

Date of Hearing: July 1, 2024

ASSEMBLY COMMITTEE ON UTILITIES AND ENERGY

Cottie Petrie-Norris, Chair

AJR 18 (Davies) – As Introduced May 9, 2024

SUBJECT: Spent nuclear fuel: storage

SUMMARY: Urges the Congress of the United States to prioritize fulfilling the federal government's legal and contractual obligation to provide a home for spent nuclear fuel within California and 33 other states across the nation. Furthermore, urges Congress and the United States Department of Energy to take action to permit the relocation of the spent nuclear fuel in California and elsewhere to consolidated interim storage and ultimately a permanent repository.

Specifically, **this resolution:**

- 1) Finds California is home to four de facto interim spent nuclear fuel storage sites: the Diablo Canyon Power Plant in the County of San Luis Obispo, the Humboldt Bay Power Plant in the County of Humboldt, the Rancho Seco Nuclear Generating Station in the County of Sacramento, and the San Onofre Nuclear Generating Station in the County of San Diego; and
- 2) Finds spent nuclear fuel can be safely stored at reactor sites for decades, but communities in the vicinity of these and other commercial nuclear plants never consented to the long-term storage of spent nuclear fuel; and
- 3) Finds twelve United States commercial nuclear power reactors have been permanently closed over the last decade and United States Nuclear Regulatory Commission licenses for 85 of the nation's 92 commercial nuclear reactors are scheduled to expire by 2050, stranding spent nuclear fuel and hampering efforts to restore sites for other productive uses; and
- 4) Finds the United States inventory of spent nuclear fuel from commercial reactors now exceeds 90,000 metric tons of uranium (MTU) located at 76 sites in 34 states; and
- 5) Finds the amount of spent nuclear fuel is projected to increase nationwide at an average rate of approximately 1,800 MTU per year, accumulating an estimated 137,000 MTU by 2050, nearly twice the statutory limit for storing spent fuel at the only permanent disposal facility, known as a deep geologic repository, authorized to accept spent nuclear fuel in the United States; and
- 6) Finds the federal government has failed to meet its obligation to assume title, liability, and transportation of spent nuclear fuel now stranded in California and 33 other states as it was required to beginning in 1998, under the federal Nuclear Waste Policy Act of 1982 (Public Law 97-425) and by contract; and

- 7) Finds that a decade has passed since the bipartisan Blue Ribbon Commission on America's Nuclear Future issued its final report providing recommendations regarding siting future nuclear waste management facilities and options for waste disposal, and little progress has been made toward implementing its recommendations; and
- 8) Finds as of September 2020, the General Accounting Office reports that since the year 2000, all taxpayers in the United States have been forced to pay \$9,000,000,000 in damages for costs incurred to store spent nuclear fuel at reactor sites, and that these costs will grow to as much as \$30,600,000,000, until the federal government provides a consolidated interim storage facility or a deep geologic repository and takes custody of the spent nuclear fuel; and
- 9) Finds nuclear utility customers have prepaid \$46,000,000,000, including interest income, into the federal Nuclear Waste Fund for the development of storage and disposal facilities, including \$2,000,000,000 from California customers; and
- 10) Finds Assembly Joint Resolution 29 of the 2015–16 Regular Session, Relative to the Interim Consolidated Storage Act of 2015, adopted unanimously by the Assembly and the Senate, urged the passage of federal legislation to authorize interim consolidated storage and give priority for storage to high-level nuclear waste and spent nuclear fuel located on a site without an operating nuclear reactor, and called upon the United States Department of Energy to implement the prompt and safe relocation of spent nuclear fuel from the San Onofre Nuclear Generating Station to a licensed and regulated interim consolidated storage facility; now, therefore, be it
- 11) This resolution resolves the Assembly and the Senate of the State of California, jointly, that the Legislature of the State of California respectfully urges the Congress of the United States to prioritize fulfilling the federal government's legal and contractual obligation to provide a home for the spent fuel within California and 33 other states across the nation; and, be it further
- 12) This resolution resolves that the Legislature of the State of California respectfully urges the 118th Congress and the United States Department of Energy to take action on the recommendations contained in the final report of the Blue Ribbon Commission on America's Nuclear Future by developing the necessary statutory and regulatory framework, including revisions to the federal Nuclear Waste Policy Act of 1982, to permit the relocation of the spent nuclear fuel in California and elsewhere to consolidated interim storage and ultimately a permanent repository; and be it further
- 13) This resolution resolves the Chief Clerk of the Assembly transmit copies of this resolution to the President of the United States, to the Speaker of the House of Representatives, to the Majority Leader of the Senate, to each Senator and Representative from California in the Congress of the United States, to the Chairs and Ranking Members of the United States Senate Energy and Natural Resources Committee and the House Energy and Commerce Committee, and to the Secretary of Energy.

