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Nuclear Power Plants and Terror Attacks in Japan

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# Nuclear Power Plants and Terror Attacks in Japan

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## Abstract

The operation of several Japanese nuclear power plants will be halted because the Nuclear Regulatory Authority (NRA) reported that these nuclear power plants are not sufficiently prepared for potential terror attacks. It is unclear how the Japanese judiciary will exercise judicial review of this NRA decision regarding terror attack protection measures. Japanese courts have previously avoided review of the constitutionality of defense and peace statutes<sup>2</sup> by citing the political question doctrine. The attitude of the Japanese judiciary toward national defense is symbolic as seen in several cases concerning Article 9 of the Japanese constitution, the pacifism provision that renounces war as a means to settle international disputes involving the State.

Japanese administrative agencies are authorized to exercise discretion within the scope of power vested in them by the statutes passed in the parliament, or Diet. Under the Administrative Case Litigation Act (ACLA), which was revised in 2004, Japanese courts can review potential unlawful use of government authority under several principles such as fact-finding, purpose, timing, equal principles, constitutional rights infringement, and unconstitutional motives. The judiciary has reviewed administrative agencies' decision under ACLA in nuclear power plant cases. Under ACLA, Japanese courts can review if the administrative discretion of administrative agencies is arbitrary and capricious, but not their political validity and policy judgment capability.

The judiciary may defer to administrative agency decisions in light of their expertise. In any review of administrative discretion, the court may take the position of the administrative agency to review the latter's disposition. In other cases, the court may respect the agency's disposition and review only the procedure.

Citizens may take action against administrative agencies by challenging the validity of their decisions under the Administrative Complaint Review Act (ACRA).<sup>3</sup> The ACRA provides an avenue that is simpler than the ACLA and yields a more rapid response, but it is not as fair as the ACLA because agencies themselves conduct an internal review of the validity of their decisions.

In the famous Ikata nuclear power plant case of 1992, the Japanese Supreme Court deferred to the administrative agency decision for its expertise, but did not use the term "discretion(sairyō)". This may be because nuclear power plants come under the purview of national energy policy, thus affecting Japan as a whole. This paper argues that the judiciary may identify unconstitutional motives, but does not thoroughly review the public records and the reasoning behind administrative decisions.

The Japanese court system has not yet reviewed the NRA decision to halt nuclear power plant operations due to possible terror attacks. The statute on terror attacks was passed soon after the Great East Japan Earthquake in 2011. Terror attacks may provide an avenue for the Japanese judiciary to avoid strict judicial review of the administrative agency's decision. It is unclear whether the Japanese judiciary will carefully examine the safety countermeasures against terror attacks, defer to the NRA by citing the agency's expertise, or offer excuses on the grounds of national security and defense, which is stipulated in Article 9.

This paper argues that national defense and nuclear power plant safety in the event of natural disasters have both commonalities and differences. Japanese administrative law scholars must analyze the expertise of the administrative agency in deference to the Japanese judiciary.

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<sup>2</sup> Yuichiro Tsuji, *Godzilla and the Japanese Constitution: A Comparison Between Italy and Japan*, 3(2) *Italian Law Journal*, 451-477 (2017).

<sup>3</sup> *Gyōsei Fufuku Shinsa hō*[Administrative Complaint Review Act], Act no. 68 of 2014.

## Safety Review and the Great East Japan Earthquake of 2011

The safety review changed in the aftermath of the Great East Japan Earthquake that occurred on March 11, 2011. Before this disaster struck, all of the 54 nuclear power reactors used to operate to meet around 30% of the total electricity demand in Japan. After 3/11, the government halted the operation of all these nuclear power plants at once. A new safety review standard was established. Japanese courts exercised judicial review of the safety standard for reactivation of the nuclear power plants.

### *Backdrop - Safety Review Before and After 3/11*

In July 2013, a new regulation was issued governing the safety of nuclear power reactors. Existing and new reactors were required to pass rigorous safety regulations for earthquake and tsunami. The new safety requirements increased the costs for power plant operators, forcing 21 nuclear plants, including the 2nd of the Fukushima power plant, to cease operations.

As of June 2019, nine nuclear power plants were working to resume operations: the 3rd and 4th of Ōhi (Kansai Electric Power), the 3rd and 4th of Takahama (Kansai Electric Power), the 3rd and 4th of Genkai (Kyushu Electric Power), the 1st and 2nd of Sendai (Kyushu Electric Power), and the 3rd of Ikata (Shikoku Electric Power). These nine reactors are located in the western part of Japan and use pressurized water reactors, which are different from those used by the Fukushima reactors in the eastern part of Japan.

Chapter II will review how these nuclear power plants passed the new safety standards, and now face a new requirement for countermeasures against severe accidents. Before analyzing the new safety standards, we had better ask what caused the serious accident at the Fukushima nuclear power plant.

In 2011, the tsunami caused by the earthquake disabled the safety features to stop, cool, and seal the 1st reactor of the Fukushima plant. The system to stop burning fuel worked, but the flooding of the power plants disabled the power supply and cooling system. The temperature inside the reactor became so high that the core melted down, resulting in hydrogen evolution reaction. The hydrogen exploded and destroyed the reactor building, releasing radioactive substances outside the building of the 4th reactor of Fukushima on March 15.

The accident at the 1st of Fukushima plant proved that the previous safety standards were not adequate to deal with a sequence of natural disasters. The Japanese people learned how a single disaster can trigger a series of incidents. Under the previous safety standards, each electric operator took responsibility to handle severe accidents.

The Nuclear and Industrial Safety Agency (NISA) could not function effectively under the old regime, and was subsequently displaced by the Nuclear Regulatory Agency (NRA). The NRA aims to have in place a regulatory framework that will obligate operators to observe the latest safety standards.

### *New Safety Review Standard and Risk Preparedness*

In 2012, the parliament revised the nuclear power plant statutes<sup>4</sup> and issued a new safety standard.<sup>5</sup> The revised Act contained several new approaches.<sup>6</sup>

First, the graded approach requires each safety standard measure to be tailored to a facility because the form, amount, and structure of radioactive materials produced are different and may vary from one plant to another.

Second, broad safeguard measures are required on the assumption that operators cannot completely eliminate risk. They should, therefore, monitor safety continuously via multiple measures, and be prepared for any uncertainty or risk. Under the new safety standard, which for the first time included protective measures

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<sup>4</sup> Denki Jigyō hō [Electricity Business Act], Act No. 170 of 1964 (Japan). Regulation was incorporated into the following Gensiro to kisei hō.

<sup>5</sup> Gensiro to kisei hō [the Law for the Regulations of Nuclear Source Material, Nuclear Fuel Material and Reactors], Act no. 166 of 1957 (Japan).

