



THE LESSONS LEARNT FROM JAPAN'S MECHANISMS TO COMPENSATE VICTIMS OF THE FUKUSHIMA DAIICHI NUCLEAR ACCIDENT



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ABSTRACT

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In 2011, Japan was hit by a 9.0 magnitude earthquake and tsunami, and later was followed by the nuclear meltdown at the Fukushima Daiichi Nuclear Power Plant (NPP). As a result of the nuclear accident, many victims living within the vicinity of the NPP had to evacuate their homes. Japan decided to adopt several mechanisms to compensate the victims that suffered nuclear damage – firstly through the mechanisms adopted by the Government of Japan (GOJ), secondly through TEPCO's compensation system, and lastly litigation in courts. This paper shall focus only on the mechanisms adopted by Japan, and to explore whether such compensation mechanisms can be adopted in Malaysia under the Atomic Energy Licensing Act 1984 (Act 304). This paper is qualitative in nature and was conducted through a doctrinal study of existing literature such as articles, journals and reports regarding compensation mechanisms for nuclear damage. This paper finds that Act 304 does provide for the compensation mechanisms such as "Government indemnity", "financial security" and "partial payments". However, these provisions are very general, not as detailed and structured as Japan. Therefore, this paper recommends that Malaysia consider adopting Japan's compensation mechanisms into its national legislation, and take into consideration the lessons learnt especially regarding the special litigation procedure; scope of nuclear damage; simplified claim procedures; easy access to mediation; type of assistances; and the right to legal representatives.

Contribution/ Originality: This study contributes in the existing literature relating to the mechanisms adopted by Japan to compensate victims of the Fukushima nuclear accident. There are a lot of lessons to be learnt from Japan's experience in compensation mechanisms and Malaysia may consider adopting such compensation mechanisms into its national legislation.

1. INTRODUCTION

On 11 March 2011, north-eastern of Japan was hit by a 9.0 magnitude earthquake known as the "Great East Japan Earthquake" and tsunami, which was later followed by the nuclear meltdown at the Fukushima Daiichi Nuclear Power Plant (NPP). It was reported that the earthquake and tsunami has caused the death of 15,870 people, 6,119 were injured, and 2,813 were missing and also severe damage to the properties and economic loss (Faure and Liu, 2012; United Nations Human Rights, 2013). As a result of this nuclear accident, the Government of Japan (GOJ) and the Tokyo Electric Power Company ("TEPCO"), as the owner and operator of the Fukushima NPP have

decided to adopt several mechanisms to compensate the victims that have suffered damage caused by the nuclear meltdown at the Fukushima NPP. As for victims that suffered damage due to the earthquake and tsunami, these victims shall be dealt in a different procedure (Feldman, 2015).

According to Billingsley (1982) “an accident at an NPP ... could release highly radioactive materials into the environment. Since radioactive pollution can travel through the air, infiltrate waterways, or disperse into the sea, opportunities abound for persons of one State to suffer radiation damage caused by the activities of persons of another State”. A good example of “transboundary nuclear damage” is the nuclear accident that occurred at the Chernobyl NPP in 1986. Despite that there was a provable loss suffered by the States neighboring the former Soviet Union such as Germany, Austria, Poland, and the United Kingdom (UK), and there was an established principle of international law requiring States “to ensure that activities under their jurisdiction do not cause damage to the resources, people, or environment of other States” (Trail Smelter Cases (U.S. v. Can.), 3 R.I.A.A. 1905 (1938 & 1941)), no claims for compensation was brought by the affected States against the former Soviet Union (Malone, 1987; Sands, 1988; Van Dyke, 2006; Suttner, 2016).

There were several reasons why these affected States did not bring any claims against the former Soviet Union – (i) the Soviet Union was not a party to any international liability regime during the nuclear accident; (ii) the Soviet Union does not have any national legislation that specifically deals with nuclear liability and compensation; (iii) as this will involve a “State-to-State claim” and therefore, the case shall be brought to the International Court of Justice (ICJ). However, ICJ is “consent-based” and the Soviet Union would not consent to the jurisdiction of the ICJ; (iv) the ICJ’s decision can only be enforced by the United Nations Security Council (UNSC) where the Soviet Union, as one of the permanent member of UNSC has veto power; and (v) the Soviet Union has declared that it had no duty under international law to compensate the States that incurred damage (Malone, 1987; Sands, 1988; Abraham, 2014; Ram, 2015; Swartz, 2016).

Therefore, the affected States have taken several actions to alleviate the suffering of its citizens by providing “compensation” and “assistance” to them. There is a difference between what constitutes “compensation” and “assistance”. Lerner and Tanzman (2014) explained that “compensation refers to payment in return for damage inflicted. Assistance, describes monetary and other forms of support provided to disaster victims, as a government service or a humanitarian gesture, not as repayment for a wrongful act but simply to help the victims”. Examples of assistances provided by the GOJ includes “temporary housing, whole-body scanning for contamination, thyroid screening, hazard assessment surveys, decontamination, provision of dosimeters, medical monitoring, low-interest loans, business services, and job fairs, among other things” (Lerner and Tanzman, 2014).

