

★ Recent Legislative Actions:

- October: Lawmakers have introduced legislation in the House to help small businesses engaged or seeking to engage in the research, development, and deployment of advanced nuclear reactors in the United States (U.S.) The Nuclear Assistance for America's Small Businesses Act would amend the Nuclear Energy Innovation and Modernization Act (NEIMA) to allow small businesses to delay 50% of their preapplication fees to the Nuclear Regulatory Commission (NRC), as well as 35% of their post-application fees, over a period of 10 years.
- October: The DOE announced that the Inflation Reduction Act will specifically provide \$150 million for infrastructure improvements at DOE's Idaho National Laboratory (INL) to enhance nuclear energy research and development. The funding will support nearly a dozen projects at INL's Advanced Test Reactor (ATR) and the Materials Fuels Complex (MFC), both of which have been operational for over 50 years and serve an instrumental role in advancing nuclear technologies for federal agencies, industry, and international partnerships.



- ★ October 13, 2022: X-energy and its TRISO-X subsidiary broke ground at the TRISO-X Fuel Fabrication Facility (TF3) in Oak Ridge, TN. The facility will be the first fuel fabrication facility licensed to make commercial HALEU fuel for advanced reactors, and is expected to be commissioned and in operation by 2025.
- ★ October 21, 2022: The Department of Energy's Advanced Research Projects Agency- Energy (DOE ARPA-E) has dedicated \$38 million for a dozen projects that will work to reduce the impacts of light-water reactor used nuclear fuel disposition. The projects target recycling, reducing the volume of high-level waste requiring permanent disposal, and providing safe domestic advanced reactor fuel stocks.
- ★ October 26, 2022: Global Nuclear Fuel–Americas (GNF-A) and TerraPower announced plans to build a Sodium fuel fabrication facility next to GNF-A's existing fuel plant near Wilmington, N.C. The site has supported the boiling water reactor designs of GE (GNF-A's majority owner) and GE Hitachi Nuclear Energy (GEH) for more than 50 years. The new Sodium Fuel Facility will produce metallic high-assay low-enriched uranium (HALEU) fuel for the sodium fast reactor, Sodium, that TerraPower is developing with GEH.
- ★ November 4, 2022: The Diablo Canyon Power Plant in California has been conditionally selected to receive the first round of funding from the Civil Nuclear Credit (CNC) program. Funded by the Bipartisan Infrastructure Law, the \$6 billion CNC program supports the continued operations of safe and reliable nuclear energy facilities, preserving thousands of well-paying clean energy jobs and avoiding carbon emissions.
- ★ November 10, 2022: DOE announced a \$150 million cost-shared award with American Centrifuge Operating, LLC to demonstrate the nation's ability to produce HALEU. HALEU is not currently available at commercial scale from domestic suppliers and is required by most U.S. advanced reactor designs. The HALEU Availability Program is also supported by \$700 million in funding from the Inflation Reduction Act.
- ★ November 14, 2022: The NRC accepted a construction application under review from for a Molten Salt research reactor at Abilene Christian University, in Abilene Texas. This represents the first application for a new US research reactor in more than 30 years, and the first ever for an advanced university research reactor.

LICENSING ACTIONS

Vendors and utilities that wish to certify a new reactor design or a potential site or construct and operate a new nuclear power plant must submit an application to the NRC, which will then conduct an in-depth review of safety and environmental aspects related to the design and / or site.

Reactor Design Certifications (DC)

By issuing a DC, the NRC approves a nuclear power plant design, independent of an application to construct or operate a plant. A DC is valid for 15 years from the date of issuance but can be renewed for an additional 10 to 15 years. A DC application (DCA) must include enough information to show the design meets NRC's safety standards and that the design resolves any existing generic safety issues and issues that arose after specific events in the nuclear industry such as the Three Mile Island accident. Applications must closely analyze the design's appropriate response to accidents or natural events, including lessons learned from the Fukushima accident. Applications must also lay out the inspections, tests, analyses, and acceptance criteria that will verify the construction of key design features. Certification reviews identify key information to consider in site-specific reviews for operating licenses. *(From NRC website)*

As of September 2022, four reactor designs that are being considered for future builds in the U.S. have been certified by the NRC. In addition, one SMR design is currently under NRC review (NuScale). One of the four certified designs is under renewal review. Two previously submitted designs have been withdrawn from consideration¹.