EXISTING LAW:

UNDER FEDERAL LAW: Nuclear Waste Policy Act of 1982 (NWPA) (42 U.S.C. § 10101, *et seq.*):

- 1) Establishes procedures to evaluate and select sites for geologic repositories and for the interaction of state and federal governments.
- 2) Supports the use of deep geologic repositories for the safe storage and/or disposal of radioactive waste.
- 3) Directs the US Department of Energy (DOE) to consider Yucca Mountain as the primary site for the first geologic repository.
- 4) Prohibits the US DOE from conducting site specific activities at a second site unless authorized by Congress.
- 5) Establishes a commission to study the need and feasibility of a monitored retrievable storage facility.

UNDER STATE LAW:

- 1) Prohibits any nuclear fission thermal powerplant requiring the reprocessing of fuel rods from being permitted unless the federal government has identified and approved, and there exists a technology for the construction and operation of, nuclear fuel rod reprocessing plants. (Public Resources Code Sections 25524.1 to 25524.3)
- 2) States, pursuant to the California Nuclear Facility Decommissioning Act of 1985, that the citizens of California should be protected from exposure to radiation from nuclear facilities. (Public Utilities Code Section 8321, *et seq.*)
- 3) Requires the California Energy Commission (CEC) to assess existing scientific studies to determine the vulnerability of very large generation facilities (1,700 megawatts or greater) to major disruptions due to aging or major earthquake and the resulting impacts on reliability, public safety, and the economy. Requires the CEC, in the absence of a long-term nuclear waste storage facility, assess the potential state and local costs and impacts associated with accumulating waste at California's nuclear powerplants. (Public Resources Code Section 25303)

FISCAL EFFECT: Unknown. This resolution is keyed non-fiscal by the Legislative Counsel.

BACKGROUND:

Federal Nuclear Waste Policy. As stated in existing federal law section, under the provisions of the NWPA of 1982, the federal government has responsibility for managing spent nuclear fuel produced by commercial reactors, and generators are responsible for bearing the costs of permanent disposal. The NWPA authorizes and requires the US DOE to locate and build a permanent repository and an interim storage facility and to develop a system to safely transport spent fuel from nuclear power plants to the repository and interim storage facility. The Act

directs the Nuclear Regulatory Commission (NRC) to license DOE to operate a repository only if it meets EPA's standards and all other relevant requirements.¹

In 1987, Congress designated Yucca Mountain, a complex of underground tunnels in Nevada, as a federal long-term geological repository for nuclear waste.² The State of Nevada has strongly opposed the planned Yucca Mountain repository on the grounds that the site is unsafe, pointing to potential volcanic activity, earthquakes, water infiltration, underground flooding, nuclear chain reactions, and fossil fuel and mineral deposits that might encourage future human intrusion.³ Furthermore, the Obama Administration decided not to use the site and instead appointed the Blue Ribbon Commission on America's Nuclear Future (Commission) to find a solution for permanent storage. In January 2012, the Commission recommended that efforts be made to develop a permanent disposal site for spent nuclear fuel and high-level radioactive waste. Because of the lack of a permanent repository site, nuclear waste is now being stored at commercial nuclear power plant sites.⁴

