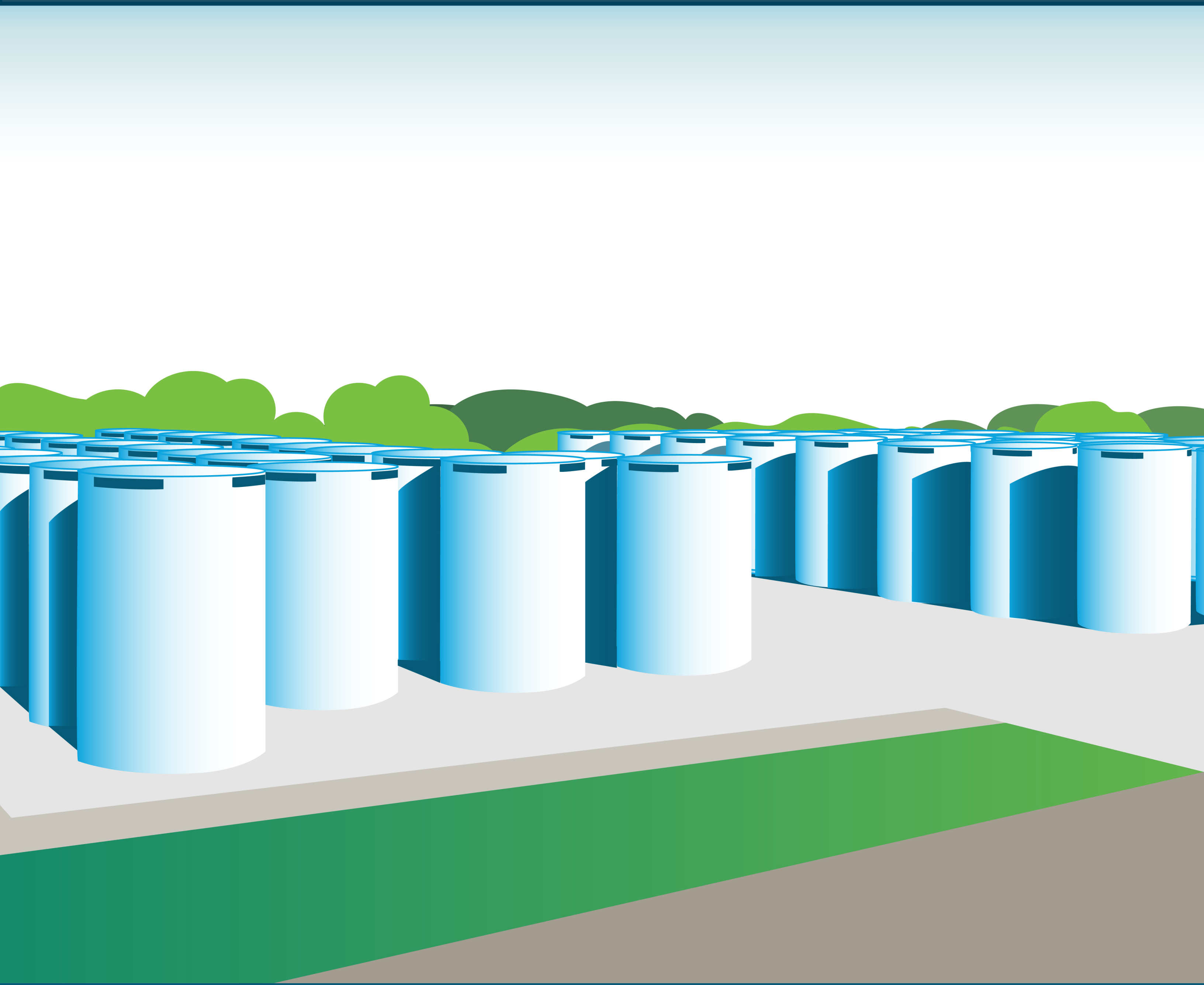
SPENT NUCLEAR FUEL AND REPROCESSING WASTE INVENTORY

December 2025



U.S. DEPARTMENT OF ENERGY | Office of NUCLEAR ENERGY | SPENT FUEL & HIGH-LEVEL WASTE DISPOSITION

INL/RPT-25-88353 Rev. 002

Spent Nuclear Fuel and Reprocessing Waste Inventory

December 2025

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SUMMARY

This report provides information on the inventory of spent nuclear fuel (SNF) in the United States located at Nuclear Power Reactor (NPR) and Independent Spent Fuel Storage Installation (ISFSI) sites, as well as SNF and reprocessing waste located at U.S. Department of Energy (DOE) sites and other research and development (R&D) centers as of the end of calendar year 2024. Actual quantitative values for current inventories are provided along with inventory forecasts derived from examining different future nuclear power generation scenarios, based on information available and assumptions made at the time the scenarios were developed. The report also includes select information on the characteristics associated with the wastes examined (e.g., type, packaging, heat generation rate, decay curves).

ACKNOWLEDGMENTS

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ACRONYMS

ATR	Advanced Test Reactor
BWR	Boiling Water Reactor
CoC	Certificate of Compliance
DOE	Department of Energy
EIA	Energy Information Administration
EIS	Environmental Impact Statement
GTCC	Greater-than-Class-C (category of radioactive waste)
GWd/MT	Gigawatt-days per Metric Ton (of Initial Uranium)
GWSB	Glass Waste Storage Building
HFIR	High Flux Isotope Reactor
HIP	Hot Isostatic Pressing
HLW	High-Level Radioactive Waste
IHLW	Immobilized High-level Waste
INL	Idaho National Laboratory
ISFSI	Independent Spent Fuel Storage Installation
LLRW	Low-Level Radioactive Waste
LWR	Light Water Reactor
MCO	Multi-Canister Overpack
MT	Metric Tons
MTHM	Metric Tons Initial Heavy Metal (typically equivalent to MTU)
MTU	Metric Tons Initial Uranium
NNPP	Naval Nuclear Propulsion Program
NPR	Nuclear Power Reactor
NRAD	Neutron Radiography
NRC	Nuclear Regulatory Commission
NSNFP	National Spent Nuclear Fuel Program
OCRWM	Office of Civilian Radioactive Waste Management
ORNL	Oak Ridge National Laboratory
PWR	Pressurized Water Reactor
R&D	Research and Development
SFD	Spent Fuel Database
SFP	Spent Fuel Pool
SFWD	DOE’s Office of Spent Fuel and High-Level Waste Disposition
SNF	Spent Nuclear Fuel
SNL	Sandia National Laboratories
SRS	Savannah River Site
TMI	Three Mile Island

TREAT	Transient Reactor Test Facility
TRU	Transuranic
UFDC	Used Fuel Disposition Campaign
WESF	Waste Encapsulation and Storage Facility
WTP	Waste Treatment Project

1. INTRODUCTION

This report[2] provides information on the inventory of spent nuclear fuel (SNF) and reprocessing waste including high-level radioactive waste (HLW)[3] in the United States as of the end of calendar year 2024. Inventory forecasts for SNF were made for a few selected scenarios of future nuclear power generation involving the existing reactor fleet. This introductory section (Section 1) provides an overview of the SNF inventory based on three location categories: Nuclear Power Reactor (NPR) and Independent Spent Fuel Storage Installation (ISFSI) sites, U.S. Department of Energy (DOE) sites, and other research sites (i.e., universities, other government agencies, and commercial research centers). Section 2 presents more detailed information on the SNF located at NPR and ISFSI sites (excluding DOE ISFSIs). A more in-depth discussion on the SNF located at DOE sites is provided in Section 3. Research and development (R&D) centers are discussed in Section 4. Reprocessing waste located on government-owned (federal or state) sites is provided in Section 5. Additional and supporting information is contained in the appendices, namely information on NPR SNF characteristics; SNF discharges by reactor; and inventory forecast breakouts by reactor, storage location, site, state, U.S. Nuclear Regulatory Commission (NRC) region, and Congressional Districts. This report was sponsored by DOE's Office of Spent Fuel and High-Level Waste Disposition (SFWD) within the Office of Nuclear Energy and has been generated for SFWD planning and analysis purposes.

[2] This is a technical report that does not take into account contractual limitations or obligations under the Standard Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste (Standard Contract) (10 CFR Part 961).

To the extent discussions or recommendations in this report conflict with the provisions of the Standard Contract, the Standard Contract governs the obligations of the parties, and this report in no manner supersedes, overrides, or amends the Standard Contract.

This report reflects technical work which could support future decision making by DOE. No inferences should be drawn from this report regarding future actions by DOE, which are limited both by the terms of the Standard Contract and Congressional appropriations for the Department to fulfill its obligations under the Nuclear Waste Policy Act including licensing and construction of a spent nuclear fuel repository.

[3] This report does not necessarily reflect final classifications for the material being discussed; for example, material referred to as "HLW" or "SNF" may be managed as HLW and SNF, respectively, without having been actually classified as such for disposal.

