

Forty-Year Release of Japan Radioactive Waste Water Set to Begin This Spring While Health Impact on Californians Remains Unclear

Radioactive discharge announcement by Japan is opposed by top scientists, and by policymakers, industry, and sustainability advocates as they urge Japan to delay policy in order to pursue data and other options

Orange County, CA (February 23, 2023) - - Amidst international opposition from Pacific Island nations, South Korea, Taiwan, and China, and despite strong concerns from members of the scientific community around the lack of adequate and accurate data to alleviate concerns on the dangers to public safety and ocean health, Japan has announced beginning a multi-decade process of releasing into the Pacific Ocean more than 1.3 million tonnes (or more than 286 million pounds) of treated, radioactively contaminated water as early as this spring or summer. This is water that was contaminated as a result of the 2011 Fukushima Daiichi nuclear power plant disaster that followed a 9.1 earthquake and tsunami.

A consortium of 200 scientists and a technical panel of experts in public policy, industry and sustainability spanning the United States, the United Kingdom, Australia, the Pacific Islands, Japan, Mexico and Chile believe that this approach for handling the accumulated wastewater by the Government of Japan will affect the marine, human and economic health of the nations that occupy the Pacific, and the consequences will reach as far as the shores of Hawaii, California, Washington, Oregon, Alaska in the United States, as well as those of Canada, Mexico and all of Central America. Japan's plan has repercussions for decades to come as it is transboundary and transgenerational, due to the length of the half-lives of relevant radionuclides. Once Japan releases the Fukushima radioactively contaminated water into the Pacific, it will do so for at least 40 years.

Advocates for delaying the release of Fukushima wastewater - including international governments, the fishing industry, and those who seek to protect oceans, urge the Government of Japan to obtain scientific evidence of their current method's efficacy and ecological health impacts, and pursue other viable options to avoid irreversible damage to marine life and all who depend on the Pacific Ocean.

Key among the opposition to the policy of Japan's Tokyo Electric Power Company (TEPCO), is the Pacific Islands Forum (PIF), the 51-year-old political and economic policy organization that represents 18 nation-states in the Pacific Islands, including Australia and New Zealand. Contaminated water is currently held in 1,000 tanks on TEPCO's premises, and although the United Nation's International Atomic Energy Agency (IAEA) issued a February 2022 report in support of Japan's plans to discharge treated radioactive water from the advanced liquid processing systems (ALPS), an independent technical panel of scientists empaneled by PIF, cautions that numerous questions remain and that even if established standards are met, these do not guarantee the safety of ocean and human health in the long term.

Richmond, director of the University of Hawaii Kewalo Marine Laboratory, and a member of PIF's scientific panel said: "After careful review of numerous documents and data sets provided by TEPCO, my colleagues and I remain concerned that there is insufficient evidence to support this present plan, and urge decision-makers to support better and safer solutions. This is a very

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unfortunate situation that needs to be addressed, but it is not the first nuclear disaster nor will it be the last, hence this is also an opportunity to develop better approaches than ocean dumping going forward.”

Ionizing radiation exposure from the radionuclides contained in the contaminated water can occur externally, from the environment, or internally from eating affected seafood. Radionuclides, including tritium which cannot be removed from the waste waters via the Advanced Liquid Processing System (ALPS) can become organically bound, biologically accumulated and trophically transferred, including to people. Once ingested, ionizing radiation can affect the health of cells, and the integrity of DNA, RNA, and important signaling proteins.

Richmond added: “Considering the multiple stressors affecting ocean health and the health of all who depend on ocean resources, including climate change, pollution from pesticides, plastics, heavy metals, and radionuclides, cumulative effects of these operating in concert must be considered. This is the UN Ocean Decade, and since the IAEA operates as part of the UN, it would be highly appropriate for these agencies and initiatives to coordinate activities to achieve the best outcomes in unison.”

Japan contends that its storage tanks are nearly full and argues that other nations have released radioactive wastewater from their nuclear power plants. PIF’s technical panel, on the other hand, asserts that prior wastewater releases were based on normal plant operations, not a nuclear meltdown like Fukushima. Also, while the ALPS process satisfies the removal of some radioactive matter to levels below the IAEA’s international standards, nuclear scientists say that it will not remove tritium, a radioactive isotope of hydrogen that is harmful in large doses.

“Other options exist, including using the ALPS treated water for making concrete to use on-site at Fukushima. Bioremediation could also be examined as a tool,” said Richmond.

PIF Secretary General Henry Puna, has stated: “Our ultimate goal is to safeguard the Blue Pacific – our ocean, our environment, and our peoples – from any further nuclear contamination. This is the legacy we must leave for our children,” he said.

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