	VENDOR	TECHNOLOGY	STATUS
Issued	Westinghouse	AP1000	Issued: 12/30/2011
	General Electric-Hitachi	ESBWR	Issued: 11/14/2014
	Korea Electric Power Corp	APR1400	Issued: 9/19/2019
Renewal	General Electric-Hitachi	ABWR	Originally Issued: 5/12/1997 Final Safety Evaluation Report approved in March 2020
Active DCAs	NuScale Power	NuScale SMR Power Module	² Under Review: Standard Design Approval received on 9/30/2020

¹ AREVA US-EPR – Submitted December 12, 2007, and docketed February 25, 2008; review suspended at the request of the applicant. Mitsubishi Heavy Industries US-APWR – Submitted December 31, 2007, and docketed February 29, 2008; MHI has requested a deferral of the review due to their work on reactor restarts in Japan.

² The NRC's Office of Public Affairs issued a statement on July 29, 2022, indicating that the Commission has directed staff to issue a final rule that certifies NuScale's small modular reactor design. The certification will be effective 30 days after the NRC publishes the rule in the Federal Register.

Early Site Permits (ESP)

By issuing an early site permit (ESP), the U.S. Nuclear Regulatory Commission (NRC) approves one or more sites for a nuclear power facility, independent of an application for a construction permit or combined license. An ESP is valid for 10 to 20 years from the date of issuance and can be renewed for an additional 10 to 20 years. In reviewing an ESP application, the NRC staff will address site safety issues, environmental protection issues, and plans for coping with emergencies, independent of the review of a specific nuclear plant design. During this process, the NRC notifies all stakeholders (including the public) as to how and when they may participate in the regulatory process, which may include participating in public meetings and opportunities to request a hearing on the issuance of an ESP. *(From NRC website)*

Six ESPs have been issued and one was withdrawn.³

		SITE/LOCATION		UTILITY	TECHNOLOGY REFERENCED	STATUS
Issued	Clinton	IL	Exelon	Plant Parameter Envelope (PPE)	Issued: 3/15/2007	
	Grand Gulf	MS	Entergy	PPE	Issued: 4/5/2007	
	North Anna	VA	Dominion Power	PPE	Issued: 11/27/2007 Amended 1/30/2013	
	Vogtle	GA	Southern	AP1000/ Westinghouse	Issued: 8/26/2009	
	Salem County	NJ	PSEG	PPE	Issued: 5/5/2016	
	Clinch River	TN	TVA	PPE	Issued: 12/19/2019	

³Victoria County Station, Texas (Exelon) was withdrawn from NRC review October 2012

Combined Construction and Operating Licenses (COL)

By issuing a COL, the NRC authorizes the licensee to construct and (with specified conditions) operate a nuclear power plant at a specific site, in accordance with established laws and regulations. In a COL application (COLA), NRC staff reviews the applicant's qualifications, design safety, environmental impacts, operational programs, site safety, and verification of construction with inspections, testing, analyses, and acceptance criteria. The staff conducts its review in accordance with the Atomic Energy Act, NRC regulations, and the National Environmental Policy Act. All stakeholders (including the public) are given notice as to how and when they may participate in the regulatory process, which may include participating in public meetings and opportunities to request a hearing on the issuance of a COL. Once issued, a COL is good for 40 years and can be renewed for an additional 20. A COL application may reference a certified design and/or an ESP, or neither. *(From NRC website)*

A COL is valid indefinitely. If a licensee chooses not to construct a plant immediately following the issuance of a COL, it must submit a COL update annually to the NRC to reflect the most recent regulatory requirements and any new or different environmental or design information, or it can request an exemption. To begin construction, the COL must be fully updated. Alternatively, a licensee can choose to withdrawal their COL if they no longer wish to proceed with the plants.

