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# *International Wrongfulness of Japan's NCW Sea Discharge*

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***Abstract:*** When the Fukushima nuclear power plant in Japan experienced a significant accident in 2011, a significant volume of nuclear-contaminated water (NCW) was produced throughout the accident treatment procedure. The Japanese government decided to release 1.25 million tons of NCW into the ocean from storage tanks on April 13, 2021. On August 4, 2023, Japan formally initiated the discharge of NCW into the sea. Japan's discharge of NCW is closely related to the protection of marine ecology and human health and safety, and this move has triggered major concerns and strong dissatisfaction among various stakeholder countries. In terms of the details of the decision process related to TEPCO's discharge program announced by the Japanese government, the Japanese government is suspected of violating relevant international law obligations. In this paper, we will identify the international treaties, principles of international law, and international customary law that can regulate Japan's discharge of NCW from the sources of international law, and analyze the jurisprudence of international law related to nuclear accidents to determine the illegality of Japan's discharge of NCW into the sea.

***Keywords:*** Japanese NCW discharge, international wrongfulness, international legal liability, international law

## 1. Introduction

To ascertain whether Japan's oceanic discharges are illegal, it is necessary to determine whether the discharges into the ocean are "nuclear wastewater" or "NCW". In the academic world, the terms "nuclear wastewater" and "NCW" have been used interchangeably. To a certain extent, the mixing of the two different concepts is related to the misperception caused by the deliberate confusion of the Japanese government. In English reports, NCW is often referred to as "contaminated water", "contaminated polluted water" or "radioactive water" to indicate the degree of contamination of the water, the level of risk, and social hazard [1]. The nature and treatment of NCW are different from ordinary civilian nuclear wastewater. Normal operation of nuclear power plants discharge of wastewater, including not in contact with the fuel process drainage and ground drainage of two types of wastewater, these types of wastewater can be processed using existing science and technology, after testing and meeting the standards can also be discharged systematically, so it can be concluded that "after rigorous treatment of nuclear wastewater discharge is safe and controllable" conclusion [2]. On the other hand, what Japan plans to discharge is obviously not nuclear wastewater, and this part of the water has been in contact with the nuclear reactor, It yet has a significant concentration of extremely radioactive harmful materials (tritium and carbon 14) [3], which should be recognized as

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"NCW". NCW, even after repeated rigorous treatment, the current state of the art is still unable to determine its level of safety with ordinary civil nuclear wastewater, not to mention Japan's NCW discharged into the sea after rigorous treatment is not based on the lack of evidence and data to support or prove [4]. In conclusion, "nuclear wastewater" is an inappropriate expression in this case, which is a weakening of the danger of the contaminated water that was planned to be discharged.

## 2. Analysis of International Wrongfulness

### 2.1. Regulation of Relevant International Treaties

The release of radioactive waste from Fukushima poses a serious threat to the maritime ecosystem, and its effects have spread to the sea areas of countries all over the world. It is first important to identify the applicability of international regulations linked to the management of maritime environmental pollution and nuclear safety in order to assess whether or not Japan's release of NCW was unlawful. The international conventions to which Japan is a party include the United Nations Convention on the Law of the Sea (UNCLOS) in 1982, the Convention on Nuclear Safety (CNS) in 1994, the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Dumping Convention) in 1972 and its 1996 Protocol (1996 Protocol), the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (Joint Convention) in 1997, the Convention on Early Notification of A Nuclear Accident (Notification Convention) in 1986, the Convention on Biological Diversity (CBD) in 1992.

