

# TRANSITION OF THE NUCLEAR REGULATORY BODIES IN JAPAN

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# TRANSITION OF THE NUCLEAR REGULATORY BODIES IN JAPAN

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## I. INTRODUCTION

As a result of the Fukushima-Daiichi nuclear power accident (hereinafter the “Fukushima accident”), the government had to reconsider the meaning of its nuclear regulatory systems. Therefore, the Nuclear Regulation Authority (NRA) was established under Article 3 of the National Government Organization Act, and the NRA exercises executive power independently, not under the direction and supervision of the Cabinet Minister.

Based on Article 5 of the Act for Establishment of the Nuclear Regulation Authority (hereinafter the “Establishment Act”), the government organization, which commands the work relating to ensuring safety in nuclear energy use, are due to be reviewed within three years after enforcement of the Establishment Act. The "last adjustment" for review was presented in September 2015 based on the said Act, and in the adjustment, it is indicated that points of argument about the state of the Nuclear Regulation Authority have already been corresponding.

Moreover, the IAEA conducted an Integrated Regulatory Review Service (IRRS)<sup>1</sup> mission to the NRA from 11 Jan 2016 to 22 Jan 2016. The mission report was sent from the IAEA and received by the NRA on 23 April.

Japan's Nuclear Regulatory Bodies have been restructured each time on the basis of lessons learned from accidents that occurred in the past. So I would like to overview the Transition of the Nuclear Regulatory Bodies while paying particular attention to independence and centralization.

## II. THE TRANSITIONS OF THE NUCLEAR REGULATORY BODIES

The Nuclear Regulatory Bodies were restructured from 1957, when the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors (hereinafter the “Nuclear

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<sup>1</sup> IAEA, REPORT OF THE INTEGRATED REGULATORY REVIEW SERVICE (IRRS) MISSION TO JAPAN 10-22 January 2016.

Reactors Regulation Act”) was established, because of the following three accidents: Radiation leaks from the Nuclear Power Ship “Mutsu”, The JCO nuclear criticality accident, and the Fukushima accident.

#### A. Establishment

From 1957 to 1978, when the Nuclear Reactors Regulation Act was revised, the license for all reactor installments were permitted by the prime minister, and so the prime minister must have respected the opinions of the Atomic Energy Commission (AEC). In addition, the chairman of the AEC was General Director of the Science and Technology Agency and the office work of the AEC was handled by the Science and Technology Agency.

Although the AEC was established under the Cabinet Office based on Article 8 of the National Government Organization Act, it was understood as having had high independency, because it had the character of the regulatory authority de facto and the consent of both Houses of Diet was required to appoint members of it<sup>2</sup>.

However, as for power reactors and marine reactors, administrative measures required the consent of the competent ministers (the Minister of the International Trade and Industry (MITI) and the Minister of Transport). And permission for the design and construction method of the reactor concerned were not under the requirements of the Nuclear Reactors Regulation Act.

#### B. Radiation leaks from the Nuclear Power Ship “Mutsu”

As a result of Radiation leaks from the Nuclear Power Ship “Mutsu” in 1974, the Advisory Committee on Atomic Energy Administration was held as the Prime Minister's private consulting group, whose chairman was Hiromi Arisawa, Emeritus Professor of the University of Tokyo, and the state of nuclear administration was discussed. The committee pointed out that it was necessary to separate the functions relating to nuclear safety from those which the AEC had had, and based on this recommendation, the Nuclear Safety Commission (NSC), which is in charge of safety regulation was newly established. Moreover, the Science and Technology Agency had become the agency to deal with the office work of the Commission, so that NSC could be functionally separated from general administration and be neutral and equal to each ministry agency.

Furthermore, based on criticisms that consistency of safety regulations was lacking, each related minister regulated from the license for reactor installment to the regulatory activities subsequent to the licensing: nuclear power reactors are regulated by the Minister of the MITI,

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<sup>2</sup> Hideaki Shiroyama “Current Status and Issues of Nuclear Safety Commission” 1399 Jurist (2010)

marine reactors are regulated by the Minister of Transport, and research and test reactors and those in the stage of research and development are regulated by the Prime Minister. In addition, since each Minister had the responsibility of both promoting development and safety regulations and there was a possibility that a distrust about nuclear safety regulation may arise, NSC came to check safety reviews of each minister (hereinafter the “double-checking system”).