A total of nineteen COL applications have been docketed by the NRC. Eight applications, totaling 14 reactors, have been issued COLs and one is under review. Eight applications were suspended and later withdrawn⁴ due to utility, economic or other considerations while two applications remain in “suspended” status⁵. After the COL was issued, three applications, totaling six reactors, were subsequently terminated.⁶ Oklo Power LLC

		SITE/LOCATION		UTILITY	REACTOR TECHNOLOGY/ NO. of REACTORS		STATUS
Issued	Vogtle	GA	Southern Nuclear	AP1000	2	Issued: 2/10/2012	
	Fermi	MI	DTE Energy	ESBWR	1	Issued: 5/1/2015	
	William States Lee	SC	Duke Energy	AP1000	2	Issued: 12/19/2016	
	North Anna	VA	Dominion Energy	ESBWR	1	Issued: 6/2/2017	
	Turkey Point	FL	Florida Power and Light	AP1000	2	Issued: 4/12/2018	

⁴ Suspended and Withdrawn: Bell Bend; Bellefonte 3&4 Callaway 2, Calvert Cliffs 3, Grand Gulf 3, Nine Mile Point 3, River Bend 3, Victoria County 1&2,

⁵ Remains Suspended: Shearon Harris 2&3, Comanche Peak 3&4

⁶ Terminated: Levy 1&2, South Texas Project 3&4, V.C. Summer 2&3

⁷ Denied 1/6/2022: Oklo Power LLC, Idaho National Laboratory, Aurora 1

Construction Permit Applications

A construction permit application for a production or utilization facility submitted to the NRC under Title 10 of the Code of Federal Regulations Part 50, "Domestic Licensing of Production and Utilization Facilities" consists of two parts: an environmental report and a preliminary safety analysis report (PSAR).

After receiving the construction permit application, NRC staff begins its review by making an initial determination on completeness and acceptability of the application. Should the NRC staff determine that the application is incomplete or otherwise unacceptable, the staff will inform the applicant and explain how the application is deficient. The applicant will then have the opportunity to correct the deficiencies. Once the staff determines that it has enough information to continue with a thorough technical review of the submittal, the NRC will formally docket the application.

Following an application's acceptance for docketing, there are several significant review milestones including the following: issuance of a request or requests for additional information, preparation of a safety evaluation report, development of either an environmental assessment or environmental impact statement, independent review of the application and safety evaluation report by the Advisory Committee on Reactor Safeguards (ACRS), potential contested hearing(s), mandatory hearing.

Finally, the Commission will make a decision to either grant or deny the construction permit based on the application, NRC staff's safety evaluation report, the recommendations of the ACRS, and the outcome of any contested hearings and the mandatory hearing. As of November 16, 2022, two application are under review, one of them a new submission as of August 2022.

The newest accepted application, for a Molten Salt Research Reactor (MSRR) at Abilene Christian University (ACU) in Abilene, Texas, is the first ever application for an advanced university research reactor. ACU submitted the application for the Nuclear Energy eXperimental Testing Lab (NEXT), which includes the 1MW, non-power MSRR, in August. The facility will provide a platform to research molten-salt technology, as well as educational opportunities in nuclear science and engineering. ACU is the lead university in the NEXT Research Alliance (NEXTRA), which includes Georgia Institute of Technology, Texas A&M University, and the University of Texas at Austin. The alliance has a \$30.5 million research grant agreement with Natura Resources to design and build a university-based MSRR. ACU has worked through several aspects of the MSRR with the NRC over two years of pre-application activities. Due to this proactive approach, the NRC estimates a review schedule of 18 months, and expects that environmental and safety reviews will be complete by May 2024.

