

LEGALITY OF THE DISPOSAL OF NUCLEAR WEAPONS WASTE

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The disposal of nuclear weapons waste is illegal in the South Pacific, Southeast Asia, Africa, and Central Asia. It is not illegal, per se, on the moon, but it is not legal to practice “harmful contamination” in outer space and on celestial bodies, which could potentially be the case for nuclear weapons waste.

According to Robert Alvarez, writing in the Bulletin of the Atomic Scientists, “research, development, testing, and production of U.S. nuclear weapons occurred at thousands of sites in nearly every state, as well as Puerto Rico, the Marshall Islands, Johnston Atoll, and Christmas Island in the Pacific” and “as a result, the nuclear weapons program created one of the largest radioactive waste legacies in the world—rivaling the former Soviet Union's.”¹ According to Alvarez, these sites “constitute some of the most contaminated zones in the Western hemisphere” and that “long-term liability estimates range from approximately \$300 billion to \$1 trillion.” This waste remains a very significant threat to public health².

Today, two sets of treaties cover the disposal of nuclear weapons waste: area-specific treaties and the Treaty on the Prohibition of Nuclear Weapons.

There are nine treaties creating Nuclear Weapons Free Areas. Five of them are covering populated areas and four are covering other areas. Save for the Treaty of Tlatelolco, covering Latin America and the Caribbean, each and every of these treaties covering inhabited areas have a provision concerning the disposal of nuclear weapons waste. These countries and areas represent about a quarter (26%) of the world’s population at about 2 billion people. This compares to the five-recognized nuclear-armed countries in the NPT, which also represent 26% of the world’s population with 2 billion people³. These nuclear-free areas are:

- South Pacific (Treaty of Rarotonga);
- Southeast Asia (Treaty of Bangkok)
- Africa (Treaty of Pelindaba);
- Central Asia (Treaty on a Nuclear-Weapon-Free Zone in Central Asia);
- Antarctica (Antarctic Treaty);
- the outer space (Outer Space Treaty).

The treaties covering Southeast Asia, Africa, Central Asia and the South Pacific all have articles prohibiting the disposal of radioactive waste on their territory. They also usually commit these countries not to allow other countries to dispose of these wastes in this area. Interestingly, the

¹ Robert Alvarez. “A primer: Military nuclear wastes in the United States.” *Bulletin of the Atomic Scientists*, 24 February 2014.

² Robert Alvarez. “A primer: Military nuclear wastes in the United States.” *Bulletin of the Atomic Scientists*, 24 February 2014.

³ “Countries in the world by population (2020).”

treaty covering Central Asia also mentions the concept of environmental rehabilitation. Each country party to that treaty “undertakes to assist any efforts toward the environmental rehabilitation of territories contaminated [...] in particular [...] nuclear test sites,” which goes further than only forbidding waste disposal.

While it does not forbid the disposal of nuclear weapons waste as do other treaties, the Outer Space Treaty mentions the need “to avoid [the] harmful contamination” of “outer space, including the moon and other celestial bodies.” As a consequence, while this treaty does not expressly mention nuclear weapons waste, any country “harm[ing]” these areas would potentially do so illegally.

The Moon Agreement and the Seabed Treaty have no articles covering the disposal of nuclear weapon waste. As such, it is not illegal to do so in these areas, except for the moon in the previously mentioned Outer Space Treaty. Contrary to the other treaties covering inhabited areas, the countries party to the treaty covering Latin America and the Caribbean are under no restriction regarding nuclear weapons waste disposal.

Because the Treaty on the Prohibition of Nuclear Weapons (TPNW) seeks to fully prohibit nuclear weapons, it does not have articles covering nuclear weapons waste *per se*. However, this future-oriented treaty includes an article on “environmental remediation.” Each country party to the treaty “shall take necessary and appropriate measures towards the environmental remediation of areas so contaminated.”⁴ Countries party to the treaty could understandably be constrained on nuclear weapons waste disposal as it would be contrary to the remediation of these areas.

Sources & treaties:

Alvarez, Robert. “A primer: Military nuclear wastes in the United States.” *Bulletin of the Atomic Scientists*, 24 February 2014, available from <https://thebulletin.org/2014/02/a-primer-military-nuclear-wastes-in-the-united-states/>.

African Nuclear Weapon-Free-Zone Treaty, Pelindaba 11 April 1996, *United Nations*, IAEA, available from <https://www.iaea.org/publications/documents/treaties/african-nuclear-weapon-free-zone-treaty-pelindaba-treaty>.

“Countries in the world by population (2020).” *Worldometer*, <https://www.worldometers.info/world-population/population-by-country/>.

South Pacific Nuclear Free Zone Treaty, Rarotonga, 11 December 1986, *United Nations Treaty Series*, vol. 1445 No. 24592, p.177, available from

⁴ “Treaty on the Prohibition of Nuclear Weapons (TPNW).” *NTI Building a Safer World*, 14 November 2019, art VI(2).

<https://treaties.un.org/doc/Publication/UNTS/Volume%201445/volume-1445-I-24592-English.pdf>.

The Antarctic Treaty, Washington 1 December 1959, *United Nations Treaty Series*, vol. 402, No. 5778, p.71, available from <https://treaties.un.org/doc/Publication/UNTS/Volume%20402/volume-402-I-5778-English.pdf>.

Treaty for the Prohibition of Nuclear Weapons in Latin America, Mexico, 26 April 1967, *United Nations Treaty Series*, vol. 634, No. 9068, p.281, available from <https://treaties.un.org/doc/Publication/UNTS/Volume%20634/volume-634-I-9068-English.pdf>.

Treaty on a nuclear-weapon-free zone in Central Asia, Semipalatinsk 8 November 2006, *United Nations Treaty Series*, vol. 2970, No. 51633, available from <https://treaties.un.org/doc/Publication/UNTS/No%20Volume/51633/Part/I-51633-080000028023b006.pdf>.

“Treaty on the Prohibition of Nuclear Weapons (TPNW).” *NTI Building a Safer World*, 14 November 2019, available from <https://www.nti.org/learn/treaties-and-regimes/treaty-on-the-prohibition-of-nuclear-weapons/>.

Treaty on the prohibition of the emplacement of nuclear weapons and other weapons of mass destruction on the sea-bed and the ocean floor and in the subsoil thereof, Washington, Moscow, London 11 February 1971, *United Nations Treaty Series*, vol. 955 No. 13678, p.115, available from <https://treaties.un.org/doc/Publication/UNTS/Volume%20955/volume-955-I-13678-English.pdf>

Treaty on the Southeast Asia Nuclear Weapon-Free Zone, Bangkok 15 December 1995, *United Nations Treaty Series*, vol. 1981, No. 33873, available from <https://treaties.un.org/doc/Publication/UNTS/Volume%201981/v1981.pdf>.

Treaty on principles governing the activities of States in the exploration and use of outer space, including the moon and other celestial bodies, Washington, Moscow, London 27 January 1967, *United Nations Treaty Series*, vol. 610, No. 8843, p.205, available from <https://treaties.un.org/doc/Publication/UNTS/Volume%20610/volume-610-I-8843-English.pdf>.