#### 2.1.1. The Regulation of UNCLOS

The discharge of NCW from Fukushima is regulated by UNCLOS. Part XII of the Convention contains clear provisions on the protection and preservation of the marine environment, such as article 192, which stipulates that all States have a general obligation to protect the marine environment, and article 194, paragraph 1, which provides that each State, individually or in association with others, shall take such measures as may be necessary to prevent, reduce and control pollution of the marine environment from any source. Japan's private release of NCW into the sea violates this clause as well as the duty of international cooperation, as it is unable to dispose of NCW independently and reasonably and has not sought out international cooperation to take the necessary steps to prevent and control the generation of pollution; According to Article 194, paragraph 2, States must take all necessary steps to control pollution of the marine environment while also ensuring that such pollution stays within their borders to prevent damage-causing growth and spread to areas under the jurisdiction of other States.; and Article 195 stipulates that States shall take measures to prevent and control pollution of the marine environment without transferring damage or danger, directly or indirectly, to areas under their jurisdiction. Given the highly dangerous nature of nuclear installations and the achievability of perfect treatment of NCW, Japan has not taken "all necessary measures" to avoid environmental damage caused by NCW, and its hasty discharge of NCW into the sea, which has not been properly treated, constitutes a disregard of the rules of international conventions; articles 197 to 199 are specific provisions on the main obligation of States parties to the Convention to cooperate internationally. Articles 197 to 199 are specific provisions on the international cooperation obligations of States parties to the Convention; article 206 stipulates that States should carry out evaluations of environment and to submit reports on the results of such evaluations in cases where their conduct poses a significant threat to the environment of marine; and article 207 states that competent international organizations or diplomatic conferences create standards, suggested practices, and procedures, as well as global and regional rules, in order to avoid and regulate pollution from land-based sources. Japan has violated its special obligations regarding "land-based sources of pollution" by discharging NCW into the sea in defiance of this provision, despite the fact that NCW

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is a land-based source of pollution and its disposal should have been decided jointly by an international organization or a diplomatic conference. Japan should therefore be held accountable for the internationally wrongful act in its capacity as a State party to the Convention.

### 2.1.2. The Regulation of CNS

The release of NCW from Fukushima is regulated by CNS. CNS is the core convention applicable to the regulation of the safety of nuclear installations and emphasizes national self-regulation of nuclear safety regulation with limited enforcement. States signatories to the Convention are required to guarantee nuclear safety within their borders and, in the case of a nuclear catastrophe within their own nation, to provide sufficient emergency preparation and active protection against radiation in order to lessen the accident's effects. To meet the standard of obligations under the Convention, these obligations require Japan to incorporate or enact domestic laws within its territory. After the outbreak of the Fukushima nuclear accident, it became clear that Japan did not have an emergency response mechanism to properly deal with the simultaneous failure of control rods and generators. It was the absence of such a mechanism that prevented the relevant personnel from dealing with the severe accident in a timely as well as appropriate manner after the nuclear accident. Japan did not take legislative and regulatory measures to prevent the occurrence of accidents with radiation-hazardous effects, nor did it mitigate such effects promptly in the event of an accident. At the same time, after the accident, it was found that the design of the nuclear power plant was flawed, the pens involved in its nuclear power units had been used beyond their reasonable lifespan, which is a violation of the basic principles of the CNS that requires States to ensure the safety of nuclear installations. fulfill their obligations under the Convention. In conclusion, the Government of Japan has not taken sufficient legislative, judicial, and administrative measures to effectively implement its obligations under the CNS, and has posed a threat of nuclear contamination of varying degrees to the neighboring countries, which should be subject to the CNS.

### 2.1.3. The Regulation of the London Dumping Convention and its 1996 Protocol

The applicability of the London Dumping Convention and the 1996 Protocol to regulate the discharge of NCW from Fukushima is controversial.

The London Dumping Convention Article 3 clearly defines the act of "dumping" as the intentional disposal of wastes or other matter into the sea from a ship, aircraft, platform or other man-made structure at sea. Japan's discharge of NCW containing radioactive substances into the sea through pipelines does not fall into the category of "dumping" under the Convention. In addition, there is a second difference in the interpretation of this article, namely whether a submarine pipeline is a "marine artificial structure" under the London Dumping Convention and an "artificial structure at sea" under the 1996 Protocol. The Fukushima Daiichi Nuclear Power Plant is located on land in the northeastern region of Japan, not at sea, and therefore the "underground drainage system" of the plant is not covered by "marine artificial structures". At the same time, discharges from pipelines are discharged from land-based sources, not from ships, and are not covered by the London Dumping Convention. Furthermore, there is disagreement about whether the pipeline is situated in a "ocean" as defined by the 1996 Protocol and a "sea" as defined by the London Dumping Convention. According to the current plan of TEPCO, the discharge pipeline will extend from the site of the nuclear power plant to the seabed one kilometer away from the coastline of Fukushima, whereas according to the Territorial Sea Law of Japan and the relevant regulations of the Japanese government, the baseline of the territorial sea of the area where the Fukushima Daiichi Nuclear Power Plant is located is delineated in normal baseline, the coastline’s low-tide line, so is it true that the pipeline laid by TEPCO is beyond the baseline of Japan's territorial sea of the area, i.e., is it beyond Japan's territorial sea? The question