1.1 INVENTORY SUMMARY

As of the end of 2024, the U.S Inventory of SNF and primary reprocessing waste was located at over 100 sites in 39 states. These locations include commercial NPR and ISFSI sites; DOE sites; and other R&D sites. Figure 1-1 provides the approximate locations for:

- 73 Sites of Commercial NPRs and/or ISFSIs[4] (often co-located) with SNF stored onsite including:
    - 72 sites of 74 Light Water Reactor (LWR) nuclear power plants with a total of 96 NPRs operating or planned to resume operations and 25 permanently shutdown NPRs, including both pressurized water reactors (PWRs) and boiling water reactors (BWRs) (see Table 2-1)
    - 1 away-from-reactor NPR SNF pool storage ISFSI (see Table 2-3).
- 6 DOE Sites with SNF storage and/or DOE research reactors (see Section 3)
- 28 other R&D Sites including:
    - 20 university research reactor sites[5] (see Section 4.1)
    - 4 other government agency research reactors (see Section 4.2)
    - 4 commercial R&D centers (see Section 4.3).
- 4 Reprocessing Waste Storage Sites
    - 3 DOE sites with primary reprocessing waste (see Section 5.1)
    - 1 commercial HLW storage location (see Section 5.2).

This information as well as the total U.S. SNF inventory in metric tons of heavy metal (MTHM) at the end of 2024 is summarized in Table 1-1, which is comprised of SNF at NPRs and non-DOE ISFSI locations, some SNF at DOE sites, and a much smaller amount at other R&D centers. The number of vitrified reprocessing waste canisters is composed primarily of DOE vitrified waste canisters with a small inventory of vitrified commercial reprocessing waste canisters at the West Valley Demonstration Project.

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[4] Excludes ISFSIs at DOE sites including the ISFSI in Colorado for SNF from the Fort St. Vrain nuclear power plant, which used a gas-cooled reactor, and the Three Mile Island Unit 2 (TMI-2) ISFSI at the Idaho National Laboratory (INL). For the purposes of this report, the Nine Mile Point nuclear power plant and James A. Fitz Patrick nuclear power plant are considered to be at a single site. Similarly, the Hope Creek nuclear power plant and Salem nuclear power plant are considered to be at a single site.

[5] Excludes a reactor critical facility and three operational AGN-201 reactors at universities, which operate at very low power and are not expected to have to be refueled prior to permanent shutdown and associated fuel discharge.

Table 1-1 U.S. SNF and Reprocessing Waste Inventory Summary as of December 31, 2024

Commercial Spent Nuclear Fuel at Nuclear Power Reactor and ISFSI Sites (excluding DOE)	95,117 MTHM[a]
Total Amount of Commercial Discharged PWR Spent Nuclear Fuel[b]	141,861 Assemblies 61,743 MTHM[a]
Total Amount of Commercial Discharged BWR Spent Nuclear Fuel[b]	187,376 Assemblies 33,447 MTHM[a]
Total Number of Commercial Spent Nuclear Fuel Canisters/Casks in Dry Storage (See Section 2.1)	4,169
Spent Nuclear Fuel at DOE Sites (includes SNF from DOE Research Reactors)	2,482 MTHM[a,c]
Spent Nuclear Fuel at Other Sites (University and Other Government Research Reactors, Commercial R&D Centers)[d]	1 MTHM[a]
Number of Sites Having One or More Commercial Nuclear Power Reactors and/or ISFSIs with SNF Stored Onsite (excluding DOE Sites) [e]	73
Number of Sites Having All Nuclear Power Reactors Permanently Shutdown with SNF Stored Onsite (excluding DOE Sites, See Section 2)	18
Number of Nuclear Power Reactors Operating or Planned to Resume Operations	96[f]
Number of Permanently Shutdown Nuclear Power Reactors with SNF Stored Onsite (excluding DOE sites)	25
Number of DOE Sites with SNF storage and/or DOE research reactors (see Section 3)	6
Number of University Research Reactor Sites (see Section 4.1)[g]	20
Number of Other Government Agency Research Reactors (see Section 4.2)	4
Number of Commercial R&D Centers with SNF (see Section 4.3)	4
Number of Primary Reprocessing Waste or HLW Storage Sites (see Section 5.1)[h]	4
Number of Vitrified Reprocessing Waste Canisters at DOE Sites	4,452[i]
Number of Vitrified Reprocessing Waste Canisters at West Valley Site	278[j]

[a] Values are rounded to the nearest MTHM.

[b] SNF inventories are the inventories estimated as being permanently discharged through December 31, 2024 from the commercial light water NPRs listed in Table 2-1. Includes 73 MTU of SNF that was transferred to DOE sites for R&D purposes. Excludes SNF that was reprocessed at West Valley in NY, removed from Three Mile Island Unit 2 (TMI-2), or discharged from the Fort St. Vrain reactor (now decommissioned).

[c] Includes SNF from DOE research and production activities, Naval SNF, and SNF discharged from the decommissioned Fort St. Vrain gas-cooled reactor. See Table F-1 for more details.

[d] Includes university reactors, other government agency research reactors, commercial R&D centers (see sum of Table 4-1, Table 4-2, and Table 4-3, respectively) for SNF.

[e] Excludes ISFSIs at DOE sites including the ISFSI in Colorado for SNF from the Fort St. Vrain nuclear power plant, which used a gas-cooled reactor, and the TMI-2 ISFSI at the Idaho National Laboratory (INL). Includes the Morris away-from-reactor pool storage ISFSI. The Nine Mile Point nuclear power plant and James A. Fitz Patrick nuclear power plant are considered to be at a single site. Similarly, the Hope Creek nuclear power plant and Salem nuclear power plant are considered to be at a single site.

[f] This includes TMI Unit 1 (TMI-1) (Crane Clean Energy Center) and Palisades Nuclear Plant, shutdown reactors planned to be restarted.

Table notes continued on next page.

Table notes (continued).

[g] Excludes a reactor critical facility and three operational AGN-201 reactors at universities which operate at very low power and which are not expected to have to be refueled prior to permanent shutdown and associated fuel discharge.

[h] Includes 3 DOE sites with primary reprocessing waste (see Section 5.1) and 1 commercial (HLW) storage location (see Section 5.2).

[i] Accounts only for the current inventory of vitrified reprocessing waste canisters produced through December 31, 2024 (all from the Savannah River Site). Reprocessing waste, which has yet to be treated, is not included. All canisters produced thus far are 2 feet in diameter × 10 feet tall.

[j] Commercial vitrified reprocessing waste canisters from the West Valley Demonstration Project, including 2 canisters used to evacuate the melter prior to decommissioning and 1 non-routine (end-of-process) canister. The West Valley Demonstration Project is located at the Western New York Nuclear Service Center which is owned by New York State Energy Research and Development Authority.

1.2 REVISION HISTORY

This document is expected to be a “living” document with expanded additional information and scenarios to develop a broad range of potential inventory for program planning purposes. A description of the revision history for this report is provided in APPENDIX G.