Furthermore, Umeda (2013) also listed out several types of assistance rendered by the GOJ to the victims such as the tracking of residents that have moved from their residents for the purpose of distributing grants and donating items by their respective municipal authority; providing “condolence money” to the surviving family members as well as persons who were injured or disabled due to the accident; reducing or exempting the tax payments by the victims like real estate tax, income tax, and business related tax; and providing unemployment benefits for victims that are unable to work due to the accident.

This paper shall explore and examine the mechanisms adopted by Japan in compensating victims of a nuclear accident. Basically, there are 3 manners where a victim may seek compensation – firstly through the mechanisms adopted by the GOJ, secondly through the liable nuclear operator’s compensation system, and lastly through the courts. However, for the purposes of this paper, the researchers shall focus only on the mechanisms adopted by the GOJ. This paper shall then focus on the compensation mechanisms available under Malaysia’s Atomic Energy Licensing Act 1984 (Act 304). Lastly, this paper shall make its findings and propose several recommendations for Malaysia to consider regarding its own compensation mechanisms taking into consideration Japan’s experience in compensating the victims of the Fukushima nuclear accident.

2. JAPAN

In Japan, the victims that incurred damages caused by the Fukushima nuclear accident may seek compensation in 3 manners. Firstly, the GOJ has enacted several legislations in order to establish the mechanisms to compensate the victims:

- (a) The Compensation for Nuclear Damage Act 1961 (Compensation Act) which establishes the “Dispute Reconciliation Committee for Nuclear Damage Compensation” (Reconciliation Committee) and the “Alternative Dispute Resolution Centre” (ADR Centre).
- (b) The Nuclear Damage Compensation Facilitation Corporation Act 2011 (Corporation Act) which establishes the “Nuclear Damage Compensation and Decommissioning Facilitation Corporation” (Corporation).
- (c) The Emergency Measures Relating to Damage Caused by the 2011 Nuclear Accident Act 2011 (Provisional Payment Act) which provides the provisional payments of compensation to the victims (Matsuura, 2012; Nomura *et al.*, 2012).

The second mechanism is adopted by TEPCO through TEPCO’s Direct Compensation System (TEPCO’s System) and lastly, is through litigation in courts (Feldman, 2015; Nomura, 2016). As mentioned above, this paper shall focus only on the mechanisms adopted by GOJ.

It is important to highlight that under Japan’s nuclear liability system, there is no “special litigation procedure” for nuclear liability, no priority is provided among the procedures for compensation, and no mandatory pre-trial procedures are provided (Nomura *et al.*, 2012). Therefore, Feldman (2013) explained that a victim may, whether as an individual or as a group, file a claim for compensation to either the ADR Centre, TEPCO’s System, or to the courts. Moreover, the victims shall also have the freedom to select any type of procedures that they feel comfortable with, and to pursue multiple procedures simultaneously in order to obtain compensation for the damage incurred (Feldman, 2013).

According to Osaka (2019) these “3 routes can be mutually complementary”. However, in order to avoid duplication involving the same victim and same claim for compensation, the victims should withdraw his or her claim filed at the courts prior to making a claim either at the ADR Centre or TEPCO’s System (Osaka, 2019).

2.1. Reconciliation Committee

The first mechanism adopted by GOJ is the Reconciliation Committee which is established under the Compensation Act. The Reconciliation Committee comprises of up to 10 part-time committee members whom are all appointed by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) (Section 18(1) of Compensation Act). The Reconciliation Committee shall be responsible to:

- (i) “Mediate reconciliation of any dispute arising from compensation of nuclear damage.
- (ii) In the event of a dispute arising from compensation of nuclear damage, draft guidelines establishing The scale of the nuclear damage and other general instructions to assist nuclear operators reach a voluntary settlement of the said dispute.
- (iii) Investigate and assess nuclear damage as necessary for dealing with the matters mentioned in (i) and (ii) above” (Section 18(2) of Compensation Act).

Initially, the Reconciliation Committee was set up in 1999 to mediate settlements for the Tokaimura nuclear incident however, it was later dissolved in 2010 when all the claims regarding the nuclear incident has been settled. During the Tokaimura nuclear incident, there was approximately 7,000 claims for compensation – 6,000 claims were resolved through direct negotiation with the nuclear operator, less than 20 cases were brought to courts and only 2 applications were made to the Reconciliation Committee (Nomura *et al.*, 2012). On April 2011, the Reconciliation Committee was set up again to hear and mediate claims originating from the Fukushima nuclear accident (Foote, 2017).