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of whether the pipeline laid by TEPCO has exceeded Japan's territorial sea in that area, i.e., whether it has exceeded Japan's internal waters, will determine the applicability of the two Conventions to this issue [5]. In conclusion, the applicability of the London Dumping Convention and the 1996 Protocol to the Fukushima NCW discharge has yet to be explored.

### 2.1.4. The Regulation of Joint Convention

The discharge of NCW from Fukushima is regulated by the Joint Convention. The preamble to the Joint Convention states that "each State has the right to prohibit the entry into its territory of radioactive wastes from other States". The Convention Article 2 defines "radioactive waste" as "radioactive material which is not expected by a Contracting Party to be used in any further way and which is controlled as radioactive waste by the regulatory authority by the legislative and regulatory framework of the Contracting Party". It can be seen that, as radioactive waste subject to the Convention, it should simultaneously meet the following three requirements: it is radioactive, it cannot be reused, and it is controlled as radioactive waste by a Contracting Party by its national legislation. The NCW discharged from the Fukushima Daiichi Nuclear Power Plant is radioactive waste as defined by the Convention for the following reasons:

First off, nuclear waste water (NCW) is an effluent that contains radioactive materials that were created when cooling water from a reactor accident came into direct contact with the core. This radioactivity persists in NCW even after multi-nuclide removal equipment has advanced.

Secondly, the decision of the Government of Japan to discharge NCW into the sea means that NCW belongs to the category of "waste no longer to be utilized".

Finally, at the level of international norms, although the Joint Convention does not specifically define "control", according to the expression "management of safety" in the title of this Convention, as well as Article 20 of it, which illustrates that States Parties shall designate regulatory bodies to carry out the functions of "management and control", "management and control", and "control", "management and control", "management and control", and "control". management and control", it can be considered that the meaning of "management" and "control" in the Convention is basically the same; meanwhile, Article 2 of the Convention defines "radioactive waste management" as Meanwhile, the Convention Article 2 defines "the management of radioactive waste" as "all activities related to the handling, pre-treatment, treatment, preparation, storage or disposal of radioactive wastes ..... may also involve the discharge" [6]. At the domestic normative level, Japan had previously treated NCW with multi-nuclide removal equipment and stored it for a long period inside the equipment, and then formally decided, through the Cabinet meeting, to treat the NCW continuously generated by discharging it into the sea ("discharging" refers to the "planned and controlled release" of radioactive substances into the environment). " means the "planned and controlled release" of radioactive substances into the environment). The Japan Atomic Energy Authority (JAEA), as the regulatory body for the safety of radioactive waste management in Japan, approved the plan for the discharge of Fukushima NCW into the sea, demonstrating that the discharge of Fukushima NCW is under the control of the Government of Japan by its domestic laws.

In conclusion, the Fukushima NCW is "radioactive waste", and Japan, as a Contracting Party, has control over the discharge of NCW into the sea, and therefore the discharge of Fukushima NCW from Japan is subject to the control of the Joint Convention.