<sup>6</sup> NRC, Jitsuyō hatsuden gensirho ni kakaru shin kisei kijun ni tsuite [New regulation on practical nuclear power reactor] (19, Dec., 2018). Available at: <https://www.nsr.go.jp/data/000070101.pdf>

for volcanic eruption and tornado scenarios as well, an operator is expected to continue taking voluntary safety measures. A nuclear reactor operator shall have multiple protective layers and various safeguard measures to prevent several facilities from becoming dysfunctional simultaneously. Each safety facility should be disconnected and independent. There needs to be at least two alternative routes of power supply outside the reactor. Storage batteries, emergency diesel generators, and emergency power source vehicles shall be kept in a state of readiness. The number of pump cars available should be more than two. Under the new standard, vents should be installed for the management of pressure release in the event of gas pressure build-up within reactor buildings. Equipment to reduce hydrogen concentration is also required to be installed to prevent hydrogen explosion. Mobile water cannons need to be established to discharge water to cool down reactor buildings.

Third, protocols to deal with severe accidents should be developed for reprocessing and processing plants. Specific countermeasures against terror attacks need to be established.

The new standard obligates existing operators to establish the new safety requirements and countermeasures on time. The NRA was established as an independent organization with jurisdiction over new safety regulations. Under the new Act, the NRA drafts regulations and gathers public comments on such proposals before enacting them.

Fourth, a reactor operator shall consider building designs that are effective in preventing accidents. Fifth, waste disposal and burial facilities shall be strengthened appropriately and evaluated periodically for safety.<sup>7</sup>

Lastly, the NRA draws on International Atomic Energy Agency (IAEA) guidelines to draft new regulations. The new standard's countermeasures against accident go beyond the original regulations. In the new safety standard, measures to protect against natural disasters or terror attacks have been strengthened. Buildings cannot be constructed above active fault lines. Buildings shall be established on high ground to prevent sea water intrusion, and breakwater structures need to be built. Countermeasures against volcanic eruptions and tornadoes need continuous scientific investigation.

Chapter II and III consider the countermeasures against terror attacks in the new safety regulation.

### ***Risk Assessment of Volcanic Eruption*** **Guideline on Volcanic Eruption**

After 3/11 in 2011, the NRA prepared new safety standards and a guideline on volcanic eruptions, as people living near nuclear power plants are concerned about the potential impact should an eruption destroy nuclear power plants. In Japan, the judiciary cannot review the political validity of an administrative decision, but it can carry out an arbitrary and capricious review to evaluate the feasibility of and rectify any defects in the new safety standard under ACLA.<sup>8</sup> The new safety standard obligates reactor managers to prepare countermeasures against volcanic eruptions and tsunami. Research on the standard should include risk assessment to decide on precautions.

In the event of reactivation or construction of a reactor, people living near nuclear power plants have two legal recourses: civil and administrative litigation. In civil litigation, plaintiffs can seek an injunction by arguing that the operation of a nuclear power plant infringes on their personal rights derived from the "pursuit of happiness" clause in Article 13 of the Japanese Constitution.<sup>9</sup> In civil litigation, plaintiffs need to prove intent or, negligence with illegal infringement, causation, and damage under Civil Law.<sup>10</sup>

Plaintiffs can seek a provisional remedy order under the Civil Provisional Remedies Act<sup>11</sup> by proving that there is a legal relationship between the parties and that their protected rights are being infringed, and

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<sup>7</sup> NRA, Jitsuyō hatsuden yō gensiro oyobi kaku nenryō sisetsu to ni kakaru sin kisei kijun ni tsuite [New regulation of nuclear power reactor and facility for nuclear fuels] (17, Feb., 2016). Available at: <https://www.nsr.go.jp/data/000070101.pdf>

<sup>8</sup> Nihon-Koku Kenpō [Constitution of Japan] May 3, 1947, art.81 (Japan).

<sup>9</sup> Id. Art.13.

<sup>10</sup> Min Pō [Civil Code], Act no. 89 of 1896, art. 709 (Japan).

<sup>11</sup> Minji hozen hō [Civil Provisional Remedies Act], Act no. 91 of 1989, art. 23 (Japan).

establishing a prima facie case that remedial measures are necessary as their life or health would be endangered if the status quo continues. Under the Japanese Administrative Litigation Case Act (ALCA),<sup>12</sup> inhabitants near power plants may bring administrative litigation seeking to revoke any NRA ruling that concluded that a reactor has fulfilled the new safety regulations.

This subchapter reviews two cases in which plaintiffs used civil and administrative litigation to halt nuclear power plant operations. The merit of provisional remedy is temporary, but it may serve as a precedent for litigation concerning other power plants.

In what was the first administrative lawsuit after the Great East Japan Earthquake, the Fukuoka District Court in June 2019 denied the request of 33 inhabitants in Fukuoka and Kumamoto to halt the operations of the 1<sup>st</sup> and 2<sup>nd</sup> reactors at the Sendai nuclear power plant in Kagoshima.<sup>13</sup> Plaintiffs argued that the risk posed by the Sendai nuclear power plant to the lives and health of people living in the neighborhood was the highest in the world, and that the NRA's safety clearance was based on wrong fact-finding and an illegal decision-making process. Kyushu Electric Power argued that the decision was based on expertise and, thus, was reasonable. The Fukuoka District Court explained that the volcano guideline might not be able to accurately predict a catastrophic volcanic eruption, but was still reasonable. The court concluded that the NRA's decision was legal as it was based on the volcano guideline's risk assessment for five volcanoes within a radius of 160 km from the Sendai nuclear power plant. The court, however, noted that it is still doubtful whether the NRA successfully proved reasonableness of the safety review. The plaintiffs are planning to appeal.

In a civil lawsuit, four plaintiffs living within a 400 kilometer radius of the 3<sup>rd</sup> reactor of the Ikata nuclear power plant sought a provisional injunction. In December 2017, the Hiroshima High Court accepted their argument that the NRA's safety screening was not credible.

The court acknowledged insufficient preparedness against volcanos, and the presence of substantial and concrete danger to the lives of inhabitants. The court suspended the operation of the 3<sup>rd</sup> reactor until September 30, 2018. The court explained that the NRA was not successful in proving the nonexistence of serious damage to lives and health, so substantial danger was presumed.<sup>14</sup> The government filed an objection to the temporary restraining order.

In September 2018, the Hiroshima High Court vacated its previous provisional injunction order. The court had previously questioned the credibility of the volcano guideline saying it was possible to predict the timing and scale of an volcanic eruption to a certain extent.<sup>15</sup>

The Hiroshima High Court in its September 2018 ruling held that the government proved the nonexistence of any direct and significant danger to the lives and health of humans from the release of radioactive materials from the nuclear reactor. The high court also held that the new safety regulations were reasonable, and that the 3<sup>rd</sup> reactor of Ikata met these standards. Following the Hiroshima High Court order, the Ōita District Court<sup>16</sup> supported the NRA in similar civil provisional injunction cases.

