

# Study on the Legal Issues of Fukushima Nuclear Wastewater Discharge into the Sea

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## ABSTRACT

The decision of Fukushima nuclear wastewater discharge involves many theoretical and practical issues, which attracts the strong attention of the international community and academic circles. Once nuclear wastewater is discharged, it will seriously infringe on global ecological and environment safety and the lives and health of people of all countries. As Japan's close neighbor and stakeholder, China has responded positively to this incident and shall analyze its illegal nature from the perspective of international law, Japan's domestic law and the perspective of cross-border nuclear damage responsibility. China should organize, coordinate and unite other countries to jointly respond to the Japanese Fukushima nuclear wastewater discharge incident and safeguard maritime rights and interests through "environmental diplomacy", legal methods, international organizations and other channels.

**Keywords:** Nuclear Wastewater Discharge, Marine Environmental Pollution, International Law, Cross-border Damage.

## 1. INTRODUCTION

Recently the Japanese government officially decided to use the ocean discharge method to dispose of the Fukushima nuclear wastewater, and Tokyo Electric Power Company said it plans to submit a detailed schedule before the start of the nuclear contaminated water discharge, which has attracted strong attention from the international community. How to properly solve the Fukushima nuclear wastewater discharge incident in Japan will test the wisdom and ability of the international community, and will have a far-reaching impact on the future direction of the marine legal order. This article will explore this incident from a legal perspective.

## 2. REVIEW OF FUKUSHIMA NUCLEAR WASTE WATER DISCHARGED INTO THE SEA INCIDENT

The Fukushima nuclear accident is the highest level of nuclear accident, which caused a large number of radioactive material leakage. The polluted water comes from the cooling water, groundwater and rainwater flowing through the molten and damaged reactor core that contains a large number of radionuclide produced by nuclear fission, which has had a profound impact on the marine environment and human health.

In recent years, Japan has been preparing to discharge nuclear wastewater, and has proposed five options for the nuclear pollution water disposal plan: hydrogen release, formation injection, underground burial, steam discharge and marine discharge. Japan, regardless of domestic and foreign questions and opposition, without consensus with neighboring countries and stakeholders, when all safe disposal means are not exhausted, for their own interests, only on the grounds of the limited storage tank space, unilaterally choose the smallest economic cost to dispose nuclear wastewater, namely marine disposal scheme, but the biggest environmental health and safety risks to the world, transferring their own responsibility to all mankind, which is a very irresponsible behavior.

The waters of all oceans on the earth are connected, and the world's ecological environment is a whole. Ecological destruction and environmental pollution in every country may bring about serious global consequences. If nuclear waste water is discharged into the sea, it will cause harm or threat to the territorial waters, contiguous zone, exclusive economic zone, continental shelf and other sea areas of coastal countries. The top marine scientific research institution in Germany GEOMAR Helmholtz Centre conducted a computer simulation exercise on the spread of nuclear waste water: The initial radiation area was indeed only near the seas of Japan, and it was dominated by low-dose radiation. The

high-dose radiation area was small. After a month, the radiation accelerated and spread. After half a year, the radiation range has expanded, and it is mainly high-dose radiation. The entire Pacific Ocean only needs ten years to be "nuclearized", and pollution of other oceans is inevitable. Previously, the IAEA expert team's assessment report pointed out that if the tritium-containing wastewater from the Fukushima nuclear power plant is discharged into the ocean, it will have an impact on the marine environment and public health of neighboring countries. At the same time, the existing treated wastewater still contains other radionuclides and needs to be further purified.

The ocean is the common property of mankind. The disposal of polluted wastewater from the Fukushima nuclear accident is related to global ecological and environmental safety and the lives and health of people in all countries. It is not a "private matter" of Japan, but an event that may cause major environmental harm.

### **3. ANALYZING THE FUKUSHIMA NUCLEAR WASTEWATER DISCHARGE FROM A LEGAL PERSPECTIVE**

#### ***3.1. Provisions of the Relevant International Conventions***

Pollutants that pose a threat to the marine environment include petroleum, heavy metals, pesticides, organic and nutrient salts, solid materials, and radioactive materials, etc. Radioactive materials mainly come from the scattered objects of nuclear tests and dumping nuclear waste directly into the ocean. Part 12 of the "United Nations Convention on the Law of the Sea" (hereinafter referred to as the "Convention") specifically stipulates "Protection and Preservation of the Marine Environment", which puts forward universally used guidelines for the environment, control, and prevention of pollution damage in coastal and high seas areas, but pollutants entering the ocean are increasing rapidly every year. It is impossible to estimate how many harmful components enter the ocean.