### 2.1.5. The Regulation of Notification Convention

The release of NCW from Fukushima is regulated by the Notification Convention. "The Notification Convention's Article 1 defines its scope of application as "any incident in which a facility or activity of a Contracting Party or persons or legal entities under its jurisdiction or control has caused or is

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likely to cause a release of radioactive material and has caused or is likely to cause a transboundary international release of radioactive material with significant radiological safety implications for another State." The subject of the Fukushima NCW discharge plan is TEPCO, and it is the Japanese Government that authorizes it to carry out the act of discharge, i.e., the act is a governmental act carried out under the control of the Government of Japan. NCW has been in contact with nuclear reactors containing a large amount of radioactivity and has significant radiation hazards. Japan's act of discharging NCW into the sea will hurt the sustainable development of the world's nuclear power industry, the protection of marine ecology, and even on the health and safety of all human beings.

At the same time, articles 2, 4, and 7 of the Notification Convention stipulate that States parties are obliged to give immediate notification in the event of an accident. After the Fukushima nuclear accident, the Government of Japan did not notify the International Atomic Energy Agency and other States parties promptly of the specifics of the nuclear leakage. Even though the draft "review" of the Fukushima NCW discharge plan was released in advance, no specific data were provided, which is a substandard nuclear accident report. Therefore, the discharge of Fukushima NCW is subject to the Notification Convention.

#### 2.1.6. The Regulation of CBD

From the perspective of preventing the destruction of marine genetic resources, the CBD is also applicable to the issue of the Fukushima NCW discharge. First, the CBD itself recognizes the principle of protection of the marine environment. Although there is disagreement over whether the precautionary principle applies to the Fukushima NCW discharge issue and whether it is legally enforceable, the preamble of the Convention states that "the lack of full scientific certainty shall not be used as a reason for postponing measures to avoid or minimize the threat of serious reduction or loss of biological diversity." That is to say, the precautionary principle is still relevant to the Fukushima NCW discharge issue. In other words, even though there is disagreement over the applicability of the precautionary principle and whether the principle itself is legally enforceable in relation to the Fukushima nuclear discharge, the principle is legally binding in that situation and the Convention does not present any barriers to the regulation of the Fukushima nuclear discharge.

### 2.2. Regulation of the Principles of International Law

#### 2.2.1. Precautionary Principle

The precautionary principle aims to prevent environmental risks of scientific uncertainty and to protect human and environmental safety. The precautionary principle has been contentious from its creation about its legally binding character, but it is also covered by a number of international agreements, and its total legal standing has been evolving from a policy debate to a legally binding customary international law. The International Court of Justice (ICJ) and other international judicial bodies have, in recent years, applied the principle of precautionary to a greater or lesser extent in their decisions on cases involving the risk of scientific uncertainty. In practice, many countries are practicing the precautionary principle. In the academic world, some scholars believe that this principle is already in a position to become international customary law. In the Corfu Channel case, the Court directly pointed out that the precautionary tenet is a customary international law, which shows that the importance of this principle is becoming more and more obvious. In Japan, the precautionary principle is implemented in the relevant domestic legislation, indicating that the crucial legal effect of the precautionary tenet, which involves scientific uncertainty, has been recognized in the domestic environmental governance system.

Principle 15 of the 1992 United Nations Rio Declaration on Environment and Development (hereinafter referred to as the "Rio Declaration") is recognized as the most accurate expression of the

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precautionary principle. Specifically, the principle consists of the following elements: first, there is a serious or irreversible environmental risk; second, the risk is uncertain due to the limited cognitive capacity of human beings; third, immediate measures should be taken to prevent or mitigate the environmental risk and environmental risks with scientific uncertainty should not be left unchecked; and, fourth, precautionary measures should be taken in consideration of one's situation [4].