In November 2018, the Takamatsu High Court<sup>17</sup> approved the Matsuyama District Court's decision rejecting the argument of Ehime prefecture inhabitants. In this case, the residents had sought a provisional injunction against the 3<sup>rd</sup> reactor of the Ikata nuclear power plant. Shikoku Electronic Company had reactivated the 3<sup>rd</sup> reactor on October 27 that year. The high court upheld the reasonableness of the NRA decision that there were no substantial grounds for concerns over a disastrous eruption of the Aso caldera, which is 130 kilometers from the 3<sup>rd</sup> reactor of Ikata. The court explained that even though it may be impossible to precisely predict a catastrophic eruption, it would still be possible to monitor volcanic activity for

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<sup>12</sup> Gyōsei Jiken soshō hō[Administrative Litigation Case Act], Act no. 139 of 1962(Japan).

<sup>13</sup> Fukuoka Chihō Saibansho[Fukuoka Dist. Ct.], 17, June, 2019, Heisei 28(gyo u) no. 37.(court held reasonableness of decision making of agency in terms of recent science and technology.)

<sup>14</sup> Hiroshima Kōtō Saibansho[Hiroshima High.Ct.], 13, Dec.,2017. Heisei 29 (ra) no.63. 2357&2358 Hanrei Jihō[Hanji] 300.

<sup>15</sup> Hiroshima Kōtō Saibansho[Hiroshima High.Ct.], 25, Sep.,2018, Heisei 29 (u) no.62. Available at: [http://www.courts.go.jp/app/hanrei\\_jp/detail4?id=88064](http://www.courts.go.jp/app/hanrei_jp/detail4?id=88064)

<sup>16</sup> Ōita Chihō Saibansho[Ōita dist.Ct.], 28, Sep, 2018, Heisei 28(yo) no.25&26. Lex/ DB no. 25561589.

<sup>17</sup> Takamatsu Kōtō Saibansho[Takamatsu High.Ct.], 15, Nov.,2018, Heisei 29 (ra) no.100.2393&2394 Hanrei Jihō[Hanji] 383.

signs of eruption. The court noted that an evacuation plan alone was insufficient, but still did not reach the conclusion that the NRA decision was arbitrary and capricious. The court held that Shikoku Electronic Company reasonably followed the guideline that estimated volcanic ash layer is 15 cm.

In September, 2019, Fukuoka High Court denied argument of inhabitants of five prefectures to seek provisional injunction against the 3<sup>rd</sup> and 4<sup>th</sup> of Genkai nuclear power plant.<sup>18</sup> Fukuoka High Court supported district court order<sup>19</sup> that found no concrete danger. Judge explained that risk of volcano eruption wasn't showed successfully, and denied argument delay of CMF preparation causes potential risk.

These two types of litigation have some uniqueness in cases related to nuclear power plants. In civil litigation, a plaintiff may seek quick remedy, but it is provisional. A few number of plaintiffs can accumulate small victories in civil litigation.

These cases show that the burden of proof is critical because it decides which party wins. A nuclear power plant operator has the needed expertise and technology at hand. However, there is no consensus among academics about the reliability of the volcanic risk assessment, which has left judges perplexed.

### **How to Understand Burden of Proof in Ikata Decision – “Common Sense”**

The Japanese judiciary adhered to the deference doctrine in the famous Ikata administrative litigation case in 1992.<sup>20</sup> The Supreme Court showed how to use the burden of proof in deciding the outcome of a case. The Ikata decision explained that the plaintiff (citizen) has the burden of proof in general. However, since an administrative agency is in possession of the materials and data required for a safety review, the agency needs to adopt every necessary means in proving the reasonableness of a safety review. If the concerned agency cannot complete this task, unreasonableness is substantially presumed.

The 1992 Ikata decision invented the term *de facto* presumption.<sup>21</sup> *De facto* presumption and the shift of burden of proof appear similar, but may actually lead to opposite outcomes when it is unclear for a judge to decide whether the agency's work on safety review was diligent. Under the Ikata decision, if an administrative agency has completed its safety review work, but there is ambiguity in concluding whether the agency decision was reasonable or unreasonable, the court needs to uphold the reasonableness of the safety review decision. Thus, the 1992 Ikata decision has both advantages and disadvantages.

First, the 1992 Ikata decision offers an advantage to the concerned administrative agency in court. The judiciary would defer to the expertise of the agency making the decision. Second, *de facto* presumption shifts the first burden of proof to the agency, but residents still have the burden of proof when a judge thinks that the agency has completed its work, but there is still ambiguity regarding reasonableness.

In the previous subchapter, the Sendai nuclear power case in the Fukuoka District Court showed that although the court ruled against the plaintiffs, it said there were still doubts whether the NRA volcanic risk assessment was reasonable or not. The judge concluded that there is no consensus among academics about the predictability of a major volcanic eruption. Inhabitants lost the case, but after this decision, NRA chairman Toyoshi Fuketa explained that the volcanic eruption risk assessment should be reconsidered because it is very difficult to read the guideline, and the district court had held that it was possible to predict an eruption to some extent from past records.<sup>22</sup> The guideline specifies that the risk assessment covers an area within a radius of

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<sup>18</sup> Nikkei Shimbun, Genkai genpatsu no sashi tome mitomezu fukuoka kōsai(25, Sep., 2019). Available at: <https://www.nikkei.com/article/DGXMZO50181850V20C19A9ACYZ00/>

<sup>19</sup> Saga Chihō Saibansho[Saga Dist.Ct.]20, March, 2018, Heisei 29(yo) no.2, Saibansho website.

<sup>20</sup> Saikō Saibansho [Sup.Ct.]29, Oct, 1992, Showa 60(gyo tsu) no. 133, 46(7) Minji Hanreishu[Minshu] 1174.

<sup>21</sup> Saikō Saibansho [Sup.Ct.]16, April, 2013, Heisei24(gyo he) no. 202, 243 ShuMin 329.(The government is liable to recognize and designate victim). Sihō Kenkyusho ed. Gyōsei jiken no ippan teki mondain ikansuru jitumu teki kenkyu(revised)[Practical analysis on administrative general cases](2000), at 181.

<sup>22</sup> Nikkei Shimbun Genpatsu no kazan hyōka shishin minaoshi he[Reconsider volcano eruption guideline](3, July, 2019). Available at:<https://www.nikkei.com/article/DGXMZO46906650T00C19A7000000/>

160 km of a nuclear power plant.<sup>23</sup> The guideline allows the establishment of a nuclear power plant if it can cope with disaster through the design of the reactor building if there is an eruption.

Sendai nuclear power plant is located in Southern parts of Kyushu island where one of caldera caused catastrophic damage around 7,300 years ago. In this area, five large eruptions have been recorded near the Sendai plant.

It means that the guideline can permit the establishment of a reactor if the risk of a large eruption is small. The NRA demands that an operator continuously monitor for crustal movement in volcano activity and cease power plant operations and remove fuel if necessary.

The guideline has two issues. First, the courts highlighted the inconsistency of the volcano guideline in serving as an objective standard to stop power plant operations. Second, the guideline's risk assessment is controversial among academia and scientific researchers. Some volcanoes may not erupt even when there are indications of a possible eruption. Without an objective standard, the NRA may hesitate to make a decision on suspending operations. The risk of eruption may be once in several ten thousand years.