Locations of Spent Nuclear Fuel and Reprocessing Waste

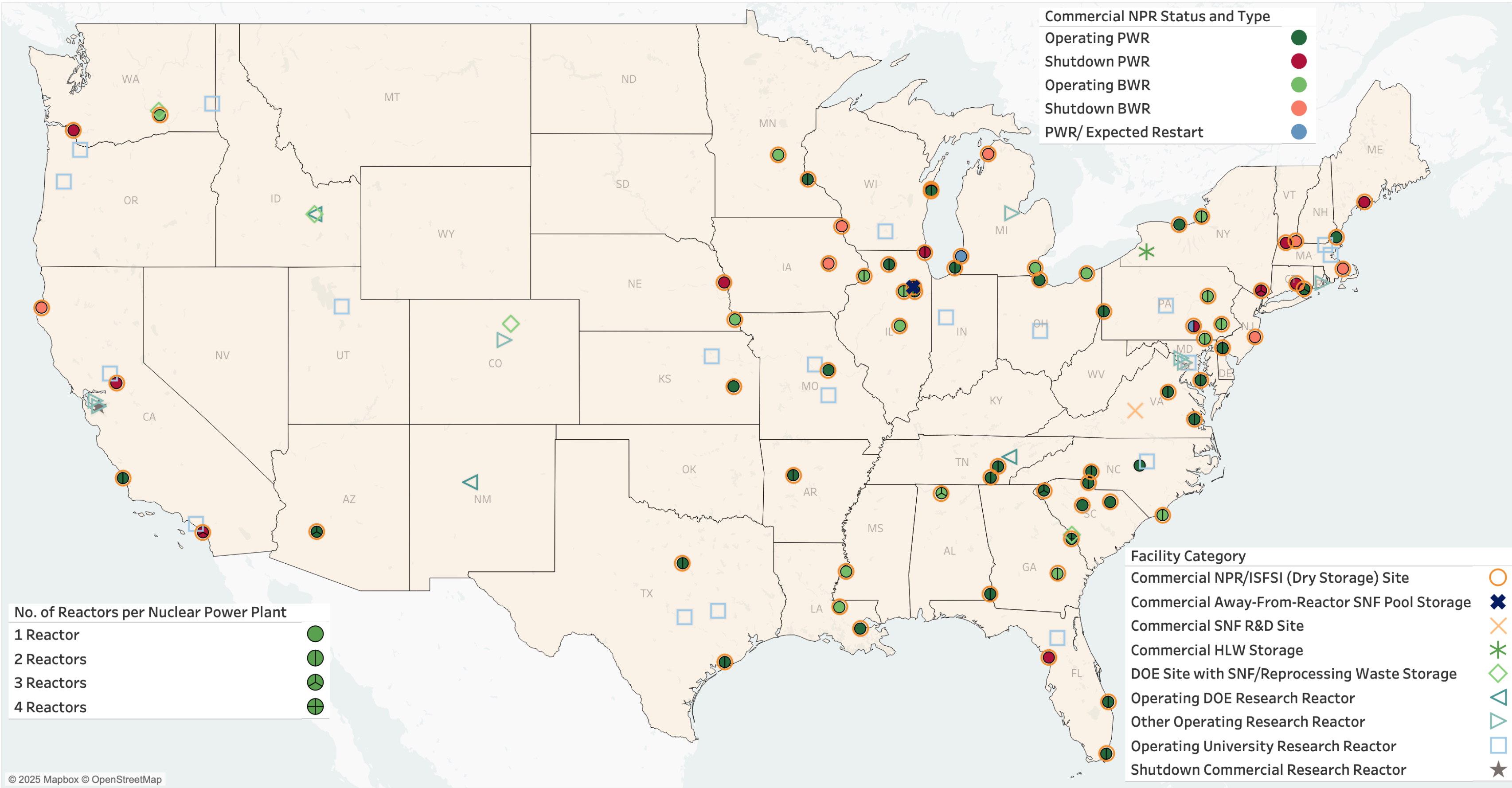

Figure 1-1 Sites Storing Spent Nuclear Fuel and Reprocessing Waste at the End of 2024

2. SNF AT NPR AND ISFSI SITES (EXCLUDING DOE LOCATIONS)

NPRs have operated in the United States since about 1960. Excluding several civilian reactors categorized as experimental electric-power reactors (e.g., Vallecitos Boiling Water Reactor, Saxton Nuclear Experimental Reactor Project) or those used primarily for purposes other than central-station nuclear power generation (e.g., N.S. Savannah), 133 NPRs have been built for civilian nuclear power generation. Nine of these were early prototype or demonstration reactors, which have since been or are in a state of being decommissioned (e.g., Peach Bottom 1 and Shippingport in Pennsylvania and Fermi 1 in Illinois) and for which SNF no longer remains on site (SNF remaining from these demonstration reactors is discussed in Section 3.1.1). Fort St. Vrain was a high-temperature gas-cooled reactor in Colorado, which was also decommissioned; however, SNF discharged from this reactor is currently managed by DOE and stored partly in an Independent Spent Fuel Storage Installation (ISFSI) near the reactor site and partly at the Idaho National Laboratory (INL) see Section 3.1.2.

Of the remaining 123 NPRs, all are LWRs. One LWR (Shoreham in New York) never operated at full power and was decommissioned; the SNF was transferred to another reactor and discharged there. A second (Three Mile Island Unit 2, in Pennsylvania) was disabled, and the vast majority of the SNF debris is managed by the DOE at INL; see Section 3.1.2. For the 121 other NPRs, 25 were in permanent shutdown status at the end of 2024, leaving 96 NPRs licensed to operate at that time.

A nuclear power plant includes one or more reactor units, along with supporting balance-of-plant equipment for power generation. Although a geographic site could encompass more than one nuclear power plant, typically there is only one nuclear power plant per site. Most of these plants also have a co-located ISFSI. After all the reactors are permanently shutdown and later decommissioned, the only facility that might remain at the site is a standalone ISFSI. A simple site grouping structure has been adopted for these nuclear power plant sites and other non-DOE ISFSIs and is used throughout the report. The grouping structure is provided below to distinguish between nuclear power plant sites based on the operational status of their reactors.

Nuclear Power Plant Sites (with NPRs and/or co-located ISFSI):

Group A: sites with all reactors permanently shutdown (**A**ll units shutdown).

Group B: sites with at least one reactor permanently shutdown co-located with at least one reactor continuing to operate (status is **B**etween Group A and Group C sites).

Group C: sites with all reactors operating or expected to resume operation in the near future, i.e., none permanently shutdown (**C**ontinuing operations with all reactors).

Other Non-DOE ISFSI Sites:

Group F: Away-**F**rom-Reactor ISFSI.

Within each group, a numeric value of 1 is appended to the site group identifier for a site with only dry SNF storage. A value of 2 is used to identify a site with both wet and dry storage, and a value of 3 is appended to sites with SNF in wet storage only. For example, Yankee Rowe is included in Site Group A and Subgroup A1, since the entire inventory of shutdown reactor SNF is currently in dry storage. Seabrook and Surry are included in Site Group C and Subgroup C2, with both wet and dry stored SNF.

Table 2-1 provides a list of LWR power plants by their assigned Groups/Subgroups. The ISFSI associated with the Fort St. Vrain gas-cooled nuclear power plant is included under Section 3.1 on SNF at DOE Sites.

Group A sites are those sites with shutdown reactors with no continuing nuclear operations and with SNF remaining onsite. This includes SNF from reactors that ceased operations prior to 2000 and where all SNF is in dry storage with reactor decommissioning that is complete or nearing completion. These reactors are sometimes also referred to as "legacy" shutdown reactor sites, since these sites have not had an operating reactor on the site for at least 20 years. Group A also includes SNF from reactors that ceased operations after 2000. These reactors are sometimes referred to "Early Shutdown Reactors" since operations were halted prior to achieving 60 years of operations.

In addition to the shutdown reactor sites, SNF from two shutdown reactors (i.e., Dresden 1 in Illinois and Millstone 1 in Connecticut) is stored on sites co-located with operating reactors (Group B). Figure 1-1 illustrates the locations of these shutdown NPRs.

For the LWRs with SNF still located on site,[6] SNF is currently stored in pools or dry storage casks within an ISFSI with disposal in a geologic repository envisioned in a once-through fuel cycle. Some NPR SNF has been transferred to DOE (see Section 3.1.2). The General Electric-Hitachi facility at Morris, Illinois (the lone Group F Site) is currently the only non-DOE-operated, NRC-licensed pool storage facility that is not co-located at a reactor site. In September 2021, the NRC approved an Away-from-Reactor ISFSI license application for Interim Storage Partners in Texas, but the facility has not yet been constructed. An Away-from-Reactor ISFSI license application for Holtec International in New Mexico was approved by the NRC in May 2023, but that facility has also not been constructed. In August 2023, the U.S. Court of Appeals for the Fifth Circuit vacated both licenses. The NRC is evaluating the Fifth Circuit decisions and next steps.

SNF from commercial LWRs includes irradiated fuel discharged from PWRs and BWRs. The fuel used in these reactors primarily consists of uranium dioxide pellets encased in zirconium alloy (Zircaloy). A small number of early fuel designs used stainless steel cladding. The fuel assemblies vary in physical configuration, depending upon reactor type and manufacturer.

Discharged SNF data has been collected periodically through the Nuclear Fuel Data Survey conducted using Form GC-859 for the Office of Standard Contract Management within the Office of General Counsel (formerly part of Office of Civilian Radioactive Waste Management [OCRWM]). APPENDIX A, Table A-1 and Table A-2 present the assembly class, array size, fuel manufacturer, assembly version, assembly type code, length, width, and cladding material of PWR SNF and BWR SNF, respectively. Physical dimensions are those of unirradiated assemblies. Within an assembly class, assembly types are of a similar size. APPENDIX A, Table A-3 presents the manufacturer, initial uranium load, enrichment, and burnup characteristics of NPR SNF assembly types in existence at the end of 2017. Some new fuel types have been introduced since 2017; however, similar information to that presented in APPENDIX A is not available because non-propriety data sources do not exist.

[6] Excluding the spent fuel debris at Three Mile Island Unit 2.

Table 2-1 LWR Nuclear Power Reactor Sites by Group/Subgroup (as of December 2024)

Group A: Sites with All Units Permanently Shutdown (# of Units) – 23 Reactors/18 Sites (Note: Currently Group "A" Sites only have dry storage capability)	
A1 (Dry Storage)	
Big Rock Point (1)	Pilgrim (1)
Crystal River (1)	Rancho Seco (1)
Duane Arnold (1)	San Onofre (3)
Fort Calhoun (1)	Trojan (1)
Haddam Neck (1)	Vermont Yankee (1)
Humboldt Bay (1)	Yankee Rowe (1)
Indian Point (3)	Zion (2)
Kewaunee (1)	
LaCrosse (1)	
Maine Yankee (1)	
Oyster Creek (1)	

Group B: Mixed Status Sites (# of Units) – Total 6 Reactors (4 Operating, 2 Shutdown) /2 Sites (Note: Currently All Group 'B' Sites have both Dry and Wet Storage Capabilities)
B2[a] (Dry and Pool Storage)
Dresden (3)
Millstone (3)

Group C: All Units Operating or Expected to Resume Operation (# of Units)– 92 Reactors/54 Nuclear Power Plants/52 Sites (Note: All Group "C" Sites have Wet Storage Capabilities)				
C1 (Dry Storage)	**C2 (Dry and Pool Storage)**			
Crane Clean Energy Center (1)[d]	Arkansas Nuclear One (2)	Cooper (1)	Monticello (1)	Saint Lucie (2)
C3 (Pool Storage)	Beaver Valley (2)	Davis-Besse (1)	Nine Mile Point (2)[e]	Salem (2)[f]
Harris (1)	Braidwood (2)	Diablo Canyon (2)	North Anna (2)	Seabrook (1)
	Browns Ferry (3)	Farley (2)	Oconee (3)	Sequoyah (2)
	Brunswick (2)	Fermi (1)[b]	Palisades (1)[c]	South Texas (2)
	Byron (2)	Fitzpatrick (1)[e]	Palo Verde (3)	Summer (1)
	Callaway (1)	Ginna (1)	Peach Bottom (2)[b]	Surry (2)
	Calvert Cliffs (2)	Grand Gulf (1)	Perry (1)	Susquehanna (2)
	Catawba (2)	Hatch (2)	Point Beach (2)	Turkey Point (2)
	Clinton (1)	Hope Creek (1)[f]	Prairie Island (2)	Vogtle (4)
	Columbia (1)	La Salle (2)	Quad Cities (2)	Waterford (1)
	Comanche Peak (2)	Limerick (2)	River Bend (1)	Watts Bar (2)
	Cook (2)	McGuire (2)	Robinson (1)	Wolf Creek (1)

[a] Two B2 Sites have a single shutdown reactor and two operating reactors.