	SITE/LOCATION		VENDOR	REACTOR TECHNOLOGY/ NO. of REACTORS	STATUS	
Under Review	Abilene Christian University	Abilene, TX	NEXTRA	MSRR	1	Under Review
	East Tennessee Technology Park, ORNL	Oak Ridge, TN	Kairos Power, LLC	KP-FHR	1	Under Review

Facility License Applications

Fuel cycle facilities must comply with the regulatory requirements established by the NRC. The regulations contain the basic safety standards that the fuel cycle facilities need to meet. Each facility also has an NRC license which contains site-specific requirements that the facility is required to comply with. Each license is unique and is specific to the nuclear material and hazards present at the fuel cycle facility.

A total of five facilities have been docketed by the NRC. Two licensed facilities were terminated⁷, and one other facility was issued a construction authorization before it was terminated at the request of the company⁸. One facility has been licensed; however construction is not currently proceeding⁹.

In June 2021, the NRC approved a license amendment authorizing Centrus Energy Corp to demonstrate commercial production of HALEU at the American Centrifuge Plant. In September, installation of the HALEU demonstration centrifuges in cascade form was halted temporarily until a contract could be competitively awarded for the HALEU demonstration project.

	SITE/LOCATION		VENDOR	FACILITY and FUEL TYPE		STATUS
Under Review	American Centrifuge Plant	Piketon, OH	Centrus Energy Corp.	Centrifuge Enrichment	HALEU	Approved

^{7,8} Terminated: Eagle Rock Enrichment Facility, GLE Uranium Enrichment Facility, Mixed-Oxide Fuel Fabrication Facility

⁹ Suspended: Fluorine Extraction Process and Depleted Uranium Deconversion (FEP/DUP) Plant

Two facilities are currently in the pre-application process, the Kairos Atlas fuel fabrication facility and the TRISO-X fuel fabrication facility. Both facilities would be located in Oak Ridge, TN, and would manufacture HALEU TRISO particles and pebbles. Both groups are currently in discussion with the NRC on pre-application activities.

On November 10, 2022, the DOE announced an approximately \$150 million cost-shared award with American Centrifuge Operating, LLC, a subsidiary of Centrus Energy Corp, to demonstrate the nation’s ability to produce HALEU. Advancing domestic capability to produce HALEU will set the stage for larger, commercial-scale HALEU production in the US, providing important fuel stability for advanced reactors to achieve smaller designs, longer operating cycles, and increase efficiencies over existing technologies.

The award includes a \$30 million cost share during the first year to start up and operate 16 advanced centrifuges in a cascade at a Department of Energy facility in Piketon, Ohio. The facility represents the only U.S. plant licensed to produce HALEU at present. The cascade is expected to meet the demonstration requirements by enriching uranium hexafluoride gas to produce 20 kilograms of 19.75% enriched HALEU by December 31, 2023. They will then continue production in 2024 at an annual rate of 900 kilograms of HALEU per year, subject to appropriations, with additional options to produce more material under the contract in future years.

DOE is pursuing multiple pathways to produce HALEU through its HALEU Availability Program authorized by the Energy Act of 2020 to meet this pressing need. Following the HALEU demonstration, the centrifuge technology used at the facility will be available for commercial deployment.

NEW PLANT CONSTRUCTION

Vogtle

Framatome has completed the second 18-month period of its GAIA Protect Enhanced Accident Tolerant Fuel (EATF) technology at Unit 2. Inspections afterward revealed that the full-length chromium-coated fuel rods maintained their original characteristics, while the chromia-enhanced pellets operated as designed during 36 months of reactor operation.

Following authorization from the Nuclear Regulatory Commission (NRC) that fuel loading and operation may commence at Unit 3, Southern Company began loading fuel on October 14, 2022. The authorization comes after the completion of the inspections, tests, analyses, and acceptance criteria (ITAACS), the final regulatory step prior to loading fuel into the core. Unit 3 is expected to begin operation in the first quarter of 2023. The Vogtle NPP is the first reactor to achieve this milestone under the NRC's combined license process.