The discharge of NCW from the Fukushima Daiichi Nuclear Power Plant is regulated by the precautionary tenet. The reason is as follows: the environmental pollution caused by NCW is characterized by seriousness, irreversibility, and durability. Even though Japan has used ALPS equipment to dilute the NCW before discharging it into the sea, the concentration of nuclides and tritium contained in the raw NCW will still cause disaster to the environment after dilution. The Japanese government analyzes the sources of radiation in NCW with a reduced concentration based on the standards of IAEA and ICRP to show that there is no environmental contamination or human health hazards as a result of discharging NCW into the sea. However, this standard does not apply to long-term, repeated discharges, but only to one-time discharges. The Japanese government officially announced at the Cabinet meeting that the expected discharge cycle would last up to 30 years, which shows that its sea discharge behavior is very harmful, and many uncertain environmental threats are hidden therein. In the Fukushima Daiichi Nuclear Power Plant initially occurred in the nuclear accident, Japan did not immediately take effective measures to prevent and control the overall risk, but to protect the nuclear equipment will be seawater backflow caused by a large number of NCW accumulation, and NCW discharge of irresponsible behavior of nuclear pollution risk spread to the global scale. In conclusion, Japan's NCW discharge is blatantly against the principle of risk prevention. As soon as neighboring nations demonstrate that the Fukushima NCW discharge behavior poses a risk of environmental damage, and as long as the Japanese government is unable to produce adequate scientific proof that the behavior won't harm the marine environment, it is imperative that it take preventive action to minimize such damage[6].

#### 2.2.2. The Principle of Fulfilling International Obligations in Good Faith and the Principle of International Cooperation

Two fundamental tenets of contemporary international law—the principle of international cooperation and the principle of fulfilling obligations in good faith—are gravely violated by Japan's act of discharging NCW. Even more so is the fundamental tenet of international environmental law, which is the principle of environmentally sustainable development.

The natural attributes of the oceans determine the unity of the world's oceans, and the Japanese Government's act of discharging NCW has caused irreversible and substantial damage to fishery resources in the near-shore context and to the overall quality of seawater and marine biodiversity under the activities of oceanic currents in the long term. By discharging NCW directly into the sea, Japan is placing its self-interest above the protection of the marine environment and resources and the health and safety of human beings, in violation of the principle of fulfilling international obligations in good faith, and coastal and landlocked States reserve the right to claim proper compensation for harm caused by transboundary environmental pollution of the oceans and seas from Japan by the relevant provisions of international law.

The principle of international cooperation is both a foundational principle of international environmental law and a fundamental principle of modern international law. It requires States to establish an international system of mutual notification and cooperation and to cooperate in environmental protection worldwide based on mutual equality and common consultation. Prior to the publication of the NCW, the Japanese government had violated the principle of international cooperation gravely by failing to carry out its notification and consultation obligations and by failing

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to collaborate internationally with neighboring countries that could be most affected by the nuclear contamination in order to reduce the harm that could be caused.

### 2.3. Regulation of the Common Law

The Environmental Influence Assessment (EIA) system, hereinafter referred to as "EIA", has been recognized as the common law through more than 40 years of international legal documents and State practice, as confirmed by a series of cases of the International Court of Justice. The EIA requires countries to conduct a preliminary risk assessment of planned activities based on their objective circumstances to determine the likelihood that the activities in question will result in significant environmental hazards for other countries. The Government of Japan, in carrying out the act of discharging NCW into the sea, failed to conduct an adequate and effective assessment of the circumstances under which the NCW would contaminate the sea and thus acted in violation of the EIA obligation.

In light of the former international environmental law case law on EIA, a country's risk assessment obligation under the international law on the protection of the marine environment mainly includes the following elements:

First, an environmental impact assessment is required when there is a risk of environmental damage. In Argentina v. Uruguay (hereinafter referred to as the Pulp case), the International Court of Justice (ICJ) stated that States are obliged to take measures to ensure that acts occurring in areas under their jurisdiction or control do not cause significant harm to the environment of other States. (a) causing significant harm to the environment of other States. Where there is a risk that the conduct of one State may harm the environment of another State, an EIA is required, which is particularly important where environmental resources are shared among States. The obligation to conduct an EIA requires the State concerned to do so before the implementation of the project, which means not only that the State assuming the obligation is required to conduct an environmental impact assessment beforehand, but also that it is required to continuously supervise and regulate the relevant conduct afterward. It is also emphasized that even if a country is not a party to the relevant conventions on EIA, it is still obliged to carry out EIA by the provisions of its domestic law.

