HOUSE OF REPRESENTATIVES STAFF ANALYSIS

BILL #: HM 1137 New Nuclear Energy
SPONSOR(S): Overdorf
TIED BILLS: **IDEN./SIM. BILLS:**

REFERENCE	ACTION	ANALYST	STAFF DIRECTOR or BUDGET/POLICY CHIEF
1) Energy, Communications & Cybersecurity Subcommittee	16 Y, 0 N	Mortellaro	Keating
2) Commerce Committee			

SUMMARY ANALYSIS

Under Federal Law, the United States Nuclear Regulatory Commission (NRC) is responsible for licensing and regulating the operation of commercial nuclear power plants in the United States. NRC approval is necessary before a nuclear power plant can be built and operated, and the NRC holds continued oversight to ensure the nuclear power plants comply with their regulations to protect public health and safety, defense and security, and the environment.

Reprocessing turns used and unusable uranium and plutonium into usable energy resources, reclaiming and repurposing nuclear waste. Many countries have been implementing policies to reprocess nuclear fuel.

This memorial urges the President and Congress to take action to adjust regulatory policy as necessary to allow states the ability to conduct feasibility studies on reclamation and repurposing of spent nuclear fuel for new nuclear energy generation.

Legislative memorials are not subject to the Governor's veto powers and are not presented to the Governor for review. Memorials have no force of law, as they are mechanisms for formally petitioning the federal government to act on a particular subject.

This memorial does not have a fiscal impact on the state or local governments.

The Memorial is not subject to the Governor's veto powers.

FULL ANALYSIS

I. SUBSTANTIVE ANALYSIS

A. EFFECT OF PROPOSED CHANGES:

Current Situation

Reprocessing

Reprocessing generally refers to "the processes used to separate spent nuclear reactor fuel into nuclear materials that may be recycled for use in new fuel and material that would be discarded as waste."[1] While there are no commercial reprocessing facilities currently operating in the U.S., there are many in other countries.[2] The process of reprocessing turns used and unusable uranium and plutonium into usable energy resources, reclaiming and repurposing nuclear waste. The nuclear power formed from this process is a low-carbon source of energy, since it doesn't produce CO2 during operations.[3] Many European countries, Russia, China, and Japan have been implementing policies to reprocess nuclear fuel.[4]

The U.S. currently has 86,000 metric tons of spent nuclear fuel from commercial reactors which are stored at 75 sites.[5] The spent nuclear fuel is held in repositories.[6] While the U.S. has had three commercial reprocessing plants in the past, they are all currently decommissioned due to nuclear weapons proliferation concerns and level of radioactivity in the waste.[7]

Regulatory Policy for Licensing

For Nuclear Fuel Facilities

Under Federal Law, the United States Nuclear Regulatory Commission (NRC) is responsible for licensing and regulating the operation of commercial nuclear power plants in the United States.[8] Currently, all operating nuclear power plants have been licensed under a two-step process described in Title 10 of the Code of Federal Regulations (10 CFR) under Part 50.[9] This process requires a construction permit and an operating license.[10] In 1989, to improve regulatory efficiency and add more predictability to the licensing process, 10 CFR Part 52[11] was created, which includes a combined license that provides the construction permit and an operating license.[12] There are other licensing options under Part 52, such as Early Site Permits and certified standard plant designs.[13] NRC holds final authority of approval, and their approval is necessary before a nuclear power plant can be built and operated.[14] The NRC holds continued oversight of these plants to make sure they comply with NRC regulations to protect public health and safety, defense and security, and the environment.[15]

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[1] United States Nuclear Regulatory Commission, *Reprocessing*, https://www.nrc.gov/materials/reprocessing.html (last visited Mar. 27, 2023).
[2] *Id*.
[3] World Nuclear Association, *Processing of Used Nuclear Fuel* (Dec. 2020), https://world-nuclear.org/information-library/nuclear-fuel-cycle/fuel-recycling/processing-of-used-nuclear-fuel.aspx (last visited Mar. 23, 2023).
[4] *Id*.
[5] U.S. Government Accountability Office, *Commercial Spent Nuclear Fuel: Congressional Action Needed to Break Impasse and Develop a Permanent Disposal Solution*, https://www.gao.gov/products/gao-21-603 (last visited Mar. 27, 2023).
[6] *Id*.
[7] World Nuclear Association, *Processing of Used Nuclear Fuel*, https://world-nuclear.org/information-library/nuclear-fuel-cycle/fuel-recycling/processing-of-used-nuclear-fuel.aspx (last visited Mar. 27, 2023).
[8] United States Nuclear Regulatory Commission, *Backgrounder on Nuclear Power Plant Licensing Process*, https://www.nrc.gov/reading-rm/doc-collections/fact-sheets/licensing-process-fs.html (last visited Mar. 23, 2023).
[9] 10 CFR 50.
[10] Backgrounder on Nuclear Power Plant Licensing Process, *supra* note 7.
[11] 10 CFR 52.
[12] Backgrounder on Nuclear Power Plant Licensing Process, *supra* note 7.
[13] *Id*.
[14] *Id*.
[15] *Id*.