### C. The JCO (a nuclear fuel production company) nuclear criticality accident

In 1999 after the JCO Nuclear Accident, the Accident Investigation Board (established in the Nuclear Safety Commission), which conducted the investigation to determine the cause of the accident and prevent recurrence, proposed “strengthening the deployment and clarifying the role of safety regulatory Authorities” and “strengthening the independency of the NSC, strengthening the NSC secretariat, securing groups of experts in a wide variety of fields”.

In response to this report proposal, they transferred control of the NSC secretariat of the NSC from the Science and Technology Agency to the Prime Minister's office while also increasing personnel and deploying experts, etc., to strengthen the system. Furthermore, in keeping with the abolition of the Prime Minister's office through the reorganization of central government ministries, the NSC along with the AEC came to belong to the Cabinet Office. The fact that control of the NSC was transferred in this way from the Prime Minister's office, which was equal to the other Ministries, to the Cabinet Office, which has a higher status than the other Ministries, and came to possess an independent secretariat was evaluated to have increased its independence<sup>3</sup>. However, at this time, revisions were being made to the Act for Establishment of the Atomic Energy Commission and Nuclear Safety Commission, and the “respecting the decisions” of the AEC and the NSC, which was stipulated in Article 23 of said act, has been repealed. This was repealed consequent upon the organization and rationalization of the Council, etc., but the purpose of the rationalization was given as "to resolve the problems of the Council, etc. such as its inviting of the so-called cloak of invisibility criticism and promoting an over-compartmentalized bureaucracy and clearly define administrative responsibility", and it seems to carry a potential of losing its meaning as the core of the “double-checking system”. Furthermore, at the 64th Atomic Energy Commission regular meeting (held on November 2, 1999), an explanation was made to the effect that the existence of the “respecting the decisions” and the importance of the Commission of inquiry were separate issues, and that it is natural that the opinions of the AEC and the NSC be respected, showing that the aforementioned concerns were borne.

Furthermore, the Minister of Economy, Trade and Industry (METI) was deemed to have

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<sup>3</sup> Hideaki Shiroyama “Current Status and Issues of Nuclear Safety Commission” 1399 Jurist (2010)

jurisdiction over regulations on commercial power reactors and reactors at the stage of research and development as well as regulations on nuclear fuel facilities, etc., while commercial marine reactors were to be regulated by the Minister of Land, Infrastructure and transport (inherited from the Minister of Transport) and research and test reactors by the Minister of Education, Culture, Sports, Science and Technology (inherited from the Prime Minister).

Regarding the organizational structure of the METI as well, the Nuclear and Industrial Safety Agency (NISA) was newly established as a "special Organ" in the Agency of Natural Resources and Energy, which is an external bureau of the METI, and while maintaining independence it became burdened by regulations. Furthermore, there is an opinion that the National Government Organization Act possesses a function to formalize structural units of central government ministries and Authorities other than the Cabinet Office, but the "special Organ" is a concept which refers to all things which do not fall under such fixed forms, and simply because such an agency may be established it cannot be thought to have immediately secured independence<sup>4</sup>.

### **III. THE FUKUSHIMA ACCIDENT**

#### **A. Issues which have been pointed out after the Fukushima accident**

In the "Report of Japanese Government to the IAEA Ministerial Conference on Nuclear Safety" after the Fukushima accident, the government declared that with whom the primary responsibility for conducting sufficient safety maintenance activities to prevent accidents lies is unclear due to the government organizations relating to ensuring nuclear energy safety being divided on such things as safety regulations by the NISA as a primary regulatory agency, supervision of the primary administrative agency's regulations by the NSC, and implementation of environmental monitoring by concerned municipalities and each ministry during emergencies.