The Reconciliation Committee has published several Guidelines to determine the scope of nuclear damage in line with the Compensation Act and such other instructions to facilitate the parties to obtain voluntary settlement (Section 18(2) of Compensation Act). These Guidelines are not legally binding and it serves “as reference for the damage compensation negotiations between the victims and the nuclear operator and thus will facilitate smoother settlement negotiations between the parties” (Faure and Liu, 2014; Feldman, 2015). Feldman (2015) explained that since these Guidelines were drafted by a group of “highly regarded jurists with experience working on issues related to nuclear energy” and therefore, it gave the Reconciliation Committee’s recommendations “a significant degree of heft”.

The Compensation Act provided a very general definition of what constitutes “nuclear damage”, it does not distinguish between “compensable and non-compensable harms”, and it also lacks the details on the compensation amount to be awarded to the victims of the nuclear accident (Lerner and Tanzman, 2014; Feldman, 2015). Several writers viewed that the definition of “nuclear damage” under the Compensation Act is “too ambiguous” and “very difficult, if not impossible” to determine the scope of damage to be compensated (Osaka, 2012; Nomura, 2016). Section 2(2) of Compensation Act defines “nuclear damage” means “any damage caused by the effects of the fission process of nuclear fuel, or of the radiation from nuclear fuel etc., or of the toxic nature of such materials (which means effects that give rise to toxicity or its secondary effects on the human body by ingesting or inhaling such materials); however, any damage suffered by the nuclear operator who is liable for such damage pursuant to the following Section, is excluded”.

Therefore, due to the difficulty in determining what types of damage are compensable, the Reconciliation Committee published the “Interim Guidelines for Determination of the Scope of Nuclear Damage due to TEPCO’s Fukushima Daiichi and Daiini NPP” (Interim Guidelines) on 5 August 2011 (Osaka, 2012; Lerner and Tanzman, 2014; Feldman, 2015). The Interim Guidelines enlists the type of damages eligible for compensation which are as follows:

- (1) “Damage relating to Government evacuation instructions (including medical examination expenses, evacuation expenses, temporary expenses associated with returning home, homecoming expenses, life or bodily damage, mental suffering, business damage, lost income, examination expenses for property, and loss or diminishment of property value).
- (2) Damage relating to Governmental designation of the marine exclusion zones, navigational hazard zone and no-fly zone.
- (3) Damage relating to Governmental instruction for restriction on shipment of agricultural and marine products etc., (including business damage, loss of income, and examination expenses for property).
- (4) Damages relating to other Governmental instructions (including business damage, loss of income, and examination expenses for property).
- (5) Reputation damage (including reputation damage suffered by agriculture, forestry, fisheries, food business, tourism business, manufacturing business, service business, and export).
- (6) Indirect damage (including business damage and loss of income).
- (7) Damage caused by radiation exposure.
- (8) Property and other damage sustained by local governments.
- (9) Measures for adjustments between Government benefits paid to a victim, and compensation that the victim receives” (Matsuura, 2012; Osaka, 2012).

In short, the types of damages compensable under the Interim Guidelines are personal damage, property damage and also some pure economic loss (Faure and Liu, 2012).

Initially, the GOJ only made compensation payments to victims who were subject to the GOJ’s “mandatory evacuation” instruction and living within 20 kilometers (km) from the Fukushima NPP (Feldman, 2013). However, there were some victims that were living between 20 – 30 km from the NPP and not subject to the GOJ’s

“mandatory evacuation” instructions, have voluntarily evacuated their homes (“voluntary evacuation”) due to the fear of being exposed to radiation (Feldman, 2013). Therefore, in order to address this issue of “voluntary evacuation”, the First Supplement to the Interim Guidelines was published on 6 December 2011 which contained the compensation amount to be paid to victims that left their homes inside the “voluntary evacuation” area and will receive compensation payments until the end of August 2012 (Matsuura, 2012; Osaka, 2012; Feldman, 2013; Lerner and Tanzman, 2014).

One issue of contention is regarding the compensation payments for “property damage” suffered by the victims where there was difficulty in determining the fair value of such property. As a result, TEPCO decided to avoid addressing such issue for many months and leaving many victims frustrated (Feldman, 2013). In order to address this issue, the Reconciliation Committee decided to publish a Second Supplement to Interim Guidelines dated 16 March 2012 which dealt with the “property damage” issue by dividing the area into 3 regions namely (Matsuura, 2012; Feldman, 2013; Lerner and Tanzman, 2014):

- (1) Area preparing for lifting of the evacuation instructions (dose level is 20mSv or less per year) which will be designated as “zones being prepared for residents return”. The victims will receive JPY100,000 per person per month until their area is opened.
- (2) Area subject to living restrictions (dose level exceeds 20mSv but less than 50mSv) will be designated as “zones with restricted residency”. The victims will receive JPY100,000 per person per month, or JPY2.4 million being also possible as lump sum for 2 years’ damages. The probabilities of the victims to return to their homes are very unlikely for the time being.
- (3) Area in which homecoming is difficult (dose level exceeds 50mSv and will not fall below 20mSv even after 5 years) which will be designated as “zones where residency is prohibited for an extended of time”. The victims shall receive a lump sum of JPY6 million per person, which tantamount to 5 years of JPY100,00 monthly payments for “emotional distress” (Matsuura, 2012; Feldman, 2013; Lerner and Tanzman, 2014).