For Reprocessing Facilities

The Global Nuclear Energy Partnership (GNEP) was an initiative with a comprehensive strategy to increase U.S. and global energy security, reduce the risk of nuclear proliferation,[16] and improve the environment.[17] The primary goal of implementing this initiative was to establish domestic reprocessing. In 2008, the U.S. Congress reduced funding of GNEP and this goal dissipated. Between 2008 and 2013, the NRC received four letters from companies supporting an updated reprocessing regulatory framework. As a result of these letters, the NRC focused its efforts on creating a more broadly applicable framework for commercial reprocessing facilities.[18] In 2013, the NRC provided resource cost estimates that would be required to update the NRC regulatory framework for licensing a reprocessing facility.

In 2020, stakeholders including the Nuclear Energy Institute (NEI), the U.S. Department of Energy (DOE), the Union of Concerned Scientists (UCS), industry representatives, environmental groups, and private citizens got involved. In March of 2020, NEI and industry representatives voiced support for continuing rulemaking for a clear regulatory framework of reprocessing, but none of these industry stakeholders planned to apply for a reprocessing facility. UCS indicated that they do not support rulemaking because of proliferation concerns. The NRC reached out to organizations who create reactors. The NRC determined that in addition to using fresh fuel obtained from enrichment and fabrication, other advanced reactor designs would eventually be able to source fuel from spent fuel of other reactors; however, there was limited interest in pursuing reprocessing activities in the near future. DOE has some reprocessing initiatives, but none of their initiatives require NRC licensing.[19] Eventually, in 2021, the NRC staff determined that reprocessing licensing rulemaking is not currently justified due to the limited interest from potential applicants for reprocessing facilities and the expansive costs.[20]

Nuclear Power Plants in Florida

The NRC Regional Officer in Atlanta holds jurisdiction over Florida's nuclear power reactors. Currently, there are two operating nuclear power reactors,[21] no fuel cycle facilities,[22] and no uranium recovery facilities located in Florida. The four operating nuclear power reactor units, are located in two locations in Florida, St. Lucie[23] and Turkey Point.[24] These power plants generate 12% of the state's electricity.[25]

