to force

nuclear operators to evaluate the safety of their power reactor facilities when taking measures to prevent the occurrence of any accident or to prevent the spread of an accident not covered by the Regulations, and to obligate them to report the results of the evaluation to the NRA and publish them.

For power reactors, in July 2013, the NRA enforced new regulatory requirements for the JAEA's Prototype Fast Breeder Reactor "Monju" (hereinafter referred to as the "Prototype Fast Breeder Reactor 'Monju'") on the basis of the New Regulatory Requirements for Light Water Power Reactors. The aforementioned Study Team decided that it would discuss the matters related to the inherent safety of the fast breeder reactor over the medium to long term.

Table 9 Draft of New Regulatory Requirements for Light Water Power Reactors

Main Topic	Draft of New Regulatory Requirements
Tightening of design basis	<ul style="list-style-type: none"> • Natural disasters such as tornados, forest fire, etc. to be taken into consideration in designing facilities • Strengthen and thoroughly ensure fire protection measures • Strengthen the trustworthiness of particularly-important safety equipment • Strengthen external power supplies • Physical protection of systems to allow heat dissipation
Measures against severe accidents (measures to prevent core damage)	<ul style="list-style-type: none"> • Measures to be taken when failing to shut down nuclear reactors by ordinary procedures • Measures to be taken when losing the ability to cool down and reduce pressure of reactors • Measures to be taken when losing functions of the ultimate heat sinks • Ensuring support functions (power supply, water, etc.)
Measures against severe accidents (measures to prevent damage to containment vessel)	<ul style="list-style-type: none"> • Measures for cooling down and reducing atmospheric pressure and reducing radioactive materials in containment vessels (containment spray system) • Measures for preventing damage due to pressure increase of containment vessels (filter vent) • Measures for cooling down reactor cores that have melted down on the bottom of containment vessels • Measures for preventing hydrogen explosions in containment vessels • Measures for preventing hydrogen explosions in reactor buildings • Measures for cooling down spent fuel storage pools
Measures against intentional aircraft crashes	<ul style="list-style-type: none"> • Develop facilities (specified safety facilities) that can be used in the event of core damage caused by a terror attack, such as an intentional aircraft collision
Measures to suppress radioactive materials dispersion outside the premises	<ul style="list-style-type: none"> • Request to install outdoor watering equipment in preparation for any damage to containment vessels
Strengthening of standards concerning tsunamis	<ul style="list-style-type: none"> • Specify tsunamis exceeding the largest-ever level as ‘standard tsunamis,’ and request installation of tsunami protection facilities, such as seawalls, as measures against such standard tsunamis
Expansion of facilities to require high quake resistance	<ul style="list-style-type: none"> • Categorize facilities that have protective functions against tsunamis into Class S, the same category as reactor pressure vessels, for which the highest quake resistance is required in designing, to ensure that functions to prevent water intrusion would not be lost due to earthquakes
Tightening of standards for determining capable faults	<ul style="list-style-type: none"> • When determining capable faults to be taken into consideration in aseismic design, evaluate the activity of faults back to the middle Pleistocene epoch (approx. 400 thousand years ago), as necessary
Setting of more accurate design basis earthquake ground motions	<ul style="list-style-type: none"> • Ascertain subsurface structures at NPS sites in three dimensions
Clarification of standards for ground shifts and deformation, in addition to those for quakes	<ul style="list-style-type: none"> • Construct buildings and structures categorized into Class S on ground where there are no capable faults underneath

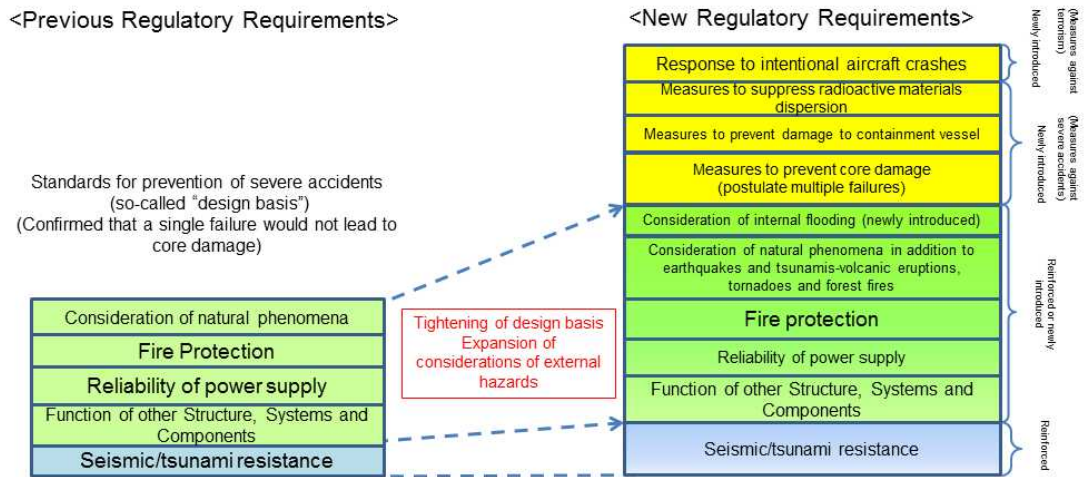


Figure 5 Comparison between Previous and New Regulatory Requirements for Power Plants

Table 10 Major Topics of the Study Team on Establishment of New Safety Regulations for Light Water Nuclear Power Plants

- (1) Contents of the attachment to be included in the main text of the application for permission to establish a facility
- (2) To require notification for requested changes in the establishment of facilities
- (3) Regarding certification of various types of specified equipment
- (4) Regarding methods for quality control concerning designing and construction work, and technical standards for the organization for inspection
- (5) Integration of safety regulations for power reactor facilities into the Reactor Regulation Act

(2) New regulatory requirements for nuclear fuel cycle facilities

New regulatory requirements for nuclear fuel cycle facilities should be enforced on the day specified in the Cabinet Order, no later than 15 months (until December 18, 2013) after the enforcement date of the Act for Establishment of the Nuclear Regulation Authority.

To develop new regulatory requirements for nuclear fuel cycle facilities, the NRA established “the Study Team on the New Regulatory Requirements for Nuclear Fuel Facilities,” to study the requirements for nuclear fuel cycle facilities.

Because nuclear fuel cycle facilities handle various types of nuclear fuels and have a wide variety of structures, the “Study Team on the New Regulatory Requirements for Nuclear Fuel Facilities” decided to develop new regulatory requirements for each

facility taking into those features of each facility. (taking a so-called “graded approach”) (Table 11).

Specifically, the common requirements for nuclear fuel cycle facilities are stricter than the conventional one in terms of the possible impact of earthquakes and tsunamis, and involve design safety evaluations based on the latest findings related to natural disasters, such as volcanic eruptions, tornados, and forest fires. In addition, nuclear fuel cycle facilities are required to implement measures based on the concept of defense-in-depth. Reprocessing and fuel facilities were required to implement measures against severe accidents and against evaporation-caused drying and solidification resulting from a loss of the cooling functions in reprocessing facilities. Research and test reactors and facilities using nuclear fuel were required to implement measures that depended on the degree of impact of any accident. Waste disposal facilities were required to store waste in an appropriate manner, evaluate them periodically during its control span, and make a safety evaluation of the waste at the end of control. These requirements aimed to strengthen the control of nuclear fuel materials and waste in subsequent regulations. Furthermore, the “Study Team on Establishment of the New Safety Regulations for Light Water Nuclear Reactors” and the “Study Team on the New Regulatory Requirements for Nuclear Fuel Facilities” jointly reviewed procedures related to the enforcement of new regulations in the same way as for power reactor facilities.

Based on the Study Teams’ discussions, the NRA sought public comment and on September 5, 2013, developed a draft of the new regulatory requirements. Further public comment was solicited between September 12 and October 11. Based on the feedback the Authority announced new Regulatory Requirements on November 27. The said Requirements were issued on December 6 and came into force on December 18. For the development of these standards, the NRA adopted guidelines indicated in the IAEA’s safety requirements, and also referred to the regulatory requirements of other countries. As a result, the New Regulatory Requirements compare very well with international standards.

Table 11 Characteristics of New Regulatory Requirements for Nuclear Fuel Cycle Facilities

Target Facilities	Characteristics of New Regulatory Requirements
Common matters for each facility	<ul style="list-style-type: none"> • Stricter than the conventional method for evaluating earthquakes and tsunamis • evaluations and design to be based on the latest findings related to natural disasters such as volcanic eruptions, tornados, and forest fires
Fuel facilities	<p>[Tightening the design basis]</p> <ul style="list-style-type: none"> • Clarify the relationship between the importance of safety functions and seismic significance. Increase coefficient of statistic seismic force for uranium processing facilities, and strengthen earthquake and tsunami requirements for safety-significant facilities in the same way as for MOX¹⁰ processing facilities <p>[Measures against severe accidents and effectiveness evaluation]</p> <ul style="list-style-type: none"> • Require measures to prevent the occurrence of severe accidents, and “functional recovery from severe accidents (including convergence),” “measures to curb the spread of radioactive materials and radiation outside the premises (impact mitigation),” for MOX processing facilities • Require measures to ensure the safety of works in the event of any severe accidents (including those against chemical effects of uranium hexafluoride)
Research and test reactor facilities	<ul style="list-style-type: none"> • Additionally request “prevention of the spread of any accident in which a large amount of radioactive material would be released” for research and test reactor facilities (*) for which the effect of an accident would be great, such as medium- and high-power reactors <p>*Clarify considerations for water-cooled research reactors, sodium-cooled fast reactors, and gas-cooled reactors with a thermal output of 500 kW or more, external artificial events (third party’s illegal access), etc.</p> <ul style="list-style-type: none"> • Require measures to notify on-site external researchers and visitors of an accident and to give necessary instructions
Spent fuel storage facilities	<ul style="list-style-type: none"> • Apply the Requirements to storage in dry metal casks for both transport and storage • Request the maintenance of basic safety functions (confinement, shielding, criticality prevention, and heat removal)

¹⁰ Mixed Oxide fuel

Spent fuel reprocessing facilities	<p>[Tightening design basis]</p> <ul style="list-style-type: none"> • Clarify the relationship between the importance of safety functions and seismic significance, strengthen and ensure measures for fire protection, and clarify considerations related to external artificial events, internal missiles, internal leakage of chemicals, etc. • Increase the reliability of power supplies <p>[Measures against severe accidents and effectiveness evaluation]</p> <ul style="list-style-type: none"> • Require measures to curb the spread of radioactive materials and radiation outside the premises, and measures against terrorist attacks such as an intentional aircraft crash
Category 2 waste disposal facilities	<ul style="list-style-type: none"> • Apply the Requirements to pit and trench disposals • Require the maintenance of waste disposal sites, so that design functions are maintained until the end of the control • Strengthen the requirements for later regulations, such as periodic evaluations at the end of controls
Waste storage facilities	<ul style="list-style-type: none"> • Clarify the requirements for waste treatment and control that form the characteristics of waste management facilities • Introduce new periodic evaluation of waste conditions such as aging as part of control requirements
Facilities where nuclear fuels are used.	<ul style="list-style-type: none"> • Require all facilities using nuclear fuel materials to clarify safety measures, for instance, indicating shielding, confinement or measures against fire and explosion. • Require facilities being inspected (*) “to prevent the spread of any accident in which a large amount of radioactive materials would be released” <p>*Clarify considerations for facilities approved for the use of nuclear fuel materials with an amount stipulated in Article 41 of the Enforcement Order of the Reactor Regulation Act, external artificial events, internal missiles, internal leakage of chemicals</p>

2. Efforts for Enforcement of the Approval System for the Extension of Operational Periods

In addition to the introduction of the aforementioned New Regulatory Requirements, the approval system for the extension of operational periods that is stipulated in Article 43-3-32 of the Reactor Regulation Act was enforced on July 8, 2013 (this specifies that an operational period for commercial power reactors shall be, in principle, 40 years from the start of operations, although in the case of an NRA approval before its expiration, the operational period may be extended for only time for a further 20 years).. When a nuclear operator applies for the extension of a reactor’s operational period, under the this system the NRA shall require that operator to conduct a special inspection to determine the state of deterioration of the reactor, and taking into consideration the potential aging of the reactor during the extended period, shall check that the said reactor conforms to the technical standards for power reactors. In addition, the NRA shall require the said operator to maintain the reactor during the approved extension in

combination with the system for responding to facility aging (described later).

For reference, nuclear operators which own reactors more than 30 years old, are obligated to evaluate the deterioration of the reactors and develop a long-term maintenance policy, under the Reactor Regulation Act and other Acts (system for responding to facility aging).

3. Utilization of Private Standards

The regulatory requirements based on the Reactor Regulation Act of Japan have established required performance levels since 2005. When standards covering detailed specifications for performance levels are established under the regulatory requirements, the private standards of the Atomic Energy Society of Japan (AESJ), the Japan Society of Mechanical Engineers (JSME), the Japan Electric Association, and other organizations shall be applied after a technical evaluation of said standards is conducted.

To conduct such a technical evaluation, the NRA established “the Study Team on Technical Evaluation of Design and Construction Standards, and Material Standards” and held four meetings during FY2013.

4. Discussions on Safety Goals

Safety is the fundamental goal for the regulation of nuclear facilities. To meet this goal, the former Nuclear Safety Commission held repeated discussions since 2001 but failed to establish effective safety regulations.

The NRA started its own discussions on safety goals in FY2012. The 2nd Commission Meeting of FY2013 (April 10, 2013) decided that the results of discussions held by the Special Committee on Safety Goals of the former Nuclear Safety Commission should form the basis for any future safety goal discussions. However, based on information accumulated in the wake of the Fukushima accident, it was agreed that an additional safety target covering environmental contamination by radioactive materials should be added “to limit the occurrence of an accident that causes a massive release of Cs137 (exceeding 100 TBq) below once in a million reactor years (excluding a massive release by terrorist attacks)”. The NRA will continue to discuss other safety goals.

Section 4 Implementation of Conformity Review

1. Reviews after Enforcement of the New Regulations

The 33rd Commission Meeting of FY2012 (March 19, 2013) discussed a basic policy for enforcing the New Regulations for power reactors and agreed on a way of reviewing said reactors after the enforcement.

For reviews and inspections, the NRA decided to accept applications for permission for any installation change, for the approval of construction plans and for the approval of safety measures during the same period. The authority will make a combined review of the reactors from both technical and non-technical aspects, while deciding to inspect them after the review. Power stations under investigation related to fracture zones affecting their site will be reviewed by the NRA, in principle, after an agreed viewpoint has been compiled at the NRA meeting. The NRA will check the extent to which plants operating before the enforcement of the new regulations satisfy the new regulatory requirements, immediately after the content of the requirements is fixed.

Based on this policy, the third Commission Meeting of FY2013 (April 17, 2013) determined that it would evaluate the current status of operational Units 3 and 4 of Ohi Power Station, Kansai Electric Power Co., Inc. (hereinafter referred to as “Ohi Power Station”), based on the new regulatory requirements. The NRA established “the Evaluation Meeting on the Current Status of Units 3 and 4 of the Ohi Power Station,” held 14 meetings between April 19 and June 24, and conducted site inspections. As a result, the 13th Commission Meeting (July 3) compiled an evaluation of the current status, concluding that the facilities and the operational state of Units 3 and 4 at the end of June would not immediately cause any safety problems. In the meeting, it was pointed out that the NRA should instruct the facilities to take countermeasures for items that did not conform to the new regulations. It was further noted that the NRA should continue to evaluate earthquake ground motions around the site and determine the details of any underground structures when reviewing earthquake countermeasures outlined in the new regulatory requirements.

The 37th Commission Meeting of FY2013 (December 25, 2013) agreed on a method to check whether nuclear fuel cycle facilities conform to the new regulatory requirements.

To ensure total transparency while taking into account the impact of any accident at a facility, the NRA decided to implement reviews in the following way: a review of spent fuel reprocessing facilities and MOX fuel processing facilities is attended, in principle, by the NRA commissioners; a meeting to review uranium fuel processing facilities as well as research and test reactor facilities (medium- and high-power reactors,

gas-cooled reactors, and sodium-cooled research reactors) will be held by the NRA Secretariat; and a review for facilities other than the above will be implemented by the NRA Secretariat. The Secretariat will report to the NRA on its progress either at the start of or during a review.

2. Status of Conformity Reviews

After the NRA launched the New Regulatory Requirements on July 8, 2013, eight operators, 10 nuclear power stations, and 17 plants submitted applications for their commercial power reactors' to conform to the said Requirements (Table 12). Several new applications were received on May 20 2014 and the NRA is reviewing submissions from nine operators, 11 nuclear power stations and 18 plants. In FY2013, the NRA held a total of 100 review meetings which, in principle, its commissioners attend. During these review meetings, discussions covered the setting of design basis earthquake ground motions and tsunami heights; designs for protection against tornados, internal flooding and internal fires; the evaluation of the effectiveness of countermeasures against severe accidents such as measures to prevent core damage or to prevent damage to the containment vessel; and the development of procedures to combat the effects of severe accidents.

The 43rd Commission Meeting of FY2013 (February 19, 2014) decided to order the following nuclear power stations to resubmit their corrected applications and to prepare "drafts of review documents." These nuclear power stations include those that had almost fixed their design basis earthquake ground motions and tsunami heights, or the preconditions for design of a nuclear power station, and did not have any other serious review problems. Drafts of review documents covering pressurized water and boiling water reactors must be of a quality high enough to serve as a model for subsequent reviews. The NRA will therefore focus all of its review teams' efforts towards the development of high-quality review documents by a coordinated joint work effort above the scope of individual teams. ,

In response to the results of the aforementioned meeting, the 46th Commission Meeting of FY2013 (March 13, 2014) decided to start immediate preparations to correct those applications submitted for Units 1 and 2 of Sendai NPS and prepare for the development of draft review documents, bearing in mind that the company has fixed its design basis earthquake ground motions and tsunami heights for the NPS which does not have any other review problems.

On April 30, 2014, Kyushu Electric Power Co., Inc. submitted, corrected documents in support of its applications for changes to the installations of Units 1 and 2, Sendai

NPS. The sixth Commission Meeting of FY2014 (May 2, 2014) noted a lack of description in the corrected documents, and the 110th Review Meeting (May 8) instructed the operator to re-correct the document. Based on the operator's response, the NRA will prepare a drafted review document.

Five operators of nuclear fuel cycle facilities applied for the review of eight facilities (Table 13). The NRA is reviewing these applications based on the review process for checking the conformity of nuclear fuel cycle facilities to the new regulatory requirements. During FY2013, the NRA held a total of 12 sessions for the Review Meeting which, in principle, is attended by the NRA commissioners. In addition, the NRA is proceeding with the current state of fuel processing facilities that handle uranium hexafluoride under positive pressure, given that the facilities will probably not pose a significant risk of radiation exposure or significant chemical effects to the public, in parallel with the conformity review. The NRA confirmed that medium- and high-power research and test reactors would probably not present a significant risk of radiation exposure to the public and reported the results of this confirmation to the 46th Commission Meeting of FY2013 (March 13, 2014).

Table 12 Status of Applications for Review of Commercial Power Reactors

Applicant	Targeted power reactor	Receipt date	Review and site inspection (frequency)	
			Review meeting	Site inspection
Hokkaido Electric Power Co., Inc.	Tomari NPS (Units 1 and 2)	July 8, 2013	22	
Hokkaido Electric Power Co., Inc.	Tomari NPS (Units 3)	July 8, 2013	50	1
Kansai Electric Power Co., Inc.	Ohi Power Station (Units 3 and 4)	July 8, 2013	41	1
Kansai Electric Power Co., Inc.	Takahama NPS (Units 3 and 4)	July 8, 2013	41	2
Shikoku Electric Power Co., Inc.	Ikata NPS (Unit 3)	July 8, 2013	43	1
Kyushu Electric Power Co., Inc.	Sendai NPS (Units 1 and 2)	July 8, 2013	52	1
Kyushu Electric Power Co., Inc.	Genkai NPS (Units 3 and 4)	July 12, 2013	40	1
Tokyo Electric Power Co., Inc.	Kashiwazaki-Kariwa NPS (Units 6 and 7)	September 27, 2013	3	1
Chugoku Electric Power Co., Inc.	Shimane NPS (Unit 2)	December 25, 2013	4	
Tohoku Electric Power Co., Inc.	Onagawa NPS (Unit 2)	December 27, 2013	3	
Chubu Electric Power Co., Inc.	Hamaoka NPS (Unit 4)	February 14, 2014	2	
(Japan Atomic Power Company	Tokai Daini NPS	May 20, 2014)

* Several applications may be reviewed at one session of the Review Meeting.

* The application made by Japan Atomic Power Company's Tokai Daini NPS was submitted in FY2014.

Table 13 Status of Applications for Review of Nuclear Fuel Cycle Facilities

Applicant	Facilities	Receipt date	Review meeting (frequency)
Japan Nuclear Fuel Limited	Reprocessing facility	January 7, 2014	8
	MOX fuel processing facility		4
	Uranium concentration facility		6
	Waste management facility		-
Recyclable-Fuel Storage Company	Spent fuel storage facility	January 15, 2014	-
Mitsubishi Nuclear Fuel Co., Ltd.	Uranium fuel processing facility	January 31, 2014	3
Japan Atomic Energy Agency	Waste management facility	February 7, 2014	-
Nuclear Fuel Industries, Ltd.	Uranium fuel processing facility (Tokai Works)	February 14, 2014	2

* Several applications may be reviewed at one session of the Review Meeting.

3. Review of System for Responding to Facility Aging

The Reactor Regulation Act requires operators to conduct a technical evaluation of aging systems and to develop a long-term maintenance policy to implement appropriate corrective measures, namely any needed revisions to operational safety programs. The 17th Commission Meeting (July 31, 2013) and the 35th Commission Meeting (December 11) of FY2013 agreed a policy for a detailed review process in which the NRA Secretariat shall review plants in which aging has been evaluated on the precondition of maintenance for cold shutdown. A team consisting of a responsible Director-General and lower ranking NRA staff will hold a meeting and review operational plants in which aging has been evaluated. Review results will be reported to the Commission for approval.