The NRA's rationale behind the guideline is that super-large eruptions are not incorporated into existing statutes in Japan, and thus the risk would be an "acceptable risk under common sense in society." The NRA did not modify the guideline until 2017. It might be possible to understand why the NRA ignored the natural disaster risk of 3/11 in 2011. Judges were forced to arrive at a conclusion by interpreting obscure "common sense" for reasonableness of safety review. By using common sense, a judge could conclude that a safety assessment was unreasonable or that it was reasonable because it is difficult to predict the scale of an eruption.

For example, the Fukui District Court upheld an injunction against the Ōhi nuclear power plant by acknowledging the possibility of a serious accident risk, albeit a small one.<sup>24</sup> The judge concluded that the NRA had been too optimistic in its assessment that the kind of large earthquakes that affected other sites of reactors would not occur at this site. Even a small earthquake may cause a serious accident by damaging the cooling function. The argument that sealing wasted fuel was too expensive is based on the presumption that a serious accident is a rare occurrence. The court concluded that the plaintiffs successfully proved their case. On the other hand, the 1<sup>st</sup> reactor of the Sendai nuclear power plant won a similar case, but faces the possibility of suspension in March 2020 if it fails to comply with the requirements for countermeasures against terror attacks.

### **Ikata Principle in Civil Litigation: Mix of Administrative and Civil Litigation**

Civil litigation relating to nuclear power plants have incorporated the 1992 Ikata decision. In administrative litigation, an administrative agency first needs to prove nonexistence of substantial danger, and the judge can decide if the agency has fulfilled its mission. The judge may shift substantial presumption to the operator.

In a case involving the Onagawa nuclear power plant in civil litigation,<sup>25</sup> a judge upheld an administrative decision by deferring to the agency's expertise.

If the NRA guideline considers the eruption possibility of the Aso caldera in Kyushu island, a judge would conclude that it is inappropriate to build nuclear power plants at the concerned site. He/she shall defer to the expertise of the administrative agency. However, without directly addressing the guideline in question, judges, by interpreting "common sense," can conclude that it is debatable whether all possibilities, such as the scale of a volcanic eruption, can be included in safety reviews.

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<sup>23</sup> Asahi Shimbun, Editorial, Gen patsu to kazan kyodai funka kara nigeru na[Nuclear power plant and volcano-Don't run away from a large scale of volcano](30, Sep, 2018). Available at: <https://www.asahi.com/articles/DA3S13702384.html>

NRA, Jishin gaido rain [Guideline for volcano](19, June, 2013, revised on 29, Nov. 2017). Available at: <http://www.nsr.go.jp/data/000213308.pdf>

<sup>24</sup> Fukui Chihō Saibansho[Fukui Dist.Ct], 14 April, 2015, Heisei 26(yo) no. 31, 2290 Hanrei Jihō 130.

<sup>25</sup> Sendai Chihō Saibansho[Sendai Dist.Ct], 31, Jan.,1994, Showa 56(wa) no. 1852.(This case was appealed to the Supreme Court, and the Supreme Court dismissed). Saikō Saibansho[Sup.Ct.], 14, Sep, 2006, Heisei 17(ju) no.2205. 1948 Hanji 164.

Prof. Satoshi Kurokawa thinks that civil litigation for provisional remedy should be separated from the 1992 Ikata decision and that discussions should begin on the issue. Kurokawa thinks that it is not natural to expect an operator to prove unreasonableness of concrete safety standards in civil litigation.

On March 28, 2017, instead of demanding an operator to satisfy the proof of burden, the Osaka High Court<sup>26</sup> ruled that substantial presumption can be shifted to the operator only if the administrative agency fails to prove reasonableness of administrative regulations.

## Counter Measurement Facility against Special Attacks

Nuclear power plants face stringent safety review. The September 11, 2001, terror attack on the World Trade Center in New York prompted the Japanese government to prepare for potential terror attacks on its nuclear power plants. Some Japanese movies have showed military helicopters dropping terrorists at nuclear reactor sites.

### *What is CMF?*

Liberalization of Japan's retail electricity market began in April 2016. Under the previous legal framework, Kyushu, Kansai, and Tokyo Electric Power Company (TEPCO) held a monopoly in sale, transmission, and production. Since the 2016 change in law,<sup>27</sup> other private entities have entered the market to compete with these large electric companies.

Due to the super-aging society and deregulation of the electricity market, the traditional power companies saw a decline in sales. In 2013, the Counter Measurement Facility (CMF) standard was established following the meltdown at the 1<sup>st</sup> reactor of the TEPCO power plant in Fukushima in the wake of the Great East Japan Earthquake in 2011. The new standard aims to tackle any potential terror attacks, such as an aircraft crash into a plant. It enables the operator to maintain remote control of reactor cooling systems to ensure that they can continue to operate and avert a meltdown in the event of a terrorist attack.

Originally, nuclear power plants had facilities to cope with serious accidents, such as fire truck accidents. CMF serves as a backup, and aims to improve reliability. CMF can predict attacks like the 9/11 attack in the U.S. CMF requires operators to establish emergency control rooms, power supply stations, vacuum conveying systems, and water injection systems.

Nuclear reactor operators have to build these counterterrorism facilities as per specifications. For example, CMF stipulates that the recommended safety features be located at least 100 meters from the reactor so that they are safe from attacks on the plant itself. Some power companies are facing troubles, such as the absence of firm ground, for the construction of these facilities by the specified deadline.

### *Why Did the NRA Displace NISA?*

The Nuclear and Industrial Safety Agency (NISA), the predecessor to the NRA, was under the Ministry of Economy, Trade and Industry (METI). The Agency for Natural Resources and Energy that promotes nuclear power is also under METI oversight. Since the regulator and the regulated organization were within the same ministry, there was a "revolving door" that allowed people to move between roles as regulators and employees of power companies.<sup>28</sup> Retired public officials in METI have moved to power companies, which benefited from the influence of retired officials.

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<sup>26</sup> Osaka Kōtō Saibansho [Osaka High Ct.], 28 March, 2017, Heisei 28(ra) no. 677. 2334 Hanji 3. (This high court order modified 1992 Ikata decision. High court demanded reactor operator to submit prima facie evidence.)

<sup>27</sup> *Denki jigyo-ho-to no ichibu o kaisei suru ho* [Law to revise a part of the Electricity Business Law], Act no. 171 of 1964 (Japan).

<sup>28</sup> In Japanese governmental structure, as the regulator and the regulated organization were within the same ministry, there was free movement of people between roles as regulators and employees of power companies, governmental officers moves to private company for a good position.



In September 2011, a few months after the Great East Japan Earthquake, the Yoshihiko Noda government abolished NISA and established the NRA as an independent administrative agency in the Ministry of Environment since a politically neutral and independent agency was required.

Before the Noda government lost in the elections in December 2012, he issued a guidance on the appointment of chairman and commissioners. It demands neutrality, fairness, and transparency in appointments. For example, a person who has previously worked in the business of nuclear power, been employed in nuclear power plants, or received a certain sum of money from a nuclear power business just three years before is not eligible for appointment. A candidate for the committees is obligated to report his/her receipt of any financial payment and the amount of donation. After forming the government, the Shinzo Abe administration ignored this guideline in 2014.