[b] Does not include prototype (Fermi 1), experimental (Peach Bottom-1), or disabled (TMI-2) reactors.

Table notes continued on next page.

Table notes (continued).

[c] Palisades is currently shutdown but is anticipated to restart.

[d] The TMI-1 Unit is being referred to as the Crane Clean Energy Center. This reactor unit is currently shutdown but is anticipated to restart.

[e] The Nine Mile Point nuclear power plant and James A. Fitz Patrick nuclear power plant are considered to be at a single site in this table due to proximity and site boundary/exclusion area considerations.

[f] The Hope Creek nuclear power plant and Salem nuclear power plant are considered to be at a single site in this table due to proximity and shared ISFSI.

2.1 CURRENT NPR AND AWAY-FROM-REACTOR SNF INVENTORY

The source of historical inventory data for this report is information collected from the Nuclear Fuel Data Survey conducted periodically for the U.S. DOE. Information collected from GC-859 forms is available on an assembly basis for SNF discharges from 1968 through December 2022.

To develop an inventory estimate beyond 2022, SNF discharge projections were developed using the U.S. Commercial Spent Nuclear Fuel Projection tool (Vinson 2015). The methodology used by the tool is documented in *Description and Validation of a Revised Tool for Projecting U.S. Commercial Spent Nuclear Fuel Inventory* (Vinson 2015). The tool allows for multiple methodologies for handling plant capacity factors, reactor uprates, and other operating inputs. Based on the validation report findings, the methodology utilized in this report makes no adjustment for reactor-specific capacity factors or U.S. Energy Information Administration (EIA)-forecasted nuclear energy demand data. This methodology was found to provide the best agreement to GC-859 data (<1.4% difference between preliminary GC-859 and projected assembly discharged data between the beginning of 2003 and the end of 2012) (Vinson 2015).

The projection method forecasts each LWR individually, and these quantities have been adopted for this study except for shutdown reactors that have published the actual quantities of discharged SNF. Actual discharges from reactors shutdown prior to December 31, 2022, are taken from the GC-859 survey data. Data for reactors shutdown after this date are a combination of the historical data and the forecast discharges up to the announced or assumed shutdown date.

Table 2-2 provides the SNF discharged at the end of 2022 by reactor type and the projected discharges in 2023 and 2024. The total projected inventory is in metric tons (MT) of uranium (MTU) contained in multiple discharged assemblies. The table provides actual discharges through December 31, 2022, from the GC-859 data set and projected discharges in 2023 and 2024.

Table 2-2 Estimated NPR SNF Discharged through 12/31/2024 by Reactor Type and projections from 2023 and 2024, Partially detailed by GC-859[a]

Reactor Type	Assemblies till 2022	Initial Uranium (MT) through 2022	Assemblies (2023–2024)	Initial Uranium (MT) (2023–2024)	Assemblies Through 2024	Initial Uranium (MT) Through 2024
PWR	135,523	58,954	6,338	2,789	141,861	61,743
BWR	179,466	32,023	7,910	1,425	187,376	33,447
Totals	**314,989**	**90,977**	**14,248**	**4,214**	**329,237**	**95,190**

[a] Excludes SNF that was reprocessed at West Valley in NY, removed from TMI-2, or discharged from the Fort St. Vrain reactor (now decommissioned).

2.1.1 SNF TRANSFERS

The values reported in Table 2-2 indicate reported discharge quantities by reactor type and do not reflect subsequent transfer of discharged SNF assemblies. Utilities did not report (via GC-859 forms) SNF that was transferred to West Valley, NY, for reprocessing. Prior to 2000, some discharged SNF was transferred to other locations. Five reactors transferred some of their discharged SNF to the pool storage facility at Morris, IL. Table 2-3 details the transfers to Morris.

The Nuclear Fuel Data Survey process indicates approximately 73 MTU of SNF from the reactors listed in Table 2-1 were transferred to DOE for R&D purposes, such as fuel rod consolidation, dry storage demonstrations, and nuclear waste vitrification projects. This SNF has been transferred to the DOE and is not stored in NRC-licensed facilities. DOE has dispositioned some of the material transferred, with 68 MTU in storage. This quantity does not include Fort St. Vrain and TMI-2 SNF debris that is stored in an NRC-licensed ISFSI at INL. See Section 3.1.2.

Since 2000, essentially all SNF generated has remained on the generating reactor sites in either pool or dry storage. Some utilities did transfer some SNF between their operating reactors (Table 2-4).

Table 2-3 SNF Transferred to Pool Storage at Morris, Illinois

Reactor [Unit] (Site Subgroup)	Operating Status	Transferred to Morris	
		Assemblies	Initial Uranium (MT)
Cooper (C2)	Operating	1,054	198.02
Dresden 2 (B2)	Operating	753	145.19
Monticello (C2)	Operating	1,058	198.19
Haddam Neck (A1)	Shutdown	82	34.48
San Onofre 1 (A2)	Shutdown	270	98.41
Totals		**3,217**	**647.29**

Table 2-4 Nuclear Power Reactor SNF Transfers

Discharge Reactor	Transferred SNF		Transferred to Reactor Site
	Assemblies	Initial Uranium (MT)	
Robinson	304	136.8	Brunswick
Robinson	504	215.8	Shearon Harris
Brunswick	4,397	800.3	Shearon Harris
Oconee	300	139.4	McGuire

Table 2-5 provides a summary of SNF inventory, by site group and storage method, as of December 31, 2024. This table excludes discharges that were reprocessed at West Valley, NY, and transfers to DOE for R&D purposes and therefore represents the quantity of SNF stored at the 73 sites of commercial LWR NPRs and/or ISFSIs including the away-from-reactor pool storage ISFSI at Morris, IL.

Table 2-6 provides the end of 2024 inventory remaining at the LWR sites by storage method accounting for all known SNF transfers (this does not include the inventory at Morris). The dry storage assembly and canister/cask quantities as of December 31, 2024, have been derived from publicly available sources (StoreFUEL 2024). The balance of the projected inventory remains in the reactor pools. The end of 2021 marked the first year that there is more SNF in dry storage than in the reactor pools. APPENDIX B provides additional details on a reactor-specific basis and site group basis.

Figure 2-1 illustrates the current distribution by site group and storage method, and Figure 2-2 illustrates the current distribution of storage casks by site group.

The burnup (GWd/MTHM) distribution and the initial enrichment (% U-235) distribution for the inventory (as extracted from GC-859 data and projection data at the end of 2024) are shown in Figure 2-3. Like the discharge quantities, the enrichment and burnup for individual LWRs is based on the last five discharge cycles reported in the GC-859 database. Adjustments are made for reactor power uprates where applicable. These values are also used to generate Figure 2-4 through Figure 2-6, described below:

- Figure 2-4 shows the annual average burnup (GWd/MT) and the initial enrichment (% U-235) between 1968 and 2024
- Figure 2-5 provides the burnup (GWd/MT) distribution based on assembly counts for the PWR and BWRs
- Figure 2-6 provides the burnup (GWd/MT) distribution based on the initial uranium mass (MTU) for the PWR and BWRs.

Table 2-5 Spent Nuclear Fuel Inventory by Reactor Group/Subgroup (As of 12/31/2024)

Site Group/ Subgroup	Dry Inventory[a]			Pool Inventory		Site Total	
	Assemblies	Initial Uranium (MT)[b]	Number of Casks	Assemblies	Initial Uranium (MT)[b]	Assemblies	Initial Uranium (MT)[b]
Group A Sites							
A1	35,505	10,673	862	–	–	35,505	10,673
A2	–	–	–	–	–	–	–
A3	–	–	–	–	–	–	–
A	**35,505**	**10,673**	**862**	–	–	**35,505**	**10,673**
Group B Sites							
B1	–	–	–	–	–	–	–
B2	8,575	1,859	155	10,432	2,396	19,007	4,255
B3	–	–	–	–	–	–	–
B	**8,575**	**1,859**	**155**	**10,432**	**2,396**	**19,007**	**4,255**
Group C Sites							
C1	1,663	786	46	–	–	1,663	786
C2	138,032	40,014	3,106	125,096	36,979	263,128	76,993
C3	–	–	–	6,484	1,735	6,484	1,735
C	**139,695**	**40,800**	**3,152**	**131,580**	**38,715**	**271,275**	**79,515**
Group F Sites							
F	–	–	–	3,217	674	3,217	674
Total All Sites	**183,775**	**53,332**	**4,169**	**145,229**	**41,785**	**329,004**	**95,117**

[a] Discharges exclude NPR SNF reprocessed at West Valley in NY, removed from TMI-2, discharged from the decommissioned Fort St. Vrain reactor, or transferred to DOE for R&D purposes.