Moreover, the Reconciliation Committee shall also be responsible to resolve dispute through mediation between the victims and the nuclear operator (Section 2 of Compensation Act). According to Idei (2012) since the Reconciliation Committee only comprises of 10 committee members, therefore it would be unfeasible for it to dispense claims arising from the Fukushima nuclear accident. In July 2011, the GOJ decided to establish the ADR Centre which is placed under the purview of MEXT and capable of dealing with voluminous victims and the wide scope of nuclear damage (Idei, 2012).

2.2. ADR Centre

The second mechanism is the ADR Centre which was established based on the “United Nations Compensation Commission for Iraq” (UNCC) and started its operation on 1 September 2011 (Feldman, 2013; Foote, 2017). The type of cases that are brought before the ADR Centre are cases that – “(1) claims for compensation for nuclear damage caused by Fukushima NPP nuclear meltdown; (2) cases that do not fit the criteria of TEPCO’s System, which involves compensating specific categories of people such as young children, pregnant women, and categories of damages not clearly addressed by the Guidelines; (3) cases where the victims were displeased with TEPCO’s payment under the direct compensation system; and the cases where the victims do not to engage with TEPCO in any way” (Feldman, 2013; Feldman, 2015).

The ADR Centre is conducted by mediators. Initially, when the ADR Centre was first established, there was about 130 registered mediators all of whom are practicing lawyers which served on a part-time basis. However, due to the increased number of claims, the number of mediators has been increased to 280 mediators by the end of 2014 (Foote, 2017). The mediators are assisted by a group of investigative staff members called “*chosakan*” in each mediation case which shall be responsible among others to exchange information among themselves daily in order

for the mediator(s) to be updated with the discussions and opinions of other mediation panels (Foote, 2017). The purpose of the exchange of information is to enable mediators to gather and confer with each other by way of inter-panel conference to ensure that there is consistency in the settlement proposal made by the mediators (Idei, 2012).

With respect to ADR Centre's claim procedure, Idei (2012) explained that "the mediation proceedings tend to be like a mini-arbitration aiming at giving the mediator's non-binding ruling, rather than mediation seeking compromise and agreement among the parties". The claimants shall file the compensation claim with the ADR Centre. The ADR Centre requires the claimants to fill up a form and attach any supporting documents to the claim and then submit it to the ADR Centre, either in person or by mail. Such form is in a simple format and is available at any of the ADR Centre offices, various public bodies, on the internet and may also be mail to the claimant upon request (Feldman, 2015; Foote, 2017). Once the claim has been received by the ADR Centre, a staff will review it and determine whether the claim is acceptable or not. In circumstances where the claim is insufficient due to the lack of supporting documents, the staff shall request that the claimant provide the necessary documentations before accepting the claim (Foote, 2017).

When the claim has been accepted by the ADR Centre, the mediation process shall begin where it will be conducted either by a sole mediator or a mediation panel. The mediator or mediator panel shall listen to both parties' opinion, submissions, and evidence, and thereafter make a settlement proposal (Idei, 2012). The settlement proposal is voluntary in nature and not binding. In this case, TEPCO pledged that it would comply with the ADR Centre's settlement proposal. Therefore, if both parties accept the settlement proposal, in whole or in part, the TEPCO will make the payment of the agreed amount to the claimant. On the other hand, if either party rejects the settlement proposal, in whole or in part, then the claimant has the option of either making a second effort at the ADR Centre, pursue the case in courts; or to make direct negotiation with TEPCO (Feldman, 2015; Foote, 2017).

The ADR Centre shall refer to the Interim Guidelines and its supplements published by the Reconciliation Committee, and also the General Standards, when it needs to determine issues such as the eligibility of the claimant or the scope of nuclear damage (Feldman, 2015; Foote, 2017). Foote (2017) explained that the General Standards are used to interpret the ambiguous items contained in the Interim Guidelines or its supplements. Furthermore, Feldman (2015) stated that the General Standards enables the mediators to be more flexible in its decision-making such as "extended emotional distress payments beyond the time period stipulated by the guidelines; suggested some individualisation in emotional distress payments (for example, to pregnant women); provided damages to those who voluntarily evacuated even when such damages were not provided for under the guidelines; and dealt with financial loss suffered by various types of businesses, such as those catering to foreign tourists" (Feldman, 2015).