The "Convention" stipulates that countries should take all necessary measures to ensure that pollution caused by events or activities within their jurisdiction or control does not extend beyond the area where sovereign rights are exercised. Japan's move clearly violated Article 192 of the Convention, "States have the obligation to protect and preserve the marine environment" and Article 194, "Measures to prevent, reduce and control pollution of the marine environment, and to minimize the following pollution measures to the greatest possible extent: A substance that is toxic, harmful or harmful to health released from land-based sources, from the atmosphere or through the atmosphere, or due to dumping, especially persistent substances." Japan is a

signatory to the "United Nations Convention on the Law of the Sea" and should be aware of the relevant provisions of the "Convention" and Japan has an obligation to protect the marine environment. Japan's move will create a precedent for the discharge of wastewater into the ocean after a serious nuclear accident. This will be an irreversible disaster for the global marine environment and even mankind.

According to the United Nations Convention on the Law of the Sea, the Convention on Early Notification of Nuclear Accidents, and the Nuclear Safety Convention, Japan must also undertake international obligations such as notification and full consultation, environmental assessment monitoring, and preventive measures to minimize risks and ensure transparency of information.

#### ***3.2. Relevant and Domestic Legislation in Japan***

Before 2011, the Japanese environmental law system basically excluded radioactive materials from the scope of air pollution, water pollution and soil pollution, and failed to fully consider the radioactive pollution that may be caused by nuclear power plant leakage accidents. After the nuclear leakage accident at the Fukushima Daiichi Nuclear Power Plant, it brought serious challenges to the disposal of radioactive waste in Japan. After the disaster, Japan passively activated relevant legislation and enacted the Special Measures Act for Response to Radioactive Material Pollution (hereinafter referred to as the "Special Measures Act") in August 2011, which aims to clarify the responsibilities and obligations of the state, local governments and individuals in the disposal of radioactive materials, reducing and eliminating the hazards and negative effects of nuclear leakage accidents on the environment and human health.

As a comprehensive emergency law to deal with radioactive pollution in Fukushima, the "Special Measures Act" stipulates in Articles 3 and 4 that the Central Government of Japan has a legal obligation to dispose of radioactive waste on behalf of the country, and the country is obliged to take necessary measures to deal with environmental pollution caused by radioactive materials caused by nuclear leakage accidents. However, the Japanese government's recent decision to dispose of nuclear waste water from the Fukushima nuclear power plant accident by means of marine discharge, regardless of the lives and health of the Japanese people and the people on the Pacific coast, at the expense of the global marine ecological environment, is obviously in the opposite direction with the legislative purpose of the country's "Special Measures Act", and the government's actions violated the relevant laws and regulations of the country.

### **3.3. Relevant Provisions on Liability for Cross-border Nuclear Damage**

In the face of this ensuing catastrophe, human society has increasingly become a community of shared destiny. Once there is any mistake, no country can survive alone. Establishing a community with a shared future for mankind and for the seas will be the ultimate choice of the people of all countries. Article 21 of the Stockholm Declaration on the Human Environment in 1972 solemnly declared that "in accordance with the Charter of the United Nations and the principles of international law, every country has the sovereign right to develop its own resources in accordance with its own environmental policies; And have the responsibility to ensure that activities within their jurisdiction or control do not harm the environment in other States or in areas outside their national jurisdiction".

In 1996 "Draft Articles on International Liability for Harmful Consequences Resulting from Acts Not Prohibited by International Law", "cross-border damage" is defined as " damage caused in the territory of a country or other places under the jurisdiction or control of a country other than the country of origin, regardless of whether the countries concerned have a common border", but the definition does not take into account the high seas, areas such as bipolar regions and airspace should cover environmental damage to the "global commons". The Japanese government disposes of nuclear waste water from the Fukushima nuclear power plant accident by ocean discharge. Due to factors such as ocean currents, magnitude, and migratory fish, the discharge of Japanese nuclear waste water will inevitably cause cross-border impacts and may cause cross-border damage. It is catastrophic and international in nature. Victims of cross-border nuclear damages are largely unable to obtain fair compensation, but such damages are often huge, unbearable, and even devastating.

## **4. COUNTERMEASURES FOR THE FUKUSHIMA NUCLEAR WASTEWATER DISCHARGE INCIDENT**

### **4.1. Effectively Safeguard China's Legitimate Rights and Interests through "Environmental Diplomacy"**

The Ministry of Foreign Affairs of China has repeatedly held press conferences to strongly urge Japan to recognize its own responsibilities, uphold a scientific attitude, fulfill its international obligations, and respond to the serious concerns of the international community, neighboring countries, and its citizens. Japan should re-examine the issue of nuclear waste water disposal at the Fukushima nuclear power plant and retract the wrong decision to discharge it into the sea; it must not initiate nuclear waste water discharge without authorization until

it has fully negotiated and reached an agreement with the various interested countries and the International Atomic Energy Agency; established under the framework of international institutions A joint technical working group including Chinese experts ensures that nuclear waste water disposal issues are strictly subject to international assessment, verification and supervision. China declares that it reserves the right to make further responses.