Second, the basic content of EIA. Although international environmental law cases support EIA, judges have not put forward uniform requirements for EIA, resulting in differences in its presentation in different cases. "The judges in the Pulp case pointed out that each country could decide on the EIA according to its domestic law, assessing the nature and scope of the project in question, as well as its possible impact on the ecological environment. In the Costa Rica case, the Judge provided more detailed provisions and explanations on EIA and considered that the rational conduct of cross-border EIA should take into account the nature of the environmental impact, the scale of the act, and the possible environmental impact.

Third, the announcement and consultation system of EIA. While there is no dispute that the public announcement of EIA results by countries is an important international environmental law obligation, it is more controversial as to whether a country should consult relevant stakeholders when conducting EIA. Although conventions such as the Convention on Environmental Impact Assessment in a Transboundary Context (later referred to as the "Espoo Convention") emphasize that the public should be consulted in transnational EIA, the International Court of Justice has not considered public consultation to be an integral part of a State's obligation to conduct an EIA. In the Court's view, a State has no obligation under international law to consult potentially affected persons, and although potentially affected members of the public do not have the right to participate in the EIA process, the State in which the affected members of the public are located can defend their environmental rights and interests on their behalf. From the information disclosed by the International Atomic Energy Organization (IAEO) and the Japanese government, it appears that Japan has implemented an

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environmental impact assessment (EIA) of the Fukushima NCW discharged into the ocean, but whether the assessment complies with the requirements of international law has yet to be further demonstrated [7].

## 2.4. The Jurisprudence of International Law related to Nuclear Accidents

### 2.4.1. Recognition of the Wrongfulness of Transboundary Environmental Pollution and Burden of Proof

In the case of transboundary environmental pollution damage, it is very difficult for an injured State to prove the wrongfulness of Japan's discharge of NCW, mainly because there is a large interval and period and space between Japan's discharge of NCW and the damage suffered by other States, and it is difficult to prove that there is a direct causal relationship between the act of discharging NCW and the consequences of the damage. In addition, there are for the time being no clear criteria that would make it possible to define the specific share of damage attributable to the party that inflicted the damage.

In the case of the Fukushima NCW discharge, although the international community was able to assess and predict that Japan's discharge of NCW would cause global pollution of the marine environment and even threaten human health, there was no basis for alleging that the damage occurred as a result of Japan's discharges, and it was difficult to prove a direct causal relationship. The international community should create laws to improve international judicial remedies.

### 2.4.2. Insights from the Jurisprudence of Successful International Claims for Nuclear Pollution Damage

Since 1946, the RMI has been used as a nuclear test site by the United States, and as many as 67 major nuclear tests have been conducted on the islands. The nuclear tests had serious and indelible consequences for the RMI, with parts of the land completely disappearing due to the explosions, the air filled with nuclear radiation, and the islanders who were exposed to the radiation either died from the radiation in a short period or later developed severe radiation sickness, while the few who were not affected by the radiation were forced to leave their homes. The RMI began its struggle for independence in the early 1980s, exhausting all domestic and international political and legal means to pursue its claims against the United States for decades.

Initially, the RMI sued the U.S. in the Nuclear Claims Tribunal (NCT) based on its Compact of Free Association with the U.S. and related additional agreements and was awarded $4 billion by the Tribunal for property damage and restoration of the RMI, including the four atolls, but the U.S. was unwilling to provide the full amount of the Compensation Fund. 2001 saw the RMI's ongoing petition to the U.S. Congress requesting the U.S. to pay the full amount of the Nuclear Claims Tribunal award. In 2001, the RMI continued to submit petitions to the U.S. Congress requesting the U.S. to pay the full amount of the Nuclear Claims Tribunal (NCT) award, which remained unsupported. Unable to obtain full compensation, the RMI initiated the UN Human Rights Complaint Procedure and filed lawsuits in the US domestic courts and the UN International Court of Justice (ICJ) on the relevant issues, and regrettably, none of the judiciary's rulings have lived up to expectations.

Judging from the RMI's judicial practice, it appears that the RMI is not hoping to obtain compensation from the United States through judicial decisions, but rather to draw international attention to "nuclear justice" through judicial remedies, to indirectly influence the U.S. nuclear compensation policy through international public opinion.