*Vogtle Unit 3 (Courtesy of Georgia Power/
Southern Company, April 2021)*

Structural integrity and integrated leak rate test were completed in February of 2022, which demonstrates the integrity and robustness of the plant's structure and its ability to perform under normal and extraordinary circumstances. Cold hydro testing of Unit 4 is currently in progress and will be followed by hot functional testing. Cold hydro testing will ensure the reactor's coolant system will function as designed and that the system will not leak when subjected to the pressures encountered during operation. Hot functional testing is conducted by running plant systems at normal operating pressure and temperature to ensure the reactor systems and components function as designed prior to loading fuel into the core. Unit 4 is expected to begin operation in the fourth quarter of 2023.

The most recent update to the schedule and cost projection for the project came in Georgia Power's FY 2022 3rd quarter earnings statement. The revised schedule projects an in-service date of the first quarter of 2023 and the fourth quarter of 2023 for Unit 3 and 4, respectively.

VC Summer

At the time of its August 2017 cancellation, the V.C. Summer project was about 65% complete. All four steam generators for Units 2 and 3 were being installed, while two of the four reactor coolant pumps for Unit 2 reactor are on site. Units 2 and 3 were planned to come online in April 2020 and December 2020, respectively.

OPERATING FLEET STATUS

Nation-Wide Status

As the pioneer of nuclear power development, the United States is the world's largest producer of nuclear power, accounting for approximately 25% of worldwide nuclear generation of electricity. Currently, there are 92 reactors operating in the United States. In 2020, the fleet produced approximately 790 thousand Megawatt-hours (MWh), approximately 20% of America's total electrical output and nearly 55% of our emissions-free electricity. Since the early 1970s, the U.S. nuclear industry has significantly improved its safety and operational performance. By the turn of the century, it was among world leaders with a record-breaking capacity factor in 2019 of over 94%.

In deregulated electricity markets, nuclear power plants are facing financial challenges from zero marginal cost variable power sources and a reduction in the price of natural gas. While increased focus on nuclear energy as a critical part of a clean-energy future for the country, significant collaboration will be necessary from government and industry in order to maintain and grow the U.S.'s nuclear power generating capabilities.

License Renewal and Uprate Status

License Renewal

Sixty-one reactors have received 20-year extensions of their operating licenses from the NRC, including Kewaunee, Vermont Yankee, Fort Calhoun, Oyster Creek, and Pilgrim, which are now permanently closed.

Applications for License Renewal

- ★ Issued Renewals:
 - No recently issued applications
- ★ Applications Currently Under Review:
 - Currently no applications for license renewal currently under review
- ★ Anticipated Future Renewal Submittals:
 - Clinton Power Station Unit 1
 - Dresden Units 2 & 3
 - Comanche Peak Units 1 & 2
 - Perry Unit 1

Subsequent (Second) License Renewal

The NRC staff has defined subsequent license renewal (SLR) to be the period of extended operation from 60 years to 80 years.

Applications for Subsequent License Renewal

- ★ Issued Subsequent Renewals¹⁰:
 - Surry Units 1 & 2 (Issued: 12/04/19)
 - Turkey Point Units 3 & 4 (Issued: 03/05/20)
 - Peach Bottom Units 2 & 3 (Issued: 05/04/21)

¹⁰ On February 24th, 2022, the NRC revised the requirements for environmental reviews of SLR applications. The Generic Environmental Impact Statements used on SLRs were deemed invalid beyond 60 years of operation, and applicants will be required to complete an "adequate NEPA review for each application."

