I MINA'TRENTAI SIETTE NA LIHESLATURAN GUÅHAN
2023 (FIRST) Regular Session

Bill No. 151-37 (COR)

Introduced by: Sabina Flores Perez SFP
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AN ACT TO ADD A NEW CHAPTER 54C TO DIVISION 2, TITLE 10, GUAM CODE ANNOTATED, RELATIVE TO PROHIBITING THE PRODUCTION AND USE OF NUCLEAR ENERGY ON GUAM.

BE IT ENACTED BY THE PEOPLE OF GUAM:

Section 1. Legislative Findings and Intent. *I Liheslaturan Guåhan* finds that various factors of beginning nuclear energy production on Guam are problematic to providing safeguards necessary to protect the health of our people and our environment, which are intertwined. These factors include the production and disposal of radioactive waste, operational safety risks, and increased vulnerability to radioactive exposure during cases of natural disaster or wartime calamity. As a strategic military location and territory of the United States, our island must take measures to avert added vulnerabilities to the already delicate circumstances that burden our island.

I Liheslatura finds that the handling and treatment of radioactive waste, or "spent" nuclear fuel, derived from nuclear energy production is a problematic task for many places throughout the country and internationally. The two main waste management strategies practiced throughout the world for dealing with spent nuclear fuel is recycling or reprocessing, and direct disposal. In many countries, spent

nuclear power reactor fuel is reprocessed, chemically separating and repurposing usable uranium and plutonium to produce more fuel. In the U.S., this practice has been indefinitely deferred due to the risks of nuclear technology and/or materials, including plutonium, being diverted from production plants, and used to construct nuclear weapons. Direct disposal involves the storing of radioactive waste within underground repositories, without any recycling. The spent fuel is usually stored on-site of a production plant, in canisters and subsequently buried underground and sealed beneath rocks and clay. Presently, the vast majority of nuclear waste is stored within containment facilities at or near ground level, although the consensus is that more secure and long-term solutions are needed to adequately protect against radioactive contamination. These solutions are likely to involve the construction of deep geological disposal facilities, in which the nuclear waste is sealed within multiple artificial and natural barriers, such as glass, cement, and housed within storage facilities beneath up to one (1) kilometer of rock.

I Liheslatura finds that operational safety risks involved with nuclear reactors leading to radioactive releases, such as with incidents of operator failure in 1979 at Three Mile Island in Middletown, Pennsylvania, the worst nuclear accident on U.S. soil, costing roughly one billion dollars in clean-up efforts, and in 1986 at the Chernobyl Nuclear Power Plant in Ukraine, one of the world's worst nuclear accidents, costing an estimated two-hundred and thirty-five billion dollars in monetary damages, are occurrences that are unacceptable to our island and people in any scale. In addition to operator failures, are the occurrences of structural failures caused by natural disasters such as the tsunami leading to the 2011 Fukushima disaster in Japan, which has cost the country roughly seven billion three-hundred thousand dollars annually for damages, decontamination, reactor decommissioning and victim compensation. Furthermore, clean-up efforts include plans to discharge more than 1.2 million tons of nuclear waste via a sub-sealed pipeline into the Pacific Ocean over the next thirty (30) years and will directly impact its neighbors in the

Pacific and has potential to negatively impact the entire world over time through ocean currents and the food chain.

I Liheslatura finds that the construction, importation, and operation of nuclear reactors on Guam, including Small Modular Reactors (SMRs) and portable Nuclear Microreactors, dramatically increases the vulnerability of our island in the case of natural disasters or wartime calamity. "Guam's location within the 'typhoon belt' makes it prone to tropical storms and typhoons on an annual basis. Our location near the Pacific and Philippine plates also causes the island to experience earthquakes with magnitudes ranging from 2 or 3 to a high of 8.2 on the Richter Scale," according to Guam Homeland Security's website, as well as common knowledge of islander experiences throughout Guam history. Unfortunately, Guam's strategic location as a military stronghold leaves the island prone to a relatively high degree of potential for war, in which the missile and artillery shelling of the island, especially in the case that Guam houses nuclear reactors of any scale, could exponentially increase wartime catastrophe and calamity. Increasing the probability of radioactive leakage is the initial projected number of nuclear microreactors needed to power DoD's Enhanced Integrated Air and Missile Defense System (EIAMD), proliferating the potential danger at an estimated twenty sites throughout the island, including civilian areas. Despite claims that these SMRs and Nuclear Microreactors are a safer and more efficient alternative to conventional Nuclear Power Plants, "Small modular reactors [and Nuclear Microreactors], long touted as the future of nuclear energy, will actually generate more radioactive waste than conventional nuclear power plants," according to research from Stanford and the University of British Columbia.

It is therefore the intent of *I Liheslaturan Guåhan* to prohibit nuclear derived energy in the island of Guam.

Section 2. A new Chapter 54C is added to Title 10, Guam Code Annotated, to read:

"CHAPTER 54C

NUCLEAR ENERGY PROHIBITION ACT OF 2023

§ 54C001. Short Title.

§ 54C002. Definitions.

§ 54C003. Prohibition on the Production and Use of Nuclear Energy

§ 54C001. Short Title.

This Chapter *shall* be known as the "Nuclear Energy Prohibition Act of 2023."

§ 54C002. Definitions.

For the purposes of this Chapter:

(a) *Nuclear fission power plant* means a thermal power plant, in which the energy (heat) released by the fissioning of nuclear fuel is used to boil water to produce steam, which spins the propeller-like blades of a turbine that turns the shaft of a generator to produce electricity.

(b) *Small Modular Reactors (SMRs)* means a nuclear reactor in which the energy (heat) released by the fissioning of nuclear fuel is used to boil water to produce steam, which spins the propeller-like blades of a turbine that turns the shaft of a generator to produce electricity in the amount of 300 MWe or less.

(c) *Nuclear Microreactors* means a portable nuclear reactor in which the energy (heat) released by the fissioning of nuclear fuel is used to boil water to produce steam, which spins the propeller-like blades of a turbine that turns the shaft of a generator to produce electricity in the amount of 20 MWe or less.

§ 54C003. Prohibition on the Production and Use of Nuclear Energy.

The production and use of Nuclear Energy is prohibited on Guam. No nuclear fission power plant, Small Modular Reactors (SMRs), or Nuclear Microreactors shall be constructed, imported, or used, and no radioactive material shall be disposed of on Guam."

Section 3. Effective Date. This act is effective upon enactment.