During FY2013, four operators applied for aging revisions to operational safety programs at four facilities at which aging has been evaluated on the precondition of maintenance for cold shutdown. The NRA accepted submitted applications for Unit 2 of the Fukushima Daini Nuclear Power Station, Tokyo Electric Power Co., Inc.

(hereinafter referred to as “TEPCO’s Fukushima Daini NPS”) and approved it on January 22, 2014 and for Unit 1 of Shimane NPS, Chugoku Electric Power Co., Inc. which was approved on February 26, 2014. Unit 1 of Sendai NPS and Unit 3 of Takahama NPS, Kansai Electric Power Co., Inc. have been evaluated on the assumption of their continued operation. The NRA established “the Review Meeting on Technical Evaluation of Aging Management of Nuclear Power Plants” and started to review those two applications in January 2014, holding a total of three meetings.

Table 14 Applications for Approval of Revisions to Operational Safety Programs for System for Responding to Facility Aging

Application date	Operator	Power reactor	Date on which 30 or 40 years will have passed since startup
July 31, 2013	Tokyo Electric Power Co., Inc.	Unit 2 of Fukushima Daini NPS (30 years) (cold shutdown)	February 2, 2014
September 27, 2013	Chugoku Electric Power Co., Inc.	Unit 1 of Shimane NPS (40 years) (cold shutdown)	March 28, 2014
November 6, 2013	Tohoku Electric Power Co., Inc.	Unit 1 of Onagawa NPS (30 years) (cold shutdown)	May 31, 2014
November 12, 2013	Kansai Electric Power Co., Inc.	Unit 1 of Takahama NPS (40 years) (cold shutdown)	November 13, 2014
December 18, 2013	Kyushu Electric Power Co., Inc.	Unit 1 of Sendai NPS (30 years) (continued operation)	July 3, 2014
January 15, 2014	Kansai Electric Power Co., Inc.	Unit 3 of Takahama NPS (30 years) (continued operation)	January 16, 2015

Section 5 Investigation of Fracture Zones at Nuclear Power Station Sites

At the second Commission Meeting (September 26, 2012) and the fifth Commission Meeting (October 17) of FY2012, the NRA decided to conduct site inspections and evaluations for six nuclear power stations: (Higashidori Nuclear Power Station, Tohoku Electric Power Co., Inc. (hereinafter referred to as “Tohoku Higashidori NPS”), Shika Nuclear Power Station, Hokuriku Electric Power Company (hereinafter referred to as “Shika NPS”), Mihama Nuclear Power Station, Kansai Electric Power Co., Inc. (hereinafter referred to as “Mihama NPS”), Ohi Power Station, Tsuruga Nuclear Power Station, the Japan Atomic Power Company (hereinafter referred to as “Tsuruga NPS”), and the Prototype Fast Breeder Reactor “Monju”), at which the former Nuclear and Industrial Safety Agency had ordered additional investigations to determine whether fracture zones affecting the premises have been active in recent years.

An expert investigative meeting was set up for each NPS consisting of five members including NRA Commissioner Shimazaki and four academic experts who are well-versed in the preparation of investigation plans and the recognition and investigations of capable faults. These experts have not been involved in earlier safety assessments (including seismic back checks and secondary assessment) for their respective facilities but were independently recommended by four related academic societies, the Japanese Society for Active Fault Studies, the Geological Society of Japan, the Japan Association for Quaternary Research and the Seismological Society of Japan. The Expert Meeting will prepare a draft evaluation report after the Evaluation Meeting discusses the results and reaches a consensus. A peer review meeting will then be held to examine the report from a separate specialized viewpoint to examine any logical inconsistencies in the evaluation.

In FY2013 expert investigations were conducted for the Ohi Power Station, Tsuruga NPS and Tohoku Higashidori NPS, and also for the Prototype Fast Breeder Reactor “Monju,” Mihama NPS, and Shika NPS (Table 15).

1. Ohi Power Station

The Expert Meeting on the Investigation of Fracture Zones at the Ohi Power Station started its investigations in FY2012. To date it has conducted three site inspections and held seven evaluation meetings. Based on the results of the third site inspection on July 27-28, 2013 after additional investigations by the operator, the Meeting came close to an agreement at the sixth evaluation meeting, held on September 2, stating that the fracture zone crossing the emergency intake channel is not capable, and at the seventh

evaluation meeting on November 15 basically agreed to the draft evaluation report. After listening to a wide spectrum of experts, a December 27 Expert Meeting peer review produced an evaluation report which the NRA approved at the 42nd Committee Meeting on February 12, 2014.

2. Tsuruga NPS

Based on site inspections, evaluation and peer review meetings held during 2012, the Expert Meeting on the Investigation of Fracture Zones at the Site of the Tsuruga Nuclear Power Station determined, at the fifth evaluation meeting on May 15, 2013, that the fracture zone directly under Unit 2 is capable. This evaluation was submitted to the seventh NRA Commission Meeting of FY2013 on May 22 and approved. The operator then submitted the results of an additional investigation to the NRA which examined whether the evaluation should be reconsidered at the Expert Meeting. A site inspection was conducted on January 20-21, 2014 and the NRA will hold a meeting to discuss the evaluation in light of the site inspection results.

For reference, the NRA collected and evaluated reports on the impact of the loss of cooling water in the spent fuel storage equipment of Unit 2, Tsuruga NPS. As a result, the 26th Commission Meeting of FY2013 (October 9, 2013) judged that the NRA would not require the Japan Atomic Power Company to take immediate additional measures.

3. Tohoku Higashidori NPS

The Expert Meeting on the Investigation of Fracture Zones at the Site of the Higashidori Nuclear Power Station, Tohoku Electric Power Co., Inc. started in FY2012. To date, the Meeting has conducted four site inspections and held eight evaluation meetings. Based on the report on additional investigations that was received on January 17, 2014 from the said company, the Meeting is continuing discussions at the evaluation meeting.

4. Prototype Fast Breeder Reactor “Monju”

The Expert Meeting on the Fracture Zones at the Site of the Prototype Fast Breeder Reactor “Monju” started its investigations in FY2013. To date, the Meeting has conducted one site inspection and one evaluation meeting.

The evaluation meeting on the fracture zones on August 26, 2013 judged that the data provided by the JAEA was not sufficient to accurately assess the activity of the fracture zones. Consequently, the 23rd Commission Meeting of FY2013 (September 25, 2013) instructed the JAEA to develop an additional investigation plan with increased data. The

NRA received the new JAEA report on March 28, 2014 and the Expert Meeting will now discuss the activity of the fracture zones.

5. Mihama NPS

The Expert Meeting on the Investigation of Fracture Zones at the Site of Mihama Power Station started investigations in FY2013. To date, it has conducted one site inspection and one evaluation meeting on January 15, 2014 when it judged that the data provided by the NPS was not sufficient to evaluate the activity of the fracture zones. The Meeting requested additional investigations which the Kansai Electric Power Co., Inc. will now conduct.

6. Shika NPS

The Expert Meeting on the Fracture Zones at the Site of Shika Nuclear Power Station started its investigations in FY2013 and to date has conducted one site inspection and one evaluation meeting on March 24, 2014. That meeting could not reach a conclusion on the activity of the fracture zones and the Meeting will now continue to discuss this.

Table 15 Status of Holding of Evaluation Meeting on Investigation of Fracture Zones in the Sites of Nuclear Power Stations during FY2013

Targeted power station	Meeting and site inspections (frequency)	
	Evaluation meetings	Site inspection
Ohi Power Station, Kansai Electric Power Co., Inc.	5	1
Tsuruga Nuclear Power Station, the Japan Atomic Power Company	4	1
Higashidori Nuclear Power Station, Tohoku Electric Power Co., Inc.	5	3
Prototype Fast Breeder Reactor “Monju,” JAEA	1	1
Mihama NPS, Kansai Electric Power Co., Inc.	1	1
Shika NPS, Hokuriku Electric Power Company	1	1

* Evaluation meetings include peer review meetings.

Section 6 Status of Inspections of Nuclear Facilities in Japan

1. Status of Examinations and Inspections

Based on the Reactor Regulation Act, the NRA has implemented regulations on fuel facilities, research and test reactor facilities, commercial power reactor facilities, power reactor facilities still in the stage of research and development (Monju and Fugen), spent fuel storage facilities, reprocessing facilities, waste disposal facilities, waste management facilities, facilities where nuclear fuel materials are used, as well as regulations governing disposal and transport outside factories or places of activity related to nuclear fuel material.

The NRA has 22 nuclear safety inspector's offices manned by safety inspectors near reactor sites. They check the status of compliance with operational safety programs on a daily basis and conduct periodic facility inspections. During the period April 1, 2013 to March 31, 2014, the NRA conducted examinations and inspections listed in Table 16.

**Table 16 Status of Examinations and Inspections
(From April 1, 2013 to March 31, 2014)**

Facility type		Number
Fuel facilities (6)	Approval of design and construction method	9
	Pass pre-operation test	8
	Approval of welding method	4
	Periodic facility inspection	7
	Approval of safety measures or approval of changes	14
	Operational safety inspection	24
Research and test reactor facilities (6) (under decommissioning procedures: 8)	Approval of installation change	1
	Approval of design and construction method	6
	Approval of changes to design and construction method	1
	Pass pre-operation test	4
	Approval of welding method	1
	Periodic facility inspection	7
	Approval of safety measures or approval of changes	9
	Operational safety inspection	45

Facility type		Number
Commercial power reactor facilities (17) (under decommissioning procedures: 2)	Approval of construction plan	24
	Approval of changes to construction plan	1
	Submission of construction plan and changes to such plans	25
	Pass pre-operation test	8
	Pass fuel assembly inspection	24
	Evaluation concerning welding operator test	46
	Periodic facility inspection	1
	Evaluation of operator's periodic inspection	2
	Approval of safety measures or approval of changes	30
	Operational safety inspection	94
	Approval of changes to decommissioning plan	1
	Instruction of omission of pre-operation test	1
	Notification of matters prescribed in items 9 and 10, paragraph (ii), Article 43-3-5 of the Reactor Regulation Act	25
	Approval of implementation plan	1
	Approval of changes to implementation plan	7
	Inspection of implementation status of security measures specified in implementation plan	3
	Pass pre-operation test for specified nuclear facilities	5
	Omission of pre-operation test for specified nuclear facilities	1
Pass weld test for specified nuclear facilities	3	
Power reactor facilities still in the research and development stage (Monju and Fugen) (under construction: 1) (under decommissioning procedures: 1)	Periodic facility inspection	1
	Approval of safety measures or approval of changes	2
	Operational safety inspection	8
	Notification of matters prescribed in items 9 and 10, paragraph (ii), Article 43-3-5 of the Reactor Regulation Act	2
Spent fuel storage facility (under construction: 1)	Approval of design and construction method	1
Reprocessing facilities (2)	Approval of design and construction method	3
	Approval of changes to design and construction method	2
	Pass pre-operation test	6
	Approval of welding method	4
	Periodic facility inspection	1
	Operational safety inspection	8
Category 2 waste disposal facilities (2)	Confirmation concerning waste disposal facilities	2
	Approval of safety measures or approval of changes	1
	Operational safety inspection	8
Waste management facilities (2)	Approval of design and construction method	1
	Approval of changes to design and construction method	1
	Periodic facility inspection	2
	Approval of safety measures or approval of changes	1
	Operational safety inspection	8
Facilities where nuclear fuel materials are used (15)	Permission for use	3
	Permission for changes of use	25
	Pass of facility inspection	8

	Approval of safety measures or changes	11
	Operational safety inspection	60
Disposal and transport outside factories or places of activity related to nuclear fuel material.	Approval of design of nuclear fuel package	13
	Approval of transport container	14
	Check of transport outside factories	2
	Check of activity concentration	4

* As of March 31, 2014, there were no facilities that had received designation or permission for business of a refining facility and a Category 1 waste disposal facility.

At the operational safety inspection for the Prototype Fast Breeder Reactor “Monju” held in September 2012, nuclear safety inspectors noted that there was one case where the inspection periods had been changed without any revision to the maintenance plan. In response to this, in November, the JAEA announced that a considerable amount of equipment, including that categorized as Class 1 (the most safety-significant category) had not been inspected in line with the maintenance plan, leading to the time limit for operational safety inspections being exceeded. In addition to confirming this fact and based on the results of a subsequent safety inspection, on May 30, 2013, the NRA issued the JAEA with an order for safety measures and an order for revision of the operational safety program, under the terms of the Reactor Regulation Act.

The JAEA responded to the order for safety measures and reported to the NRA that measures for unchecked equipment and those for reconstruction of the maintenance control and the quality assurance system and for revision of the maintenance plan were completed on September 30 and on November 19, 2013, respectively. The NRA checked this response status with operational safety inspections. At the third operational safety inspection of FY2013, it was found that even when JAEA submitted its November 19 report to the NRA it was still checking the details of the maintenance method, the next inspection timing and the inspection date records of the maintenance plan. Effectively the revision had not been completed. At the time of the operational safety inspection JAEA had detected around 760 non-conforming items and was working to ascertain the full facts, investigating the reasons for the non-conformities and preparing to implement countermeasures. At the fourth operational safety inspection of FY2013, the NRA checked the report submitted by the JAEA and discovered that the inspection of the maintenance plan had been badly conducted. For instance, the maintenance plan had been revised and affixed with a correction stamp but without the control of the non-conforming items to be managed. Only a visual inspection was made of the structure supporting pipes with a high safety-significance. These facts violate the operational safety program. The NRA will now check the status of JAEA’s response at future operational safety inspections.

Responding to a revision directive JAEA on October 3, 2013, applied to the NRA for revision of the operational safety program and on December 26 for partial correction of the program. Subsequently, on March 19, 2014, JAEA cancelled the said correction application. It is assumed JAEA will reapply for the revision.

The NRA is continuing to check various aspects regarding the report received from JAEA through hearings and operational safety inspections

2. Report on Radiation Control

In an FY2012 radiation control report the NRA compiled the statuses' of the control of radioactive waste and those of dose control for radiation workers as reported by each nuclear operator under the provisions of paragraph (i) of Article 67 of the Reactor Regulation Act. They include radiation control reports for the first and second halves of FY2012 published on November 21, 2012 and May 22, 2013, respectively.

Regarding the status of the control of radioactive gaseous and liquid waste in FY2012 all nuclear facilities--excluding TEPCO's Fukushima Daiichi NPS, where the effects of the Great East Japan Earthquake are still being evaluated by TEPCO--fell below the annual release control target values or 3-month averaged concentration control target values as set forth in the operational safety programs for the different nuclear facilities. There are some research and test reactor facilities and facilities that use nuclear fuel materials for which annual release control target values are not specified in the operational safety programs. The status of the release in these facilities did not exhibit a particularly large variation in comparison with those in the past.

Regarding the status of control of radioactive solid waste, none of nuclear facilities stored solid waste that exceeded their storage capacities.

The exposure doses received by individual radiation workers during FY2012 fell below the dose limits (100 mSv per five years, and 50 mSv per one year) set forth in Article 4 of the Ordinance on Prevention of Ionizing Radiation Hazards, at all nuclear facilities, excluding TEPCO's Fukushima Daiichi NPS. For reference, one radiation worker engaged in emergency work prescribed in Article 7 of the said Ordinance at the Fukushima Daiichi NPS received a dose exceeding 50 mSv per one year (54.1 mSv) but that dose still fell below the emergency exposure limit (100 mSv) laid down in the same ordinance.

Some measured concentrations of radioactive materials in the seawater, seabed soil, marine products, and fishing equipment in the sea areas around the release outlets of reprocessing facilities, and of other objects specified in the operational safety program during FY2012, exceeded the normal variation but these slightly high readings are not

considered to be a result of any malfunction or other problem with the reprocessing facility.

Section 7 Prevention of Radiation Hazards Due to Radioisotopes

1. Status of Examinations and Inspections

To prevent radiation hazards from situations such as the use of radioisotopes, the NRA has regulated the use, selling, lease, disposal and other handling of radioisotopes, the use of radiation-generating apparatus, and the disposal or other handling of radioactive contaminants, based on the Act concerning Prevention of Radiation Hazards Due to Radioisotopes (1957 Law No. 167, hereinafter referred to as “Prevention of Radiation Hazards Act”).

During the period April 1, 2013 to March 31, 2014, the NRA conducted examinations and inspections shown in the following table.

Table 17 Main Examinations and Inspections (April 1, 2013 to March 31, 2014)

	Types of permissions and notifications	Number
Permitted users (Number of places: 2,376)	Permission for use (approved)	39
	Permission for change of permitted use (approved)	426
	Approval of corporation merger or division	13
	Notification of abolition	44
	On-site inspection	189
Notified users (Number of places: 544)	Use notification	40
	Notification of change of use notification	69
	Notification of abolition	31
	On-site inspection	1
Users notifying use of specified certified apparatus with indication (Number of places: 4,365)	Notification of certified apparatus with indication	1,317
	Notification of change of use of certified apparatus with indication	777
	Notification of abolition	979
	On-site inspection	12
Notified seller (Number of places: 309)	Notification of sales business	18
	Notification of change of notification of sales business	62
	Notification of abolition	12
	On-site inspection	1
Notified rental business operator (Number of places: 150)	Notification of rental business	8
	Notification of change of notification of rental business	33
	Notification of abolition	1
	On-site inspection	1
Permitted disposal business operator (Number of places: 7)	Permission for change of disposal business	1
	Notification of abolition	1
Transport of radioisotopes outside factories or places	Approval of containers to be transported	4

2. Status of Radiation Control

Based on the provision of paragraph (i) of Article 42 of the Prevention of Radiation Hazards Act and paragraph (iii) Article 39 of the Enforcement Ordinance of the Act, the NRA compiled radiation control status report (April 2, 2012 to March 31, 2013) including the status of the storage and disposal of radioisotopes and those of exposure control for radiation workers that were reported by each site subject to regulation under the terms of Prevention of Radiation Hazards Act.

The status of the storage and disposal of radioisotopes at all sites during FY2012 did not exhibit a particularly large variation, in comparison with that in the past.

The exposure doses received by individual radiation workers during FY2012 fell below the dose limits prescribed by the Act (100 mSv per five years, and 50 mSv per one year) at all sites.

3. Participation in International Meetings

Based on IAEA international standards, related Japanese ministries and agencies established national regulatory requirements regarding the exposure doses received by radiation workers. The NRA Secretariat participated in the following IAEA meetings to collect information and exchange opinions with various countries.

- IAEA Radiation Safety Standards Committee (RASSC) meetings
 - 34th (July 2 to 4, 2013) (Vienna, Austria)
 - 35th (November 19 to 21, 2013) (Vienna, Austria)
- OECD/NEA Committee on Radiation Protection and Public Health (CRPPH) annual meeting
 - 71st (May 15 to 16, 2013) (Paris, France)

Section 8 Promotion of Nuclear Safety Research

To address significant issues such as implementing the highest level of nuclear regulations in the world and strengthening radiation monitoring mainly in Fukushima prefecture, the NRA made the necessary budget requests and has promoted safety research in collaboration with JNES¹¹ and other related incorporated administrative agencies.

In FY2012 and FY2013, the NRA conducted surveys, tests and studies for dealing with regulatory issues including countermeasures against severe accidents and other measures to combat earthquakes and tsunamis. It encouraged the development of analysis code, finely-tuned radiation monitoring based on requests from municipalities and local residents, and the formulation of a database to record the results of radiation monitoring by related organizations.

It is important for these organizations to adjust the content of any safety research on an ongoing basis, so that the safety research responds to new regulatory issues and regulatory priorities. Based on this concept, the NRA developed and published a report on September 25, 2013 on “Safety Research in the Nuclear Regulation Authority” that specifies fields essential to safety research.

The NRA also holds a Technical Information Committee meeting every 1-2 months. (six meetings were held during FY2013). The Committee was established by the NRA Secretariat in FY2012 with the aim of collecting and analyzing information on accidents at nuclear facilities both in and outside Japan, and of incorporating such information into new regulations as required and in a timely manner. The Committee analyzed various incidents in the United States and based on those findings the Authority decided to require domestic electric utilities to report on the availability of detection during a one phase open fault¹² in an external power source system and the possibility of a response to the failure after its detection.

¹¹ Dissolved in May 2014.

¹² Refers to the loss of one phase from the alternating currents in a power source.

Chapter 4 Activities for Developing a Crisis Management System

Section 1 Development of a System for Nuclear Emergency Preparedness

To establish a new framework for nuclear emergency preparedness following lessons learned from the Fukushima accident, the Japanese government on September 19, 2012 inaugurated the NRA. In concert, relevant laws and ordinances, such as the Atomic Energy Basic Act and the Act on Special Measures Concerning Nuclear Emergency Preparedness, were revised.

Nuclear emergency response policies need to be implemented and promoted in a unified manner by the whole government and to achieve that goal the Nuclear Emergency Preparedness Commission was set up within the Cabinet. The Prime Minister serves as the Chairperson. The Chief Cabinet Secretary, the Minister of the Environment, and the Chairman of the NRA serve as Vice Chairpersons. All other Ministers and the Deputy Chief Cabinet Secretary for Crisis Management are Commission Commissioners and the Minister of the Environment serves as the Director-General of the Secretariat of the Commission.

In the Nuclear Emergency Response Headquarters, which will be set up in the event of future nuclear emergencies such as the discharge of large amounts of radioactive materials, senior government figures will serve as headquarters members including the Chief Cabinet Secretary, the Minister of the Environment, and the Chairman of the NRA (who are newly assigned as Vice Director Generals), in addition to the Minister of Economy, Trade and Industry, and all the other Ministers and the Deputy Chief Cabinet Secretary for Crisis Management. The NRA and relevant government offices play different roles at the Response Headquarters. The NRA is primarily responsible for passing judgments related to technical and specialized matters. Government offices procure the materials and equipment necessary for activities undertaken at nuclear facilities and also provide overall support for off-site activities under the direction of the Prime Minister in his role as General Manager of the Nuclear Emergency Response Headquarters. The NRA Secretariat Secretary-General also serves as the Secretary-General of the Nuclear Emergency Response Headquarters.