Furthermore, a survey/report has been conducted by 4 accident investigation committees--the government's Accident Investigation Committee, the Independent Investigation Commission on the Fukushima Daiichi Nuclear Accident by the private Rebuild Japan Initiative Foundation, the Fukushima Accident Investigation by Tokyo Electric Power Co., and the Accident Investigation Committee which was established by the National Diet--which pointed out organizational and institutional problems with nuclear safety regulations, namely that the independence of the regulatory authorities from the lobbying Authorities and business

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<sup>4</sup> Daiki Harada "Nuclear Regulation Authority" JAPAN ENERGY LAW INSTITUTE Monthly Report 217 (2012)

people had become a mere facade and that the safety regulation organizations needed independence from the lobbying organizations and business people.

## B. Response after the Fukushima accident

In August 2011 a cabinet decision was held on the basic policy for reform of organizations relating to nuclear safety regulations in order to win back trust and improve the function of the Nuclear Safety Administration after the Fukushima accident; and at the Advisory Committee for Prevention of Nuclear Accident which was established therefrom, a detailed proposal<sup>5</sup> regarding nuclear reform was finalized in December 2011.

In this proposal, they indicated 7 principles for reforming nuclear safety regulatory bodies, etc., and pointed out that the efficacy of ensuring safety with consideration for the use of nuclear energy must not decline ("separation of regulation and utilization") and a unification of limited resources must take place ("centralization").

Considering this proposal, in January 2012, the government established the Nuclear Regulatory Agency as an external bureau of the Ministry of the Environment and submitted the Nuclear Organization Structural Reform Bill, etc., establishing a Nuclear Safety Investigation Commission to conduct investigations regarding the implementation of regulations, etc. relating to ensuring nuclear safety (hereinafter referred to as "the government bill") to the 180th National Diet. Furthermore, in the government bill, permission and authorization is mainly carried out by the Minister for the Environment, while the authority for safeguards and radiation monitoring, etc. remained with the Ministry of Education, Culture, Sports, Science and Technology.

On the other hand, the opposition party independently set up a project team concerning nuclear regulatory bodies, and submitted a bill on the Establishment of the Nuclear Regulation Authority, which established the Nuclear Regulation Authority as an Article-3 based commission and established the Secretariat of the Nuclear Regulation Authority to the lower house (April 2012). In this bill, the Nuclear Regulation Authority conducts permission and authorization, and the matters which were left under the authority of the Ministry of Education, Culture, Sports, Science and Technology in the government bill are centralized under the Nuclear Regulation Authority. The majority and minority parties subsequently negotiated to conclude a revised bill based upon the bill on the establishment of the Nuclear Regulation Authority on June 20, 2012.

Organized in this way, the NRA possesses a high level of independence as an Article-3 based commission, while also securing the exercise of authority independent from not only the

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<sup>5</sup> Recommendation from Advisory Committee for Prevention of Nuclear Accident, 13th December 2011

Ministry of the Environment, but other government Authorities in the establishment Act. Also, control of the nuclear reactor regulations, nuclear security, etc., which was previously handled by related government Authorities, was transferred to the Nuclear Regulation Authority, which is now responsible for said control with a unification of Safety, Security, and Safeguards. Additionally, the members of the Nuclear Regulation Authority are to be appointed by the Prime Minister from among persons who possess specialized knowledge, experience, excluding those who operate nuclear activities or are executives or employees thereof, securing its independence from nuclear operators as well.

Furthermore, the Japan Nuclear Energy Safety Organization (JNES), which was established as a Technical assistance agency for NISA, was abolished and merged with the NRA, thus enhancing the expertise of the NRA.

Following a series of such institutional reforms, a group of “Technical knowledge” directly came to handle Japanese nuclear regulations. It is said that this organizational reform has developed nuclear “Technical knowledge” as a tool of “Governance”<sup>67</sup>.