[b] Mass values for totals were rounded to the nearest MTHM.

Table 2-6 Current Inventory at NPR sites by Storage Method as of 12/31/2024

Reactor Type	Dry Inventory			Pool Inventory		Total Discharged SNF	
	Assemblies	Initial Uranium (MT)	SNF Casks	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
PWR	102,127	18,062	1,499	78,198	14,168	180,325	32,230
BWR	81,648	35,271	2,670	63,814	26,943	145,462	62,213
Totals	**183,775**	**53,332**	**4,169**	**142,012**	**41,111**	**325,787**	**94,443**

APPENDIX B, Table B-1—Table B-5 provide additional details on a reactor-specific basis.

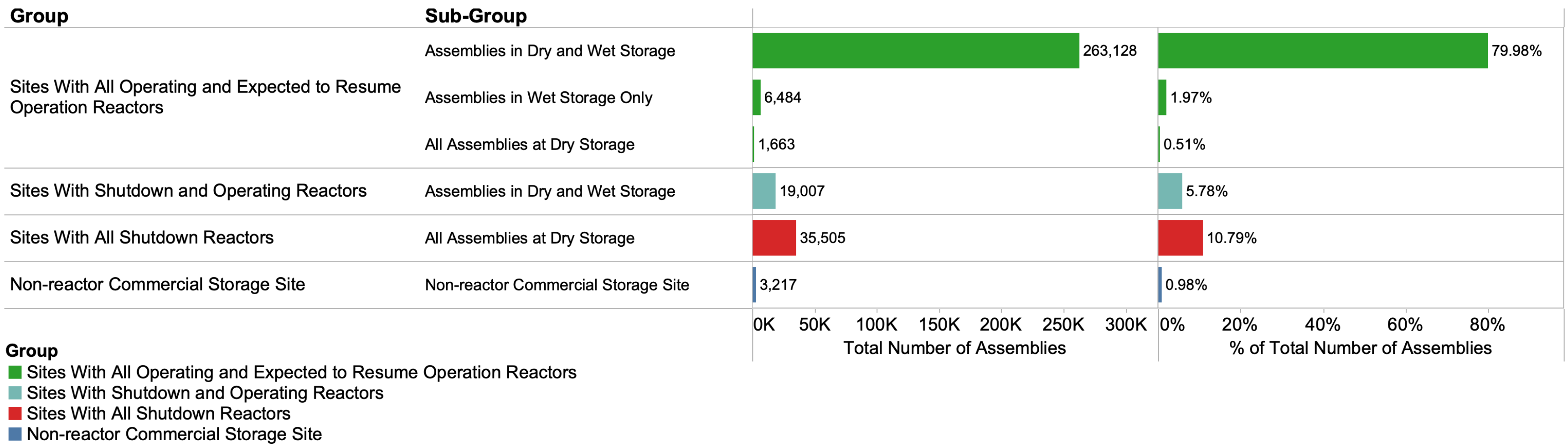

Figure 2-1 Nuclear Power Reactor and ISFSI Sites (Non-DOE) Currently Storing SNF

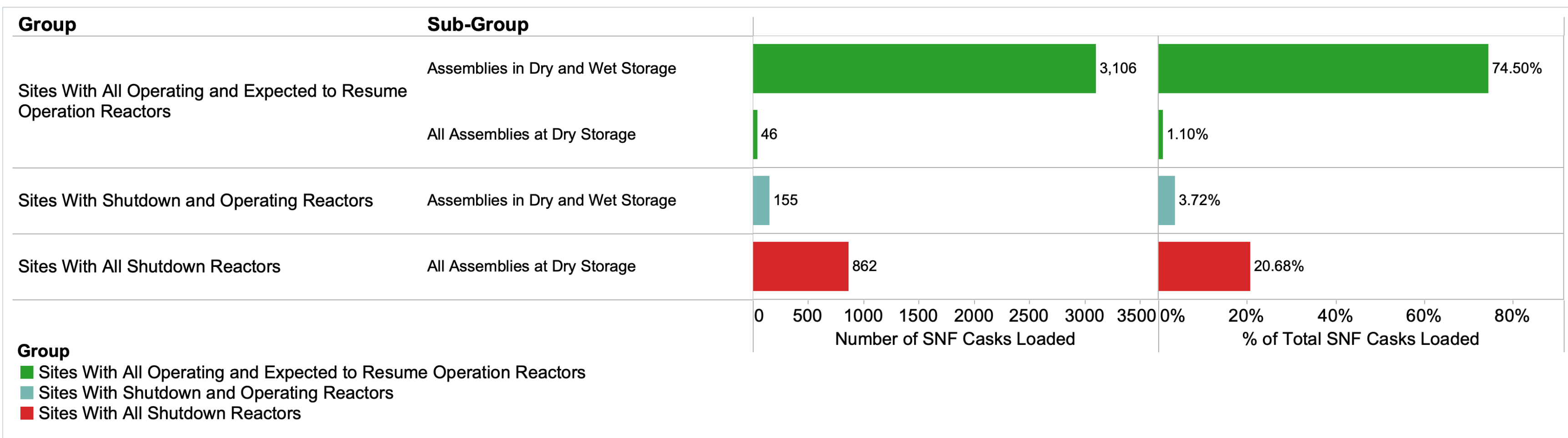

Figure 2-2 Dry SNF Storage Casks Loaded at Nuclear Power Reactor Sites

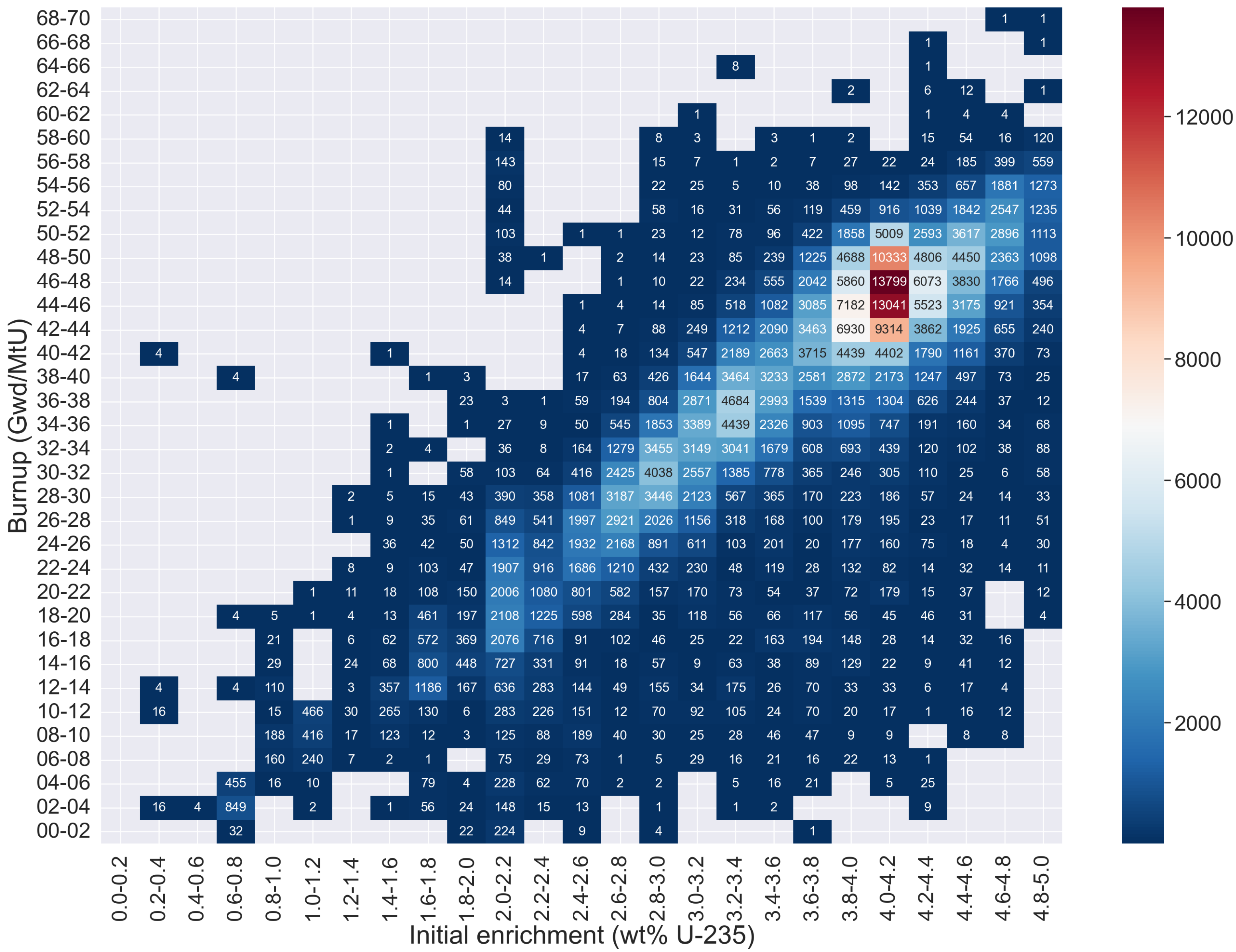

Figure 2-3 Burnup (GWd/MTHM) and Initial Enrichment (% U-235) by Number of Assemblies of SNF Through December 2024