The NRA chairman and four commissioners are full-time executives appointed for five years, but two commissioners who are appointed for the first time serve for two years, while the rest serve for three years. The Prime Minister may appoint the chairman and four commissioners with the consent of both houses of the Diet. The chairperson is certified by the Emperor. The chairperson and commissioners are eligible for reappointment.

Current chairperson Toyoshi Fuketa has been serving the NRA since 2012 and is dedicated to the establishment of new regulations. Previously, he worked with the Japan Atomic Energy Agency.

NISA used to invite outside researchers to draft regulations, but, in general, NISA officers were responsible for preparing most of the agency regulations and reports. External committees were nominated to approve them. Fuketa might be afraid of repeating this failure of NISA.

Operators of nuclear power plants are required to submit their CMF construction plan to the NRA and complete the work by the specified deadline. The NRA said in April 2019 that it will not allow any postponement of the deadline.<sup>29</sup> If a facility fails to comply, the NRA will issue a shutdown order<sup>30</sup> one week before the deadline for CMF compliance. The NRA has developed the procedure to halt the operation of non-compliant nuclear power plants. Six weeks before the deadline, the NRA would notify the concerned nuclear power plant operator that it will issue a shutdown order and provide an opportunity for a hearing under the Administrative Procedure Act.<sup>31</sup> After the hearing, it will issue a shutdown order one week before the deadline if the operator cannot complete construction.

The original construction plan deadline set by the NRA was July 2018, but NRA undertook a review of the reactivation of nuclear power reactors. In November 2015, NRA postponed the deadline to five years after a nuclear power plant obtains permission for its CMF construction plan. The operator needs to complete the CMF plan within five years of NRA approval. The operator may activate its nuclear power reactor in the interim period.

Kyushu, Kansai, and Shikoku announced that they cannot meet the deadline for ten facilities at five nuclear power plants.<sup>32</sup> Seven out of the ten have been reactivated after the Great East Japan Earthquake.

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<sup>29</sup> NRA, Tokujyushisetsu tō no setchi ni muketa saranaru anzen kōjō no torikumi jōkyōuni tsuite[Approach to establishment of CMF etc to keep further safety](17, April, 2019). Available at: <https://www.nsr.go.jp/data/000267846.pdf>

<sup>30</sup> Kakugenryō busshitsu, kaku nenryō busshitsu oyobi genshiro no kisei ni kansuru hō [Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors], Act no. 166 of 1967, art.43-2-23. (Japan).

<sup>31</sup> Gyōsei tetsudzuki-hō[Administrative Procedure Act], Act No. 88 of 1993, art.13 (Japan).

<sup>32</sup> NRA, Tokujyushisetsu tō no setchi ni muketa saranaru anzen kōjō no torikumi jōkyōni tsuite[Approach to establishment of CMF etc to keep further safety](17, April, 2019). Available at: <https://www.nsr.go.jp/data/000267846.pdf>

See also, Kahoku Shimbun online, Editorial, Gen patsu tero taisaku/ denryoku geisha no amae wa yurusarenu[CMF/Power company can't count on anyone besides itself](26, April, 2019). Available at: [https://www.kahoku.co.jp/editorial/20190426\\_01.html](https://www.kahoku.co.jp/editorial/20190426_01.html)

## Cost-Benefit Analysis of CMF for Nuclear Power Plants

This chapter reviews several injunction cases involving nuclear power plants in Japan, and the availability of cost and benefit analysis for nuclear power plants. After the Great East Japan Earthquake, construction of CMF was mandated. Chapter I revealed how the government believes that nuclear power is less expensive than other sources of power supply, but that presumption is questionable today.

First, even eight years after the earthquake in Fukushima, it is still difficult to estimate the extent of the fuel meltdown. The region around the Fukushima nuclear power plants is divided into three districts: districts prohibiting return of residents, districts that have lifted the ban, and districts preparing to lift the ban. Forty thousand people are still displaced. The full review is now underway and it could enable people to return home.

Second, after 3/11, nine nuclear power plants were reactivated and six passed the new safety review. Thermal power plants increased CO<sub>2</sub> emissions. The government believes that nuclear power plants are far less expensive and decrease nuclear power dependency by 20-22% of base load power supply. The government has not provided any details, but is expected to allow new or additional construction of nuclear power plants. It is not clear how long we will depend on nuclear power.

Third, the level of highly contaminated underground water at four reactors is not receding. The original estimate was 100 thousand tons, and the level has now fallen to 18 thousand tons. TEPCO cannot explain why the water level is not receding as expected. The concentration of radioactive materials in the underground water is about 100 million times that of the treated contaminated water in the reservoir tank.<sup>33</sup> The tank now has more than 1.1 million tons of water that includes tritium. The tank will be full in a few years. The government planned to dilute it with water and discard it in the sea. The fisheries industry is against this measure because it is concerned that harmful rumors or misinformation might damage the reputation of seafood. An appellate body of the World Trade Organization (WTO) previously upheld South Korea's prohibition of the import of seafood from Fukushima and other prefectures in Japan. The government needs to review how to deal with contaminated water. The concerned specialist committee has not met for six months.

### *The 2<sup>nd</sup> Fukushima Nuclear Station*

In July 2019, TEPCO decided to decommission the 2<sup>nd</sup> nuclear power station (Dai-ni) in Fukushima. It took eight years for TEPCO to decide to close down all of its reactors. With four reactors, the 2<sup>nd</sup> has supplied electric power for 30 years, and it survived 3/11 with enough backup power. TEPCO estimates that it would take 30 years to decommission each reactor and about 40 years to achieve full decommissioning of all reactors.

Of the 57 nuclear power reactors that were once functional, 24 have been decommissioned. It would take a minimum of 30 years for decommissioning. For example, the Tokai nuclear power plant began the decommissioning procedure 18 years ago, but the process is expected to take 13 more years with the deadline extended three times already. The reason why decommissioning takes such a long time is that the plant has to choose a business operator for disposal, select a site for disposal, and obtain the consent of local governments.