### C. Opinions regarding the current nuclear regulatory bodies

Regarding the establishment of the NRA in the Ministry of the Environment, there are also opinions that it should be established in the Cabinet Office due to the concern that conflicts of interest could arise in global warming counter-measures, etc., but looking at the nuclear regulatory bodies of various countries, we see that there are a variety of ministries and offices to which nuclear regulatory bodies belong such as under the Department for Work and Pensions (United Kingdom), the Ministry of Social Affairs and Health (Finland), and the Ministry of the Environment (Sweden), as well as being placed as independent organizations not belonging to other government organizations (USA), and there is also the opinion that it is difficult to find a need to transfer control of the nuclear regulatory bodies, which has measures in place (Article-3 based commission, separation of regulation and utilization), to improve its independence to the Cabinet Office.

It has also been pointed out that as the NRA must not fall into "isolation", it should adhere to rules of transparency and deepen communication between concerned government Authorities, business operators, municipalities and other concerned parties.

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<sup>6</sup> Fumito Tomooka “The Relationship between Governance and Technicality--Viewed from Administrative Law” Public Law Review No.76, yuhikaku, October 2014

<sup>7</sup> Fumito Tomooka “chapter One Reflection of the Technical knowledge in accordance with the re-operation of the nuclear power plant-- Legal issues surrounding the new regulatory requirements.” the Fukushima nuclear power accident and Legal policy, daiichihouki, 2016

# **IV. INTEGRATED REGULATORY REVIEW SERVICE (IRRS)**

The IAEA conducted an Integrated Regulatory Review Service (IRRS) mission to the NRA from 11 Jan 2016 to 22 Jan 2016. The mission report was sent from IAEA and received by the NRA on 23 April.

In the report, it was recognized as a good practice to have established the NRA as a new effective independent and transparent regulatory with increased power, by citing the following points about the independence and centralization of NRA:

- JNES merged with the NRA. The NRA now has sole responsibility for regulating nuclear safety, nuclear security and safeguards based on international commitments, and regulating radiation monitoring and the use of radioactive isotopes that were formerly handled by a range of administrative bodies.
- The NRA is clearly separated from METI who holds jurisdiction over the use of nuclear energy.
- The Chairman and Commissioners of the NRA are appointed by the Prime Minister, with the consent of the Diet.
- The openness and transparency by which the NRA acts, and some of the regulatory actions considered by the IRRS team, also suggests that NRA acts with a high level of integrity, i.e. that the NRA in those aspects has demonstrated effective (de facto) independence.

However, as a result of the self-assessment carried out in preparation for the IRRS, the NRA has identified that it does not have a sufficient number of qualified staff for performing the assigned responsibilities. In the report, IRRS members agreed with this, and recommend that the NRA should further develop and implement the activities relating to the evaluation of competencies, execution of training programmes, on the job training, internal job rotation, and strengthening of safety research, co-operation with technical support organisations (JAEA), universities, research organisations and international and foreign organisations.

In addition, about coordination of authorities, IRRS members recommend that The government should ensure that the Japanese regulatory authorities having responsibilities relevant to nuclear and radiation safety develop and implement an effective, collaborative process for the exchange of information regarding policies, authorizations, inspections and enforcement actions to provide coordinated and effective regulatory oversight that should also ensure a harmonized regulatory framework under their respective responsibilities. In



order to respond to this recommendation, the NRA is expected to provide a special regime (project team, etc.).

## **V. CONCLUSION AND FUTURE PROSPECTS**

As described above, it can be seen that the Nuclear Regulatory Bodies have been restructured based on the lessons learned from the various accidents that have occurred in the past and various views about independence and centralization have been shown.

After the Fukushima accident, it was strongly pointed out that the “double-checking system” hadn’t been functioning and "separation of regulation and utilization" wasn’t enough, but it had been recognized that there was a problem with them. And the NSR had played a role in preventing the problem (at least at the time when the "double-checking system" was introduced), but it can be said that the NSR did not fulfill that role well.

Although it is of course important to ensure the independence and centralization of nuclear regulatory bodies at the surface of organizational structures, in order for the structure to function properly, I hope that the NRC continues to demonstrate (de facto) independence which was recognized as a good practice in the IRRS mission report through acting with a high level of integrity.