1. Revision of Nuclear Emergency Response Guidelines

Under the Act on Special Measures Concerning Nuclear Emergency Preparedness, the NRA will prepare Nuclear Emergency Response Guidelines to ensure that nuclear operators and national and local governments will smoothly implement nuclear emergency responses. In accordance with the Act, the NRA formulated the Guidelines

on October, 31, 2012 and subsequently revised them once in FY2012 (February, 2013) and twice in FY2013 after examining matters that had been classified as “issues to be considered at NRA Commission Meetings.”

In the revision of June, 2013, the NRA specified the basic policies on medical care in the event of a nuclear emergency, the procedures for distributing and administering stable iodine, and emergency monitoring. In a September revision, the NRA specified additional details of the Emergency Action Level (EAL) on the basis of the new regulatory requirements for commercial power reactors.

The NRA Secretariat also published “For Distribution and Administration of Stable Iodine” and “Emergency Monitoring” as descriptions of the Nuclear Emergency Response Guidelines.

Table 18 Main Points of Revisions to the Nuclear Emergency Response Guidelines (June 5, 2013)

<p>Description of system for emergency monitoring and system operation</p>	<ul style="list-style-type: none"> • Specified that, in the system for implementing emergency monitoring, local public bodies, nuclear operators and relevant designated public institutions should cooperate in achieving the same goal under the auspices of the Government. • Specified that, as preliminary measures for constructing a system for emergency monitoring, the Government should make preparations for an emergency monitoring center and formulate a plan to mobilize necessary personnel, equipment, and materials. Local public bodies should establish an emergency monitoring plan in cooperation with the government. • Specified that, for emergency monitoring during a crisis, the government should establish an emergency monitoring implementation plan promptly, and implemented at the emergency monitoring center, and that the Government should analyze, evaluate, and publish the results of said monitoring in an integrated manner.
<p>Description of procedure for prior distribution of stable iodine</p>	<ul style="list-style-type: none"> • Specified that, for the Precautionary Action Zone (PAZ: a zone with a radius of up to approximately 5 km from a nuclear facility) local public bodies should conduct the prior distribution of stable iodine via an appropriate network including an explanation by doctors and preliminary surveys of side effects and allergies. On the premise of prior distribution, local public bodies should stock extra stable iodine. • Specified that, for areas outside the PAZ, local public bodies should stock stable iodine for emergencies. In areas where distribution may be difficult during a crisis, as in the case of the PAZ, prior distributed should be considered. • Specified that the NRA will decide on the administration of stable iodine in an emergency and that the Nuclear Emergency Response Headquarters or local public bodies will give directions.

Table 19 Revision of the Nuclear Emergency Response Guidelines (September 5, 2013)

<p>Definition of EAL on the basis of the new regulatory requirements</p>	<p>The following matters are considered in the EAL framework, which was defined by the NRA on the basis of the new regulatory requirements for commercial power reactors.</p> <ul style="list-style-type: none"> • Since the installation of additional stationary power supplies will be required if no electric power is available even from additionally installed power supplies, within 30 minutes of the supply being suspended, the case will be judged as a Site Emergency. Similarly, since DC power supply systems will be enhanced in accordance with the new regulatory requirements, if no electric power is supplied for 15 minutes or longer, the case will be judged as being a Site Emergency (the case will be judged as being a General Emergency if the electric power is suspended for a duration twice as long as the criteria for Site Emergency). • Loss of safety functions as a result of fire or inundation
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2. Preparation of the Manual (Mainly by the Cabinet Office)

In parallel with the revision of the Nuclear Emergency Response Guidelines, the chapter for nuclear emergency responses of the Basic Disaster Prevention Plan was revised by the Central Disaster Prevention Council on January 17, 2014. The revised chapter specifies actions including the following two matters: 1. Implementation of preventive measures, such as evacuation preparation, shelter, and evacuation, in both the Precautionary Action Zone (PAZ) and the Urgent Protective action Planning Zone (UPZ); 2. The establishment of a system for an emergency monitoring center and monitoring implementation, operated in cooperation between the Government, local public bodies, and nuclear operators.

The Nuclear Emergency Response Manual, which specifies the actions to be taken in nuclear emergencies by all government agencies, including the NRA, was also revised at the managing meeting of the Nuclear Emergency Preparedness Commission to be consistent with the revised Nuclear Emergency Response Guidelines.

Section 2 Activities for Emergency Responses

1. Implementation etc. of Nuclear Emergency Drills

In May, 2013, the NRA transferred the functions of the Emergency Response Center (ERC), the base for governmental responses to nuclear emergencies, to the Authority office building. With this new setup, the NRA conducts emergency drills including a call-up exercise for personnel including the NRA Chairman, NRA Commissioners, and executives of the NRA, a drill to practice communications between base facilities, and checks on the response procedure for each group with an assigned role. The NRA also provides planning, design and participation support for emergency drills conducted by nuclear operators and local public bodies. A 24-hour emergency-response system has been maintained by this framework since FY2012.

On October 11-12, 2013, a comprehensive nuclear emergency response drill was conducted for the Sendai NPS, in accordance with the Act on Special Measures Concerning Nuclear Emergency Preparedness. The drill was held jointly by the Government, including the Prime Minister, local public bodies, and the nuclear operator with NRA participation. To simulate an actual emergency, the participants were not notified of the accident scenario and an assessment was conducted in real time. Nuclear emergency response drills were also held by prefectural governments in areas housing other nuclear power stations. Local nuclear emergency preparedness officers and NRA staff supported planning and participated in the drills. The NRA will continue to examine issues arising from the drills and incorporate lessons learned into the nuclear emergency preparedness system.

The Act on Special Measures Concerning Nuclear Emergency Preparedness obliges nuclear operators to conduct emergency drills, report their results to the NRA, and publish a summary of the results. According to the Act, the NRA can order nuclear operators to improve the operation of emergency drills on the basis of the results of examining the submitted reports. Therefore, in FY2013, the NRA held Debriefing Sessions of Emergency Drills by Nuclear Operators three times in total to evaluate the debriefings provided by the nuclear operators.

2. Support for Local Public Bodies by the Government (Mainly the Cabinet Office)

Relevant local public bodies are required to formulate regional disaster prevention plans (the chapter for nuclear emergency responses), which are key to local nuclear

emergency preparedness. It is essential to develop strong and specific plans to guarantee their effectiveness. If public bodies cannot develop a strong and detailed evacuation plan and measures to help those in need the government, mainly through the Cabinet Office, will voluntarily intervene and offer assistance. At the September 3, 2013 Nuclear Emergency Preparedness Commission meeting “Future Actions for Enhancing the Regional Disaster Prevention Plan” were decided, and working teams were established for each of 13 areas (Tomari, Higashidori, Onagawa, Fukushima, Tokai, Kashiwazaki-Kariwa, Shika, Fukui, Hamaoka, Shimane, Ikata, Genkai, and Sendai). Common issues were addressed and organized in each relevant government office under the leadership of the Nuclear Emergency Preparedness Commission. Prefectural governments were notified in a document, “Policies on Actions for Common Issues” on October, 9, 2013.

As of the end of March, 2014, regional disaster prevention plans (the chapter for nuclear emergency responses) had been formulated for all of the targeted 21 prefectures and for 123 of 135 target cities, towns, and villages. Evacuation plans for residents near nuclear facilities were formulated for 71 target cities, towns, and villages.

Financial support for the preparation of emergency equipment and materials and for the providing radiation protection for facilities housing people who need help was provided to the prefectural governments by the Cabinet Office (11,050 million yen in the FY2013 budget and 20,000 million yen in the FY2013 revised budget). In addition, in accordance with new requirements for Off-site Center construction sites, as specified by the Cabinet Office, the NRA established such centers near the Tomari NPS, Hokkaido Electric Power Co., Inc., TEPCO’s Fukushima Daini NPS, and Ikata NPS, Shikoku Electric Power Co., Inc. (an Off-site center should be constructed within a 5-30 kilometer radius of a nuclear power station). The NRA will establish other Off-site Centers near TEPCO’s Fukushima Daiichi NPS, Hamaoka NPS, Chubu Electric Power Co., Inc., and Shika NPS in the FY2014 budget.

Section 3 Environmental Monitoring

1. Implementation of Nationwide Radiation Monitoring ¹³

In FY2013 the implementation of radiation monitoring was transferred from the Ministry of Education, Culture, Sports, Science and Technology and the NRA continued several projects which had been started prior to the Fukushima accident. Part of the work was conducted in accordance with the “Comprehensive Monitoring Plan,” and the NRA published the results of the measurements as they were obtained.

(1) Environmental radioactivity level investigation (since FY1957)

The NRA collected environmental samples, such as atmospheric suspended dust, fallout, and soil, in all 47 Japanese prefectures for radioactivity analysis. The results of measurements taken in FY2012 were organized into a database and published as they became available. The NRA also measured air dose rates continuously at 297 monitoring posts across Japan and posted the results on the NRA Website in real time.

(2) Comprehensive evaluation of marine environmental radioactivity (since FY1983)

Around once a year the NRA collected seawater, marine soil, and marine organisms in 16 ocean areas near nuclear power stations and nuclear fuel reprocessing facilities to measure radioactivity levels. The FY2012 measurements were entered into a database and published.

(3) Radiation monitoring near nuclear power generation facilities (a subsidy has been granted since FY1974.)

The NRA provided those prefectures with nuclear power generation facilities and 24 adjacent prefectures with support to prepare radiation monitoring facilities and for radiological investigations. The measurement results reported by local public bodies were organized into a database and published.

The NRA also provided “Environmental Radioactivity Analysis Training” and “Practical Monitoring Training” for local public officials and other personnel to improve their skills related to radioactivity analysis and monitoring.

¹³ On April 1, 2013, matters related to monitoring implementation issues were transferred from the Ministry of Education, Culture, Sports, Science and Technology in parallel with the enforcement of part of the Act for Establishment of the Nuclear Regulation Authority.

2. Implementation of Radiological Investigations in Ports where Nuclear Vessels Call¹⁴

The NRA conducted periodic radiological investigations at three ports where nuclear vessels of the United States call (Yokosuka, Sasebo, and Kin-nakagusuku). During nuclear vessels visit, the NRA collected seawater in cooperation with the relevant organizations, such as the Japan Coast Guard, and conducted a radioactivity analysis.

¹⁴ In the same way as for the “Implementation of Nationwide Radiation Monitoring etc.,” the related matters were transferred from the Ministry of Education, Culture, Sports, Science and Technology on April 1, 2013.

Section 4

Accidents and Malfunctions

The Reactor Regulation Act requires nuclear operators to report to the NRA any accidents and malfunctions at their facilities.

During the period April 1, 2013 to March 31, 2014, there were six accidents or malfunctions reported to the NRA based on the Reactor Regulation Act. Five were at commercial power reactor facilities, including specified nuclear power facilities. There were no accidents at research and development reactors (Monju and Fugen) or at research and test reactor facilities and other installations where nuclear fuel material is used. One report was made from other nuclear facilities (fuel, reprocessing, waste disposal and waste management facilities) (Table 20). The NRA received reports on four cases of accidents and malfunctions from radioisotope dealers under the Prevention of Radiation Hazards Act (Table 21).

Table 20 Accidents, and Malfunctions Reported in Accordance with the Reactor Regulation Act (April 1, 2013 to March 31, 2014)

Date ^(Note 1)	Facility Name	Outline	INES ^(Note 2)
(1) Specified nuclear facilities			
August 19, 2013	TEPCO's Fukushima Daiichi NPS	<p>[Radioactive material leakage in controlled area]</p> <p>On August 19, 2013, it was found that water in a weir surrounding a contaminated water reservoir tank was leaking at a drain valve to the outside. On August 20, 2013, a decrease in the water level of the No. 5 tank of the H4 tank area was detected. The operator estimated that approximately 300 m³ of contaminated water had leaked from the tank.</p> <p>As of March 31, 2014, the cause and related matters were still under investigation by the operator.</p>	3 (provisional)
October 2, 2013	TEPCO's Fukushima Daiichi NPS	<p>[Radioactive material leakage in controlled area]</p> <p>On October 2, 2013, RO-treated water leaked into a weir from a portion near the top plate of a tank (A5) in the B south area (RO-treated water is produced by removing the cesium and salt content from the water retained in the turbine buildings). Part of the leaking water flowed along the tank's inspection scaffold and leaked outside the weir. The operator estimated that approximately 430 L of RO-treated water had leaked outside the weir.</p> <p>On December 6, 2013, the operator reported the cause of the event and measures implemented against it to the NRA Secretariat. As of March 31, 2014, the report is under examination at the Secretariat.</p>	Note 3
October 9, 2013	TEPCO's Fukushima Daiichi NPS	<p>[Radioactive material leakage in a controlled area]</p> <p>On October 9, 2013, a worker constructing a desalination system (RO-3) disconnected a pipe joint by mistake, after which contaminated water leaked from the joint. The operator confirmed that no</p>	Note 3

		contaminated water had leaked to the outside of the weir though an estimated 11 m ³ of contaminated water had leaked into the weir. Body contamination was detected on the necks and lower bodies of six workers engaged in construction work. On December 6, 2013, the operator reported the cause of the accident and preventive measures to the NRA Secretariat which continued to examine the report as of March 31, 2014.	
February 6, 2014	TEPCO's Fukushima Daiichi NPS	[Radioactive material leakage in a controlled area] On February 6, 2014, RO-treated water leaked from the pressure gauge of the strainer (RO-treated water is produced by removing the cesium and salt content from the water retained in the turbine buildings). The strainer is attached to the transfer pipe leading to the facilities for injecting desalinated water into the reactors. The operator estimated that approximately 600 L of RO-treated water had leaked. As of March 31, 2014, the cause of the problem and related matters are under investigation by the operator.	Note 3
February 20, 2014	TEPCO's Fukushima Daiichi NPS	[Radioactive material leakage in a controlled area] On February 20, 2014, RO concentrated water flowed from the top plate of an RO concentrated water tank (C1 tank) in the H6 tank area into the weir in the same tank area (RO concentrated water is produced when water cannot pass the reverse osmosis membrane for desalination after the removal of the cesium and salt content from the water retained in the turbine buildings). In parallel, RO concentrated water also flowed along a gutter for draining rainwater from the top plate and leaked outside the weir. The operator estimated that approximately 100 m ³ of RO concentrated water had leaked outside the weir. As of March 31, 2014, the cause of the problem was under investigation by the operator.	Note 3
(2) Research and development reactor facilities (Monju and Fugen)			
(3) Research and test reactor facilities and facilities where nuclear fuel material, etc. is used			
(4) Other nuclear facilities (fuel facilities, reprocessing facilities, waste disposal facilities, and waste management facilities)			
June 13, 2013	Global Nuclear Fuel - Japan Co., Ltd.	[Contact between powdered uranium cans] On June 13, 2013, in the second-third floor uranium oxide handling room (a controlled area), the interlock that maintains a 'safety' separation between powdered uranium cans at a nuclear limit of at least 30 cm did not work when the cans were being transferred by conveyer to the second uranium oxide storage. As a result, two powdered uranium cans came into contact with each other on the conveyer. Immediately after the event, the operator moved the cans away from each other to ensure an appropriate safety distance. On September 13, 2013, the NRA Secretariat	0

		received, the operator's report on the cause of the accident and applied preventive measures. The report was evaluated by the Secretariat and on October 30, 2013, the evaluation of the report was approved at an NRA Commission Meeting.	
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Table 21 Accidents, Malfunctions, etc. Reported in Accordance with Prevention of Radiation Hazards Act (from April 1, 2013 to March 31, 2014)

Date ^(Note 1)	Facility Name	Outline	INES ^(Note 2)
Radioisotope handling facility			
May 24, 2013	High Energy Accelerator Research Organization (KEK) of Inter-university Research Institute Corporation and Japan Atomic Energy Agency (JAEA) High-intensity Proton Accelerator Facility J-PARC Hadron Experiment Facility	[Radioactive material leakage outside controlled area] On May 23, 2013, the 50-GeV synchrotron malfunctioned and irradiated a gold target in the hadron experiment facility with high intensity proton beam. As a result, radioactive material produced from the gold was dispersed around the hadron experiment hall, causing 34 nearby workers to suffer unplanned exposure. In addition, when the operator activated a ventilating fan at the hadron experiment hall this caused radioactive material to leak outside the controlled area. Since the operator mistakenly judged that the event was not within the scope of reporting requirements notification to the NRA Secretariat was delayed until May 24, 2013. On August 12 the NRA Secretariat received the operator's report on the cause of the accident and measures implemented to prevent a recurrence.(on September 24 a revision of the report was submitted to the Secretariat).The Secretariat evaluated the report and on August 2 was approved at an NRA Commission Meeting.	1
October 31, 2013	Municipal University Corporation Faculty of Science, Osaka City University	[Radioactive material leakage to outside of controlled area] On October 29, 2013, in preparation for decommissioning the controlled area of the RI room of the Faculty of Science, Osaka City University, smear checking revealed tritium contamination on the surface of a storage box containing a tritium-sealed radiation source and the surfaces of the walls of the room,. Osaka City University also checked areas outside the controlled area and detected tritium contamination on doorknobs and other areas. However, Osaka City University judged that the contamination levels had no human impact and that no leakage had occurred to the outside of the building in the controlled area. On March 20, 2014, Osaka City University reported the incident and preventive measures to the NRA Secretariat. As of March 31, 2014, the report was under Secretariat examination.	Note 4

December 19, 2013	National University Corporation Faculty of Agriculture, Tokyo University of Agriculture and Technology	<p>[Radioactive material leakage to outside of controlled area]</p> <p>On November 22, 2013, during the repair of facilities at the radiation laboratory of the Faculty of Agriculture, Tokyo University of Agriculture and Technology, one of the in-ground pipes connected to the in-ground reservoir was found to be broken. On December 2, 2013, the University started investigations into the condition of the in-ground pipes and, on December 9, 2013, found that another two pipes were broken.</p> <p>On December 18, 2013, while investigating the soil conditions near the broken portions, tritium and carbon 14 were detected immediately under a broken pipe outside a controlled area. On December 18, 2013, since the level of the detected radioactivity was higher than that of natural radioactivity, the University concluded that radioactive material had leaked from the controlled area.</p> <p>However, the University judged that the leaked radioactive material led to no human exposure and had no impact on the surrounding environment.</p> <p>As of March 31, 2014, the cause of the incident and related matters are under investigation by the Tokyo University of Agriculture and Technology.</p>	Note 4
March 24, 2014	National University Corporation Tokyo Medical and Dental University	<p>[Radioactive material leakage to outside of controlled area]</p> <p>On March 20, 2014, Tokyo Medical and Dental University discovered that a sample based on sulfur 35 had been carried to a laboratory outside the controlled area on February 19 and March 18, 2013, while being used for an experiment in the controlled area. The University also conducted a hearing and determined that some experimental samples had been discarded as medical waste or discarded down a sink in the laboratory. On March 24, 2014, when smear measurements conducted by the University near the drainage ditch of the sink detected levels of radioactivity higher than natural levels, the University concluded that radioactive material had leaked from the controlled area.</p> <p>As of March 31, 2014, the cause of the incident and related matters were under investigation by the Tokyo Medical and Dental University.</p>	Note 4

Note 1 Indicated dates are those on which reports were received in accordance with the Reactor Regulation Act and Prevention of Radiation Hazards Act.

Note 2 INES¹⁵ is the indicator established by the IAEA and OECD/NEA, with the aim of clearly indicating what individual accidents and issues at nuclear facilities etc. mean in terms of safety. Japan adopted this indicator in 1992. INES evaluation is conducted in line with the INES User's Manual 2008. Events are classified into levels from Level 0 (events that have no impact on safety) to Level 7 (severe accidents).

Note 3 At TEPCO's Fukushima Daiichi NPS, which experienced a major nuclear accident, emergent measures have been taken. With consideration given to the IAEA's suggestions, matters related to the status of TEPCO's Fukushima Daiichi NPS, such as the NRA's activities, information on

¹⁵ International Nuclear Event Scale

monitoring, and information on accidents, and malfunctions, need to be disclosed to the world in an accurate and easy-to-understand manner. Therefore, the impact and significance of the accidents and malfunctions at TEPCO's Fukushima Daiichi NPS ought to be described. INES evaluation will be conducted in an appropriate manner after the necessary information is provided by the operator.

Note 4 At present, the operator is requested to report information necessary for appropriate INES evaluation.

Chapter 5 Activities for Nuclear Security and Safeguards

Section 1 Activities for Nuclear Security

1. Committee on Nuclear Security

There are various issues surrounding nuclear security in Japan. For example, there is no system in place to examine the trustworthiness of radiation workers at nuclear facilities. Against this backdrop, the Committee on Nuclear Security, which was established by the NRA in FY2012, has placed a high priority on the introduction of a system for confirming trustworthiness, the formulation of nuclear security measures for the transport of nuclear material, and ensuring the nuclear security of radioactive materials and relevant facilities. The introduction of measures to address such concerns will require practical considerations and in FY2013 the NRA established working groups under the committee to address such issues.

2. IAEA's International Physical Protection Advisory Service (IPPAS)

IPPAS will dispatch a team of physical protection experts from different countries in response to a request from an IAEA member state. (IAEA had dispatched 62 missions to 40 countries as of March, 2014). Such teams visit government and nuclear facilities to check their physical protection and hold hearings with government officials and nuclear operators. The team can give them advice on physical protection in accordance with the Convention on the Physical Protection of Nuclear Material and the Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities (INFCIRC/225)

In July, 2013, the NRA announced, at IAEA's "International Conference on Nuclear Security," that the Japanese Government was considering the acceptance of an IPPAS mission. In December, the NRA held an IPPAS workshop to collect information on the impact and effectiveness of such a mission. A request for an IPPAS visit was subsequently approved at the 38th Commission Meeting of FY2013 (January 15, 2014). And the NRA made an official request for a visit at some time prior to the spring of 2015.