The low level waste collected from nuclear reactors is expected to be buried for 50 years, the middle level waste for 300 years, and the high level waste for 100 thousand years at a site that is at least 300 meters underground. As it takes time to choose how to dispose of these wastes, it is the Japanese people who ultimately bear the burden.<sup>34</sup>

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<sup>33</sup> Asahi Shimbun, Seigyō sikirenu fukushima dai-ichi [Out of control Fukushima 1<sup>st</sup>] (28, July, 2019). Available at: <https://www.asahi.com/articles/ASM7Q5TLGM7QULBJ00Q.html>

<sup>34</sup> Nikkei Shimbun, Kaku no gomi shobun, arawarenu kō ho chi- kokusai kaigi, kaigai jireini manaberuka [No place for nuclear waste disposal, how to learn from abroad in international conference] (9, Aug., 2019). Available at: <https://www.nikkei.com/article/DGXKZO48386080Y9A800C1X12000/>

### *Costs of Shikoku and Kyushu Electric Power*

The 3<sup>rd</sup> unit of the Ikata nuclear power plant has been reviewed for CMF construction since December 2018, and needs to complete the process by March 2021. The project will cost 55 billion yen. The construction plan is divided into 4 phases and each plan has been submitted to the NRA for review. In March 2018, the first phase of construction started. The plans for the remaining phases are under review. Shikoku Electric Power says that it will need an additional one year to complete the process.<sup>35</sup>

Shikoku Electric Power announced in 2018 that the 1<sup>st</sup> of Ikata has been decommissioned, with removal of nuclear power pollution and dismantlement of facility having begun from the outer management area. The 2<sup>nd</sup> unit is under NRA review and also awaiting review by the city and prefecture. The decommissioning would cost an estimated 40 billion yen over around 40 years. It is clear that the 1<sup>st</sup> and 2<sup>nd</sup> cannot pass NRA's new safety regulations issued after the Great East Japan Earthquake.

Kyushu Electric Power submitted its CMF plan for the 4<sup>th</sup> unit of the Genkai nuclear power plant to NRA, and its deadline is September 13, 2022. As seen in Chapter I, the Fukuoka District Court denied a request to revoke the NRA's safety clearance granted to the 1<sup>st</sup> and 2<sup>nd</sup> units of the Sendai nuclear power plant. The 1<sup>st</sup> of Sendai needs to complete CMF construction by March 2020, while the other units face different deadlines. NRA gave up a uniform deadline for all facilities. Kyushu Electric Power is expected to take a longer time to complete the CMF requirements because the commander center would purportedly be located deep underground to protect against potential aircraft crashes as per its CMF plan, which is classified.

If the 1<sup>st</sup> and 2<sup>nd</sup> of Sendai fail CMF and cease operations, Kyushu Power would lose an estimated 4 billion yen per month in profits from the 1<sup>st</sup>, and 8 billion yen per month from the 2<sup>nd</sup>. The estimated damage will be reflected in the March 2021 financial statements.<sup>36</sup>

The total electric power demand will then be covered by thermal power plants. If Kyushu uses LNG for thermal power plants, it will cost 8 billion yen per month. This money will come from the public. It is still unclear if the people fully understand the government's explanation that the Japanese people have to bear this burden.

### *Human Resources with Expertise for Nuclear Decommissioning*

Before the Great East Japan Earthquake, the government supported the movement of human resources from government to power companies and vice versa. After 3/11 in 2011, this personnel exchange was abolished under NRA, and around 21 nuclear power plants were decommissioned. This decommissioning work needs human resources with high technical skills.

Recently, Hitachi said it has decided to freeze a nuclear power plant project in the United Kingdom. The popularity of nuclear power plants is declining across the world, forcing Japan's three major nuclear power manufacturers, Hitachi, Toshiba, and Mitsubishi Heavy Industries, to review their business.<sup>37</sup>

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See also, *Denki Jigyō Rengō Kai* [Federation of Electric Power Companies of Japan], *Hōsha sei haikibutsu no shobun* [Disposal of nuclear power waste].

Available at: <https://www.fepc.or.jp/nuclear/haikibutsu/index.html>

<sup>35</sup> Yonden[Shikoku Electric Power], *Ikata hatsudensho 3 gōki tokutei jūdai jiko tō taisho shisetsu no genchi kōji chakkō ni tsuite* [Construction start on the 3rd of Ikata nuclear power plant] (6, June, 2019). Available at: [https://www.yonden.co.jp/press/2019/\\_icsFiles/afieldfile/2019/06/21/pr007.pdf](https://www.yonden.co.jp/press/2019/_icsFiles/afieldfile/2019/06/21/pr007.pdf)

<sup>36</sup> See also, *Yomiuri Shimbun*, *Genkai genpatsu nigō ki hairō he* [Abolishment of Genkai the 2<sup>nd</sup>] (13, Feb., 2019). Available at: <https://www.yomiuri.co.jp/science/20190213-OYT1T50216/>

<sup>37</sup> *Asahi Shimbun*, *Gen patsu-me-ka- 3 sha no saihen ron sainen mo* [Recurrence of reorganization of three top nuclear power business companies] (18, Jan, 2019). Available at: <https://www.asahi.com/articles/ASM1K53M1M1KULFA01J.html>

At present, 4,000 workers are engaged in the decommissioning of the 1<sup>st</sup> of Fukushima reactor, while the 2<sup>nd</sup> requires more skilled workers. The ratio of such workers in nuclear field decreased 10 percent from 2012 to 2015, while the proportion of students seeking jobs decreased 80 percent from 2010 to 2017.<sup>38</sup>

Under its stable decommissioning procedure, the government needs to show a roadmap to maintain the current level of human resources with high technical skills.

## NRA and Terror Attacks

The NRA has developed the CMF countermeasures against terror attacks. They include stringent regulations for power companies. The NRA chairman is dedicated to achieving this goal, but the safety review took a longer time than expected, which is why each reactor has its own deadline. The Japanese judiciary has not exercised judicial review of CMF regulations because its work relates to only legal disputes. If the NRA halts the operation of a nuclear power plant after serving a notice and providing the concerned operator an opportunity to comment, power companies may seek revocation of the administrative decision under ACLA.

### *Changes Brought by the NRA*

Since the Great East Japan Earthquake, the NRA has tightened regulations for safety review. Nuclear power plants were closed and required to pass the new, stricter safety review. Some could pass the safety review and resume operations, but others were not able to do so and thus decommissioned.

CMF regulations demand that nuclear power plants resume operations within five years from the first permission of the first construction plan. Initially, the NRA set a uniform deadline of July 2018, but the new safety review took a longer time than expected, and, therefore, in December 2011, the agency renewed the deadline for each facility. Power companies announced that they would not be able to meet the deadline, but NRA in April 2019 did not agree.

The NRA was established due to the purported failure of NISA. Since the regulator and the regulated organization were within the same ministry, METI, there was free movement of people between roles as regulators and employees of power companies.

The NRA chairman noted in April 2019 that the NRA was born following deliberations in the Diet regarding the need for an independent agency that would be able to manage the safety assessments and other regulatory aspects without any interference. He noted that the NRA cannot overlook the operation of facilities that do not comply with the regulations. He noted that the issue is not about technology for Japanese people, but about the fundamental aspects of regulations.

His comments reflected the fairness and neutrality of an independent administrative agency. It appears that he does not want the judiciary to blindly accept an administrative agency decision in deference to the agency's expertise. It is not clear if the NRA can maintain this outlook after Fuketa completes his term.

### *Peace and Defense Statutes and Safety Review of Nuclear Power Plants*

Around ten statutes for peace and defense were revised and established in the Diet in 2014. The Cabinet changed the official interpretation of Article 9 to endorse collective defense power, and passed and modified statutes. These statutes aim to cope with the changing defense situation around Japan, including the possibility of terror attacks.

