

# BOFAXE

## Beyond Japan's Decision

### Is the Disposal of Nuclear Waste in the Sea Compatible with International Law?

On March 11, 2011, the strongest earthquake recorded in Japan and an ensuing tsunami killed nearly 19,500 people and destroyed the Fukushima Daiichi Nuclear Power Station releasing radioactive materials over a large area. Ten years later, Fukushima is once again making headlines as part of the radioactively contaminated cooling water is to be discharged into the sea (see [here](#), [here](#), [here](#) and [here](#)). Anh Nguyen's article "A Case of MOX Plant 2.0 in the Pacific?" dealt with the South Korean considerations to challenge Japan's Fukushima wastewater decision. In her article, she raised a point we would like to further elaborate on: the need to look to the [Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter \(London Convention\)](#) to discern international standards for land-based source pollution required by the [United Nations Convention on the Law of the Sea \(UNCLOS\)](#). This blog post argues that this integration of the standards under the London Convention is relevant not only for the relation between South Korea and Japan and add that, importantly, Environmental Impact Assessments (EIA) must always be conducted when considering disposing of potentially dangerous material into the sea.

To prevent further contamination and core meltdown, the reactors of Fukushima's power plant are cooled with water which is collected in more than 1,000 tanks. These tanks will have reached their [maximum capacity](#) by summer 2022. Thus, the Japanese government [plans](#) to dispose of 31.2 million tons of the contaminated cooling water by discharging it into the sea. It is contested how dangerous the water is for the marine environment. According to its own report, the Tokyo Electric Power Company (TEPCO) was able to remove all but one of the radioactive isotopes. The remaining isotope is tritium, which cannot be eliminated with currently available technologies. Experts argue that tritium is dangerous only in very large doses and the [International Atomic Energy Agency \(IAEA\)](#) states that [properly filtered water](#) could be diluted with seawater and safely released into the ocean. However, there are [reports](#) that other, significantly more dangerous, radioactive isotopes, such as [Strontium-90](#), remain present in the water in addition to Tritium. Nevertheless, [according](#) to the IAEA, there would still be the option of diluting the water to a level of radioactivity that is within the limits even if other radioactive isotopes besides tritium are found in the cooling water.

#### Use of the London Convention

While at first one might think that an accident like the one in Fukushima is an isolated case where this issue comes into play, a closer look reveals that the significance of this issue is much more far-reaching. Due to the need for large amounts of cooling water in the operation of a nuclear power plant, many of the active nuclear power plants are built on the ocean coast ([see for a map](#)). This geographical proximity to the sea not only poses the risk of a tsunami in the aftermath of an earthquake, but also the risks of climate change. Even if the rise in sea level is still expected to take a long time, it is already obvious today that storms and floods are already increasing significantly due to climate change (c.f. a [study by the United States Environmental Protection Agency \(EPA\)](#)). While most nuclear power plants seem to be safe from storms and floods, near disasters have happened before. For example, 3 power plants in the U.S. [had to be shut down](#) due to electricity problems during Hurricane Sandy. If Typhoon Saomai had made landfall two hours later in China in 2008 it would have collided with a spring tide and [almost certainly flooded the reactors](#) at the Qinshan nuclear power plant. In addition, there are the general danger of incidents. The International Atomic Energy Agency (IAEA) [has registered](#) 19 incidents in the last 12 months alone. Furthermore, incidents do not always have to reach the magnitude of Fukushima for radioactivity in the cooling water to rise. In fact, the Sellafield nuclear power plant on the south coast of England [reported several incidents](#) in which cooling water to be discharged was also affected. These circumstances make it clear that it is necessary not only to deal with the legal arguments in relation to Fukushima, but also to consider a general approach to the issue.

In 1986, the IAEA published [recommendations](#) for the London Convention that include clear limits for the dumping of radioactive material. However, the London Convention does not regulate dumping from a land-based source. As pointed out by Nguyen, those provisions in the UNCLOS that apply do not contain helpful limits. While Article 192 UNCLOS obliges States to "protect and preserve" the marine environment and Articles 194, 207 and 213 UNCLOS present a rather sophisticated legal picture in concretizing through which measures this obligation must be discharged, they lack guidance on when radioactive materials would be too radioactive to be dumped into the sea. The UNCLOS convention, however, offers a gateway for integration of the standards set by the IAEA in the context of the London Convention. Art. 207 (1) UNCLOS obliges the states to "adopt laws and regulations [...] taking into account internationally agreed rules, standards and recommended practices and procedures." While this does not lead to a direct applicability of other standards and rules, national legislation must be judged and reviewed in this light. If such rules and standards are ignored in the disposal process, the culpability therefore already lies in the fact that no appropriate laws or regulations in the sense of Art. 207 (1) UNCLOS have been adopted and not solely in the disposal itself. Therefore, there is also no need for an interpretation according to Art. 31(3)(c) Vienna Convention on the Law of Treaties (VCLT). The London Convention currently has 87 parties. Therefore, 87 countries accepted the limits (see IAEA [standards \(section II\)](#)) as correct per consent. High-level radioactive material that is unsuitable for dumping remains equally unsuitable and highly radioactive when dumped from land in the coastal sea. Due to the circulation in the sea, radioactive isotopes also end up outside a state's territorial waters. For example, directly after the Fukushima accident, isotopes could be found on America's west coast. It should therefore be concluded that the limits set by the IAEA in course of the London Convention must be deemed international standards for radioactive dumping into the sea in all kinds of situations. The rules of the UNCLOS and the standards adopted by the IAEA in the context of the London Convention read together are therefore the yardstick actions must be measured by.

#### Requirement of an Environmental Impact Assessment

Another important point for the assessment of the legality of a plan such as Japan's is that the International Court of Justice (ICJ) [recognized](#) the general obligation to provide an EIA prior to actions affecting the environment. Decisions should be made through a [comprehensive assessment](#) of the predicted impacts. In its [Construction of a Road Case](#), the ICJ stated that "a risk of significant transboundary harm" triggers the obligation for an EIA. As pointed out above, radioactive isotopes end up out of a state's own territory and are, depending on the isotope, also able to cause significant harm. In the same case, the court also stated that the determination of the content of an EIA should be made in the light of the specific circumstances of each case. However, in the [Case Concerning Pulp Mills](#) (2010) the ICJ mentioned that the assessment needs to consider possible alternatives, as well as whether the population is likely to be affected by the planned actions. In the instance "the EIA confirms that there is a risk of significant transboundary harm, the State planning to undertake the activity is required [...] to notify and consult in good faith with the potentially affected State, [...] to determine the appropriate measures to prevent or mitigate that risk".

#### Conclusion and General Remarks

International law regulates dumping of dangerous matter, including radioactive water, in the sea from land-based sources. The clear standards and limits established in the context of the London Convention can and should be integrated into the broader and more widely applicable regime of the UNCLOS. The London Convention [successfully shows](#) how such precise rules and limits help to protect the marine environment. However, there is no independent body, such as the IAEA, which could monitor compliance with these limits. Likewise, opposition is to be expected when it comes to recognizing the limits set by the IAEA as international standards. Even though there is also the obligation for an EIA, such an EIA does not guarantee compliance with all regulations and limits as well as providing correct data. Given that independent monitoring is the first step towards compliance, we are faced here with yet another example in which enforcement mechanisms of international law are lagging dramatically behind.