The acceptance of the mission will provide Japan with opportunities to receive advice from several different countries, contributing to the improvement of the nuclear security system in Japan.

3. Revision of Act on Punishment of Radiation Diffusion

In 2005, an IAEA meeting adopted a revision to the Convention on the Physical Protection of Nuclear Material to help strengthen international efforts to protect nuclear

facilities and material. To promote the early enforcement of the revised Convention, signatory countries at the 2nd Nuclear Security Summit in 2012 were required to accelerate activities to approve the revision by 2014. The Japanese Government introduced a “Bill for Partial Revision of the Act on Punishment of Acts to Endanger Human Lives by Generating Radiation (Act on Punishment of Radiation Diffusion)” to the 186th Diet in February, 2014 and the Bill was approved on April 16, 2014.

4. Approval of Physical Protection Program

In July and December, 2013, the Act on Partial Revision of the Reactor Regulation Act was enforced in a step-by-step manner. Rules governing the physical protection of nuclear facilities, including the Rules for Commercial Nuclear Power Reactors were revised. The NRA conducted a review of operators’ licenses related to the modification of the physical protection program. Table 22 lists the number of review cases that the NRA approved in FY2013.

5. Physical Protection Inspection

Operators and their employees must observe the physical protection program to ensure the safeguarding of specified nuclear fuel material. The NRA conducts annual physical protection inspections for the status of compliance with the physical protection program in accordance with the Reactor Regulation Act.

In protection inspections for FY2013, the NRA focused on actions taken by operators to strengthen protective measures in accordance with the 2011 revision of rules including the Rules for Commercial Nuclear Power Reactors concerning Installation and Operations. Table 22 lists the number of physical protection inspection cases that the NRA handled in FY2013.

6. Actions Taken in Response to Breach of Compliance Obligations to the Physical Protection Program

(1) Fast Breeder Reactor Research and Development Center, Tsuruga Head Office, Japan Atomic Energy Agency

The NRA conducted a physical protection inspection of the Prototype Fast Breeder Reactor “Monju” July 9-12, 2013, and found partial breaches of the following four matters: 1. Installation of barriers, such as fences, in entry restricted zones; 2. Procedures for access control; 3. Periodic inspection of physical protection facilities; 4. Periodic evaluation and improvement of physical protection measures. The NRA judged

the case as a breach of the obligation to comply with the physical protection program.

It was also found that many NRA directives had not been followed.

The NRA investigated the details of the breach and root causes and judged that, although the breach did not constitute “fraudulent practices,” it was obviously brought about by the organization’s system. The breach could also lead to a serious physical protection problem. Accordingly, the NRA concluded that the breach influenced important protective measures and on November 8, 2013, the NRA issued a strict written warning to the Japan Atomic Energy Agency, requiring recurrence prevention.

(2) Tokai Daini Nuclear Power Station, Japan Atomic Power Company

In June, 2013, the Tokai Daini Nuclear Power Station, Japan Atomic Power Company (hereinafter referred to as Tokai Daini NPS), notified the NRA of an issue. After sensor functions had been disabled in some of the surrounding protection zones, a functional check had not been performed. Other measures required during the functional suspension were not taken for approximately half a year. The NRA regarded the case as a breach of the physical protection program. In August, the NRA issued a written warning to the Tokai Daini NPS, requiring recurrence prevention.

The installation of uninterruptible power supplies was specified in the physical protection program for the Tokai Daini NPS approved on May 23, 2013. Until the installation was completed, alternative measures should have been to prevent any interruption. From the end of November to the beginning of December, the NRA found that the uninterruptible power supplies had not been installed. The NRA ascertained the facts and causes from the operator and concluded the case was a breach of obligations to comply with the physical protection program. In April, 2014, the NRA issued a written warning to the Japan Atomic Power Company, requiring recurrence prevention.

**Table 22 Approved Cases concerning Physical Protection Provisions
(From April 1, 2013 to March 31, 2014)**

Approval of changes to physical protection provisions	82 cases (breakdown) Fuel facilities: 8 Research and test reactors: 5 Commercial power reactors: 43 Reactors being in the stage of R&D: 3 Storage facility: 1 Reprocessing facilities: 6 Waste management facilities: 2 Facilities where nuclear fuel material is used: 14
Inspection of the compliance with physical protection provisions	59 facilities (breakdown) Fuel facilities: 7

	Research and test reactor facilities: 7 Commercial power reactor facilities: 17 Reactors being in the stage of R&D: 2 Storage facility: 1 Reprocessing facilities: 2 Waste management facilities: 2 Facilities where nuclear fuel material is used: 20 Specified nuclear power facility: 1
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Section 2 Activities for Safeguards

In accordance with the Safeguards Agreement¹⁶ between Japan and IAEA and its additional protocol¹⁷, the IAEA provides credible assurance to the international community that nuclear material in Japan is not diverted to nuclear weapons or other nuclear explosive devices. To this end, the NRA conducts the following activities: 1. Collecting information such as inventories of nuclear material held at nuclear facilities, universities, and other locations and providing the information to the IAEA; 2. Facilitating IAEA's in-field verification activities including inspections so that the IAEA can confirm that the declared information is correct and complete. Through these activities, the NRA aims to maintain international confidence concerning the peaceful use of nuclear energy in Japan.

The IAEA secretariat issues an annual "Safeguards Statement" which contains the findings from the safeguards activities implemented the previous year and conclusions from the evaluation of those activities in all signatory countries to safeguards agreement. In the "Safeguards Statement for 2012," published on July 2, 2013, the IAEA secretariat drew conclusion concluded that "all nuclear material (in Japan) remained in peaceful activities (broader conclusion)" as has been the case since 2004¹⁸.

Based on the conclusions, the IAEA introduced "Integrated Safeguards" into Japan. Which intend the optimum combination of all safeguards measures available to the IAEA including adoption of random inspections.¹⁹

Under Integrated Safeguards, despite the fact that difficulties in implementing safeguards at some parts of TEPCO's Fukushima Daiichi Nuclear Power Station necessary safeguards activities are implemented by the IAEA in Japan as a whole including Units 5 and 6 and the common spent fuel pool in the NPS, where access is recovered.

¹⁶ Agreement between the Government of Japan and the International Atomic Energy Agency in implementation of Article III.1 and 4 of the Treaty on the Non-proliferation of Nuclear Weapons

¹⁷ Protocol additional to the agreement between the Government of Japan and the International Atomic Energy Agency in implementation of Article III.1 and 4 of the Treaty on the Non-proliferation of Nuclear Weapons

¹⁸ http://www.nsr.go.jp/activity/hoshousochi/news/20130710_sir.html

http://www.nsr.go.jp/activity/hoshousochi/news/data/2012SIR_01.pdf

¹⁹ Inspection conducted in a random manner with short notice, replacing the conventional planned method, as a means of reducing the number of IAEA inspections

Appendix Results of Activities in FY2013 (Data)

Section 1 Basic Policies on Affairs of the NRA and Relevant Incorporated Administrative Agencies

1. Organizational Philosophy of the NRA

At the 22nd Commission Meeting of FY2012 (January 9, 2013), the NRA discussed its core values and principles and decided that its mission should be to protect the general public and the environment through rigorous and reliable regulations of nuclear activities. In order to accomplish this mission, the NRA established five principle activities concerning its independence, effectiveness, transparency, expertise, and readiness.

Table 23 NRA's Core Values and Principles

<p>Bearing in mind that:</p> <ul style="list-style-type: none">-The Nuclear Regulation Authority was established to 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; <p>Determined that:</p> <ul style="list-style-type: none">- 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; <p>We hereby solemnly pledge our full commitment and unwavering efforts to the foregoing.</p> <p>Mission</p> <p>Our fundamental mission is to protect the general public and the environment through rigorous and reliable regulation of nuclear activities.</p> <p>Guiding Principles for Activities</p> <p>We in the NRA and its supporting Secretariat shall perform our duties diligently, acting in accordance with the following principles.</p> <p>(1) Independent Decision Making</p> <p>We shall make decisions independently, based on the latest scientific and technological information, free from any outside pressure or bias.</p> <p>(2) Effective Actions</p> <p>We shall discard the previous ineffective approach to regulatory work and stress the importance of a field-oriented approach to achieve genuinely effective regulations.</p> <p>(3) Open and Transparent Organization</p> <p>We shall ensure transparency and appropriate information disclosure on regulations,</p>
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including in 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 emergency situations while ensuring that in 'normal' times a fully effective response system is always in place.

In addition, the NRA will formulate a basic policy evaluation plan based on the Government Policy Evaluations Act (Act No. 86 of 2001), establish a policy system and conduct a policy evaluation every fiscal year. The evaluation will reflect measures for improving affairs and the planning and designing of new policies through the PDCA cycle (a business management method used for the management of production, quality and other criteria). In implementing the evaluation, external experts will be consulted at round-table conferences.

2. Related Incorporated Administrative Agencies

The NRA will take charge of all affairs of the Japan Nuclear Energy Safety Organization and part of the affairs of the Incorporated Administrative Agency National Institute of Radiological Sciences (hereafter the "National Institute of Radiological Sciences") and the Japan Atomic Energy Agency (the Japan Nuclear Energy Safety Organization was integrated into the NRA in March, 2014).

○ Japan Nuclear Energy Safety Organization

JNES will take charge of the examinations of nuclear facilities, analysis and evaluation of safety in the design of nuclear facilities, and the prevention of, and recovery from, nuclear disasters.

In November, 2013, the Act on the Dissolution of the Japan Nuclear Energy Safety Organization, which specifies that organization's integration into the NRA, was approved. In accordance with the Act, the Japan Nuclear Energy Safety Organization was dissolved on March 1, 2014, and the affairs for which it had been responsible were transferred to the NRA.

○ National Institute of Radiological Sciences

Within the scope of earlier NIRS activities, the NRA, together with the Ministry of

Education, Culture, Sports, Science and Technology (hereinafter referred to as “MEXT”), holds jurisdiction over the prevention, diagnosis, and treatment of radiation damage in humans.

○ Japan Atomic Energy Agency

The NRA, together with MEXT and the Ministry of Economy, Trade and Industry (hereinafter referred to as “METI”), now has partial jurisdiction of the JAEA to ensure nuclear safety.

Section 2 Holding NRA Meetings

Under a policy to encourage open commission meetings, the NRA held 47 such conferences from April 1, 2013 to March 31, 2014 (46 regular meetings and 1 extraordinary meeting), and made 157 NRA Commission decisions (hereinafter referred to as “Commission decisions”). The main topics and Commission decisions covered are listed in Table 24 and 25.

**Table 24 Nuclear Regulation Authority Commission Meetings
(From April 1, 2013 to March 31, 2014)**

No.	Date	Main topics
2013		
1	4. 3	<ul style="list-style-type: none"> • Rules for the security of nuclear reactor facilities and the protection of specified nuclear fuel materials at TEPCO's Fukushima Daiichi NPS, Public Notice for specifying matters concerning the security of nuclear reactor facilities and the protection of specified nuclear fuel materials at TEPCO's Fukushima Daiichi NPS • Partial revision of the Act on Special Measures Concerning Nuclear Emergency Preparedness with the revision of the Basic Act on Disaster Control Measures • Regarding the development of the Cabinet Order and rules for the approval system for the extension of operational periods and the system for responding to facility aging • Regarding the development of rules concerning the Prototype Fast Breeder Reactor "Monju" • Results of public comments on Draft New Safety Requirements for Light Water Nuclear Power Plants • Regarding safety goals
2	4. 10	<ul style="list-style-type: none"> • State of response based on the leakage from underground water tanks, and latest accidents and incidents at TEPCO's Fukushima Daiichi NPS • Approval of the change to the mid-term plan and operational instructions of JNES • Basic policy for JNES's recommendations to the NRA • Regarding Nuclear Emergency Response Guidelines (revised draft) • Regarding safety goals • NRA's draft rules for the development of related ordinances with partial enforcement of the Act for the Establishment of the Nuclear Regulation Authority
3	4. 17	<ul style="list-style-type: none"> • How to evaluate the current status of Ohi Power Station, Kansai Electric Power Co, Inc. • Analyzing environmental monitoring data • Regarding arbitrary decisions in the fourth quarter of FY2012 • Report on outline of results of the International Atomic Energy Agency's (IAEA's) international meetings concerning effective nuclear systems

No.	Date	Main topics
4	4. 24	<ul style="list-style-type: none"> • Public comments on the Cabinet Order (provisional designation) concerning the development of related cabinet orders and transitional measures with partial enforcement of the Act for the Establishment of the Nuclear Regulation Authority • Results of discussions by the Council for the Decommissioning of TEPCO's Fukushima Daiichi Nuclear Power Station • Latest accidents and incidents at TEPCO's Fukushima Daiichi Nuclear Power Station • NRA's draft annual report for FY2012
5	5. 8	<ul style="list-style-type: none"> • Evaluation of Kansai Electric Power Co. Inc.'s report on the malfunction of the emergency diesel generator at Unit 1 of Mihama Power Station • Implementation progress of operational safety inspections in the fourth quarter of FY2012 • FY2013 basic policy for operational safety inspections in nuclear regulation offices • Progress of study of operational safety inspections • Report on outline of results of the meetings of the International Nuclear Advisory Group (INSAG)
6	5. 15	<ul style="list-style-type: none"> • Evaluation of and future response to the time limit for the operational safety inspection at the Prototype Fast Breeder Reactor "Monju" being exceeded • Report on outline of results of the meeting of the International Nuclear Regulations Association (INRA)
7	5. 22	<ul style="list-style-type: none"> • Evaluation of fracture zones in the site of the Tsuruga NPS, Japan Atomic Power Company • Response to the time limit for the operational safety inspection at the Prototype Fast Breeder Reactor "Monju" being exceeded • Regarding the accident of leakage from underground water tanks at TEPCO's Fukushima Daiichi NPS
8	5. 29	<ul style="list-style-type: none"> • Regarding the leakage of radioactive materials outside the controlled area at the Japan Proton Accelerator Research Complex (J-PARC) • Instruction related to the Prototype Fast Breeder Reactor "Monju" under the Reactor Regulation Act • Evaluation of the spent fuel storage facilities in Unit 2, Tsuruga NPS, Japan Atomic Power Company • NRA's annual report for FY2012 • Setting up of an Expert Meeting on the investigation of fracture zones at the site of the Prototype Fast Breeder Reactor "Monju" • Results of confirmation of "the implementation of the restoration plan for Unit 2 based on the Nuclear Operator Emergency Preparedness Action Plan" for TEPCO's Fukushima Daiichi NPS • Report on outline of results of the 5th International Atomic Energy Agency (IAEA) Meeting of Experts
9	6. 5	<ul style="list-style-type: none"> • Revised draft for the Nuclear Emergency Response Guidelines • Change in doses based on aircraft monitoring for 2 years after the accident at TEPCO's Fukushima Daiichi Nuclear Power Station • Future responses based on the accident involving the leakage of radioactive materials in the Hadron Experimental Facility of the Japan Proton Accelerator Research Complex (J-PARC) • Compilation of the Committee on Countermeasures for Contaminated Water Treatment

No.	Date	Main topics
10	6. 12	<ul style="list-style-type: none"> • Response to public opinion regarding the approval system for the extension of operational periods and the system for responding to facility aging • Response to public opinions regarding ordinances covering research and development power reactors • Results of implementation of FY2012 physical protection inspections • Compilation of accidents and malfunctions that occurred at nuclear facilities in FY2012 • Outline of results of meetings of the Committee on the Safety of Nuclear Installations under the Nuclear Energy Agency within the Organization for Economic Co-operation & Development (OECD/NEA/CSNI)
11	6. 19	<ul style="list-style-type: none"> • Procedures for development and enforcement of related laws and regulations with partial enforcement of the Act for the Establishment of the Nuclear Regulation Authority • Regarding utilization of private standards in the NRA in the future • Response based on the accident involving the leakage of radioactive materials in the Hadron Experimental Facility of the Japan Proton Accelerator Research Complex (J-PARC) • Regarding the contact with a uranium powder drum in the fuel facility of Global Nuclear Fuel Japan • Outline of results of the meeting of the European Nuclear Safety Regulators Group (ENSREG) • Results of investigation into underground water near the intake (revetment) of TEPCO's Fukushima Daiichi Nuclear Power Station
12	6. 26	<ul style="list-style-type: none"> • Results of site inspections of the accident involving the leakage of radioactive materials in the Hadron Experimental Facility of the Japan Proton Accelerator Research Complex (J-PARC) • Change in the operational safety program for nuclear facilities at TEPCO's Fukushima Daiichi Nuclear Power Station • Monitoring results of seawater within the port of TEPCO's Fukushima Daiichi Nuclear Power Station
13	7. 3	<ul style="list-style-type: none"> • Evaluation of the current status of Units 3 and 4 of the Ohi Power Station, Kansai Electric Power Co. Inc. • Future review of setting of the Emergency Action Level (EAL), and draft cabinet order for partial revision of the Enforcement Order of the Act on Special Measures Concerning Nuclear Emergency Preparedness • Regarding the revision of viewpoints (in-house rules) for confirming the Nuclear Operator Emergency Preparedness Action Plan • Regarding arbitrary decision on planned site inspections based on the Act concerning Prevention of Radiation Hazards Due to Radioisotopes • Implementation progress of the Technical Information Committee in the first quarter of FY2013

No.	Date	Main topics
14	7. 10	<ul style="list-style-type: none"> • How to proceed with examination of conformity to new regulatory requirements • Detection of radioactive material concentrations in underground water/seawater on the revetment, within the port, and near the discharge channels, and the progress of work for cut-off countermeasures near the revetment, at TEPCO's Fukushima Daiichi Nuclear Power Station • Responses to accidents and malfunctions that were reported based on the Reactor Regulation Act and Prevention of Radiation Hazards Act • Evaluation of the International Nuclear and Radiological Event Scales (INES) in response to the latest accidents and incidents at nuclear facilities • The publishing of "Safeguards Statement for 2012" of the International Atomic Energy Agency (IAEA) and the results of implementation of safeguards activities in Japan
15	7. 17	<ul style="list-style-type: none"> • Response to uranium hexafluoride being handled in uranium fuel facilities • Review progress of the Committee on Nuclear Security • Arbitrary decisions in first quarter of FY2013 • Regarding Japan Atomic Power Company's opposition to report collection
16	7. 24	<ul style="list-style-type: none"> • Regarding the Japan Atomic Power Company's request for suspension of execution of report collection in the opposition • Response to the Japan Atomic Power Company's report on the results of an additional investigation at the Tsuruga NPS • Regarding a draft of new regulatory requirements for nuclear fuel cycle facilities • Review progress for setting of Emergency Action Level (EAL) • Confirmation of emergency drills by nuclear operators • Change of doses by car-borne survey after the accident at TEPCO's Fukushima Daiichi Nuclear Power Station
17	7. 31	<ul style="list-style-type: none"> • Regarding status of site inspections for the implementation of ex post facto countermeasures of nuclear disasters based on the restoration plan for TEPCO's Fukushima Daiichi Nuclear Power Station • Regarding partial revision of ordinances concerning events that should be reported by a nuclear emergency preparedness manager based on the Act on Special Measures Concerning Nuclear Emergency Preparedness with the setting of the Emergency Action Level (EAL) • Evaluation of JAEA's report on the leakage of radioactive materials into non-controlled areas at the Japan Materials Testing Reactor (JMTR), Oarai Research and Development Center and in the Refining and Conversion Facility of the Ningyo-toge Environmental Engineering Center • Operational guidelines for site inspections upon receiving a report of deviation from the limiting conditions for power reactor facilities (instructions) • Implementation progress of operational safety inspections in the first quarter of FY2013 • Method of managing operational safety inspections (interim report) • Examination of the application for approval of revisions to the operational safety program, for responding to facility aging • Regarding statements related to opposition from the Japan Atomic Power Company • Review progress of the Commission on Supervision and Evaluation of the Specified Nuclear Facilities • Proposal on the JAEA Tokai Reprocessing Plant

No.	Date	Main topics
18	8. 14	<ul style="list-style-type: none"> • Interim summary of Reform Headquarters, JAEA (fundamental direction of the reform) • Approval of TEPCO “Fukushima Daiichi NPS, the implementation plan for specified nuclear power facilities” • Japan’s 6th national report on the Convention on Nuclear Safety • Report on the assessment of the spent fuel storage facilities in Unit 2, Tsuruga NPS, Japan Atomic Power Company • Regarding the examination of conformity to new regulatory requirements for nuclear power stations • Figuring out potential hazards in JAEA’s reprocessing facilities • Regarding delayed connection of teleconference system between the NRA Secretariat and the Emergency Response Center, Tohoku Electric Power Co, Inc. following the Miyagi-Oki Earthquake
19	8. 21	<ul style="list-style-type: none"> • Evaluation of the accident involving the leakage of radioactive materials in the Hadron Experimental Facility of the Japan Proton Accelerator Research Complex (J-PARC) • Evaluation of policies implemented in FY2012 • Setting up a Committee on Marine Monitoring • Regarding leakage from the contaminated water storage tanks at TEPCO's Fukushima Daiichi NPS
20	8. 28	<ul style="list-style-type: none"> • Opinions regarding the Nuclear Comprehensive Emergency Drill Plan for FY2013 • Draft rules for partial revision of the Ministerial Ordinance for events that should be reported by a nuclear emergency preparedness manager based on the Act on Special Measures Concerning Nuclear Emergency Preparedness, and the cabinet order (draft) for partial revision of the Enforcement Order of the Act on Special Measures Concerning Nuclear Emergency Preparedness • Revised draft for confirming the Nuclear Operator Emergency Preparedness Action Plan • Regarding leakage from the contaminated water storage tanks • Basic policy for operational safety inspections for TEPCO's Fukushima Daiichi NPS • Setting up the Study Team on Safety and Security Measures for Evacuees to Return Home • Plan for implementation of technical assessment on private standards • Regarding the implementation of technical evaluation based on the Design, Construction and Materials Standards, Japan Society of Mechanical Engineers
21	9. 5	<ul style="list-style-type: none"> • Draft rules for partial revision of the Ministerial Ordinance for events that should be reported by a nuclear emergency preparedness manager based on the Act on Special Measures Concerning Nuclear Emergency Preparedness • Results of collected opinions on a draft of new regulatory requirements for nuclear fuel cycle facilities • State of leakage from contaminated water storage tanks at TEPCO's Fukushima Daiichi NPS, and reinforced response of the NRA Secretariat • Requests for budget and organization staff for FY2014
22	9. 11	<ul style="list-style-type: none"> • Evaluation of JAEA’s written report on contamination in non-controlled areas of the Analysis Section in the Reprocessing Facility of the Nuclear Fuel Cycle Engineering Laboratories • Regarding NRA's draft rules on the development of related ordinances with partial enforcement of the Act for the Establishment of the Nuclear Regulation Authority