Feasibility Studies

[16] World 101, *What is Nuclear Proliferation*, https://world101.cfr.org/global-era-issues/nuclear-proliferation/what-nuclear-proliferation (last visited Mar. 27, 2023).
[17] *The Global Nuclear Energy Partnership: Greater Energy Security in a Cleaner, Safer World*, https://www.energy.gov/articles/global-nuclear-energy-partnership-0 (last visited Mar. 27, 2023).
[18] Reprocessing, *supra* note 1.
[19] While DOE reprocessing is not required to obtain licensing under the NRC, the NRC must be consulted and is required to monitor DOE waste disposal actions. U.S. Department of Energy, DOE M 435.1-1, *Radioactive Waste Management Manual*, https://www.directives.doe.gov/directives-documents/400-series/0435.1-DManual-1 (last visited Mar. 27, 2023); Office of Environmental Management, *How DOE Makes Reprocessing Waste Determinations*, https://www.energy.gov/em/how-doe-makes-reprocessing-waste-determinations (last visited Mar. 27, 2023).
[20] United States Nuclear Regulatory Commission, *DISCONTINUATION OF RULEMAKING – SPENT FUEL REPROCESSING*, https://www.nrc.gov/docs/ML2030/ML20301A388.pdf.
[21] A "nuclear power reactor" uses heat energy released from splitting atoms of certain elements to generate electricity. Uranium is the basic fuel; World Nuclear Association, *Nuclear Power Reactors*, https://world-nuclear.org/information-library/nuclear-fuel-cycle/nuclear-power-reactors/nuclear-power-reactors.aspx#:~:text=Nuclear%20Power%20Reactors%201%20Nuclear%20reactors%20work%20by,most%20of%20those%20operating%20are%20second-generation.%20More%20items (last visited Mar. 23, 2023).
[22] According to the NRC, "fuel cycle facilities" make nuclear fuel for commercial nuclear reactors or manufacture specialty materials for the U.S. Navy's nuclear fleet. There are three types: uranium conversion, uranium enrichment, and fuel fabrication. United States Nuclear Regulatory Commission, *Fuel Cycle Facilities*, https://www.nrc.gov/materials/fuel-cycle-fac.html (last visited Mar. 27, 2023).
[23] United States Nuclear Regulatory Commission, *St. Lucie Plant, Unit 1*, https://www.nrc.gov/info-finder/reactors/stl1.html (last visited Mar. 23, 2023); USNRC, *St. Lucie Plant, Unit 2*, https://www.nrc.gov/info-finder/reactors/stl2.html (last visited Mar. 23, 2023).
[24] United States Nuclear Regulatory Commission, *Turkey Point Nuclear Generating Unit 3*, https://www.nrc.gov/info-finder/reactors/tp3.html (last visited Mar. 23, 2023); United States Nuclear Regulatory Commission, *Turkey Point Nuclear Generating Unit 4*, https://www.nrc.gov/info-finder/reactors/tp4.html (last visited Mar. 23, 2023).
[25] Florida Energy Systems Consortium, *Florida Energy Facts*, http://floridaenergy.ufl.edu/florida-energy-facts/#:~:text=Florida%20was%20second%20only%20to%20Texas%20in%202014,including%20renewable%20energy%2C%20supplied%20the%20remaining%20electricity%20generation (last visited Mar. 23, 2023).

A feasibility study is an important step in developing new nuclear projects.[26] As an overview, a feasibility study will assess all aspects of energy demand, each energy option, cost and technical aspects, any the varying degrees of social and environmental implications to determine if it is possible, practical, and viable.[27]

Effect of the Memorial

The memorial urges the President and Congress to take action to adjust regulatory policy as necessary to allow states the ability to conduct feasibility studies[28] on reclamation and repurposing of spent nuclear fuel for new nuclear energy generation.

Legislative memorials are not subject to the Governor's veto power and are not presented to the Governor for review.[29] Memorials have no force of law, as they are mechanisms for formally petitioning the federal government to act on a particular subject. Upon adoption by both chambers, copies of the memorial will be sent to the President of the United States, the President of the United States Senate, the Speaker of the United States House of Representatives, and each member of the Florida delegation to the United States Congress.

B. SECTION DIRECTORY:

None.

II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

A. FISCAL IMPACT ON STATE GOVERNMENT:

1. Revenues:

None.

2. Expenditures:

None.

B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

1. Revenues:

None.

2. Expenditures:

None.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

None.

D. FISCAL COMMENTS:

None.

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[26] International Atomic Energy Agency, *Preparation of a Feasibility Study for New Nuclear Power Projects*, IAEA NUCLEAR ENERGY SERIES NO. NG-T-3.3 (2014), https://www-pub.iaea.org/MTCD/Publications/PDF/Pub1633Web-39794849.pdf.

[27] *Id*.

[28] *Id*.

[29] A "memorial" is a measure addressed to an executive agency or another legislative body, usually Congress, which expresses the consensus of the Florida Legislature or urges that certain action be taken on a matter within the jurisdiction of the agency or body to which it is addressed. When both houses adopt the measure, the memorial is signed by the legislative officers and transmitted to the Secretary of State for presentation to the addressee. A memorial is not subject to the approval or veto powers of the Governor, is not subject to constitutional title requirements, and does not have the effect of law. The Florida Senate, *Glossary*, https://www.flsenate.gov/Reference/Glossary (last visited Mar. 23, 2023).

III. COMMENTS

A. CONSTITUTIONAL ISSUES:

1. Applicability of Municipality/County Mandates Provision:

Not applicable. This bill does not appear to affect county or municipal governments.

2. Other:

None.

B. RULE-MAKING AUTHORITY:

None.

C. DRAFTING ISSUES OR OTHER COMMENTS:

None.

IV. AMENDMENTS/COMMITTEE SUBSTITUTE CHANGES