- ★ Applications Currently Under Review:
 - North Anna Power Station Units 1 & 2 (Received: 08/24/20)
 - Point Beach Units 1 & 2 (Received: 11/16/20)
 - Oconee Nuclear Station Units 1, 2, & 3 (Received: 06/07/21)
 - St. Lucie Units 1 & 2 (Received: 08/03/21)

- ★ Anticipated Future Subsequent Renewal Submittals:
 - Monticello Unit 1 (Estimated: Jan-March 2023)
 - Browns Ferry Units 1, 2, & 3 (Estimated: December 2023)
 - Virgil C. Summer Unit 1 (Estimated: Oct-Dec 2023)
 - Edwin I. Hatch Units 1 & 2 (Estimated: Oct-Dec 2025)

- ★ The Nuclear Regulatory Commission is seeking public comment on the scope of its supplemental environmental impact statement (SEIS) on the subsequent licenses renewal for Turkey Point Units 3 and 4, twin pressurized water reactors operated by Florida Power & Light (FPL). FPL previously conducted an SLR environmental scoping process conducted in 2018 and resulted in an SLR for Turkey Point in December 2019. According to an October 7, 2022 NRC press release, “The staff intends to examine the environmental issues the commission determined were not properly evaluated for the subsequent license renewal term, as well as any new information for Turkey Point site-specific issues.”

Operating Fleet Uprate Activities

U.S. nuclear power plants have submitted power uprate applications to the NRC since the 1970s, accounting for an additional 8,010 MWe of output.

- ★ Recently Approved
 - Farley Units 1 & 2 (Approved: 10/09/20)
 - Watts Bar Unit 2 (Approved: 10/21/20)
 - Oconee Units 1, 2, & 3 (Approved: 1/26/21)
 - Millstone Unit 3 (Approved: 11/09/21)
- ★ Pending Applications:
 - No pending applications
- ★ Expected Applications
 - As of March 18, 2022, there are 0 expected applications for power uprates (per NRC). However, several plants have announced their intentions to submit an application.

Operating Fleet Status: Supportive Federal and State Action

Initiatives are taking place at the national and state level to ensure a more competitive market for nuclear power. For example, the states of New York, Illinois, New Jersey, Ohio, Pennsylvania, and California have taken action to level the playing field and include nuclear energy in their clean energy policies and have averted the closure of ten power plants.

- ★ On September 1st, 2022, the California legislature voted to provide funds to ensure the continued operation of the Diablo Canyon nuclear plant. The Bill reversed the State’s 2016 decision to retire the plant by 2025 and approved a \$1.4 billion government loan to extend its operation to 2030. In addition to this funding, the plant was recently conditionally selected as a beneficiary of the CNC program and will receive additional federal funding to ensure it continues to operate. As a result, Pacific Gas and Electric Company filed a letter to the NRC on October 31, 2022, officially requesting that the NRC resume its review of the utility’s license renewal application for Diablo Canyon Units 1 and 2.
- ★ In early October, Michigan Governor Gretchen Whitmer approved legislation requiring a feasibility study to examine the potential for new nuclear generation in the state. The mandated study is due to the governor and leaders of the state legislature in April 2024.

Thirteen plants (19 reactors) had previously announced they intended to close prior to their license expiration date but have been saved due to State Actions:

ORIGINALLY PROPOSED CLOSURE YEAR	SITE / LOCATION		UTILITY	LICENSE EXPIRATION (TERM)	POWER (MWe)
2017	FitzPatrick	NY	Entergy	2034 (60)	852
	Ginna	NY	Exelon	2029 (60)	582
	Clinton	IL	Exelon	2026 (40)	1,065
2017-18	Nine Mile Point – 1 & 2	NY	Exelon	2029 / 2046 (60)	1,780
2018	Quad Cities 1 & 2	IL	Exelon	2032 (60)	1,820
2020	Davis-Besse	OH	Energy Harbor	2037 (60)	893
2021	Perry	OH	Energy Harbor	2026 (40)	1,261
	Beaver Valley	PA	Energy Harbor	2036 / 2047 (60)	1,872
	Byron – 1 & 2	IL	Exelon	2044 / 2046 (60)	2,300
	Dresden – 1 & 2	IL	Exelon	2029 / 2031 (60)	1,773
2022	Salem – 1 & 2	NJ	PSEG	2036 / 2040 (60)	2,304
	Hope Creek		PSEG	2046 (60)	1,172
2024-2025	Diablo Canyon 1 & 2	CA	PG&E	2024/2025(40)	2,240
				Total Saved	19,914