No.	Date	Main topics
23	9. 25	<ul style="list-style-type: none"> • Development of plan for the additional investigation of fracture zones in the site of the Prototype Fast Breeder Reactor "Monju" • Promotion of nuclear safety research in the NRA • Outline of results of the meeting of the International Nuclear Regulations Association (INRA), of various bilateral meetings, and meetings with External Advisers • Damage to stacks of Units 1 and 2 of TEPCO's Fukushima Daiichi NPS • Regarding the repair of the multi-nuclide removal equipment at TEPCO's Fukushima Daiichi NPS
24	9. 26	<ul style="list-style-type: none"> • Regarding the appointment of auditors for JNES
25	10. 2	<ul style="list-style-type: none"> • Reform plan for JAEA • Decision on the Japan Nuclear Power Company's opposition • Regarding the application for approval of change to the reactor installation at TEPCO's Kashiwazaki-Kariwa NPS (Units 6 and 7) • Reporting on the results of the 1st France-Japan Regulators Meeting
26	10. 9	<ul style="list-style-type: none"> • NRA's evaluation of the Japan Nuclear Power Company's report on the spent fuel storage facilities in Unit 2, Tsuruga NPS • Regarding leakage from the contaminated water storage tanks at TEPCO's Fukushima Daiichi NPS • Reports on FY2012 radiation control for nuclear facilities • Regarding the Nuclear Comprehensive Emergency Drill • Regarding the addition of an attached document "Reason for Opposition against the Administrative Measures," –the Japan Nuclear Power Company's written opposition
27	10. 16	<ul style="list-style-type: none"> • Regarding the leakage of contaminated water from the desalination system for replacing salt water with fresh water at TEPCO's Fukushima Daiichi NPS • Implementation progress of nuclear comprehensive emergency drills • Efforts for enhancement of regional disaster prevention plans
28	10. 23	<ul style="list-style-type: none"> • Bill for dissolution of JNES • Approval of change to TEPCO "Fukushima Daiichi NPS, the implementation plant for specified nuclear power facilities" (installation of mobile treatment equipment) • Implementation progress of the Technical Information Committee in the second quarter of FY2013 • Regarding plans for the additional investigation of fracture zones at the site of the Prototype Fast Breeder Reactor "Monju" • Arbitrary decisions in the second quarter of FY2013 • Regarding an October 15 TEPCO report under the direction of the NRA Secretary-General
29	10. 30	<ul style="list-style-type: none"> • Approval of change to TEPCO "Fukushima Daiichi NPS, the implementation plan for specified nuclear power facilities" (confirmation and handling of fuel integrity upon fuel removal) • Evaluation of report by the Global Nuclear Fuel Japan on contact with a uranium powder drum in its fuel facility • Implementation progress of operational safety inspections in the second quarter of FY2013 • Results of interview with President Hirose, TEPCO

No.	Date	Main topics
30	11. 6	<ul style="list-style-type: none"> • Regarding the breach of compliance with the physical protection program for the Prototype Fast Breeder Reactor "Monju" • Regarding the leakage of radioactive materials in the facility of Osaka City University that handles radioisotopes • Results of public comments on drafts of rules and in-house rules concerning establishment of new regulatory requirements for nuclear fuel cycle facilities and safety regulations for power reactor facilities • Draft of concept for the application of new regulatory requirements for nuclear fuel cycle facilities • Outline of results of workshops held by the Nuclear Energy Agency, Organization for Economic Co-operation & Development (OECD/NEA) and of talks with the Swedish Nuclear Regulator
31	11. 13	<ul style="list-style-type: none"> • Results of public comments on drafts of cabinet orders, rules, and in-house rules concerning new regulatory requirements for nuclear fuel cycle facilities and concerning power reactor facilities and specified reactor facilities • Supplementary explanation of new regulatory requirements for nuclear fuel cycle facilities • Report on survey of marine monitoring experts by the International Atomic Energy Agency (IAEA) • How to proceed with conformity examination on TEPCO's Kashiwazaki-Kariwa NPS
32	11. 20	<ul style="list-style-type: none"> • Basic concept of safety and security for evacuees to return home • JAEA's report on safeguard order for Monju • Setting up of an Expert Meeting on the investigation of fracture zones at the Mihama Power Station • Progress of fuel removal from the spent fuel pool in Unit 4, TEPCO's Fukushima Daiichi NPS
33	11. 27	<ul style="list-style-type: none"> • Development of related laws and regulations with partial revision of the Act on Establishment of the Nuclear Regulation Authority • Establishment of the Ordinance of the Nuclear Regulation Authority concerning application documents required for the integration of JNES
34	12. 4	<ul style="list-style-type: none"> • Progress of confirmation of work for fuel removal at Unit 4, TEPCO's Fukushima Daiichi NPS • Future reception of comprehensive regulation evaluation services of the International Atomic Energy Agency (IAEA) • Outline of results of the 6th Japan-China-South Korea Senior Regulators' Meeting
35	12. 11	<ul style="list-style-type: none"> • Response to uranium hexafluoride being handled in uranium fuel processing facilities • Regarding the examination of the application for approval of revisions to the operational safety program covering facility aging • Results of investigation for pinpointing potential hazards in JAEA's reprocessing facilities • Regarding the International Atomic Energy Agency (IAEA) experts' visit to Japan • Outline of results of the IAEA International Nuclear Safety Group (INSAG) and the International Technical Advisory Group on the Comprehensive Report on TEPCO's Fukushima Daiichi NPS • Future reception of comprehensive regulation evaluation services of the IAEA

No.	Date	Main topics
36	12. 18	<ul style="list-style-type: none"> • Confirmation of solidification and stabilization plan for potential hazards in JAEA's reprocessing facilities and response to the plan • Summary of points at issue concerning fracture zones at the Japan Nuclear Power Company's Tsuruga NPS • Proposal of examination guide for seismically isolated structures • Handling of examinations to respond to intentional crash of large aircraft and other acts of terrorism • Regarding the establishment of the Radiation Council • Regarding the establishment of the Reactor Safety Examination Committee and the Nuclear Fuel Safety Examination Committee • Supplementary budget for FY2013 and proposal for the integration of JNES and a number of staff for FY2013
37	12. 25	<ul style="list-style-type: none"> • How to proceed with conformity confirmation of nuclear fuel cycle facilities • Regarding the leakage of radioactive materials in a facility at the Tokyo University of Agriculture and Technology that handles radioisotopes • Support efforts for improvement to and enhancement of regional disaster prevention measures • Regarding "Acceleration of Fukushima Reconstruction from Nuclear Disaster" • Aircraft monitoring of air dose rates for 30 months after the accident at TEPCO's Fukushima Daiichi NPS • Budget for FY2014
2014		
38	1. 15	<p>Results of public comments on "the matters being confirmed concerning the chemical effects of uranium hexafluoride on the public (draft)"</p> <ul style="list-style-type: none"> • JAEA's response to the Reactor Regulation Act order, concerning the time limit for the operational safety inspection at the Prototype Fast Breeder Reactor "Monju" which was exceeded • Regarding the establishment of the Reactor Safety Examination Committee and the Nuclear Fuel Safety Examination Committee • Regarding the International Atomic Energy Agency's international physical protection services • Criteria for reporting accidents and malfunctions to the NRA under existing laws and regulations • Regarding the results of debriefing session for drills (assessment on the results of drills implemented by nuclear operators in FY2012 (draft))
39	1. 22	<ul style="list-style-type: none"> • Approval of the application for revisions to the operational safety program for TEPCO's Fukushima Daini NPS (technical evaluation of aging management of Unit 2) • Regarding the establishment of the Reactor Safety Examination Committee and the Nuclear Fuel Safety Examination Committee
40	1. 29	<ul style="list-style-type: none"> • Change to the mid-term goal for JNES • Regarding arbitrary decisions in the third quarter of FY2013 • Regarding partial revision of the Act on Punishment of Acts to Endanger Human Lives by Generating Radiation (Act on Punishment of Radiation Diffusion) • Report on "Emergency Monitoring (additional reference documents for Nuclear Emergency Response Guidelines)"

No.	Date	Main topics
41	2. 5	<ul style="list-style-type: none"> • Regarding the establishment of the Reactor Safety Examination Committee and the Nuclear Fuel Safety Examination Committee • Regarding the Expert Meeting on the investigation of fracture zones at the Shika NPS • Response to TEPCO's Fukushima Daiichi NPS
42	2. 12	<ul style="list-style-type: none"> • Regarding the change to the mid-term goal for JNES • Regarding the change to the operation instructions for JNES • Regarding the development of related cabinet orders with the enforcement of the Act on the Dissolution of JNES • Regarding the system of the Nuclear Regulation Authority after the integration of JNES • Regarding the assessment of fracture zones at the Kansai Electric Power Co, Inc.'s Ohi Power Station • Regarding the implementation progress of operational safety inspections in the third quarter of FY2013 • Regarding the incident whereby water treated with the reverse osmosis membrane (RO) leaked from the strainer pressure gage of the pipe transferring water to the reactor injection system at TEPCO's Fukushima Daiichi NPS • Regarding the state of the examination of conformity to new regulatory requirements
43	2. 19	<ul style="list-style-type: none"> • Regarding the bill for partial revision of the Act on Punishment of Acts to Endanger Human Lives by Generating Radiation • Regarding the progress of the examination of conformity to new regulatory requirements and confirmation of the current status in nuclear fuel cycle facilities • Regarding the method of future examinations of conformity to nuclear power stations new regulatory requirements
44	2. 26	<ul style="list-style-type: none"> • Regarding the establishment of NRA-related laws and regulations with the enforcement of the Act on the Dissolution of the Japan Nuclear Energy Safety Organization (JNES) • Regarding the amendment to the NRA's Emergency Preparedness Action Plan • Regarding the revision of the operational manual in the Emergency Response Support System (ERSS) • Approval of the application of revisions to the operational safety program for Chugoku Electric Power Co. Inc.'s Shimane NPS (technical evaluation of aging management of Unit 1) • Regarding regulation requirements for the accomplishment of limited effective doses at the boundary of TEPCO's Fukushima Daiichi NPS • Regarding leakage from the upper storage tank for water concentrated with the reverse osmosis membrane (RO) in the H6 tank area, outside the weir, at TEPCO's Fukushima Daiichi NPS • Regarding the bending of the water rods of the fuel assemblies
45	3. 5	<ul style="list-style-type: none"> • Regarding the designation of members of the Radiation Council • Regarding the politicization of NRA activities • Regarding the state of employment of NRA staff
46	3. 13	<ul style="list-style-type: none"> • Regarding the appointment of the Radiation Council members • State of the examination of conformity to new regulatory requirements • Confirmation of current status of Kyoto University Research Reactor (KUR) • Regarding report on business trips to USA

No.	Date	Main topics
47	3. 26	<ul style="list-style-type: none"> • Regarding the collection of scientific and technical opinions on a draft of examination documents • NRA's FY2014 plan for ex post evaluation and its immediate schedule • Regarding the immediate provision of nuclear emergency vehicles • Interviews with Chairman Tanaka, NRA and Representative Executive Officer Hirose, TEPCO • Leakage of radioisotopes outside the controlled area of the Tokyo Medical and Dental University • Report on outline of results of the 7th International Atomic Energy Agency (IAEA) International Expert Meeting

* The 24th meeting was held behind closed doors because if certain information and deliberations which are personal in nature, , are opened to the public, it may impair personal rights and impede the maintenance of impartial and smooth personnel practices, and due to the fact that the information discussed in the said meeting applies to the non-disclosure information set forth in items (i) and (vi)-e of Article 5, the Act on Access to Information Held by Administrative Organs (1999 Law No. 42).

**Table 25 Main Points decided in NRA Commission Meetings
(From April 1, 2013 to March 31, 2014)**

Date	Main points of Commission decisions
[Fukushima Daiichi Nuclear Power Station, TEPCO]	
4. 3	<ul style="list-style-type: none"> • Public Notice concerning the security of nuclear reactor facilities and the protection of specified nuclear fuel materials at TEPCO's Fukushima Daiichi NPS • Rules for the security of nuclear reactor facilities and the protection of specified nuclear fuel materials at TEPCO's Fukushima Daiichi NPS
8. 14	<ul style="list-style-type: none"> • Approval of the implementation plan for specified nuclear power facilities in Fukushima Daiichi NPS • Partial revision of the Public Notice concerning the security of nuclear reactor facilities and the protection of specified nuclear fuel materials at TEPCO's Fukushima Daiichi NPS
10.23	<ul style="list-style-type: none"> • Approval of change in the implementation plan for specified nuclear power facilities at the Fukushima Daiichi NPS (installation of mobile treatment equipment)
10.30	<ul style="list-style-type: none"> • Approval of change to the implementation plan for specified nuclear power facilities in Fukushima Daiichi NPS (confirmation and handling of fuel integrity upon fuel removal)
[Nuclear Regulation Act and Related Laws]	
6. 12	<ul style="list-style-type: none"> • Timing of the application of revisions to the operational safety program from a nuclear operator covering facility aging in a commercial power reactor (instruction)
6. 19	<ul style="list-style-type: none"> • Draft cabinet order concerning the development of related cabinet orders and transitional measures with partial enforcement of the Act for the Establishment of the Nuclear Regulation Authority • Rules for the development of related ordinances with partial enforcement of the Act for the Establishment of the Nuclear Regulation Authority
7. 31	<ul style="list-style-type: none"> • Operational guidelines for site inspections after receiving a report of deviation from the limiting conditions for power reactor facilities (instructions)
10.23	<ul style="list-style-type: none"> • Issue of instructions to the report on USA information “Fragility of Design for Power Supply System”
11.27	<ul style="list-style-type: none"> • Rules for the development of related ordinances with partial enforcement of the Act for the Establishment of the Nuclear Regulation Authority • Rules for the development of related notices with partial enforcement of the Act for the Establishment of the Nuclear Regulation Authority
[Individual Facilities]	
(Fukushima Daini Nuclear Power Station, TEPCO)	
7. 31	<ul style="list-style-type: none"> • Regarding the implementation of site inspections concerning the implementation progress of ex post facto countermeasures of nuclear disasters (notification)
1. 22	<ul style="list-style-type: none"> • Approval of revisions to the operational safety program for nuclear facilities at TEPCO's Fukushima Daini NPS
(Prototype Fast Breeder Reactor "Monju")	
5. 22	<ul style="list-style-type: none"> • Evaluation of and future response to the time limit for the operational safety inspection at the Prototype Fast Breeder Reactor "Monju" being exceeded

Date	Main points of Commission decisions
5.29 9.25 11. 6	<ul style="list-style-type: none"> • Order for change to the operational safety program based on the provision of paragraph (3) of Article 37 of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors • Administrative order necessary for security based on the provision of paragraph (1) of Article 36 of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors • Development of plan for additional investigation of fracture zones at the Prototype Fast Breeder Reactor "Monju" • Compliance with the physical protection program (warning)
(Tsuruga Nuclear Power Station, Japan Nuclear Power Company)	
5.29 7.24 10. 2 10. 9	<ul style="list-style-type: none"> • Collection of report on maintenance of Unit 2, Tsuruga NPS based on paragraph (1) of Article 67 of the Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors • Decision on the Japan Nuclear Power Company's request for suspension of execution of report collection in the opposition • Decision on the Japan Nuclear Power Company's opposition • NRA's evaluation of the Japan Nuclear Power Company's report on the spent fuel storage facilities in Unit 2, Tsuruga NPS
(Other)	
5. 8 7. 3 7.31 8.21 9. 11 10.30	<ul style="list-style-type: none"> • Evaluation of the Kansai Electric Power Co. Inc.'s report on the malfunction of the emergency diesel generator at Unit 1 of the Mihama Power Station • Evaluation of the current status of Units 3 and 4 of the Ohi Power Station, Kansai Electric Power Co. Inc. • Evaluation of JAEA's report on the leakage of radioactive materials into non-controlled areas at the Japan Materials Testing Reactor (JMTR), Oarai Research and Development Center • Evaluation of JAEA's report on the leakage of radioactive materials into non-controlled areas in the Refining and Conversion Facility of the Ningyo-toge Environmental Engineering Center • Evaluation of the leakage of radioactive materials in the Hadron Experimental Facility of the Japan Proton Accelerator Research Complex (J-PARC), which is jointly operated by the Japan Atomic Energy Agency (JAEA) and the High Energy Accelerator Research Organization, Inter-University Research Institute Cooperation • Evaluation of JAEA's written report on contamination in non-controlled areas of the Analysis Section in the Reprocessing Facility of the Nuclear Fuel Cycle Engineering Laboratories • Evaluation of the Global Nuclear Fuel Japan's report on contact with a uranium powder drum in the Global Nuclear Fuel Japan's fuel facility.
[Nuclear Emergency Response Measures and Related Issues]	
6. 5 7. 3	<ul style="list-style-type: none"> • Overall revision of the Nuclear Emergency Response Guidelines • Preliminary evaluation of draft cabinet order for partial revision of the Enforcement Act of the Act on Special Measures Concerning Nuclear Emergency Preparedness • Preliminary evaluation of the rules for partial revision of the Ministerial Ordinance for events that should be reported by a nuclear emergency preparedness manager based on the Act on Special Measures Concerning Nuclear Emergency Preparedness

Date	Main points of Commission decisions
8. 28	<ul style="list-style-type: none"> • Opinions regarding the Nuclear Comprehensive Emergency Drill Plan for FY2013 • Draft cabinet order for partial revision of the Enforcement Act of the Act on Special Measures Concerning Nuclear Emergency Preparedness • Rules for partial revision of the Ministerial Ordinance for events that should be reported by a nuclear emergency preparedness manager based on the Act on Special Measures Concerning Nuclear Emergency Preparedness • Revision of (in-house rules) regarding viewpoints for confirming the Nuclear Operator Emergency Preparedness Action Plan
9. 5	<ul style="list-style-type: none"> • Overall revision of the Nuclear Emergency Response Guidelines • Rules for partial revision of the Ministerial Ordinance for events that should be reported by a nuclear emergency preparedness manager based on the Act on Special Measures concerning Nuclear Emergency Preparedness • Order for partial revision of the Ministerial Ordinance for the Nuclear Operator Emergency Preparedness Action Plan that should be prepared by a nuclear emergency preparedness manager based on the Act on Special Measures Concerning Nuclear Emergency Preparedness
[Other]	
4. 10	<ul style="list-style-type: none"> • Approval of revisions to the operational instructions for JNES • Discussion with the Finance Minister regarding revision of the plan for accomplishing JNES's mid-term goal (mid-term plan)
5. 29	<ul style="list-style-type: none"> • NRA's annual report for FY2012
7. 31	<ul style="list-style-type: none"> • Regarding operational guidelines for site inspections upon receiving a report on deviation from the limiting conditions for power reactor facilities (instructions)
8. 14	<ul style="list-style-type: none"> • Japan's 6th national report on the Convention on Nuclear Safety
8. 21	<ul style="list-style-type: none"> • Ex post review document for FY2013 policy review
10. 23	<ul style="list-style-type: none"> • Bill for the dissolution of JNES
11. 20	<ul style="list-style-type: none"> • Basic concept of safety and security for evacuees to return home
11. 27	<ul style="list-style-type: none"> • Rules for specifying descriptions of documents prepared JNES for the recruitment of NRA staff, under paragraph (3) of Article 3, Supplementary Provisions of the Act on the Dissolution of the Japan Nuclear Energy Safety Organization (JNES) • Regarding the submission of the report for the enforcement of new regulatory requirements for the use of nuclear fuel materials (instruction)
12. 11	<ul style="list-style-type: none"> • Submission of report on the chemical effects on the public of uranium hexafluoride handling in uranium fuel facilities (instruction)
1. 29	<ul style="list-style-type: none"> • Change of mid-term goal for operations that should be accomplished by JNES
2. 5	<ul style="list-style-type: none"> • Requirements for ensuring transparency and neutrality when the NRA appoints members of the Reactor Safety Examination Committee and the Nuclear Fuel Safety Examination Committee
2. 12	<ul style="list-style-type: none"> • Discussion for change to the plan for accomplishing JNES's mid-term plan • Approval of revisions to the operation instructions for JNES • Cabinet order stipulating the date of enforcement of the Act on the Dissolution of the Japan Nuclear Energy Safety Organization (JNES)
2. 19	<ul style="list-style-type: none"> • Bill for partial revision of the Act on Punishment of Acts to Endanger Human Lives by Generating Radiation

Date	Main points of Commission decisions
2.26	<ul style="list-style-type: none"> • Revision of the operational manual (in-house rules) in the Emergency Response Support System (ERSS) • Approval of revisions to the operational safety program for the Chugoku Electric Power Co. Inc.'s Shimane NPS • Evaluation of the written report by TEPCO concerning the bending of the water rods of the fuel assemblies at Unit 5, Kashiwazaki-Kariwa NPS
3.13	<ul style="list-style-type: none"> • Appointment of Radiation Council Members
3.26	<ul style="list-style-type: none"> • NRA's FY2014 plan for ex post evaluation

Section 3 Activities of Study Meetings

Councils and others

- Reactor Safety Examination Committee
- Nuclear Fuel Safety Examination Committee
- Radiation Council
- Commission on Evaluation of Incorporated Administrative Agencies

Activities related to new regulatory requirements

- Study Team on the New Regulatory Requirements for Light Water Power Reactors
- Study Team on Establishment of the New Safety Regulations for Light Water Nuclear Power Plants
- Study Team on the Regulatory Requirements for Light Water Nuclear Power Plants -Earthquakes and Tsunamis
- Study Team on the New Regulatory Requirements for Nuclear Fuel Facilities
- Review Meeting on Conformity to the New Regulatory Requirements (for nuclear power plants and nuclear fuel facilities)

Expert meetings on investigation of fracture zones at nuclear power stations

- Expert Meeting on the Investigation of Fracture Zones at the Ohi Power Station
- Expert Meeting on the Investigation of Fracture Zones at the Tsuruga Nuclear Power Station
- Expert Meeting on the Investigation of Fracture Zones at the Higashidori Nuclear Power Station, Tohoku Electric Power Co., Inc.
- Expert Meeting on the Investigation of Fracture Zones at the Shika Nuclear Power Station
- Expert Meeting on the Investigation of Fracture Zones at the Mihama Power Station
- Expert Meeting on the Investigation of Fracture Zones at the Prototype Fast Breeder Reactor “Monju”

Activities related to specified facilities

- Commission on Supervision and Evaluation of Specified Nuclear Facilities
- Committee on Accident Analysis of the Fukushima Daiichi Nuclear Power Station
- Evaluation Meeting on the Current Status of Units 3 and 4 of the Ohi Power Station

Others

- Study Team on Safety and Security Measures for Evacuees to Return Home
- Committee on Nuclear Security
- Technical Information Committee
- Study Team on Technical Evaluation of Design and Construction Standards, and Material Standards
- Committee on Marine Monitoring
- Debriefing Session of Emergency Drills by Nuclear Operators
- NRA Policy Review Meeting
- Expert Meeting on NRA’s Administrative Review -FY2013-

The Act for Establishment of the Nuclear Regulation Authority required the Reactor Safety Examination Committee, the Nuclear Fuel Safety Examination Committee, the Radiation Council, and the Commission on Evaluation of Incorporated Administrative Agencies to be established within the NRA. We set up study meetings of NRA Commissioners, external experts, and officials of the NRA Secretariat, and conducted open discussions on nuclear safety regulations and on individual matters. In selecting the committee members and external experts, we specified the selection requirements needed to ensure neutrality and fairness.