The Japanese judicial review of Article 9 is unique. Japanese courts have avoided constitutional judgment on the basis of political question and Justice Brandeis' opinion in the *Ashwander* case.<sup>39</sup> The judiciary relies on the avoidance doctrine to refrain from ruling on the constitutionality of a SDF statute.<sup>40</sup>

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<sup>38</sup> Ministry of Education, Culture, Sports, Science and Technology(MEXT), Genshiryoku sangyō no jinzai kakuho no jyō kyō to kadai(6, June, 2018).Available at: [http://www.mext.go.jp/b\\_menu/shingi/gijyutu/gijyutu2/076/shiryo/\\_icsFiles/afeldfile/2018/09/12/1409001\\_02.pdf](http://www.mext.go.jp/b_menu/shingi/gijyutu/gijyutu2/076/shiryo/_icsFiles/afeldfile/2018/09/12/1409001_02.pdf)

<sup>39</sup> *Ashwander v. Tennessee Valley Authority*, 297 U.S. 288 (1936).

<sup>40</sup> Saikō Saibansho [Sup.Ct.]9, Sep., 1982, Showa 52(gyō tsu) no. 56, 36(9) Minji Hanreishu[Minshu] 1679.

The judiciary has not ruled on the constitutionality of the Self Defense Forces (SDF) since the current constitution was established in 1947.

CMF was prepared as countermeasures against terror attacks. It aims to reinforce the reliability and safety of nuclear power plants. Thus, nuclear power plants that are CMF compliant would be equipped to deal with both terror attacks and natural disasters. The Japanese judiciary has not reviewed CMF yet. By predicting the issues in CMF and the attitude of the judiciary, it is possible to determine the uniqueness of a Japanese judiciary review.

Judges would avoid constitutional judgments.<sup>41</sup> As seen in Chapter I, lower courts reviewed the risk of volcanic eruption using the NRA guideline. These cases show that it is tough for judges to assess risks, such as that of a large scale eruption, based on the “common sense” approach when nuclear power reactors have operated for years. In the meantime, courts are expected to review Japan’s defense policy. Judges will be requested to review two types of defense-related risks in court. Judge may defer to the expertise of the administrative agency by citing the Ikata decision, or use the political question doctrine to limit their constitutional authority to interpret statutes.

In the governmental system, the hierarchy of command and of control are different when it comes to the safety of nuclear power plants and terror attacks. The cabinet recognizes the risk of foreign nation attacks,<sup>42</sup> and issues a defense order if necessary.<sup>43</sup> The government may keep the SDF on standby if there is clear danger of attack even before any actual attack.<sup>44</sup>

An emergency response headquarters would be established to serve as the command center in the event of a terror attack under the Armed Attack Situations Response Act.<sup>45</sup> Foreign attacks are classified into four types: invasion over land, guerrilla or suicide attacks, ballistic missile attacks on a targeted facility (nuclear power reactor, petrochemical complex, railway station, dam etc.), and air attacks.

In the meantime, a nuclear emergency response headquarters set up under the Act on Special Measures Concerning Nuclear Emergency Preparedness<sup>46</sup> tells the government to prepare for a natural disaster or terror attack, but not a foreign nation attack. It calls for establishing a command center in the Ministry of Environment to act in the event of a nuclear power accident. The NRA may halt the operation of a nuclear power reactor in case of a foreign attack under the Basic Policy<sup>47</sup> to protect Japanese people, which is based on the People Protection Act.<sup>48</sup>

The NRA develops its own protection plan for the Japanese people,<sup>49</sup> while prefectures draft their protection plans.<sup>50</sup> It is natural to see two centers managing one nuclear power plant. Countermeasures against terror attacks are thus different from those against natural disaster.<sup>51</sup>

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<sup>41</sup> Yuichiro Tsuji, Constitutional Law Court in Japan, 66 TSUKUBA JOURNAL OF LAW AND POLITICS 65 (2016).

<sup>42</sup> Buryoku kōgeki jitai-tō ni okeru kokumin no hogo no tame no sochi ni kansuru hō [Act concerning the Measures for Protection of the People in Armed Attack Situations, etc], Act no. 112 of 2004 ,art.9.

See also, Yuichiro Tsuji, Godzilla and the Japanese Constitution: A Comparison Between Italy and Japan, 3 Italian Law Journal, No. 2 (2017), 451-477.

<sup>43</sup> Jieitai hō [Self Defense Act], Act no, 165 of 1954, art.76(1).(Japan)

<sup>44</sup> Id. Art. 77.

<sup>45</sup> Buryoku jitai taisho hō[Armed Attack Situations Response Act], Act no. of 79 of 2013, art.10 (Japan).

<sup>46</sup> Genshiryoku saigaitaisaku tokubetsu sochi hō[Act on Special Measures Concerning Nuclear Emergency Preparedness], Act no. 156 of 1999, art. 16 (Japan).

<sup>47</sup> Kokumin no hogo ni kansuru kihon hōshin[Basic policy on protection of Japanese people].

<sup>48</sup> Buryoku kōgeki jitai-tō ni okeru kokumin no hogo no tame no sochi ni kansuru hō [Act concerning the Measures for Protection of the People in Armed Attack Situations, etc], Act no. 112 of 2004, art.32.

<sup>49</sup> Gensiryoku kisei iinkai kokumin hogo keikaku[NRA Plan to protect Japanese people](6, March,2013)(This plan is revised a few times).Available at: <http://www.nsr.go.jp/data/000213736.pdf>

When the Great East Japan Earthquake occurred, Prime Minister Naoto Kan visited Fukushima and tried to give direct orders to TEPCO's nuclear power plant chief operator even though the situation required a specialist perspective, thus allegedly delaying decision making.<sup>52</sup> This situation illustrates how too much information hampered decision making by TEPCO, the Fukushima power plant, and the central government in several instances.

This paper's analysis of CMF presumes an aircraft crash into a nuclear power reactor as a possible scenario. However, terror attacks today are not just limited to aircraft attacks. The famous Japanese animated science fiction movie *Summer Wars* is the story of how AI goes out of human control and uses a space satellite to attack a nuclear power plant. We had thus better incorporate the risk of cyber attacks into CMF.

### *Missile from North Korea*

In March 2018, the Osaka District Court<sup>53</sup> dismissed complaints that missiles from North Korea were likely to attack the Takahama nuclear power plant and cause serious and extensive radioactive contamination in the Kansai area. Plaintiffs argued that there was substantial danger of a missile attack by North Korea on the Takahama nuclear power reactor, which would release of a large amount of radioactive substances. They sought a provisional remedy order under the Civil Provisional Remedies Act by arguing that their personal rights were threatened. Plaintiffs are required to show prima facie evidence for provisional remedy.