### **4.2. Try to Use Legal Methods to Resolve International Environmental Disputes**

As the neighboring countries that bear the brunt of the waste water polluted by the Japanese nuclear accident, China and South Korea have every right to claim compensation from Japan.

However, existing international conventions such as the United Nations Convention on the Law of the Sea, the London Convention, the Convention on Early Notification of a Nuclear Accident, and the Nuclear Safety Convention, all lack mandatory sanctions. At present, the academic circles have different views on the use of legal methods. Professor Ran Guo said, "Japan has joined the 'Convention on Supplementary Compensation for Nuclear Damages.' At present, if private claims may need to be filed through Japanese courts for nuclear damages, and then a ruling is made in accordance with Japanese law, this will greatly increase the cost of litigation. " Professor Gao Zhiguo believes that in response to Japan's nuclear contaminated water discharge incident, a combination of legal proceedings can be used: submit the nuclear contaminated water discharge dispute to the UN General Assembly for resolution; submit the dispute to the UN Security Council for a decision; submit the dispute to the UN Security Council The International Court of Justice, requesting a "legal advisory opinion"; submit the dispute to the arbitration procedure under Annex VII of the United Nations Convention on the Law of the Sea.

This article believes that we should actively consider making good use of international judicial procedures. In addition, to resolve the issue of compensation for liability for cross-border nuclear damage, in the event that compensation cannot be resolved through diplomatic channels, a provisional institution-a compensation committee can be established upon request of one party. The compensation committee is mainly composed of experts selected by both parties to the dispute, which can save time and improve the professionalism of problem solving.

### **4.3. Fully Function the Coordinating Role of International Organizations**

Properly disposing of the wastewater from the Fukushima nuclear power plant is related to the international public interest and the vital interests of

neighboring countries. It should be handled carefully and properly to ensure that with the participation of all parties involved, it can effectively avoid further damage to the marine environment, food safety and human health.

There is a nuclear non-proliferation system for nuclear weapons, but there is currently no specific international response mechanism for nuclear waste management. Japan's discharge of nuclear waste water has posed a challenge to global governance. The international community needs to strengthen cooperation and explore establishment of corresponding management mechanisms.

China advocates that the International Atomic Energy Agency set up a technical working group including China and other stakeholders as soon as possible to carry out work on the Fukushima nuclear-contaminated water disposal plan, follow-up implementation, and international evaluation and supervision. The agency is actively preparing for the establishment of a related technical working group. China will fully support the organization's follow-up work. China should also monitor Japan's discharge activities at any time, and comprehensively assess the scope of nuclear waste water and its damage consequences. In addition, the International Atomic Energy Agency's active role in the settlement of cross-border nuclear damage disputes should be brought into full play, and its neutral status in the handling process should be particularly emphasized. The accountability of cross-border nuclear damage should be closely linked with relevant international conventions, and strengthen the interrelationship of laws and the effect of law enforcement.

## 5. CONCLUSION

This article analyzes the legal issues of Fukushima Nuclear Wastewater Discharge into the Sea, and puts forward how China organizes, coordinates and unites other countries to jointly respond to the Fukushima nuclear wastewater discharge incident and safeguard their maritime rights from a legal perspective. This article will fill the research gap so far.

We suggest that, as a responsible power, China participates in international governance and promotes the process of reforming the global governance system. It should be good at applying the rule of law, strengthening international cooperation in the rule of law, and building a community with a shared future for mankind.

To build a global ocean governance pattern, we should establish a sense of the rule of law under the guidance of thoughts on the rule of law, and we must attach importance to coordination, comprehensiveness, effectiveness and peace. We must abide by the basic norms of international relations such as sovereign equality, non-interference in internal affairs, and peaceful settlement of disputes. China proposes to actively expand

the space for marine economic development, coordinate the promotion of marine ecological protection, marine economic development, and the maintenance of marine rights and interests, and accelerate the construction of a maritime power. In the face of both traditional security threats and a large number of non-traditional security threats, such as the Japanese nuclear waste water discharge incident, we must emphasize building a community of marine destiny, and organize, coordinate and unite other countries to jointly respond to various threats and threats that appear at sea. Challenge and safeguard maritime rights and interests.

## AUTHORS' CONTRIBUTIONS

Wu Zhiyi contributed to the conception of the study and wrote the full paper.

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