(The lists presented in this section are as of the end of March, 2014 unless otherwise stated.)

1. Reactor Safety Examination Committee

The requirements for ensuring transparency and neutrality when the NRA selected items to be investigated and discussed, and the methods to be applied in appointing appropriate members were specified at the NRA Commission Meeting held on February 5, 2014. On the basis of those requirements, the appointment of members was approved at the NRA Commission Meeting held on April 16, 2014, after which the first joint review meeting of the Reactor Safety Examination Committee and the Nuclear Fuel Safety Examination Committee was held on May 12.

Members of the Reactor Safety Examination Committee	Makiko Okamoto	Associate Professor, Management & Information Systems Engineering Department of Graduate School, Nagaoka University of Technology
	Michiaki Kai	Professor, Department of Health Sciences, Oita University of Nursing and Health Sciences
	Tadahiro Katsuta	Associate Professor, School of Law, Meiji University
	Seiji Shiroya	Professor Emeritus, Kyoto University
	Naoto Sekimura	Professor, School of Engineering, the University of Tokyo
	Tsuyoshi Takada	Professor, School of Engineering, the University of Tokyo
	Toshiko Nakagawa	Professor, Faculty of Engineering, Tokyo City University
	Ken Nakajima	Professor, Kyoto University Research Reactor Institute
	Akiko Matsuo	Professor, Faculty of Science and Technology, Keio University
	Ken Muramatsu	Affiliate Professor, Faculty of Engineering, Tokyo City University
	Yuko Yoneoka	Technical Operation Manager, Lloyd's Register Quality Assurance Limited

Approved in April, 2014

2. Nuclear Fuel Safety Examination Committee

The requirements for ensuring transparency and neutrality when the NRA selected items to be investigated and discussed, and the methods to be applied in appointing appropriate persons as members were specified at the NRA Commission Meeting held on February 5, 2014. On the basis of those requirements, the appointment of members was approved at the NRA Commission Meeting held on April 16, 2014, after which the first joint review meeting of the Reactor Safety Examination Committee and the Nuclear Fuel Safety Examination Committee was held on May 12.

Members of the Nuclear Fuel Safety Examination Committee	Noriko Asanuma	Associate Professor, School of Engineering, Tokai University
	Toshiaki Ohe	Professor, School of Engineering, Tokai University
	Makiko Okamoto	Associate Professor, Management & Information Systems Engineering Department of Graduate School, Nagaoka University of Technology
	Michiaki Kai	Professor, Department of Health Sciences, Oita University of Nursing and Health Sciences
	Tadahiro Katsuta	Associate Professor, School of Law, Meiji University
	Tsuyoshi Takada	Professor, School of Engineering, the University of Tokyo
	Satoru Tanaka	Professor, School of Engineering, the University of Tokyo
	Akiko Matsuo	Professor, Faculty of Science and Technology, Keio University
	Hirotake Moriyama	Director, Kyoto University Research Reactor Institute
	Shinsuke Yamanaka	Professor, Graduate School of Engineering, Osaka University
	Yuko Yoneoka	Technical Operation Manager, Lloyd's Register Quality Assurance Limited

Approved in April, 2014

3. Radiation Council

The appointment of the members of the Radiation Council was approved at the NRA Commission Meeting held on March 13, 2014, after which the 127th general meeting was held on April 4.

Members of the Radiation Council	Yoshitomo Uwamino	Director, Safety Operation Office, RIKEN Nishina Center for Accelerator-Based Science
	Kenji Kamiya	Vice-president, Hiroshima University (support for restoration and medical care for the exposed); Vice-president, Fukushima Medical University
	Reiko Kanda	Sub-leader, Regulatory Science Research Program, Research Center for Radiation Protection, National Institute of Radiological Sciences
	Kazuro Sugimura	Professor and assistant of President, Graduate School of Medicine, Kobe University (advanced medical care)
	Kaori Togashi	Professor, Graduate School of Medicine, Kyoto University
	Yoko Fujikawa	Associate Professor, Kyoto University Research Reactor Institute
	Shoji Futatsugawa	Dedicated Director, Japan Radioisotope Association
	Yasuhiro Yamaguchi	Deputy Director, Nuclear Science Research Institute, Tokai Research and Development Center, Japan Atomic Energy Agency

Approved in March, 2014

4. Commission on Evaluation of Incorporated Administrative Agencies

To evaluate the performance of the incorporated administrative agencies that were under the jurisdiction of the NRA in FY2013 (the affairs of JNES and part of the affairs of NIRS and JAEA), the NRA Commission on Evaluation of Incorporated Administrative Agencies and three relevant subcommittees (the Subcommittee of the Japan Nuclear Energy Safety Organization, the Subcommittee of the National Institute of Radiological Sciences, and the Subcommittee of the Japan Atomic Energy Agency) were established in accordance with the Act on General Rules for Incorporated Administrative Agency (Act No. 103 of 1999). The Commission and the relevant Subcommittees, consisting of external experts, evaluated the performance of the incorporated administrative agencies. The Commission and Subcommittees were abolished on March 1, 2014 when the Japan Nuclear Energy Safety Organization was integrated into the Nuclear Regulation Authority.

NRA Commission on Evaluation of Incorporated Administrative Agencies

Members	Keiko Imamura	Affiliate Professor, St. Marianna University School of Medicine
	Satoshi Endo (chairperson)	Adviser, JAMCO Corporation
	Naoshi Ogasawara	President and Representative Partner, Avantia GP
	Wako Tojima	Science Journalist
	Akio Yamamoto	Professor, Graduate School of Engineering, Nagoya University
	Seiichi Koshizuka	Professor, School of Engineering, the University of Tokyo
Temporary members	Masafumi Abe	Director and Vice-president, Fukushima Medical University
	Shoji Hirai	Professor Emeritus, Tokyo City University
	Hiroaki Yoshii	Professor, Faculty of Communication Studies, Tokyo Keizai University

As of the end of February, 2014

Subcommittee of Japan Nuclear Energy Safety Organization

Members	Satoshi Endo (chairperson)	Adviser, JAMCO Corporation
	Naoshi Ogasawara	President and Representative Partner, Avantia GP
	Wako Tojima	Science Journalist
	Akio Yamamoto	Professor, Graduate School of Engineering, Nagoya University
Temporary member	Hiroaki Yoshii	Professor, Faculty of Communication Studies, Tokyo Keizai University

As of the end of February, 2014

Subcommittee of the National Institute of Radiological Sciences

Member	Keiko Imamura (chairperson)	Affiliate Professor, St. Marianna University School of Medicine
Temporary members	Masafumi Abe	Director and Vice-president, Fukushima Medical University
	Shoji Hirai	Professor Emeritus, Tokyo City University

As of the end of February, 2014

Subcommittee of Japan Atomic Energy Agency

Members	Seiichi Koshizuka (chairperson)	Professor, School of Engineering, the University of Tokyo
	Akio Yamamoto	Professor, Graduate School of Engineering, Nagoya University

As of the end of February, 2014

5. Study Team on the New Regulatory Requirements for Light Water Power Reactors

From October 25, 2012, in response to the Revision of the Reactor Regulation Act, the Study Team conducted various activities including the preparation of a draft of regulatory requirements for countermeasures against severe accidents at commercial power reactors. The Study Team had held 20 meetings by the end of FY2012 and three meetings in FY2013 to create a draft for the new regulatory requirements for light water nuclear power plants and a draft for their evaluation guide.

Nuclear Regulation Authority	Toyoshi Fuketa	Commissioner of the Nuclear Regulation Authority
External experts	Yutaka Abe	Professor, Graduate School, University of Tsukuba
	Tadahiro Katsuta	Associate Professor, School of Law, Meiji University
	Tomoyuki Sugiyama	Senior Researcher, Fuel Safety Research Group, Safety Research Center, Japan Atomic Energy Agency
	Akira Yamaguchi	Professor, Graduate School of Engineering, Osaka University
	Akio Yamamoto	Professor, Graduate School of Engineering, Nagoya University
	Norio Watanabe	Chief Researcher, Safety Research Center, Japan Atomic Energy Agency
Secretariat of the Nuclear Regulation Authority	Masaya Yasui	Director General for Emergency Response
	Michio Sakurada	Director-General
	Tetsuya Yamamoto	Director-General
	Tomoho Yamada	Director, Regulatory Standard and Research Division
	Hiroshi Yamagata	General Liaison Officer for Standards for Countermeasures against Severe Accidents
Japan Nuclear Energy Safety Organization	Kiyoharu Abe	Counseling Expert
	Mitsuhiro Kajimoto	Deputy Director-General, Nuclear Energy System Safety Department
	Masashi Hirano	Associate Vice-President
	Kyoko Funayama	Group Leader, Radiation Safety and Water Chemistry Evaluation Group, Nuclear Energy System Safety Department

As of the end of June, 2013

6. Study Team on the Establishment of New Safety Regulations for Light Water Nuclear Power Plants

From November 20, 2012, the Study Team conducted studies on measures, such as the integration of safety regulations for reactors, into the Reactor Regulation Act. The Team also conducted hearings and other activities to learn the views of nuclear operators. The Study Team had held five meetings by the end of FY2012 and seven meetings in FY2013 to create a draft for the institutional design.

Nuclear Regulation Authority	Toyoshi Fuketa	Commissioner of the Nuclear Regulation Authority
External experts	Yoshinori Iizuka	Senior Researcher, School of Engineering, the University of Tokyo
	Tadahiro Katsuta	Associate Professor, School of Law, Meiji University
	Seiichi Koshizuka	Professor, School of Engineering, the University of Tokyo
	Jun Sugimoto	Professor, Graduate School of Engineering, Kyoto University
	Yasuhiro Yamaguchi	Director, Department of Radiation Management, Nuclear Science Research Institute, Tokai Research and Development Center, Japan Atomic Energy Agency
	Yuko Yoneoka	Technical Operation Manager, Lloyd's Register Quality Assurance Limited
	Norio Watanabe	Chief Researcher, Safety Research Center, Japan Atomic Energy Agency
Secretariat of the Nuclear Regulation Authority	Tetsuya Yamamoto	Director-General
	Tomoho Yamada	Director, Regulatory Standard and Research Division
	Akihiko Ogawa	Nuclear Regulation Liaison Officer
	Souichi Urano	Nuclear Regulation Liaison Officer
Japan Nuclear Energy Safety Organization	Masashi Hirano	Associate Vice-President
	Mitsuo Nittami	Counseling Expert
	Takashi Kiguchi	Counseling Expert

As of the end of October, 2013

7. Study Team on the Regulatory Requirements for Light Water Nuclear Power Plants -Earthquakes and Tsunamis

From November 19, 2012, in response to the Revision of the Reactor Regulation Act, the Study Team reviewed the regulations on commercial power reactors, such as the new regulatory requirements for countermeasures against earthquakes and tsunamis. The Study Team had held ten meetings by the end of FY2012 and three meetings in FY2013 to create a draft for the new regulatory requirements for countermeasures against earthquakes and tsunamis at light water nuclear power plants and a draft for their evaluation guide.

Nuclear Regulation Authority	Kunihiko Shimazaki	Commissioner of the Nuclear Regulation Authority
External experts	Katsuhiro Kamae	Professor, Safety Nuclear System Research Center, Kyoto University Research Reactor Institute
	Tsuyoshi Takada	Professor, School of Engineering, the University of Tokyo
	Kazuo Tani	Researcher, Hyogo Earthquake Engineering Research Center, Department of Disaster Mitigation Research, National Research Institute for Earth Science and Disaster Prevention
	Yuichiro Tanioka	Professor, Institute of Seismology and Volcanology, Graduate School of Science, Hokkaido University
	Tetsuya Hiraishi	Professor, Research Center for Fluvial and Coastal Disasters, Disaster Prevention Research Institute, Kyoto University
	Akira Wada	Professor Emeritus, Tokyo Institute of Technology
	Yasuhiro Suzuki	Professor, Disaster Mitigation Research Center, Nagoya University
	Shigeo Takahashi	President, Port and Airport Research Institute
	Hidekazu Tokuyama	Director, Center for Advanced Marine Core Research, Kochi University
	Shoichi Nakai	Professor, Graduate School of Engineering, Chiba University
	Hiroyuki Fujiwara	Project Director, Department of Integrated Research on Disaster Prevention, National Research Institute for Earth Science and Disaster Prevention
Secretariat of the Nuclear Regulation Authority	Michio Sakurada	Director-General
Japan Nuclear Energy Safety Organization	Naotaka Takamatsu	Deputy Director-General, Seismic Safety Department

As of the end of June, 2013

8. Study Team on the New Regulatory Requirements for Nuclear Fuel Facilities

From April 15, 2013, the Study Team reviewed issues such as technical standards for nuclear fuel fabrication facilities, spent fuel storage facilities, spent fuel and reprocessing facilities, waste disposal and management facilities, and facilities where nuclear fuel material is used. The Study Team held 20 meetings to create a draft for the new regulatory requirements for nuclear fuel cycle facilities and a draft for their evaluation guide.

Nuclear Regulation Authority	Toyoshi Fuketa	Commissioner of the Nuclear Regulation Authority
External experts	Tetsuo Iguchi	Professor, Graduate School of Engineering, Nagoya University
	Toshiaki Ohe	Professor, Department of Nuclear Engineering, School of Engineering, Tokai University
	Tadahiro Katsuta	Associate Professor, School of Law, Meiji University
	Seiichi Koshizuka	Professor, School of Engineering, the University of Tokyo
	Akio Yamamoto	Professor, Graduate School of Engineering, Nagoya University
Secretariat of the Nuclear Regulation Authority	Masaya Yasui	Director General for Emergency Response
	Tetsuo Ohmura	Director-General
	Masanori Shinano	General Liaison Officer for Nuclear Safety Standards, Regulatory Standard and Research Division (research reactors, reprocessing, fabrication, and use)
	Kaoru Kohara	General Liaison Officer for Nuclear Safety Standards, Regulatory Standard and Research Division (radioactive waste management, spent fuel storage, and transport)
	Takao Nakaya	Planning Officer for Regulation of Research Reactors and Nuclear Fuel Use Facilities
	Shinzo Kuromura	Nuclear Regulation Liaison Officer (research reactors, use, and fabrication)
	Masami Nishimura	Nuclear Regulation Liaison Officer (reprocessing and fabrication)
	Yoshiyuki Shimane	Nuclear Regulation Liaison Officer (waste management and decommissioning)
Japan Nuclear Energy Safety Organization	Shoji Takeyama	Senior Deputy Director (radioactive waste management, spent fuel storage and transport)
	Kiyoharu Abe	Counseling Expert
	Masami Kato	Director-General, Nuclear Fuel Cycle and Radioactive Waste Management Safety Department
Safety Research Center, Japan Atomic Energy Agency	Shiro Matsumoto	Technical Counselor
	Gunzo Uchiyama	Chief, Cycle Facility Safety Research Unit
	Toshikatsu Maeda	Research Chief, Radioactive Waste Safety Research Group
	Kazuo Yoshida	Research Chief, Risk Assessment and Emergency Preparedness Research Group

As of the end of October, 2013

9. Review Meeting on Conformity to the New Regulatory Requirements

At the Review Meetings applications for alterations to the establishment license and other applications received from operators were considered on the basis of the New Regulatory Requirements for Nuclear Power Plants, enforced on July 8, 2013, and the New Regulatory Requirements for Nuclear Fuel Facilities, enforced on December 18, 2013. Reviews were conducted by Commissioner Shimazaki (earthquakes and tsunamis), Commissioner Fuketa (plants), and a review team, which was established in the Secretariat of the Nuclear Regulation Authority. They conducted 100 reviews of nuclear power plants and 12 reviews of nuclear fuel cycle facilities.

Review of Conformity to the New Regulatory Requirements for Nuclear Power Plants

Nuclear Regulation Authority	Kunihiko Shimazaki	Commissioner of the Nuclear Regulation Authority
	Toyoshi Fuketa	Commissioner of the Nuclear Regulation Authority
Secretariat of the Nuclear Regulation Authority	Michio Sakurada	Director, Nuclear Regulation Department
	Tetsuya Yamamoto	Director-General
	Tomoho Yamada	Director, Regulatory Standard and Research Division
	Hiroshi Yamagata	Director , Division of Regulation for BWR
	Tomoya Ichimura	Director , Division of Regulation for PWR
	Masaru Kobayashi	Director , Division of Regulation against Earthquake and Tsunami
	Yuji Ono	Nuclear Regulation Liaison Officer
	Souichi Urano	Nuclear Regulation Liaison Officer
	Hisashi Miyamoto	Nuclear Regulation Liaison Officer
	Shin Morita	Nuclear Regulation Liaison Officer

Review of Conformity to New Regulatory Requirements for Nuclear Fuel Facilities

Nuclear Regulation Authority	Kunihiko Shimazaki	Commissioner of the Nuclear Regulation Authority
	Toyoshi Fuketa	Commissioner of the Nuclear Regulation Authority
Secretariat of the Nuclear Regulation Authority	Tetsuo Ohmura	Director-General
	Yasuhiko Ishii	Director , Division of Regulation for Nuclear Fuel (Fabrication and Reprocessing) Facilities and Use of Nuclear Material
	Masaru Kobayashi	Director , Division of Regulation against Earthquake and Tsunami
	Akihiko Ogawa	Nuclear Regulation Liaison Officer
	Shin Morita	Nuclear Regulation Liaison Officer

10. Expert Meeting on the Investigation of Fracture Zones at the Ohi Power Station

To investigate and evaluate fracture zones at the Ohi Power Station, the Expert Meeting, consisting of Commissioner Shimazaki and external experts, held three evaluation meetings and conducted two site inspections by the end of FY2012. In FY2013, the Expert Meeting held four evaluation meetings, conducted a site inspection, and compiled an evaluation statement after a peer review meeting.

Nuclear Regulation Authority	Kunihiko Shimazaki	Commissioner of the Nuclear Regulation Authority
External experts	Atsumasa Okada	Professor, Global Innovation Research Organization (Research Center for Disaster Mitigation of Urban Cultural Heritage), Ritsumeikan University
	Norio Shigematsu	Senior Researcher, Laboratory Seismology Research Team, Active Fault and Earthquake Research Center, National Institute of Advanced Industrial Science and Technology
	Daisuke Hirouchi	Associate Professor, Faculty of Education, Shinshu University
	Mitsuhisa Watanabe	Professor, Faculty of Sociology, Toyo University

As of the end of December, 2013

11. Expert Meeting on Fracture Zones at the Tsuruga Nuclear Power Station

To investigate and evaluate fracture zones at the Tsuruga Nuclear Power Station, the Expert Meeting, consisting of Commissioner Shimazaki and external experts, conducted a site inspection and held three evaluation meetings and a peer review meeting in FY2012. In FY2013, the Expert Meeting held two evaluation meetings and conducted a site inspection and other activities following additional investigations performed by the operator.

Nuclear Regulation Authority	Kunihiko Shimazaki	Commissioner of the Nuclear Regulation Authority
External experts	Yasuhiro Suzuki	Professor, Disaster Mitigation Research Center, Nagoya University
	Hiroyuki Tsutsumi	Associate Professor, Graduate School of Science, Kyoto University
	Koichiro Fujimoto	Associate Professor, Faculty of Education, Tokyo Gakugei University
	Takahiro Miyauchi	Professor, Graduate School of Science, Chiba University

12. Expert Meeting on Fracture Zones at the Higashidori Nuclear Power Station, Tohoku Electric Power Co., Inc.

To investigate and evaluate fracture zones at the Tohoku Higashidori Nuclear Power Station, the Expert Meeting, consisting of Commissioner Shimazaki and external experts, held three evaluation meetings and conducted a site inspection in FY2012. In FY2013, the Expert Meeting held five evaluation meetings and conducted three site inspections.