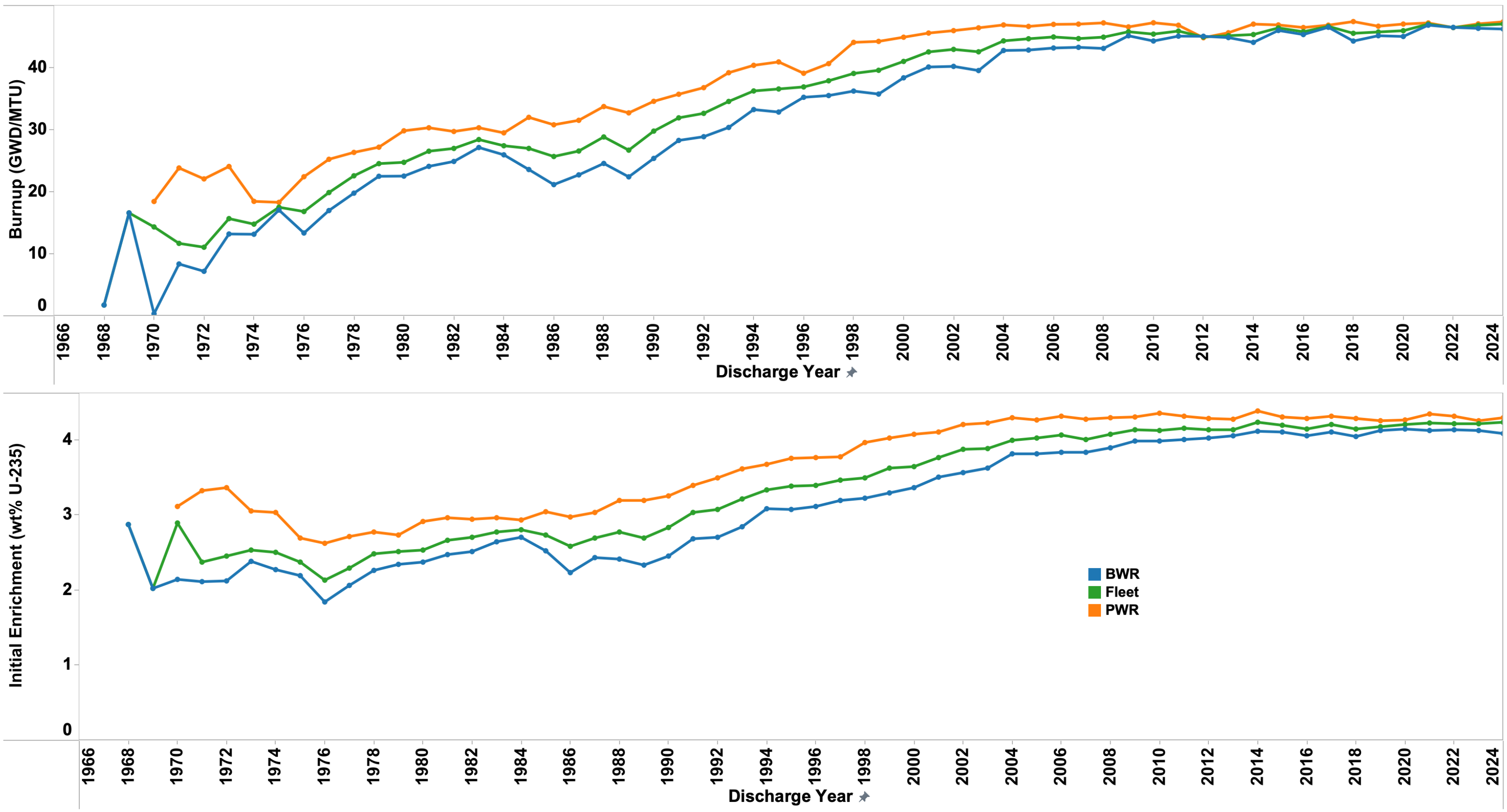

Figure 2-4 Average Annual burnup (GWd/MT) and Enrichment (U-235%)

BWR

Burnup (GWD/MTU)1

Year1	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	60-65
1968-1980	875	1,329	2,396	4,049	2,913	941	2					
1980-1990	1,012	574	1,776	2,344	7,995	11,141	3,836	58	9			
1990-2000	191	191	728	1,231	1,621	6,376	14,662	11,235	2,563	301	92	
2000-2010	1	2	298	209	328	654	2,415	9,390	16,490	11,293	1,805	6
2010-2024		4	27	490	240	124	758	3,419	19,966	33,369	5,645	

Num Assm
1 33,369

PWR

Burnup (GWD/MTU)1

Year1	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65
1968-1980	34	139	689	1,530	1,141	2,265	1,279	299	2				
1980-1990		25	475	1,305	1,300	4,153	6,795	4,927	1,302	104	9	12	
1990-2000	16	129	326	392	684	1,225	4,139	8,654	9,475	6,040	1,126	67	2
2000-2010	1		8	33	101	141	531	2,409	8,308	13,652	7,203	827	3
2010-2024	5	23	184	216	225	632	1,126	2,769	11,010	16,678	13,048	2,637	26

Num Assm
1 16,678

Figure 2-5 Burnup (GWd/MTHM) Distribution by Assembly Count for SNF Through December 2024

BWR

Burnup (GWD/MTU)1

Year1	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	60-65
1968-1980	162.9	242.5	435.9	717.4	523.8	173.2	0.3					
1980-1990	183.2	103.1	318.5	420.3	1,462.5	2,011.2	689.4	10.4	1.6			
1990-2000	35.4	35.0	129.1	220.7	288.9	1,154.5	2,620.6	1,985.2	449.4	51.6	15.6	
2000-2010	0.2	0.4	53.6	37.4	57.3	113.9	422.6	1,639.4	2,874.5	1,970.0	310.3	1.0
2010-2024		0.7	4.9	88.6	44.2	22.5	137.5	619.2	3,596.6	6,006.1	1,018.8	

MTU
0.2 6K

PWR

Burnup (GWD/MTU)1

Year1	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65
1968-1980	7.2	51.6	281.9	652.7	475.2	926.5	532.8	126.3	0.9				
1980-1990		7.6	205.3	581.5	576.7	1,800.4	2,915.6	2,087.2	538.7	43.0	3.9	5.1	
1990-2000	6.4	48.7	137.7	174.6	307.9	541.4	1,807.1	3,783.3	4,093.2	2,572.4	478.0	26.2	0.8
2000-2010			3.0	14.4	47.9	64.5	234.6	1,056.3	3,682.7	6,013.9	3,099.4	342.8	1.3
2010-2024	1.7	10.2	79.8	90.1	101.6	275.4	487.7	1,201.0	4,891.9	7,413.0	5,687.7	1,154.4	10.9

MTU
0.8 7K

Figure 2-6 Burnup (GWd/MTHM) Distribution by Initial Uranium Mass for SNF Through December 2024

2.1.2 SHUTDOWN REACTOR SNF AS OF 12/31/2024

The number of shutdown reactors will continue to increase with time as well as the corresponding total quantity of SNF at these sites and the amount in dry storage. On December 31, 2024, (the data date for this report), the inventory of shutdown reactors with SNF remaining on site includes the following groups/subgroups:

- Reactors that were shutdown with no other ongoing nuclear power operations (Group A1 sites)
- Reactors that were shutdown at a site with other ongoing nuclear power operations (shutdown reactors at Group B2 sites).

Table 2-7 and Figure 2-7 provide additional details on the first of these groups. SNF at these sites was discharged from Group A1 sites, and the quantities shown are from the GC-859 database. This table and figure also show the number of storage casks loaded with Greater-than-Class C (GTCC) Low-Level Radioactive Waste (LLRW) to provide a complete cask count for these sites, since GTCC casks for sites with shutdown reactors are typically stored at the ISFSI along with the SNF casks.[7] There are no nuclear operations on these sites. Note that in the spring of 2024, a loan guarantee from the U.S. DOE could allow Holtec International to restart nuclear power operations at the Palisades nuclear power plant. Scenarios, which include the restart of that reactor, are included in projections of future LWR SNF inventories in this revision of the inventory report.

In September 2022, California Senate Bill 846 was passed, which provided a pathway for extending the operating period of the Diablo Canyon Power Plant beyond its otherwise expected shutdown of Unit 1 in 2024 and Unit 2 in 2025. The bill defined “extension of the operating period” to mean “license renewal by the United States Nuclear Regulatory Commission and any other licensing, permitting, or approvals by federal or state authorities necessary to allow continued operations of the Diablo Canyon powerplant beyond the current expiration date of each Unit, and until a new date that shall be no later than October 31, 2029, for Unit 1 and no later than October 31, 2030, for Unit 2.” Subsequently, the California Public Utilities Commission voted to conditionally approve extended operations at Diablo Canyon reactor Units until these specified dates. Since these new dates are still prior to the plant reaching a 60-year operating lifetime, which is typical for plants with an NRC initial license renewal assuming such a renewal is granted, the two reactor units are shown in Table 2-8 for SNF inventory at sites of reactors with announced early shutdown dates. This scenario inventory is based on GC-859 reported discharges through 2022 and estimated projected discharges from these reactors through 2030. Once shutdown, there will be no other nuclear operations on this site.