Although the ADR Centre was able to mediate a lot of claims submitted to it since its establishment, the ADR Centre faced a lot of challenges and was also subject to criticisms on the way it conducted its mediation and decision-making. Nevertheless, the ADR Centre was able to resolve each of the challenges and criticisms to ensure that the victims will obtain their compensation (Feldman, 2013; Feldman, 2015; Foote, 2017).

The first challenge faced by ADR Centre was the low number of claims submitted by the victims of the Fukushima nuclear accident during its first several months of establishment. Foote (2017) stated that the reason for such low number of claims submitted to the ADR Centre was due to the victim's lack of knowledge regarding the ADR Centre and its mediation process; the burdensome claim requirements; the lack of access by the victims to the required information or documentation; the location of the ADR Centre was inconvenient to the victims as the ADR Centre's head office was in Tokyo and another branch in Fukushima Prefecture, and that the ADR Centre's head office was in Tokyo and another of its branch in the Fukushima prefecture; the mediation process was too slow and took more than 3 months to settled; and the lack of access to legal representations by the victims (Foote, 2017).

The ADR Centre has taken several steps to resolve the low number of claims submitted to it. With regard to the victim's lack of knowledge regarding ADR Centre and the mediation process, the ADR Centre has published General Standards and the precedents on its web page in order to educate the victims on the mediation process

conducted by it (Feldman, 2015). On the issue of inconvenient location of the ADR Centre, most of the victims are displaced due to the nuclear accident and do not have transportation. In order to resolve this, the ADR Centre decided to open 4 additional branch offices in the Fukushima Prefecture in 2012, and it also introduced the use of conference calls and videoconferencing in its mediation process. Therefore, the victims are capable of participating in the mediation process without actually being present at the ADR Centre and the mediators can hold the mediation process without the need to travel long distance (Foote, 2017).

The second challenge was regarding the slow mediation process by the ADR Centre especially during the first half-year of its operation. There were several reasons that contributed to the slow mediation process such as the inadequate number of mediators and investigative staff members to conduct mediation; and insufficient information and documentation being provided by the victims in filing their claims (Feldman, 2015; Foote, 2017). Initially, the ADR Centre only had 130 registered mediators. However, since the number of claims filed have increased, the ADR Centre decided to increase the number of mediators and as of 2014, it had over 280 mediators (Foote, 2017). Moreover, on the issue of insufficient information and documentation provided by the victims, the circumstances were that most of the victims were evacuated from their homes and living in temporary shelters. Therefore, it would be difficult for the victims to provide the required information or documentation as requested by the ADR Centre (Feldman, 2015). In order to resolve this, the ADR Centre decided to use simple claim forms where only brief information is required with either little or no supporting documentations (Foote, 2017).

The third challenge was regarding the lack of access of the victims to legal representations. The victims could not afford to pay for the legal representations to represent their case in the ADR Centre. In response to this issue, the Japan Federation of Bar Association (JFBA) encouraged the local lawyers to provide free or low-cost consultations to the victims of the nuclear accident. Nevertheless, the lawyers viewed that it was not their responsibility to provide free representations to these victims whether at the ADR Centre or the courts (Foote, 2017). Several initiatives were taken to address this issue, the ADR Centre published a General Standard in 14 March 2012 which compelled TEPCO to pay the lawyer's fees on top of the compensation payments (Foote, 2017). The GOJ enacted and passed the "Special Act for Support for Victim of the East Japan Disaster" (Special Act) which enables the victims to obtain free legal consultations and loans to cover the cost of their legal representations and other litigation costs or ADR Centre's proceedings (Foote, 2017). Therefore, since the introduction of the General Standard and the Special Act, the number of cases being represented by a lawyer in the ADR Centre has increased up to 40% (Idei, 2012).

2.3. Corporation

The third mechanism was established under the Corporation Act which provided the legal framework for the GOJ to provide Government aid under the Compensation Act. Section 16 of Compensation Act provides that "[W]here nuclear damage occurs, the Government shall give a nuclear operator (except the nuclear operator of a foreign nuclear ship) such aid as is required for him to compensate the damage, when the actual amount which he should pay for the nuclear damage pursuant to section 3 exceeds the financial security amount and when the Government deems it necessary in order to attain the objectives of this Act".