Nuclear Regulation Authority	Kunihiko Shimazaki	Commissioner of the Nuclear Regulation Authority
External experts	Yasuo Awata	Senior Researcher, Active Fault and Earthquake Research Center, National Institute of Advanced Industrial Science and Technology
	Heitaro Kaneda	Associate Professor, Graduate School of Science, Chiba University
	Yohta Kumaki	Professor, School of Letters, Senshu University
	Hiroshi Sato	Professor, Earthquake Research Institute, the University of Tokyo

13. Expert Meeting on the Investigation of Fracture Zones at the Shika Nuclear Power Station

To investigate and evaluate fracture zones at the Shika Nuclear Power Station, an Expert Meeting, consisting of Commissioner Shimazaki and external experts, was established. The Expert Meeting conducted a site inspection and held an evaluation meeting.

Nuclear Regulation Authority	Kunihiko Shimazaki	Commissioner of the Nuclear Regulation Authority
External experts	Norio Shigematsu	Senior Researcher, Laboratory Seismology Research Team, Active Fault and Earthquake Research Center, National Institute of Advanced Industrial Science and Technology
	Daisuke Hirouchi	Professor, Faculty of Education, Shinshu University
	Koichiro Fujimoto	Associate Professor, Faculty of Education, Tokyo Gakugei University
	Toshikazu Yoshioka	Leader, Active Fault Evaluation Team, Active Fault and Earthquake Research Center, National Institute of Advanced Industrial Science and Technology

14. Expert Meeting on the Investigation of Fracture Zones at the Mihama Power Station

To investigate and evaluate fracture zones at the Mihama Nuclear Power Station, an Expert Meeting, consisting of Commissioner Shimazaki and external experts, was established. The Expert Meeting conducted a site inspection and held an evaluation meeting.

Nuclear Regulation Authority	Kunihiko Shimazaki	Commissioner of the Nuclear Regulation Authority
External experts	Tomoyuki Ohtani	Associate Professor, Department of Civil Engineering, Faculty of Engineering, Gifu University
	Akira Takeuchi	Professor, Graduate School of Science and Engineering for Research, Toyama University
	Kiyohide Mizuno	Group Leader, Quaternary Basin Research Group, Institute of Geology and Geoinformation, National Institute of Advanced Industrial Science and Technology
	Takahiro Miyauchi	Professor, Graduate School of Science, Chiba University

15. Expert Meeting on the Investigation of Fracture Zones at the Prototype Fast Breeder Reactor “Monju”

To investigate and evaluate fracture zones at the Prototype Fast Breeder Reactor “Monju,” an Expert Meeting, consisting of Commissioner Shimazaki and external experts, was established. The Expert Meeting conducted a site inspection and held an evaluation meeting.

Nuclear Regulation Authority	Kunihiko Shimazaki	Commissioner of the Nuclear Regulation Authority
External experts	Tomoyuki Ohtani	Associate Professor, Department of Civil Engineering, Faculty of Engineering, Gifu University
	Akira Takeuchi	Professor, Graduate School of Science and Engineering for Research, Toyama University
	Hiroyuki Tsutsumi	Associate Professor, Division of Earth and Planetary Sciences, Graduate School of Science, Kyoto University
	Kiyohide Mizuno	Group Leader, Quaternary Basin Research Group, Institute of Geology and Geoinformation, National Institute of Advanced Industrial Science and Technology

16. Commission on Supervision and Evaluation of Specified Nuclear Facilities

The Commission examined and evaluated an implementation plan for the specified nuclear facilities at TEPCO's Fukushima Daiichi NPS, a risk assessment on the NPS, and the overall concept of the seismic performance of the reactor buildings of Units 1 to 4 of the NPS. The Commission, including Commissioner Fuketa and external experts, held seven meetings in FY2012 and 12 meetings in FY2013.

To conduct technical discussions on problems with groundwater contamination in the coastal area near TEPCO's Fukushima Daiichi NPS and the outflow of contaminated water into the ocean, the Commission established a working group, including Commissioner Fuketa and experts, in August and subsequently held 12 discussions.

Commission on Supervision and Evaluation of Specified Nuclear Facilities

Nuclear Regulation Authority	Toyoshi Fuketa	Commissioner of the Nuclear Regulation Authority
External experts	Hiroaki Abe	Professor, Institute for Materials Research, Tohoku University
	Tetsuo Iguchi	Professor, Graduate School of Engineering, Nagoya University
	Akira Ohtsuru	Professor, Fukushima Medical University
	Yoshinori Kitsutaka	Professor, Graduate School of Urban Environmental Science, Tokyo Metropolitan University
	Ikuji Takagi	Professor, Graduate School of Engineering, Kyoto University
	Shigeaki Tsunoyama	Chairperson of the Board of Directors and President, the University of Aizu
	Yasuhiro Hayashi	Professor, Graduate School of Engineering, Kyoto University
	Yukihiro Higashi	Professor, Department of Science and Engineering, Iwaki Meisei University
	Akio Yamamoto	Professor, Graduate School of Engineering, Nagoya University
	Akira Watanabe	Professor, School of Symbiotic Systems Science and Technology, Fukushima University
Secretariat of the Nuclear Regulation Authority	Masashi Hirano	Director-General for Regulatory Standard and Research
	Tetsuya Yamamoto	Director-General
	Gyo Sato	General Liaison Officer for Actions Responding to the Accident at TEPCO's Fukushima Daiichi NPS
	Shinji Kinjo	Chief of Office for Actions Responding to the Accident at TEPCO's Fukushima Daiichi NPS

Working Group on Contaminated Water Countermeasures

Nuclear Regulation Authority	Toyoshi Fuketa	Commissioner of the Nuclear Regulation Authority
External experts	Shinichi Nakayama	Vice-president, Safety Research Center, Japan Atomic Energy Agency
	Masaya Yasuhara	Senior Researcher, Geological Survey of Japan, National Institute of Advanced Industrial Science and Technology
Secretariat of the Nuclear Regulation Authority	Yoshihide Kuroki	Director-General, Radiation Protection Department (concurrently, Director of Radiation Monitoring Division)
	Tetsuya Yamamoto	Director-General
	Shinji Kinjo	Chief of Office for Actions Responding to the Accident at TEPCO's Fukushima Daiichi NPS
	Norikazu Yamada	Chief Officer for Technical Research and Investigation (radioactive waste disposal, radioactive waste management, and decommissioning)

17. Committee on Accident Analysis of the Fukushima Daiichi Nuclear Power Station

Many accident analysis reports were produced by the Diet, the Government, and other organizations. Those reports require examination, and issues that may require analysis to determine the impact of the accident and the actions taken in its aftermath. To examine those technical matters, a Committee, including Commissioner Fuketa and external experts, was established which conducted a site inspection and held five discussions.

Nuclear Regulation Authority	Toyoshi Fuketa	Commissioner of the Nuclear Regulation Authority
External experts	Yoshinori Kitsutaka	Professor, Graduate School, Tokyo Metropolitan University
	Yutaka Kukita	Professor Emeritus, Nagoya University
	Ikuji Takagi	Professor, Graduate School, Kyoto University
	Tsuyoshi Takada	Professor, Graduate School of the University of Tokyo
	Tadashi Narabayashi	Professor, Graduate School, Hokkaido University
Safety Research Center, Japan Atomic Energy Agency	Taisuke Yonomoto	Chief Researcher
	Yu Maruyama	Group Leader, Risk Assessment and Emergency Preparedness Research Group
Secretariat of the Nuclear Regulation Authority	Masaya Yasui	Director General for Emergency Response
	Masashi Hirano	Director-General for Regulatory Standard and Research
	Tetsuya Yamamoto	Director-General
	Hiroshi Yamagata	Director, Division of Regulation for BWR
	Masahide Kobayashi	Director, Division of Research for Reactor System Safety
	Kiyoharu Abe	Technological Councilor of Director, Division of Research for Severe Accident

18. Evaluation Meeting on the Current Status of Units 3 and 4 of the Ohi Power Station

To evaluate the present status of Units 3 and 4 of the Ohi Power Station, in accordance with the draft of the new regulatory requirements, an evaluation meeting was held by Commissioners Shimazaki and Fuketa, and the Secretariat of the Nuclear Regulation Authority. In June, the Evaluation Meeting compiled a draft for the evaluation statement on the present status of the units after conducting a site inspection and holding 14 evaluation meetings.

Nuclear Regulation Authority	Kunihiko Shimazaki	Commissioner of the Nuclear Regulation Authority
	Toyoshi Fuketa	Commissioner of the Nuclear Regulation Authority
Secretariat of the Nuclear Regulation Authority	Michio Sakurada	Director-General
	Tetsuya Yamamoto	Director-General
	Tetsuo Ohmura	Director-General
	Tomoho Yamada	Director, Regulatory Standard and Research Division
	Hiroshi Yamagata	Director , Division of Regulation for BWR
	Tomoya Ichimura	Director , Division of Regulation for PWR and Advanced Reactors
	Masaru Kobayashi	Director , Division of Regulation against Earthquake and Tsunami
	Yuji Ono	Nuclear Regulation Liaison Officer

As of the end of July, 2013

19. Study Team on Safety and Security Measures for Evacuees to Return Home

The Study Team, including Commissioner Nakamura and external experts, was established to conduct discussions from both scientific and technical viewpoints on concrete radiation protection measures required to enable the removal of the evacuation directive. The Study Team held four times discussions and compiled fundamental concept on safety and security measures for evacuees to return to their homes.

Nuclear Regulation Authority	Kayoko Nakamura	Commissioner of the Nuclear Regulation Authority
External experts	Makoto Akashi	Director, National Institute of Radiological Sciences
	Fumiko Kasuga	Director, Division of Safety Information on Drug, Food and Chemicals, National Institute of Health Sciences
	Ohtsura Niwa	Specially Appointed Professor, International Cooperation Department, Radiation Medical Science Center for the Fukushima Health Management Survey, Fukushima Medical University; Professor Emeritus, Kyoto University
	Hokuto Hoshi	Chairperson of the Board of Directors, Hoshi General Hospital Foundation; Executive Director, Fukushima Medical Association
	Yuichi Moriguchi	Professor, Department of Urban Engineering, School of Engineering, the University of Tokyo
Secretariat of the Nuclear Regulation Authority	Hideka Morimoto	Deputy Secretary-General
	Yoshihide Kuroki	Director-General, Radiation Protection Department (concurrently, Director of Radiation Monitoring Division)
	Hideyuki Tsunoda	Director, Radiation Protection and Safeguards Division
	Naoko Ishikawa	Planning Officer, Radiation Protection and Safeguards Division

20. Committee on Nuclear Security

The Committee, including Commissioner Oshima and external experts, was established to discuss actions to steadily tighten Japan's nuclear security and actions to contribute to international nuclear security. Since non-disclosure information, such as the status of concrete protection measures, was dealt with in discussions on security related to the transport of nuclear material, as well as the systems for confirming trustworthiness, the discussions were held by a closed-door working group.

Committee on Nuclear Security

Nuclear Regulation Authority	Kenzo Oshima	Commissioner of the Nuclear Regulation Authority
External experts	Nobumasa Akiyama	Professor, School of International and Public Policy, Hitotsubashi University
	Isao Itabashi	Chief, First Research Office, Council for Public Policy
	Sukeyuki Ichimasa	Senior Research Officer, the National Institute for Defense Studies, the Ministry of Defense
	Hidemasa Imai	Adviser, Japan Marine Science Inc.
	Osamu Iwahashi	Managing Director, Public Interest Incorporated Foundation Japan Police Support Association
	Naoteru Odano	Director, Marine Risk Assessment Department, National Marine Research Institute
	Keiko Sakurai	Professor, Faculty of Law, Gakushuin University
	Kaoru Naito	Chairperson of the Board of Directors, Nuclear Material Control Center
	Hidenori Yonehara	Leader, Regulatory Science Research Program, Research Center for Radiation Protection, National Institute of Radiological Sciences (Participated until the end of January, 2014)
Secretariat of the Nuclear Regulation Authority	Yoshihide Kuroki	Director-General, Radiation Protection Department
	Yasushi Morishita	Director, Emergency Preparedness and Response Policies Division
	Nobumasa Sugimoto	Chief, Office for Nuclear Security and Physical Protection, Emergency Preparedness and Response Policies Division

Working Group on Security in the Transport of Nuclear Material

External experts	Nobumasa Akiyama	Professor, School of International and Public Policy, Hitotsubashi University
	Isao Itabashi	Chief, First Research Office, Council for Public Policy
	Sukeyuki Ichimasa	Senior Research Officer, the National Institute for Defense Studies, the Ministry of Defense
	Hidemasa Imai	Adviser, Japan Marine Science Inc.
	Osamu Iwahashi	Managing Director, Public Interest Incorporated Foundation Japan Police Support Association
	Naoteru Odano	Director, Marine Risk Assessment Department, National Marine Research Institute
	Keiko Sakurai	Professor, Faculty of Law, Gakushuin University
	Kaoru Naito	Chairperson of the Board of Directors, Nuclear Material Control Center
	Hidenori Yonehara	Leader, Regulatory Science Research Program, Research Center for Radiation Protection, National Institute of Radiological Sciences (Participated until the end of January, 2014)
Secretariat of the Nuclear Regulation Authority	Yoshihide Kuroki	Director-General, Radiation Protection Department
	Yasushi Morishita	Director, Emergency Preparedness and Response Policies Division
	Nobumasa Sugimoto	Chief, Office for Nuclear Security and Physical Protection, Emergency Preparedness and Response Policies Division

Working Group on the Confirmation System of Trustworthiness

External experts	Nobumasa Akiyama	Professor, School of International and Public Policy, Hitotsubashi University
	Isao Itabashi	Chief, First Research Office, Council for Public Policy
	Sukeyuki Ichimasa	Senior Research Officer, the National Institute for Defense Studies, the Ministry of Defense
	Hidemasa Imai	Adviser, Japan Marine Science Inc.
	Osamu Iwahashi	Managing Director, Public Interest Incorporated Foundation Japan Police Support Association
	Naoteru Odano	Director, Marine Risk Assessment Department, National Marine Research Institute
	Keiko Sakurai	Professor, Faculty of Law, Gakushuin University
	Kaoru Naito	Chairperson of the Board of Directors, Nuclear Material Control Center
	Hidenori Yonehara	Leader, Regulatory Science Research Program, Research Center for Radiation Protection, National Institute of Radiological Sciences (Participated until the end of January, 2014)
Secretariat of the Nuclear Regulation Authority	Yoshihide Kuroki	Director-General, Radiation Protection Department
	Yasushi Morishita	Director, Emergency Preparedness and Response Policies Division
	Nobumasa Sugimoto	Chief, Office for Nuclear Security and Physical Protection, Emergency Preparedness and Response Policies Division

21. Technical Information Committee

The Technical Information Committee is held every one or two months under the leadership of Commissioner Fuketa, and collects and evaluates information on nuclear safety. The collected information is reflected in the regulations at the appropriate times. The Committee held six meetings in FY2013.

Nuclear Regulation Authority	Toyoshi Fuketa	Commissioner of the Nuclear Regulation Authority
Secretariat of the Nuclear Regulation Authority	Masashi Hirano	Director-General for Regulatory Standard and Research
	Daiji Takeuchi	Director-General for Nuclear Regulatory Technical Affairs
	Michio Sakurada	Director-General, Nuclear Regulation Department
	Tetsuya Yamamoto	Director-General
	Tetsuo Ohmura	Director-General
	Masahiro Aoki	Director, International Affairs Division
	Tomoho Yamada	Director, Regulatory Standard and Research Division
	Gyo Sato	Director, Nuclear Regulation Policy Planning Division
	Hiroshi Yamagata	Director , Division of Regulation for BWR
	Tomoya Ichimura	Director , Division of Regulation for PWR
	Atsuo Sawada	Director , Division of Regulation for Inspection of Nuclear Reactor Facilities
	Shinzo Kuromura	Director , Division of Regulation for Advanced Reactors, Research Reactors, and Decommissioning
	Yasuhiko Ishii	Director , Division of Regulation for Nuclear Fuel (Fabrication and Reprocessing) Facilities and Use of Nuclear Material
	Kaoru Kohara	Director for Division of Regulation for Radioactive Waste management, spent fuel storage and transport
	Masaru Kobayashi	Director , Division of Regulation against Earthquake and Tsunami
Masakazu Shima	Chief, Office for Actions Responding to Accidents, Emergency Preparedness and Response Policies Division	
Japan Atomic Energy Agency	Norio Watanabe	Chief, Office of Regulatory Information Analysis, Safety Research Center, Japan Atomic Energy Agency

22. Study Team on Technical Evaluation of Design and Construction Standards, and Material Standards

The Nuclear Regulation Authority established the Study Team, including Commissioner Fuketa and external experts, to establish plans for implementing technical evaluations and to conduct technical evaluations of private standards. The Study Team held three meetings.

Nuclear Regulation Authority	Toyoshi Fuketa	Commissioner of the Nuclear Regulation Authority
External experts	Yoshio Arai	Professor, Graduate School of Science and Engineering, Saitama University
	Masahide Suzuki	Professor, Graduate School of Engineering, Nagaoka University of Technology
	Toshiyuki Takagi	Professor, Institute of Fluid Science, Tohoku University
	Hirokazu Tsuji	Professor, Department of Mechanical Engineering, School of Engineering, Tokyo Denki University
	Takashi Furukawa	Deputy Director and Research Group Leader, Nondestructive Evaluation Center, Japan Power Engineering and Inspection Corporation
Secretariat of the Nuclear Regulation Authority	Daiji Takeuchi	Director-General for Nuclear Regulatory Technical Affairs
	Tomoho Yamada	Director, Regulatory Standard and Research Division
	Kouji Kamiya	Planning Officer, Regulatory Standard and Research Division
	Yasuhiro Masuhara	Planning Officer, Regulatory Standard and Research Division
	Hitoshi Hayashida	Specialist for Nuclear Regulation, Regulatory Standard and Research Division
	Masaaki Kikuchi	Senior Officer for Technical Research and Investigation, Regulatory Standard and Research Division
	Kenichi Takakura	Senior Officer for Technical Research and Investigation, Regulatory Standard and Research Division
	Tatsuo Funada	Technological Councilor, Regulatory Standard and Research Division
Japan Atomic Energy Agency	Yutaka Nishiyama	Leader, Material and Water Chemistry Research Group, Light-water Reactor Long-term Use Research Unit, Safety Research Center

23. Committee on Marine Monitoring

The Committee, including Commissioner Nakamura and external experts, was established to check the results of on-going marine monitoring, to evaluate the monitoring methods, and to discuss ways to survey radioactive material contained in marine organisms. The Committee held four meetings.

Nuclear Regulation Authority	Kayoko Nakamura	Commissioner of the Nuclear Regulation Authority
External experts	Michio Aoyama	Senior Researcher, Third Research Laboratory, Oceanography and Geochemistry Research Department, Meteorological Research Institute, Japan Meteorological Agency
	Shigeyoshi Otsuka	Deputy Chief of Research, Environmental Dynamics Research Group, Environment-Radiation-Science Research Unit, Japan Atomic Energy Agency
	Shunichi Hisamatsu	Director, Department of Radioecology, Environmental Impact Research, Institute for Environmental Sciences
	Toshihiro Horiguchi	Chief, Ecosystem Impact Research Section, Center for Environmental Risk Research, National Institute for Environmental Studies
	Takami Morita	Research and Development Coordinator, Research Management Department, Fisheries Research Agency
Secretariat of the Nuclear Regulation Authority	Yoshihide Kuroki	Director-General, Radiation Protection Department (concurrently, Director of Radiation Monitoring Division)
	Masaki Uesugi	Technological Councilor, Radiation Monitoring Division
	Toshihide Fukui	Planning Officer, Radiation Monitoring Division
	Shinji Kinjo	Chief of Office for Actions Responding to the Accident at TEPCO's Fukushima Daiichi NPS

24. Debriefing Session of Emergency Drills by Nuclear Operators

The Debriefing Session was held three times under the leadership of Commissioner Fuketa to provide nuclear operators with opportunities to mutually check and improve emergency drills conducted at their respective sites.

Nuclear Regulation Authority	Toyoshi Fuketa	Commissioner of the Nuclear Regulation Authority
Secretariat of the Nuclear Regulation Authority	Masaya Yasui	Director General for Emergency Response
	Tetsuo Ohmura	Director-General
	Masanori Shinano	Director , Division of Regulation for Research Reactors, Nuclear Fuel (Fabrication and Reprocessing) Facilities and Use of Nuclear Material
	Masakazu Shima	Chief, Office for Actions Responding to Accidents, Emergency Preparedness and Response Policies Division
Japan Nuclear Energy Safety Organization	Mitsuhiro Kajimoto	Deputy Director-General, Nuclear Energy System Safety Department
	Takeshi Akahori	Senior Officer, Inspection Guidance and Supervision Group, Plant Inspection and Maintenance Evaluation Department

25. As of the end of December, 2013 NRA Policy Review Meeting

The NRA Policy Review Meeting for learning the opinions of external experts was held twice as part of the policy assessment (ex post facto assessment) conducted by the Nuclear Regulation Authority.

External experts	Yoshinori Iizuka	Senior Researcher, School of Engineering, the University of Tokyo
	Hideaki Shiroyama	Director, Policy Alternatives Research Institute, the University of Tokyo; Professor, Graduate Schools for Law and Politics, the University of Tokyo
	Motoyuki Suzuki (chairperson)	Professor Emeritus, the University of Tokyo; Auditor, Tokyo Institute of Technology
	Kenjiro Tao	Previous Member of National Public Safety Commission; Former President of Hiroshima Supreme Court
	Asei Machi	Freelance journalist

26. Expert Meeting on the NRA's Administrative Review -FY2013-

In the administrative project review, all offices and ministries are required to clarify the status of the implementation of all their projects. The implementation of the projects is then evaluated by outside experts. As part of the review, the Expert Meeting was held for some of the projects twice with external experts to review and propose solutions situations which need improvement.