Discharged SNF by permanently shutdown reactors with continued nuclear operations (i.e., Group B sites) are detailed in Table 2-9. These reactors shutdown prior to 2000 and the quantities are based on the GC-859 database.

Group A reactors include reactors on sites that have only dry storage capabilities (i.e., A1). Table 2-7 details the number of assemblies and MTU at Group A sites along with forecasted canisters/casks to be used for storage and canisters that remain to be loaded.

[7] This report does not provide an overarching estimate for GTCC LLRW associated with decommissioning the U.S. fleet of current and future NPRs. For estimates of GTCC LLRW and information on the characteristics of this type of waste and its disposal, the reader is referred to Final Environmental Impact Statement for the Disposal of GTCC LLRW and GTCC-Like Waste (DOE 2016).

Table 2-7 SNF and Stored GTCC LLRW at Group A Sites

Reactor	Shutdown Date	Discharges		Transferred		Remaining Inventory at the end of 2024			
		Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	SNF Casks Loaded	GTCC LLRW Casks Loaded
Big Rock Point	8/29/97	526	69.39	85	11.48	441	57.91	7	1
Crystal River 3	2/20/13	1,243	582.24	–	–	1,243	582.24	39	2
Duane Arnold	8/10/20	3,648	662.64	–	–	3,648	662.64	60	–
Fort Calhoun	10/24/16	1,264	465.98	–	–	1,264	465.98	40	2
Haddam Neck	12/9/96	1,102	448.54	83	34.88	1,019	413.66	40	3
Humboldt Bay	7/2/76	390	28.94	–	–	390	28.94	5	1
Indian Point 1	10/31/74	160	30.58	–	–	4,001	1,776.62	127	2
Indian Point 2	4/20/20	1,984	900.41						
Indian Point 3	4/30/21	1,857	845.62						
Kewaunee	5/7/13	1,335	518.7	–	–	1,335	518.70	38	2
La Crosse	4/30/87	334	38.09	1	0.12	333	37.97	5	–
Maine Yankee	12/6/96	1,434	542.26	–	–	1,434	542.26	60	4
Oyster Creek	9/17/18	4,504	802.24	–	–	4,504	802.24	67	4
Pilgrim 1	5/31/19	4,116	734.82	–	–	4,116	734.82	62	3
Rancho Seco	6/7/89	493	228.38	–	–	493	228.38	21	1
San Onofre 1	11/30/92	665	244.61	–	–	3,855	1,609.36	123	13
San Onofre 2	6/12/13	1,726	729.99						
San Onofre 3	6/12/13	1,734	733.16						
Trojan	11/9/92	790	359.26	–	–	790	359.26	34	–
Vermont Yankee	12/29/14	3,880	705.66	–	–	3,880	705.66	58	1
Yankee Rowe	10/1/91	533	127.13	–	–	533	127.13	15	1

Reactor	Shutdown Date	Discharges		Transferred		Remaining Inventory at the end of 2024			
		Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	SNF Casks Loaded	GTCC LLRW Casks Loaded
Zion 1	2/21/97	1,143	523.94	–	–	2,226	1,019.41	61	4
Zion 2	9/19/96	1,083	495.47						
Totals	**–**	**35,944**	**10,818**	**169**	**46**	**35,505**	**10,673**	**862**	**44**

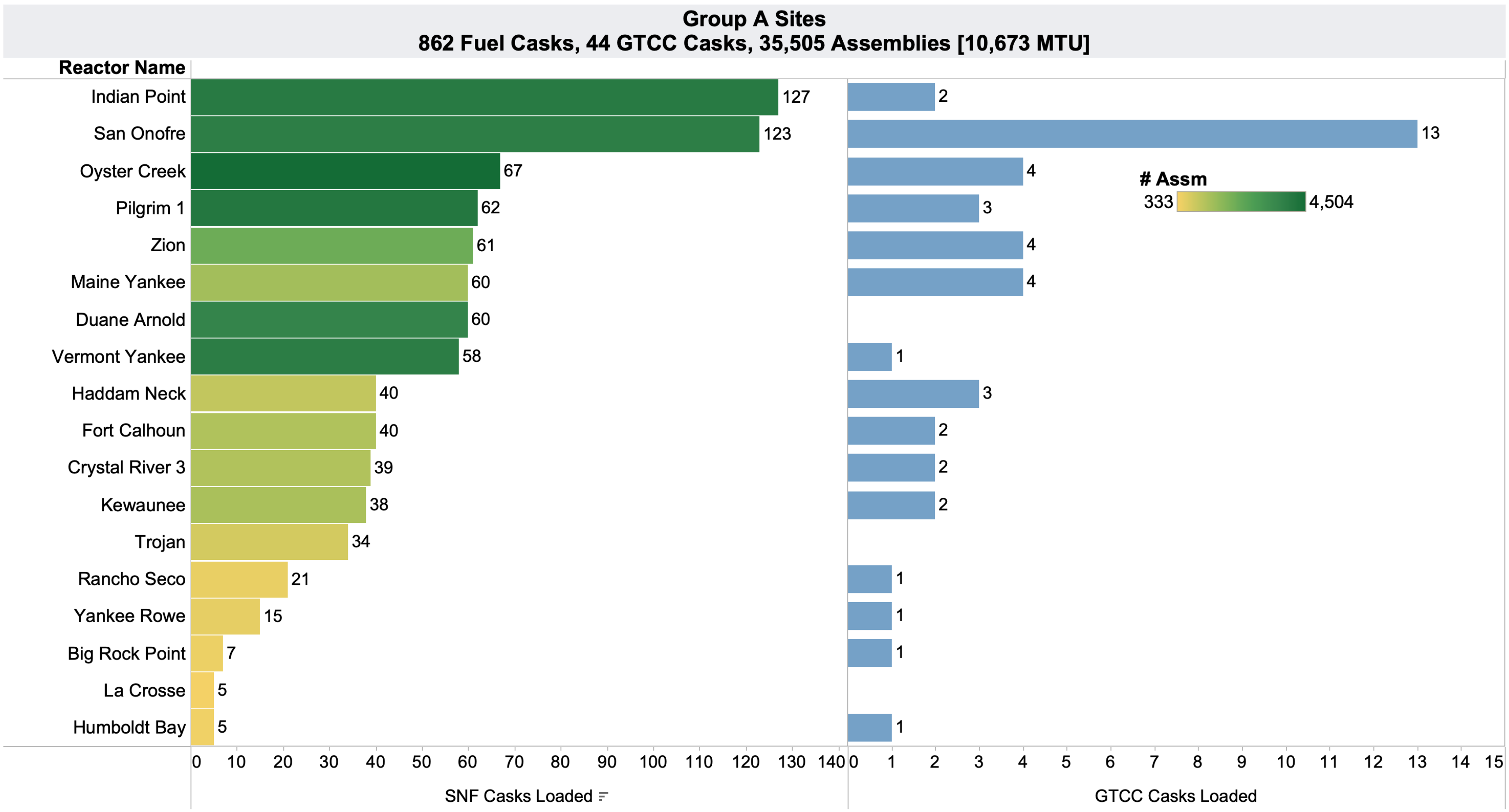

Figure 2-7 Dry SNF Storage at Group A Shutdown Sites

Table 2-8 SNF and Stored GTCC LLRW from Groups B&C Sites with Announced Early Shutdown Dates (as of 2024)

Reactor [Unit]		Discharges as of 12/31/2022		Total Projected Discharged SNF			
	Announced Shutdown Date	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Loaded SNF Casks	GTCC LLRW Casks Loaded[a]
Diablo Canyon 1	10/31/2029	1,928	827.71	2,493	1,066.24	70	–
Diablo Canyon 2	10/31/2030	1,933	829.34	2,556	1,092.12	70	–
Totals		**3,861**	**1,657.05**	**5,049**	**2,158.36**	**140**	–

[a] More detailed information on estimates of GTCC LLRW can be found in DOE (2016) and supporting documentation.

Table 2-9 SNF and Stored GTCC LLRW from Shutdown Reactors at Group B Sites

Reactor [Unit]	Shutdown Date	Discharges as of 12/31/2024		Transferred to Morris (Group F Site)		Remaining Onsite Inventory at the end of 2024			
		Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	SNF Casks Loaded	GTCC LLRW Casks Loaded
Dresden 1[a]	10/31/1978	892	90.86	3	0.26	889	90.60	14	–
Millstone 1	7/21/1998	2,884	525.62	–	–	2,884	525.62	–	–
Totals		**3,776**	**616.48**	**3**	**0.26**	**3,773**	**616.23**	**14**	–

[a] 617 Dresden 1 assemblies (~63.2 MTU) are co-mingled with Unit 2 and 3 SNF. This SNF is being moved to dry canister storage in a co-mingled fashion.