The liability amount under the Compensation Act is "unlimited", therefore all nuclear operators are required to furnish financial security for an amount of JPY120 billion for compensation for nuclear damage (Nomura *et al.*, 2012; Osaka, 2012). Nevertheless, in circumstances where the nuclear damage exceeds the amount of financial security mentioned above, the GOJ shall provide the nuclear operator with such aid in order for it to compensate the victims that incurred damage (Osaka, 2012; Faure and Liu, 2014). Therefore, such aid from the GOJ is attained by the enactment of the Corporation Act with the purpose to ensure that compensation is provided promptly and appropriately to the victims that has suffered damage; to guarantee that the electricity supply and any other

business activities of the reactor are implemented efficiently without any difficulties; and to strengthen the daily lives of the citizens and the growth of the national economy (Article I of Corporation Act).

The Corporation Act shall establish a Corporation and a financing system regarding the compensation of nuclear damage (Article 3 and 4). The Corporation shall have stated capital that are subscribed by GOJ and non-governmental persons which comprises of nuclear operators in Japan. According to [Takahashi \(2012\)](#) the Corporation had a stated capital amounting to JPY14 billion when it was established in 2011. The Corporation shall comprise of 1 President, up to 4 Directors and 1 auditor whom are officers to the Corporation (Article 23) and shall be managed by a Management Committee which consists of 8 committee members, the President and officers of the Corporation (Article 16).

There are 2 types of financial assistance provided by GOJ to the liable nuclear operator:

- (1) "Normal financial assistance" for the purpose of paying compensation for nuclear damage. The assistance shall be in the form of granting of funds, share subscription, loan of funds, and acquisition of funds.
- (2) "Special financial assistance" where the Corporation shall jointly with the nuclear operator prepare a "Special Business Plan" and apply for approval from the competent minister. The "Special Business Plan" shall include "the forecast of the total amount of compensation; the measures for implementing prompt and appropriate compensation for damages; the request for cooperation to stakeholders in order to secure the funds necessary for the performance of compensation for nuclear damage; and measures for clarification of management responsibility" (Article 45(2) of Corporation Act).

Each nuclear operator shall be obligated to pay a contribution to the Corporation which shall be based on the "mutual support" principle in return of obtaining such financial assistance from the Corporation (Article 38 of Corporation Act; [Faure and Liu \(2012\)](#)). Such contribution received from the nuclear operators shall be used to pay back to the national treasury and financial institution ([Takahashi, 2012](#)).

On 10 May 2011, TEPCO made a request to the GOJ for aid in accordance with Section 16 of Compensation Act. TEPCO was facing difficulties as a result of the Fukushima nuclear accident ([Takahashi, 2012](#)). TEPCO and the Corporation jointly prepared the "Special Business Plan" and submitted it for GOJ's approval (TEPCO's Special Business Plan, 2011). On 15 November 2011, TEPCO successfully received its first financial assistance under the Corporation Act for the amount of JPY558.7 billion and TEPCO started to make compensation payments to the victims that suffered damage (TEPCO's Press Release, 2011).

[Osaka \(2019\)](#) expressed his disagreement with the financial assistance provided to TEPCO and stated that "TEPCO enjoys debt forgiveness". The reason for his disagreement was because most of TEPCO's expenses shall be borne by the Corporation. For example, the expenses relating to decontamination which shall be recovered from "the profit on the sale of stocks of TEPCO" and also the "interim storage facilities will be recovered from funds allocated from the Special Account for Energy Policy" where both expenses shall be paid by the Corporation. He further questioned "where is the Polluter Pays Principle" since most of the expenses are being borne by the Corporation and GOJ ([Osaka, 2019](#)).

Thus, it is concluded that the Corporation Act was enacted to enable the GOJ to provide aid to the nuclear operator where the amount of damage exceeds the financial security of JPY120 billion (Section 16 of Compensation Act). The Corporation provides financial assistance is to enable the nuclear operator to pay prompt and appropriate compensation to the victims; to guarantee that the nuclear operator has the capability to provide continuous electricity supply; and to strengthen the daily lives of the Japanese citizen and the national economy in the event of an accident (Article 1 of Corporation Act). Without the financial assistance from the Corporation, the nuclear operator will face financial difficulties like bankruptcy which would be prejudicial to the victims as they will not receive any compensation until the conclusion of the bankruptcy proceedings ([Feldman, 2013](#)).

2.4. Provisional Payment

The fourth mechanism adopted by GOJ was provided under the Provisional Payment Act which enables the GOJ “to pay a part of the compensation to victims, which should be paid by TEPCO in advance if the permanent compensation procedure is delayed” (Osaka, 2012). Nomura *et al.* (2012) explained that “the types of nuclear damage eligible for provisional payment are damages which are “rumor related” that are suffered by Small and Medium sized Enterprises (SME) involved in the tourism activities operating in the prefectures of Fukushima, Ibaraki, Tochigi and Gunma, and that these SMEs would have to wait for quite some time to obtain the compensation payments from TEPCO”.