The judge explained that this litigation was properly brought to seek temporal injunction, but held that the danger was not imminent and did not justify the ceasing of operations of Units 3 and 4 of the Takahama nuclear power plant. The court explained that the onus is on the plaintiff to prove that a missile would cause substantial danger, and that prima facie evidence was insufficient, although the judge admitted that it is very difficult for citizens to satisfy the burden of proof. This case shows that although the proof of burden is to submit prima facie evidence, it is a tough task for citizens, which gives the judge reason to review on merit.

### *Election of House of Councilors and Energy Policy*

In July 2019, the ruling party and opposition party were divided over the energy policy for nuclear power plants. The LDP maintains that nuclear power plants need to be reactivated. The opposition parties in general seek zero nuclear power plants. Thus their positions are clear to voters. Kōmei Party, a partner in the coalition government, supports reactivation at present, but calls for zero reliance on nuclear power in the future. Kokumin Minshu Party supports a complete phase-out of nuclear power in the 2030s. Ishin Party argues that if it comes to power, it will amend law to require local government consent for a nuclear power plant. At present, local government consent for reactivation is not legally required. Other opposing parties are also arguing for zero reliance on nuclear power. Rikken Minshu Party is promoting a bill for decommissioning

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<sup>50</sup> Buryoku kōgeki jitai-tō ni okeru kokumin no hogo no tame no sochi ni kansuru hō [Act concerning the Measures for Protection of the People in Armed Attack Situations, etc], Act no. 112 of 2004 ,art.34.

<sup>51</sup> Yasuhiro Takeda ed. *Civil Protection:Current Issues and Measures*(Center for Global Security National Defense Academy, Japan Ministry of Defense)(Sep, 2018).

Available at: <http://www.nda.ac.jp/cc/gs/results/series/reports02.pdf>

Kikuko Seino, *Dakibo saigai to seimei seizon kenkō*[Large scale disaster and life and health]Koho Kenkyu. vol. 76(2014).(From constitutional analysis on human right for the Great East Japan Earthquake.)

<sup>52</sup> Reuter, Tokubetsu ripōto: Chi ni ochita anzen shinwa -fukushima genpatsu kiki wa naze okita ka[Special report; falling safety myth-why Fukushima nuclear power reactor occurred?] (30, March, 2011). Available at: <https://jp.reuters.com/article/idJPJAPAN-20331720110330>

<sup>53</sup> Osaka Chihō Saibansho[Osaka Dist. Ct.], 30, March, 2018, Heisei29(yo) no. 651, 2388 Hanrei Jihō 44.

See also, Yuichiro Tsuji, *Nuclear Power Plant Reactivation in Japan-An Analysis of Administrative Discretion*, 7(1) *LSU Journal of Energy Law and Resources*, 54-55 (2019).

all nuclear power plants, and Kyōsan (Communist) Party is seeking an immediate halt on reactivation. Both of them, however, lack a concrete roadmap to achieve their goals.

LDP argues that the government will have to confront the consequences of dismantling the sector, but there is no plan to control reputation damage, and there is no clear numerical target for nuclear power supply if nuclear power remains as a baseload power supply source. Even though LDP supports a decrease in the number of nuclear power plants, there is a need to reactivate at least 30 nuclear power reactors to maintain electricity supply. As seen in Chapter III, currently nine reactivated facilities cannot meet the CMF requirements on time.

Some nuclear power plants are not supported by local governments and face potential litigation. It is unclear if the nuclear power plants can cover 22 percent of the total electricity supply. LDP lacks the explanation for additional or new nuclear power plants. LDP believes that renewable energy will cover 22 to 24 percent of the total supply by 2030. Kōmei Party wants renewable energy to account for the majority of the supply, but has no clear numeric target. Currently, the ratio of renewable energy is 14 percent.

Even the opposition parties do not have an explanation regarding when and where to store radioactive waste if nuclear power plants are decommissioned. The local governments of jurisdictions where power plants are located would go to ruin if these power plants cease to exist. Their roadmaps do not include any proposal to maintain the financial stability of local governments. The numerical targets of opposition parties for renewable energy are higher than that of the LDP. For example, Rikken Minshu Party envisages 40 percent by 2030, Shamin Party 100 percent by 2050, and Kyōsan Party 40 percent by 2030. Even if an opposition party comes to power, it is not clear how it will achieve its goal given that the supply of renewable energy is unstable. There is also a need to prepare for situations like the blackout incident at the Tomari power plant in Hokkaido.<sup>54</sup> It is unclear if the opposition parties' mandate can clarify these issues.

Before the separation of transmission and production, large power companies held a monopoly in their respective districts. Today, transmission and production are separate functions, and renewable energy may be produced easily. Transmission beyond geographic region is needed to transmit power. It will cost an estimated 20 to 100 billion yen for one such transmission. Japanese people will have to bear the costs if the government adopts this option.

## Conclusion

It is not wise to place natural disasters and terror attacks against nuclear power plants in the same category. They are governed by two separate statues and overseen by separate headquarters to prevent any conflict over administrative jurisdiction. Preparedness against cyber attacks is required as well. The NRA would take accountability for CMF and any relationship between terror attacks and natural disaster. The new NRA serves as a tough gatekeeper of nuclear power regulations, but the cabinet may exercise its power to appoint or remove the NRA chairman.

After the Great East Japan Earthquake, the government halted the operation of all nuclear power plants, and strengthened the safety review and prepared CMF. Inhabitants near power plants may seek an injunction against nuclear power plants by civil litigation or administrative litigation. For review of new safety regulations after the Great East Japan Earthquake, courts have faced the issue of how to assess the risk of natural disasters, such as a large scale volcano eruption.

The NRA has established a volcano guideline, but has admitted that it is not considered by academics to be a perfect one. Some courts have held that it is possible to limit their own constitutional power to interpret a statute because of the expertise of an administrative agency. Others have held that estimating the possibility of a large scale eruption is beyond common sense. By using common sense, a judge may reach both conclusions. If we follow the latter, the Japanese judiciary may repeat its failure of the Great East Japan Earthquake. In the meantime, it is understandable that a judge can shift the responsibility of risk assessment to other governmental branches as it is not the work of judges. A judge is given the constitutional power to state

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<sup>54</sup> Asahi Shimbun, Hokkai dō tomari genpatsu kadō demo zeniki teiden kuni kenshoui ga risuku shiteki [Government indicates risk of blackout in Hokkaido tomari nuclear power plant] (13, Dec, 2018). Available at: <https://www.asahi.com/articles/ASLDD5TCXLDDIPE01T.html>



in his/her judgment that there is no consensus among academics on scientific reliability. Japanese judges may avoid judgment on political questions such as the Japanese energy policy citing the Ikata decision of 1992.

Judges have avoided ruling on the constitutionality of SDF for 70 years. If nuclear power plants are attacked, the SDF would engage in a defense mission under the Ministry of Defense. Judges may avoid a constitutional argument by citing the political question doctrine.

The time and costs involved in the decommissioning of Japanese nuclear power plants and in complying with CMF requirements show that the previous cost-benefit analysis for nuclear power plants was too optimistic. The election of the House of Councilors in July 2019 may suspend any move for a constitutional amendment for a while. The amendment proposal may include an amendment of Article 9.



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