External experts	Takashi Asaba	Professor, Faculty of Law, Hakuoh University
	Naoshi Ogasawara	President, Avantia GP
	Yukiko Tabuchi	Administration and Management Consultant

Section 4 Status of Major Nuclear Facilities

The status of major nuclear facilities from April 1, 2013 to March 31, 2014 is shown in Table 26.

**Table 26 Status of Major Nuclear Facilities
(April 1, 2013 - March 31, 2014)**

Tomari NPS, Hokkaido Electric Power Co., Inc.			
All reactor operations were suspended during the following periods.			
Periodic facility inspection		Implementation Period	Results/Others
	Unit 1	April 22, 2011 - (underway)	
	Unit 2	August 26, 2011 - (underway)	
Operational safety inspection	Unit 3	May 5, 2012 - (underway)	
	Operational safety inspection to examine potentially dangerous problems (Unit 2)		
		May 9 - 17, 2013	No particular safety concerns
		May 13 - 21, 2013	No particular safety concerns
	The 1st inspection	May 27 - June 7, 2013	No particular safety concerns
	The 2nd inspection	September 2 - 13, 2013	No particular safety concerns
	The 3rd inspection	November 25 - December 6, 2013	No particular safety concerns
	The 4th inspection	February 24 - March 7, 2014	Inspection results are being compiled.

Higashidori NPS, Tohoku Electric Power Co., Inc.			
All reactor operations were suspended during the following periods.			
Periodic facility inspection		Implementation Period	Results/Others
	Unit 1	February 6, 2011 - (underway)	
Operational safety inspection	The 1st inspection	June 10 - 21, 2013	No particular safety concerns
	The 2nd inspection	September 2 - 13, 2013	No particular safety concerns
	Operational safety inspection to examine potentially dangerous problems (Unit 1)		
		September 26 - October 16, 2013	No particular safety concerns
		October 11 - November 15, 2013	No particular safety concerns
	The 3rd inspection	November 25 - December 6, 2013	No particular safety concerns
		The 4th inspection	February 17 - 28, 2014
Others	Since November 2012, inspections of the on-site fracture zone have been underway.		

Onagawa NPS, Tohoku Electric Power Co., Inc.

All reactor operations were suspended during the following periods.

		Implementation Period	Results/Others	
Periodic facility inspection	Unit 1	September 10, 2011 - (underway)		
	Unit 2	November 6, 2010 - (underway)		
	Unit 3	September 10, 2011 - (underway)		
Operational safety inspection	The 1st inspection	June 3 - 14, 2013	No particular safety concerns	
	The 2nd inspection	September 2 - 13, 2013	No particular safety concerns	
	Operational safety inspection to examine potentially dangerous problems (Unit 1)		September 17 - 24, 2013	No particular safety concerns
	The 3rd inspection	December 2 - 13, 2013	No particular safety concerns	
	Operational safety inspection to examine potentially dangerous problems(Unit 1)		February 13 - March 18, 2014	Inspection results are being compiled.
	The 4th inspection	March 3 - 14, 2014	Inspection results are being compiled.	

Fukushima Daiichi NPS, Tokyo Electric Power Co., Inc.

All reactor operations were suspended during the following periods. Pursuant to the Electricity Business Act, the decommissioning of Units 1 to 4 was decided on April 19, 2012, followed by the decommissioning of Units 5 and 6 on January 31, 2014.

On November 7, 2012, designated as "Specified Nuclear Power Facilities."

On December 7, 2012, became subject to an "Implementation Plan."

On August 14, 2013, the "Implementation Plan for Specified Nuclear Power Facilities" was approved.

	Implementation Period	Results/Others
Periodic facility inspection	Unit 5	January 3, 2011 - (underway)
	Unit 6	August 14, 2010 - (underway)
Operational safety inspection	The 1st inspection	June 5 - 18, 2013 No particular safety concerns

	Implementation Period	Results/Others
Inspection of implementation status of safety measures defined in the implementation plan	The 1st inspection	September 4 - 27, 2013 No particular safety concerns
	Safety inspection necessary for safety-related measures (Unit 4)	
		November 13, 2013 - (underway) Underway
	The 2nd inspection	December 9 - 20, 2013 No particular safety concerns
	The 3rd inspection	March 3 - 14, 2014 Inspection results are being compiled.

<p>Accidents and incidents, etc.</p>	<ul style="list-style-type: none"> • On August 19, 2013, water in a weir surrounding a contaminated water reservoir tank was found to be leaking from a drain valve. On August 20, 2013, a decrease in the water level of the No.5 tank in the H4 tank area was detected. The operator estimated that approximately 300 m³ of contaminated water had leaked from the tank. On December 6, 2013, the operator reported its cause and measures taken to combat the problem to the NRA Secretariat. Which is examining the report. • On October 2, 2013, RO-treated water leaked into a weir from a section near the top plate of a tank (A5) in the B south area (RO-treated water is produced by removing the cesium and salt content from the water retained in the turbine buildings). Some of the leaking water flowed down the inspection scaffold of the tank and leaked to the outside of the weir. The operator estimated that approximately 430 L of RO-treated water had leaked in this way. On December 6, 2013, the operator reported the cause and measures to eliminate the problem to the NRA Secretariat which is examining the submission. • On October 9, 2013, a worker constructing a desalination system (RO-3) accidentally disconnected a pipe joint, allowing contaminated water to leak from the joint. The operator said approximately 11 m² of contaminated water had leaked, but none to the outside of the weir. Six workers engaged in construction work were contaminated on their backs and lower body extremities. On December 6, 2013, the operator reported the cause and measures taken to fix the problem to the NRA Secretariat which is examining the report. • On February 6, 2014, RO-treated water leaked from a pressure gauge of the strainer (RO-treated water is produced by removing cesium and salt content from the water retained in the turbine buildings). A strainer is attached to the transfer pipe leading to the facility for injecting desalinated water into the reactors. The operator estimated that approximately 600 L of RO-treated water had leaked. The cause of the incident and relevant matters are currently under investigation by the operator. • On February 20, 2014, RO concentrated water dropped from the top plate of an RO concentrated water tank (C1 tank) in the H6 tank area into the weir in the same tank area (RO concentrated water is produced when water cannot pass the reverse osmosis membrane for desalination in the desalination process after removal of the cesium and salt content from the water retained in the turbine buildings). In parallel, RO concentrated water also flowed along a gutter draining rainwater retained on the top plate and leaked outside the weir. The operator estimated that approximately 100 m³ of RO concentrated water had leaked to the outside of the weir. The cause of the event and relevant matters are currently under investigation by the operator.
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Fukushima Daini NPS, Tokyo Electric Power Co., Inc.

All reactor operations were suspended during the following periods.

		Implementation Period	Results/Others
Periodic facility inspection	Unit 1	(Under suspension)	The inspection date for Units 1 to 4 is “not yet determined” because of difficulties due to the impact of the Great East Japan Earthquake (Change of the date for periodic inspection has been approved under the law).
	Unit 2	(Under suspension)	
	Unit 3	(Under suspension)	
	Unit 4	(Under suspension)	
Operational safety inspection	The 1st inspection	June 3 - 14, 2013	No particular safety concerns
	The 2nd inspection	September 9 - 20, 2013	No particular safety concerns
	The 3rd inspection	November 25 - December 6, 2013	No particular safety concerns
	The 4th inspection	February 17 - 28, 2014	Inspection results are being compiled.

Kashiwazaki-Kariwa NPS, Tokyo Electric Power Co., Inc.

All reactor operations were suspended during the following periods.

	Implementation Period	Results/Others	
Periodic facility inspection	Unit 1	August 6, 2011 - (underway)	
	Unit 2	February 19, 2007 - (underway)	
	Unit 3	September 19, 2007 - (underway)	
	Unit 4	February 11, 2008 - (underway)	
	Unit 5	January 25, 2012 - (underway)	
	Unit 6	March 26, 2012 - (underway)	
	Unit 7	August 23, 2011 - (underway)	
Operational safety inspection	Operational safety inspection for behavior with potentially dangerous effects (Unit 6)		
	March 29 - April 16, 2013	No particular safety concerns	
	Operational safety inspection for behavior with potentially dangerous effects (Unit 5)		
	April 9 - 30, 2013	No particular safety concerns	
	Operational safety inspection for behavior with potentially dangerous effects (Unit 3)		
	April 16 - May 31, 2013	No particular safety concerns	
	Operational safety inspection for behavior with potentially dangerous effects (Unit 1)		
	May 10 - 29, 2013	No particular safety concerns	
	Operational safety inspection for behavior with potentially dangerous consequences (Unit 7)		
	May 16 - 28, 2013	No particular safety concerns	
	The 1st inspection	June 3 - 14, 2013	No particular safety concerns
	The 2nd inspection	August 30 - September 13, 2013	No particular safety concerns
	Operational safety inspection for behavior with potentially dangerous consequences (Unit 6)		
November 6 - 18, 2013	No particular safety concerns		
The 3rd inspection	November 25 - December 6, 2013	No particular safety concerns	
The 4th inspection	February 24 - March 7, 2014	Inspection results are being compiled.	

Accidents and incidents	On October 16, 2012, the bend of the water rods of the fuel assemblies was confirmed in Unit 5 and that fuel rods were touching each other in parts in Unit 5. In a later inspection, the bend of the water rods was confirmed in Unit 2. In Unit 1, water rods were bent and part of the fuel rods were touching each other. On July 2, 2013, the operator reported the cause of the incident and measures taken to correct it. On February 26, 2014, the Nuclear Regulation Authority, Japan examined the report.
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Tokai NPS, Japan Atomic Power Company			
Under decommissioning (in the process of removing all except the reactor and its surrounding area)			
	Implementation Period	Results/Others	
Operational safety inspection	The 1st inspection	May 20 - 24, 2013	No particular safety concerns
	The 2nd inspection	August 5 - 9, 2013	No particular safety concerns
	The 3rd inspection	November 11 - 15, 2013	No particular safety concerns
	The 4th inspection	March 3 - 7, 2014	Inspection results are being compiled.

Tokai Daini NPS, Japan Atomic Power Company			
All reactor operations were suspended during the following periods.			
	Implementation Period	Results/Others	
Periodic facility inspection	May 21, 2011 - (underway)		
Operational safety inspection	The 1st inspection	June 3 - 14, 2013	No particular safety concerns
	The 2nd inspection	August 26 - September 6, 2013	No particular safety concerns
	The 3rd inspection	November 26 - December 9, 2013	No particular safety concerns
	The 4th inspection	February 10 - 21, 2014	Inspection results are being compiled.

Hamaoka NPS, Chubu Electric Power Co., Inc.

Units 1 and 2 are being decommissioned (preoperational period for dismantling work). During that period, operations at Units 3 to 5 were suspended.

(Units 1 and 2; under decommissioning)

	Implementation Period	Results/Others
Periodic facility inspection	Unit 1	Since its decommissioning plan has been approved, Unit 1 is excluded from the inspection.
	Unit 2	March 7, 2014 - (underway)
Operational safety inspection	The 1st inspection	June 3, 11, 14, and 17 - 19, 2013 No particular safety concerns
	The 2nd inspection	August 26, September 3, 5, and 9 - 11, 2013 No particular safety concerns
	The 3rd inspection	November 27, December 3, 5, and 11 - 13, 2013 No particular safety concerns
	The 4th inspection	February 24, 25, 27, 28, March 5 - 7, and 10 - 12, 2014 Inspection results are being compiled.

(Units 3, 4, and 5; operations suspended)

	Implementation Period	Results/Others
Periodic facility inspection	Unit 3	November 29, 2010 - (underway)
	Unit 4	January 25, 2012 - (underway)
	Unit 5	March 22, 2012 - (underway)
Operational safety inspection	The 1st inspection	June 3 - 14, 2013 June 19, 2013 No particular safety concerns
	The 2nd inspection	August 26 - September 6, 2013 September 11, 2013 No particular safety concerns
	The 3rd inspection	November 27 - December 11, 2013 December 13, 2013 No particular safety concerns
	The 4th inspection	February 24 - March 7, 2014 March 12, 2014 Inspection results are being compiled.

Shika NPS, Hokuriku Electric Power Company			
All reactor operations were suspended during the following periods.			
Periodic facility inspection Operational safety inspection		Implementation Period	Results/Others
	Unit 1	October 8, 2011 - (underway)	
	Unit 2	March 11, 2011 - (underway)	
	The 1st inspection	June 3 - 14, 2013	No particular safety concerns
	Operational safety inspection for behavior with potentially dangerous consequences (Unit 1)	August 30 - September 9, 2013	No particular safety concerns
		The 2nd inspection	September 2 - 13, 2013
	Operational safety inspection for behavior with potentially dangerous consequences (Unit 1)	November 1 - 12, 2013	No particular safety concerns
		The 3rd inspection	December 2 - 13, 2013
	Operational safety inspection for behavior with potentially dangerous effects (Unit 1)	February 20 - March 7, 2014	Inspection results are being compiled.
		Operational safety inspection for behavior with potentially dangerous effects (Unit 2)	February 21 - 28, 2014
The 4th inspection	March 3 - 14, 2014	Inspection results are being compiled.	
Others	Since February 2014, inspections of the on-site fracture zone have been underway.		

Tsuruga NPS, Japan Atomic Power Company			
All reactor operations were suspended during the following periods.			
Periodic facility inspection Operational safety inspection		Implementation Period	Results/Others
	Unit 1	January 26, 2011 - (underway)	
	Unit 2	August 29, 2011 - (underway)	
	The 1st inspection	May 27 - June 7, 2013	No particular safety concerns
	The 2nd inspection	September 2 - 13, 2013	No particular safety concerns
	The 3rd inspection	December 2 - 13, 2013	No particular safety concerns
	The 4th inspection	March 3 - 14, 2014	Inspection results are being compiled.
Others	Since November 2012, inspections of the on-site fracture zone have been underway.		

Mihama NPS, Kansai Electric Power Co., Inc.			
All reactor operations were suspended during the following periods.			
Periodic facility inspection		Implementation Period	Results/Others
	Unit 1	November 24, 2010 - (underway)	
	Unit 2	December 18, 2011 - (underway)	
Operational safety inspection	Unit 3	May 14, 2011 - (underway)	
	The 1st inspection	May 27 - June 7, 2013	No particular safety concerns
	The 2nd inspection	August 26 - September 6, 2013	No particular safety concerns
	The 3rd inspection	November 25 - December 6, 2013	No particular safety concerns
	The 4th inspection	March 3 - 14, 2014	Inspection results are being compiled.
Others	Since November 2013, the inspections of the on-site fracture zone have been underway.		

Ohi Power Station, Kansai Electric Power Co., Inc.				
During the following periods, operations at Units 1 and 2 were suspended.				
Periodic facility inspection		Implementation Period	Results/Others	
	Unit 1	December 10, 2010 - (underway)		
	Unit 2	December 16, 2011 - (underway)		
	Unit 3	September 2, 2013 - (underway)		
Operational safety inspection	Unit 4	September 15, 2013 - (underway)		
	The 1st inspection	May 27 - June 7, 2013	No particular safety concerns	
	The 2nd inspection	August 26 - September 6, 2013	No particular safety concerns	
	Operational safety inspection for behavior with potentially dangerous consequences (Unit 3)		August 30 - September 9, 2013	Occurrence of deviation from the Limiting Conditions of Operation
			September 4 - 10, 2013	No particular safety concerns
			September 6 - 17, 2013	No particular safety concerns
	Operational safety inspection for behavior with potentially dangerous consequences (Unit 4)		September 12 - 18, 2013	No particular safety concerns
			September 18 - 24, 2013	No particular safety concerns
			September 24 - 30, 2013	No particular safety concerns
		The 3rd inspection	November 25 - December 6, 2013	No particular safety concerns
	The 4th inspection	March 3 - 14, 2014	Inspection results are being compiled.	
Others	<ul style="list-style-type: none"> On September 2, 2013, a deviation from the Limiting Conditions of Operation occurred in Unit 3 and recovery occurred on the same day an operational safety inspection focused on significant safety activities). In February, 2014, on the basis of the results of the on-site fracture zone inspection, fracture zones passing immediately below the facilities and capable of having a major impact on safety were judged 			

as not being “faults that may become active in the future.”

Takahama NPS, Kansai Electric Power Co., Inc.

All reactor operations were suspended during the following periods.

		Implementation Period	Results/Others
Periodic facility inspection	Unit 1	January 10, 2011 - (underway)	
	Unit 2	November 25, 2011 - (underway)	
	Unit 3	February 20, 2012 - (underway)	
	Unit 4	July 21, 2011 - (underway)	
Operational safety inspection	The 1st inspection	May 27 - June 7, 2013	No particular safety concerns
	The 2nd inspection	September 2 - 13, 2013	No particular safety concerns
	The 3rd inspection	November 25 - December 6, 2013	No particular safety concerns
	The 4th inspection	March 3 - 14, 2014	Inspection results are being compiled.

Shimane NPS, Chugoku Electric Power Co., Inc.

All reactor operations were suspended during the following periods.

		Implementation Period	Results/Others
Periodic facility inspection	Unit 1	November 8, 2010 - (underway)	
	Unit 2	January 27, 2012 - (underway)	
Pre-operation test	Unit 3	Pre-operation test was underway on the construction phase.	Completed up to the construction work set forth in (iii) of the Table of Article 17 of the Ministerial Ordinance concerning the Security of Nuclear Power Generation Facilities
Operational safety inspection	The 1st inspection	June 7 - 25, 2013	No particular safety concerns
	Operational safety inspection for behavior with potentially dangerous consequences (Unit 2)	June 13 - 24, 2013	No particular safety concerns
	The 2nd inspection	August 29 - September 11, 2013	No particular safety concerns
	The 3rd inspection	December 2 - 13, 2013	No particular safety concerns
	The 4th inspection	March 3 - 14, 2014	Inspection results are being compiled.

Ikata NPS, Shikoku Electric Power Co., Inc.			
All reactor operations were suspended during the following periods.			
	Implementation Period	Results/Others	
Periodic facility inspection	Unit 1	September 4, 2011 - (underway)	
	Unit 2	January 13, 2012 - (underway)	
	Unit 3	April 29, 2011 - (underway)	
Operational safety inspection	The 1st inspection	June 3 - 14, 2013	No particular safety concerns
	Operational safety inspection for behavior with potentially dangerous consequences (Unit 3)	March 29 - April 8, 2013	No particular safety concerns
		April 8 - 16, 2013	No particular safety concerns
	The 1st inspection	June 3 - 14, 2013	No particular safety concerns
	The 2nd inspection	September 9 - 24, 2013	No particular safety concerns
	The 3rd inspection	December 2 - 13, 2013	No particular safety concerns
	The 4th inspection	March 3 - 14, 2014	Inspection results are being compiled.

Genkai NPS, Kyushu Electric Power Co., Inc.			
All reactor operations were suspended during the following periods.			
	Implementation Period	Results/Others	
Periodic facility inspection	Unit 1	December 1, 2011 - (underway)	
	Unit 2	January 29, 2011 - (underway)	
	Unit 3	December 11, 2010 - (underway)	
	Unit 4	December 25, 2011 - (underway)	
Operational safety inspection	Operational safety inspection for behavior with potentially dangerous consequences (Unit 1)	April 3 - 9, 2013	No particular safety concerns
		April 9 - 15, 2013	No particular safety concerns
		Operational safety inspection for behavior with potentially dangerous consequences (Unit 2)	April 16 - 22, 2013
		April 22 - 26, 2013	No particular safety concerns
	The 1st inspection	June 3 - 14, 2013	No particular safety concerns
	The 2nd inspection	September 2 - 13, 2013	No particular safety concerns
	The 3rd inspection	November 29 - December 13, 2013	No particular safety concerns
	The 4th inspection	February 25 - March 7, 2014	Inspection results are being compiled.

Sendai NPS, Kyushu Electric Power Co., Inc.			
All reactor operations were suspended during the following periods.			
Periodic facility inspection Operational safety inspection		Implementation Period	Results/Others
	Unit 1	May 10, 2011 - (underway)	
	Unit 2	September 1, 2011 - (underway)	
	The 1st inspection	June 10 - 21, 2013	No particular safety concerns
	The 2nd inspection	September 2 - 13, 2013	No particular safety concerns
	The 3rd inspection	November 25 - December 6, 2013	No particular safety concerns
	The 4th inspection	February 24 - March 7, 2014	Inspection results are being compiled.

Prototype Fast Breeder Reactor "Monju," Japan Atomic Energy Agency			
Reactor operations were suspended during the following periods.			
Pre-operation test		Implementation Period	Results/Others
		Pre-operation test (performance check) was suspended in the construction phase.	
Operational safety inspection	The 1st inspection	June 3 - 21, 2013	A breach of obligations regarding measures for ensuring operational safety and the operational safety program was found similar to the third and fourth operational safety inspections of FY2012.
	The 2nd inspection	September 2 - 20, 2013	A breach in measures for ensuring operational safety and the operational safety program were found.
	The 3rd inspection	December 2 - 20, 2013	A Check of monitoring items was conducted.
	The 4th inspection	March 10 - 28, 2014	Inspection results are being compiled.
Others	Since October 2013, inspections of on-site fracture zone are underway.		

Fugen Decommissioning Engineering Center, JAEA		
Under Decommissioning (during the period of spent fuel removal)		
	Implementation Period	Results/Others
Periodic facility inspection	September 1, 2013 - January 20, 2014	Judgment based on inspection results: Good
Operational safety inspection	The 1st inspection June 10 - 14, 2013	No particular safety concerns
	The 2nd inspection September 17 - 20, 2013	No particular safety concerns
	The 3rd inspection November 25 - 29, 2013	No particular safety concerns
	The 4th inspection February 24 - 28, 2014	Inspection results are being compiled.

* Operational safety inspections are conducted four times a year based on the Reactor Regulation Act. For example, "The 3rd inspection" in the Table indicates that it is the 3rd operational safety inspection in FY2013.