The GOJ stated that victims that have sustained “specified nuclear damage” may be eligible to obtain provisional payment from the GOJ provided that it fulfils the following conditions:

- (1) “Items where it is anticipated that some time will be required until TEPCO makes the main compensation payment, as difficulties are foreseen in the negotiations about the extent of damage and the calculations of figures, etc.
- (2) Items where an approximate value for the damage can be calculated by a method that is, to a certain degree, reasonable, simple and clear, based on the Reconciliation Committee’s Interim Guidelines etc.
- (3) Items where it is recognized that there is an urgent need for provisional payments to be received, considering the circumstances of the relevant industry bodies etc. and where rough consensus has been achieved with TEPCO.
- (4) Items where it is anticipated that TEPCO will respond to the Government’s request for compensation” (Nomura *et al.*, 2012).

Why does the GOJ makes provisional payments to “rumor-related” damages particularly those related to the tourism industry? Since the damage was caused by the earthquake, tsunami and the nuclear meltdown, therefore it would be difficult for TEPCO to provide a prompt compensation payment to the affected tourism industry as compared to the damages suffered by other industries such as manufacture or service (Nomura *et al.*, 2012). Nevertheless, it is important to point out that when the GOJ makes the provisional payment to the victims, the GOJ shall acquire the victim’s right to seek compensation from TEPCO, up to the amount of the provisional payment made by the GOJ (Article 9(2) and 9(3) of Provisional Payment Act).

3. MALAYSIA

In 2018, the ASEAN Centre for Energy conducted a “Pre-Feasibility Study on the Establishment of Nuclear Power Plant (NPP)” (Pre-Feasibility Study) for the ASEAN region (ASEAN Centre for Energy (ACE), 2018). According to the Pre-Feasibility Study, there are 5 ASEAN Member States (AMS) namely Malaysia, Indonesia, the Philippines, Thailand and Vietnam that are considered as the “frontrunners” with respect to initiating their own nuclear power program in ASEAN. This evaluation was based on the respective AMS’s “legal and regulatory framework, nuclear energy infrastructure as well as organization and human resources, as referred to the International Atomic Energy Agency (IAEA) guidelines, the Milestone in the Development of a National Infrastructure for Nuclear Power” (ACE, 2018).

However, since the publication of the Pre-Feasibility Study, the Government of Malaysia (GOM) has decided that it no longer intends to proceed with its nuclear power program and shall continue to depend on Malaysia’s current energy source which are “stable, environmentally-friendly hydroelectric dams and wind power” for the purpose of generating electricity in Malaysia (Abdul, 2018). On September 2018, Malaysia’s Prime Minister, Tun Dr Mahathir Mohammad stated that “Malaysia will not use NPPs to generate energy, as science has yet to find ways to manage nuclear waste and the effects of radiation” (Abdul, 2018).

Therefore, the question here is why should Malaysia explore and consider the mechanisms adopted by Japan to compensate for nuclear damage when Malaysia does not intend to proceed with its nuclear power program and

currently, it only possesses a one megawatt (MW) nuclear research reactor, TRIGA Puspati Reactor (RTP) which is located in Selangor. Yusof and Mohd (2011) explained that in Malaysia, a nuclear accident or incident may occur at the RTP, and also when a nuclear-powered carrier or submarine docks at the Malaysian ports. Furthermore, during the Fukushima nuclear accident, there was a heightened concern amongst the Malaysian public on whether the accident has any impact on Malaysia. The Atomic Energy Licensing Board (AELB), as the regulatory authority responsible for nuclear activities in Malaysia has activated its “National Radiological Emergency Centre” (NREC) located in AELB’s headquarters at Bangi, Selangor (Teng, 2014). Among the services provided by AELB are providing advice on the contamination status at the Fukushima NPP; conducting radiation screening towards passengers that have returned from Japan via Malaysian airports; disseminating information to the media regarding the environmental status and radiation survey; and conducting food stuff monitoring with the assistance of the Ministry of Health (MOH) (Mishar *et al.*, 2011; Teng, 2014).

Moreover, AELB regularly conducts nuclear or radiological emergency drill and exercises in the national level for the purpose of strengthening the emergency preparedness in cooperation with other Malaysian government agencies for example “the National Disaster Management Agency (NADMA); Malaysian Royal Police (RMP); Hazardous Materials Unit, the Fire and Rescue Department (HAZMAT); MOH; and Armed Forces” (Forum for Nuclear Cooperation in Asia, 2017). In addition, AELB also sends its personnel to attend international workshops or training such as those conducted by the Asian Nuclear Safety Network (ANSN) and IAEA (FNCA, 2017).