Nuclear Power in California. Of the four nuclear power plants developed in California by electric utilities, only one continues to operate today: Pacific Gas & Electric's (PG&E) Diablo Canyon power plant. The three other commercial nuclear power facilities, including PG&E's Humboldt Bay plant, Sacramento Municipal Utility District's Rancho Seco plant, and the San Onofre Nuclear Generation Station (SONGS) owned jointly by Southern California Edison, San Diego Gas & Electric, and the City of Riverside Utilities, are in various stages of decommissioning. Developed in the early 1960s, Humboldt Bay was shut down in 1976 for refueling and never restarted due to seismic and cost issues.⁵ Developed in the early 1970s, Rancho Seco was shut down in 1989 in response to voter referendum.⁶ Developed in the late 1960s, SONGS was closed in 2012 for repairs and permanently retired in 2013 due to uncertainty about repair timelines.

In 1976, the Legislature enacted a moratorium on new nuclear power plants until the federal government implements a solution to radioactive waste.⁷ The moratorium was challenged by PG&E and ultimately reviewed by the U.S. Supreme Court. In *PG&E v. Energy Commission* (1983),⁸ the Supreme Court upheld California's moratorium law. A key basis of the Court's decision was a division of authority to make safety determinations (federal) and economic determinations (state). The Court found that the absence of a permanent waste disposal site could lead to unknown negative economic consequences. So the moratorium has remained in effect and no new nuclear plant has been proposed in California since the Diablo Canyon and SONGS units that were in the permitting pipeline at the time the moratorium was enacted. Spent fuel from nuclear power plants can either be reprocessed to recover usable uranium and plutonium, or it

¹ 42 U.S.C. §10101 et seq. (1982)

² USGS, Pg. 2; "Yucca Mountain as a Radiactive Waste Repository."

³ Congressional Research Service, "Civilian Nuclear Waste Disposal"; Updated September 2018

⁴ Center for Strategic & International Studies, "Blue Ribbon Commission on America's Nuclear Future Issues a Final Report." February 2012

⁵ United State Nuclear Regulatory Commission, "Humboldt Bay" <https://www.nrc.gov/info-finder/decommissioning/power-reactor/humboldt-bay-nuclear-power-plant-unit-3.html>

⁶ CEC Rep, "Nuclear Reactors in California" March 2020

⁷ LAO, "A.G. File No. 2015-001" <https://lao.ca.gov/BallotAnalysis/Initiative/2015-001>

⁸Constitutional Law, "Constitutional Law - Preemption - Upholding California's Nuclear Moratorium - Pacific Gas and Electric Co. v. State Energy Resources Conservation and Development Commission." Volume 19, Issue 2, 1984

can be managed as a waste for long-term ultimate disposal. Since fuel reprocessing is not commercially available in the U.S.,⁹ spent fuel is typically held in temporary storage at reactor sites until a permanent long-term waste disposal option becomes available.¹⁰ To date, the CEC and NRC have not found that a demonstrated technology exists for the disposal of high-level nuclear waste. As such, high-level radioactive waste from all four California nuclear power plants remains stored on site.

COMMENTS:

- 1) *Author's Statement.* According to the author, "Our federal government has commitment to ensure communities that have housed nuclear energy facilities do not bare long-term risks and dangers with excess fuel. Residents in California have borne this burden for far too long. Citizens in my district have been exposed to the San Onofre Nuclear Generating Station for far too long. This resolution merely calls upon the federal government to do its job and begin the process of finding suitable and environmental acceptable sites to store this fuel."
- 2) *Purpose of the Resolution.* The federal government was required to begin accepting spent nuclear fuel from nuclear power plants by 1998, but the federal waste disposal program, designated for Nevada's Yucca Mountain, has been plagued with technical and legal challenges, managerial problems, licensing delays, persistent weaknesses in quality assurance for the program, and increasing costs.¹¹ Unfortunately, nuclear waste storage has cost US taxpayers an estimated \$10.6 billion to date,¹² with indefinite future liability. That liability arises from the contracts executed by the US Department of Energy (DOE) with the operators of nuclear power plants pursuant to the NWPA. Absent more congressional action, the nuclear waste remains at decommissioned nuclear plants continues to be generated at operating plants, creating new annual storage costs that are eventually passed to the DOE via recurring litigation or settlement claims.
- 3) *Opposition to the Resolution.* This resolution authorizes the DOE to implement the prompt and safe relocation of spent nuclear fuel from the San Onofre Nuclear Generating Station to a licensed and regulated interim consolidated storage facility. However, several Environmental Organizations are opposed to establishing Consolidated Interim Storage (CIS) sites for high level nuclear waste based on some of the following reasons:
 - Nuclear waste would have to be moved twice, once to the CIS site, then secondly to a permanent repository, and this increases the risk of accidents and radioactive release during transportation.
 - Proposed CIS sites are generally among communities of color who already face environmental injustices.
 - Establishment of CIS sites could take decades and may reduce the urgency for establishing a permanent deep geological disposal facility.

⁹ <https://www.nrc.gov/materials/reprocessing.html>

¹⁰ <https://www.gao.gov/nuclear-waste-disposal>

¹¹ Nevada Appeal; "Yucca Mountain remains in debate over nuclear waste storage"; January 2022.

¹² Mile Levin, "Rep. Mike Levin Weighs in on Congressional Hearing Regarding Nuclear Waste Management in the United States. <https://levin.house.gov/media/press-releases/rep-mike-levin-weighs-in-on-congressional-hearing-regarding-nuclear-waste-management-in-the-united-states>

4) *Prior Legislation*

AJR 29 (Chávez) of 2016, urges the passage of H.R. 3643 and urges the US DOE to implement the prompt and safe relocation of spent nuclear fuel from the SONGS to a licensed and regulated interim consolidated storage facility. Chapter 112, Statutes of 2016.

SJR 23 (Bates, 2016) urges Congress to pass the Interim Consolidated Storage Act of 2016 (House of Representatives (H.R.) 4745) and the US DOE to implement the prompt and safe relocation of spent nuclear fuel from SONGS to a licensed and regulated interim consolidated storage facility. Status Chapter 76, Statutes of 2016.

H.R. 3643 (Conaway, 11th Congressional District, 2015) amends the NWSA of 1982 to authorize the DOE to enter into new contracts (or modify existing contracts) with the licensee of an interim consolidated storage facility in order to take title to and store in it either high-level radioactive waste or spent nuclear fuel of domestic origin. Status: The bill was not enacted.

H.R. 4745 (Mulaney, 5th Congressional District) amends the NWSA of 1982 to authorize the Secretary of Energy to enter into contracts for the storage of certain high-level radioactive waste and spent nuclear fuel and take title to certain high-level radioactive waste and spent nuclear fuel. Status: The bill was not enacted.

REGISTERED SUPPORT / OPPOSITION:

Support

Association of California Cities - Orange County
 California State Parks Foundation
 Carlsbad Chamber of Commerce
 Greater Irvine Chamber of Commerce
 Laborers Local 89
 Orange County Business Council
 Orange County Coastkeeper
 Orange County Taxpayers Association
 Pacific Gas and Electric Company and Its Affiliated Entities
 San Diego Regional Chamber of Commerce
 San Luis Rey Band of Mission Indians
 San Onofre Nuclear Generating Station
 Spent Fuel Solutions
 University of California, San Diego
 Vista Chamber of Commerce

Opposition

350 Sacramento
 California Coastal Protection Network
 Cleanearth4kids.org
 Climate Resolve
 Coalition for Nuclear Safety
 Committee to Bridge the Gap

Ecological Options Network
Environmental Working Group
Gender & Radiation Impact Project
Live to A Healthy 100
Nuclear Hot Seat
Physicians for Social Responsibility - San Francisco Bay Area Chapter
Physicians for Social Responsibility, Los Angeles
Samuel Lawrence Foundation
San Clemente Green
San Luis Obispo Mothers for Peace
Three Mile Productions

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