The Marshall Islands' claim against the United States also seeks to prove that the United States' nuclear tests on its islands were unlawful and that it should bear international responsibility. The long and complicated process of seeking relief reflects the fact that in the field of State liability for

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transboundary environmental damage, the political strength, level of scientific and technological development, and legal and technical capacity of a country are all important factors affecting whether a country can successfully obtain compensation. This experience provides some insight into the international application of the environmental damage that may have been caused by the discharge of NCW in Japan. In addition, Japan's discharges did not satisfy the three exemptions of force majeure, distress and necessity[8].Although the external forms of nuclear damage that Japan and the United States had caused or might cause to other countries were different, the consequences of radioactive contamination damage resulting from their actions were similar. They involved the pursuit of accountability for States' wrongdoings and the breach of pertinent international legal norms and principles.

## 3. Conclusion

Japan's discharges of NCW into the sea are not in conformity with the explicit provisions on the protection and preservation of the marine environment contained in Part XII of the UNCLOS, to which Japan is a party; they are not in conformity with the self-regulatory obligations of States for nuclear safety regulation as stipulated in the CNS; they meet the definition of "radioactive wastes" stipulated in the Joint Convention and are regulated by the Convention; they meet the scope of application stipulated in Article 1 of the Notification Convention and are regulated by the Convention; they meet the relevant provisions of the Convention on Biological Diversity and are regulated by the Convention. The applicability of the London Dumping Convention and the 1996 Protocol to the NCW discharge is yet to be explored. Japan's discharge of NCW containing radioactive substances into the sea through pipelines does not fall into the category of "dumping" as stipulated in the Convention. In addition, the "underground drainage system" of the Fukushima Daiichi Nuclear Power Plant is not covered by "artificial structures at sea". The discharge from the pipeline is land-based, not a discharge from a ship, and is outside the scope of application of the Convention. Discharging NCW into the sea violates the principles of safety, risk prevention, good faith implementation of international obligations, and international cooperation. Moreover, the environmental impact assessment system, which is customary international law, also regulates the discharge of NCW into the sea.

In conclusion, Japan ought to take on global accountability for NCW that is dumped into the ocean. Since the marine environment is a precious resource that all people share, Japan should discuss the discharge of NCW with stakeholder countries and relevant international organizations, including the Marine Environment Protection Agency and the Nuclear Safety Authority, and disclose all pertinent data. Under the assumption that it won't contaminate the marine environment or endanger public health, NCW should be disposed of appropriately. The idea of a community of destiny for the oceans and seas should be upheld by the international community, which should also work to foster cooperation and solidarity, create a reliable system for long-term international environmental monitoring and communication, and protect the vital.

## References

[1] *Luo, H.X. (2021) Comprehensive Legal Interpretation of Japan's NCW Discharge into the Sea: An Integrated Analysis of the Provisions on Liability Remedies in International and Domestic Law. The Japan Journal, (04), 35-61+145+149.*

[2] *WANG, Z.H. (2023) International Law Regime and Improvement of State Responsibility in the Behavior of NCW Discharge into the Sea. Tianjin Normal University.*

[3] *Nogrady, B. (2023) Is Fukushima wastewater release safe? What the science says. Nature, 618(7967), 894–895.*

[4] *Wu,H.X. (2023) International Liability and China's Response to Japan's Discharge of Nuclear Contaminated Water. China Maritime Law Research, 34(03), 3-12.*

[5] *Zhang, S.A. (2022) A Review of the International Law Obligations of the Fukushima NCW Discharge Program. Nanda University of Law. (04), 2-21*

DOI: 10.54254/2753-7048/43/20240652

*[6] Hu, Z.L., Li, W.W. (2022) Illegality of Japan's Fukushima NCW Discharge and Crisis Response of Neighboring Countries. Academic Exchange, ,(10), 65-80+192.*

*[7] Wang, H. (2023) Compensation for environmental damage in relation to the discharge of NCW into the sea. Jurisprudence, (02), 180-192.*

*[8] Liu, M.Q. (2022) On the Legal Regulation of Nuclear Contamination in Japan. Law Review, 40(01), 142-155*