Operating Fleet Status: Premature Closure

Some of the nuclear plants now closing are doing so because of state policy pressure (as with New Jersey’s Oyster Creek, and New York’s Indian Point), and some have had maintenance issues that were too costly to fix. However, most plants are closing or threatening closure because—given the economics in some regions—they have become unable to compete against primarily low-cost, gas-fired generation and, to a lesser extent, subsidized and mandated "variable renewable energy," such as wind- and solar-power.

- ★ Twelve plants (14 reactors) have closed prior to their license expiration date:

CLOSURE YEAR	SITE / LOCATION		UTILITY	LICENSE EXPIRATION (TERM)	POWER (MWe)
2013	Crystal River 3	FL	Duke	2016 (40)	860
	San Onofre 2 & 3	CA	SoCal Edison	2023 / 2024 (40)	2,150
	Kewaunee	WI	Dominion	2033 (60)	566
2014	Vermont Yankee	VT	Entergy	2032 (60)	620
2016	Fort Calhoun	IN	Omaha Power	2033 (60)	479
2018	Oyster Creek	NJ	Exelon	2029 (60)	610
2019	Pilgrim	MA	Entergy	2032 (60)	685
	Three Mile Island 1	PA	Exelon	2034 (60)	803
2020	Indian Point 2	NY	Entergy	2024 (60)	998
	Duane Arnold	IA	NextEra	2034 (60)	615
2021	Indian Point 3	NY	Entergy	2025 (60)	1,030
2022	Palisades ⁷	MI	Entergy	2031 (60)	789
				Total Closed since 2013:	10,205

⁷On May 20, 2022 The Palisades Nuclear Power Plant shut down operations and ownership was transferred to Holtec International, with plans to decommission the plant. However, on June 28, 2022, Holtec applied for funds under the CNC Program, with the intention to eventually reopen the plant.

- ★ Currently, no reactors have announced plans to retire prior to their license expiration date.

PENDING CLOSURE YEAR	SITE / LOCATION	UTILITY	LICENSE EXPIRATION (TERM)	POWER (MWe)	
				Total Pending Closures:	0

INTERNATIONAL NUCLEAR ACTIVITIES

- ★ October 10, 2022: Westinghouse and Ansaldo Nucleare announced the signing of a cooperation agreement to develop a next-generation nuclear power plant based on lead-cooled fast reactor (LFR) technology. Owned by Italy's Ansaldo Energia, Ansaldo Nucleare is involved in the production of high-tech nuclear components; the design and construction of new builds; decommissioning; and advanced research on radwaste management, fusion, fourth-generation plants, and small modular reactors. In addition, the firm played a significant role in the development of such Generation III technologies as Westinghouse's AP600 and AP1000 reactors. Under the agreement, Westinghouse and Ansaldo Nucleare will advance a common design to maximize synergies; combine experience in design, testing, and licensing; and align respective partner and supply-chain organizations.
- ★ October 27, 2022: The Canada Infrastructure Bank (CIB) has finalized an agreement with Ontario Power Generation, committing C\$970 million (about USD\$715 million) to Canada's first small modular reactor, GEH's BWRX-300, to be located at OPG's Darlington nuclear power plant in Clarington, Ontario. The agreement with OPG is the bank's largest investment in clean power to date.
- ★ November 3, 2022: Poland's Council of Ministers announced that they have chosen U.S.-based Westinghouse as the technology provider in the first phase of their estimated \$40 billion inaugural civil nuclear project. The DOE led U.S. engagement with Poland on civil nuclear energy cooperation under the framework of an Intergovernmental Agreement which entered into force in February 2021, and co-chaired a bilateral Steering Committee created to advance the project. This represents one of the largest civil nuclear projects ever awarded to U.S. industry and the first since 2007.