Therefore, it would be appropriate for Malaysia to address and consider the mechanisms adopted by Japan in order to provide compensation to the victims that incurred damage. Moreover, Malaysia will benefit learning from Japan as it has personally experienced the Fukushima nuclear accident and is still making compensation payments to the victims. Japan has encountered many challenges and criticisms in the implementation of such compensation mechanisms however, Japan was able to find solutions and rectify each one of them (Feldman, 2013; Feldman, 2015; Foote, 2017). Moreover, during the nuclear accident, Japan was not a party to any international liability regime and relied heavily on its national legislation (Swartz, 2016).

In Malaysia, the legislation that regulates and controls nuclear energy and also the establishment of standards relating to liability for nuclear damage is the Atomic Energy Licensing Act 1984 (Act 304). The Act 304 came into force on 28 June 1984 and is enforced by AELB. Although Malaysia does not possess any NPP for electricity generation purposes and only has a one MW nuclear research reactor, RTP, Part IX of Act 304 deals with “liability for nuclear damage” and it embodies all the fundamental principles of the nuclear liability regime. Act 304 also contains provisions relating to the mechanisms for compensation, but the provisions are general in nature and not as detailed as the mechanisms adopted by Japan. The Act 304 specifies that the liability amount of an installation operator shall be RM50 million per nuclear incident (Section 59(1)). The Board may, specify a lower liability limit of RM12 million per nuclear incident depending on the size and nature of such nuclear installation (Section 59(2)). Moreover, the Act 304 also requires that an installation operator to own an insurance or other financial security for the purpose of covering his liability for nuclear damage (Section 60).

Section 61 of Act 304 regarding “Government indemnity” is similar to Japan’s Section 16 of Compensation Act where in circumstances the available funds in the insurance or financial security is inadequate to satisfy the claims for compensation, the Government shall provide such aid to the nuclear operator. Under Act 304, the GOM may indemnify the installation operator and provide the necessary funds for compensation payments as already established against the liable nuclear operator to the extent that the amount of insurance or other financial security is insufficient to satisfy such claims (Section 61(1)). The GOM may indemnify up to the amount not exceeding RM50 million or RM12 million for “any one nuclear incident” (Section 61). Nevertheless, if the claims for compensation exceeds such amount, the Board shall submit a report to the Minister with its recommendation for the allocation of additional funds to make the compensation payments (Section 61(2)). The Minister shall then

present the report before the *Dewan Rakyat* and the *Dewan Rakyat* may by resolution provide the additional funds for purposes of compensation payment “in the interests of the nation” (Section 61(3)).

Furthermore, under Section 65 of Act 304, it specifies that the court shall issue orders including orders allocating the payments to be made to the victims and orders that permits the partial payment to be made before the final determination of the total claims. The courts are empowered to do so when it appears that the liability amount may exceed RM50 million, and upon the application of GOM to indemnify the installation operator under Section 61 of Act 304. The purpose of Section 65 is to ensure that the compensation is equitably distributed amongst the victims of the nuclear incident (Section 65).

4. FINDINGS, RECOMMENDATIONS AND CONCLUSION

Therefore, this paper finds that Act 304 does provide for the compensation mechanisms for nuclear damage such as the “Government indemnity” (section 61), “financial security” (section 60), and “partial payments” (section 65). However, these provisions are very general in nature, not as detailed and structured as Japan. Therefore, this paper recommends that Malaysia consider adopting any one or more of Japan’s compensation mechanisms into its national legislation such as the establishment of the Reconciliation Committee; the ADR Centre; the Corporation; and/or the provisional payments to SMEs.

Moreover, Malaysia should also take into consideration the lessons learnt from Japan’s experience in the compensation mechanism such as:

- (a) The “special litigation procedure” where Malaysia should avoid Japan’s practice where there is no special litigation procedure for nuclear liability and therefore, there’s a possibility that a victim or victims may pursue one claim at multiple routes of compensation simultaneously.
- (b) The “scope of nuclear damage” where the GOM should determine which types of damage are compensable and non-compensable in order to obtain compensation payments.
- (c) “Simplified claim procedures” where the ADR Centre decided to use simple claim forms where the victims only need to provide brief information with either little or no supporting documents. This procedure shall alleviate the victim’s stress as most of them have evacuated their homes and currently living in temporary shelters. Thus, it would be impossible for the victims to obtain the necessary documents to file their claims.
- (d) Easy access to ADR Centers where the GOM may consider establishing more branches of the ADR Centre in order to facilitate the victims to submit their claims and attend the mediation process. Furthermore, the GOM may also consider the use of conference calls and video conferencing in its mediation process.
- (e) The victim’s right to legal representative to represent them in claims brought before the ADR Centre or court. The GOM may provide legal aid to those victims who cannot afford to pay the legal fees so that these victims may get free legal consultations and loans for the costs of their legal representations and other litigation costs.
- (f) The type of assistances to be rendered specifically to the victims of a nuclear accident such as whole-body scanning for contamination, thyroid screening, provision of dosimeters, and medical monitoring.

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