Details of the inventory for sites that are predicted to be shutdown by the end of 2030 are depicted in Figure 2-8. Specifically, Figure 2-8 includes current shutdown reactors and announced shutdown reactors. Figure 2-8 is exclusive of shutdown reactors on sites with continuing nuclear operations. The number of assemblies, casks, MTU stored, and loaded number of GTCC are also depicted in Figure 2-8.

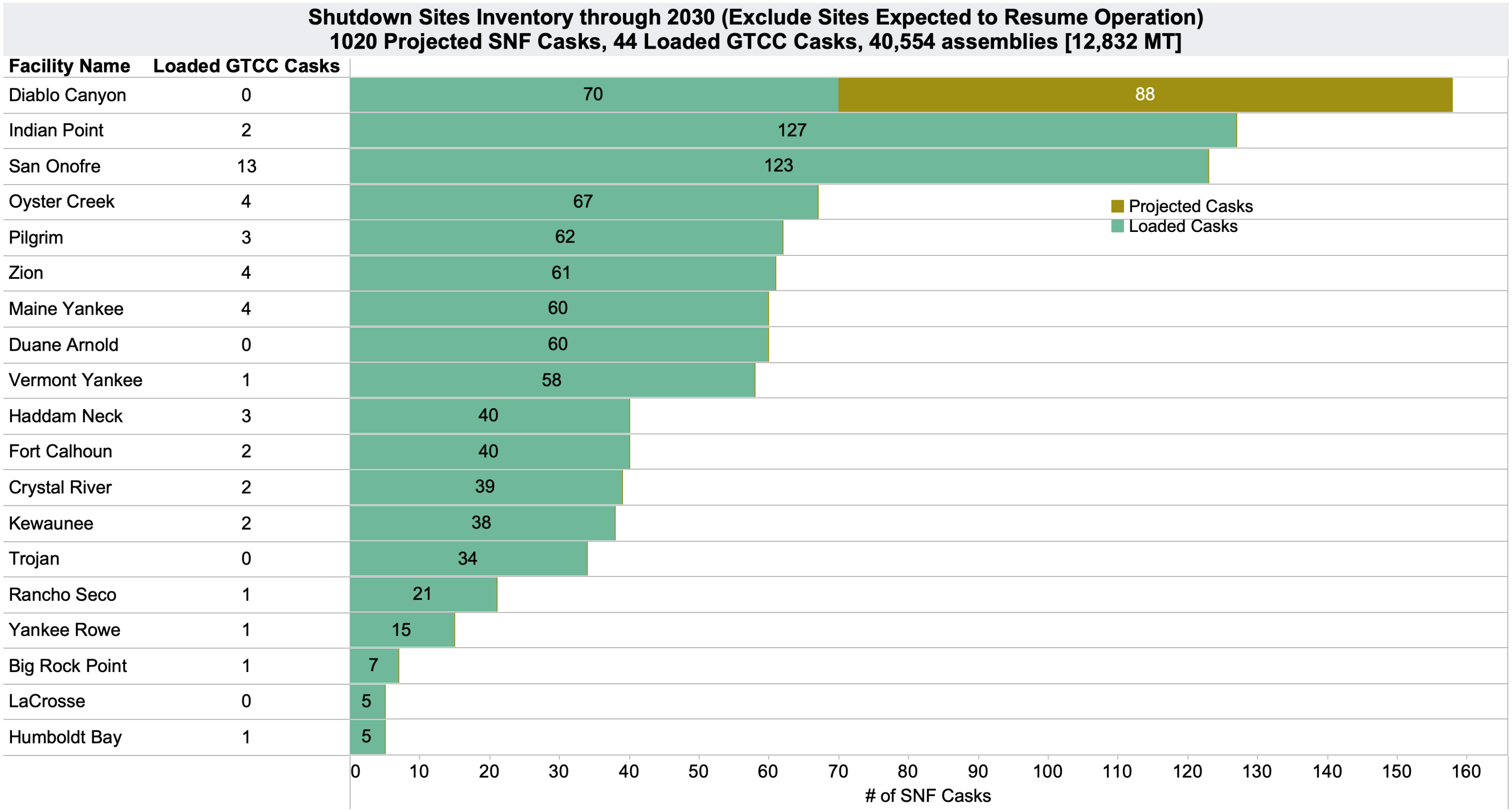

Figure 2-8 Shutdown Site Inventory by 2030

2.2 FAILED AND CONTAINERIZED FUEL ASSEMBLIES

This section summarizes the number of failed and containerized fuel assemblies that have been loaded into dry storage systems and those stored in spent fuel pools (SFPs), as reported through the Nuclear Fuel Data Survey (Form GC-859). The data presented include fuel assemblies discharged, and dry storage systems loaded between 1968 and December 2022.

According to Form GC-859, failed fuel assemblies are categorized into three classes: F-1, F-2, and F-3.

- Class F-1: Indicates *visual failure or damage*. GC-859 specifies that assemblies "be visually inspected for evidence of structural deformity or damage to cladding or spacers which may require special handling."
- Class F-2: Represents *radioactive leakage*. GC-859 adopts the NRC NUREG-1617 definition: "Damaged Spent Nuclear Fuel: spent nuclear fuel with known or suspected cladding defects greater than a hairline crack or a pinhole leak."
- Class F-3: Refers to *encapsulated fuel*. Assemblies "encapsulated by Purchaser prior to classification hereunder shall be classified as failed fuel—Class F-3."

In addition to failed fuel, GC-859 requires reporting of containerized assemblies, defined as assemblies that "have been placed in a single-element container." Assemblies placed into multi-element canisters are *not* reported as containerized. Typically, failed and containerized fuel assemblies from the SFP are transferred to dry storage systems using specially designed containers—known as damaged fuel cans—which are placed in locations specified by the system's Certificate of Compliance (CoC). It is important to note that single-element containers can also accommodate failed assemblies, fuel debris, individual fuel rods, or reconstructed assemblies.

Table 2-10 lists the nuclear sites that have loaded SNF containing failed or containerized assemblies into dry storage systems, as reported through Form GC-859. For each site, the table includes the total number of dry storage systems loaded, the total number of assemblies loaded, and the total number identified as failed or containerized. Table 2-11 lists nuclear sites that have SNF containing failed or containerized assemblies stored in their SFPs, as reported through Form GC-859. For each site, the table provides the total number of assemblies in the SFP, the number of assemblies identified as failed or containerized, and the corresponding reactor type at the site.

Table 2-10 Number of Dry Storage Systems Loaded at Each Site with Failed and/or Containerized Assemblies

Site	Total Dry Storage Systems Loaded	Total Assemblies Loaded	Failed or Containerized Assemblies	Reactor Type
Big Rock Point	7	441	50	BWR
Browns Ferry	108	8,667	1	BWR
Calvert Cliffs	100	2,846	4	PWR
Cooper	30	1,830	4	BWR
Crystal River	39	1,243	92	PWR
Dresden	92	6,254	58	BWR
Duane Arnold	60	3,648	14	BWR
Farley	57	1,824	2	PWR

Site	Total Dry Storage Systems Loaded	Total Assemblies Loaded	Failed or Containerized Assemblies	Reactor Type
Fort Calhoun	40	1,264	114	PWR
Haddam Neck	40	1,019	62	PWR
Humboldt Bay	5	390	82	BWR
Indian Point	77	2,443	219	PWR
Kewaunee	38	1,335	3	PWR
LaCrosse	5	333	157	BWR
Maine Yankee	60	1,434	45	PWR
McGuire	73	2,287	5	PWR
Millstone	49	1,568	2	PWR
North Anna	74	2,397	83	PWR
Oyster Creek	67	4,504	153	BWR
Palo Verde	170	4,314	59	PWR
Pilgrim	62	4,116	275	BWR
Point Beach	56	1,694	16	PWR
Rancho Seco	21	493	16	PWR
Saint Lucie	60	1,920	114	PWR
Salem	45	1,440	1	PWR
San Onofre	123	3,855	151	PWR
Seabrook	30	960	3	PWR
Sequoyah	70	2,370	261	PWR
Surry	97	2,824	48	PWR
Susquehanna	127	7,672	4	BWR
Three Mile Island	46	1,663	105	PWR
Trojan	34	790	18	PWR
Vermont Yankee	58	3,880	160	BWR
Vogtle	53	1,696	2	PWR
Yankee Rowe	15	533	7	PWR
Zion	61	2,226	96	PWR
Total	**2,150**	**88,173**	**2,486**	–

Note: The table excludes sites that reported no failed or containerized fuel assemblies loaded into dry storage systems.

Table 2-11 Failed and Containerized Assemblies in SFPs by Site

Site	Number of Assemblies in SFP	Failed or Containerized Assemblies	Reactor Type
Arkansas Nuclear One	1,393	7	PWR
Beaver Valley	2,374	12	PWR
Braidwood	2,578	12	PWR
Browns Ferry	6,483	303	BWR
Byron	2,555	5	PWR

Site	Number of Assemblies in SFP	Failed or Containerized Assemblies	Reactor Type
Callaway	1,083	21	PWR
Calvert Cliffs	1,411	185	PWR
Columbia	1,440	12	BWR
Comanche Peak	1,901	20	PWR
Cook	2,688	95	PWR
Cooper	1,626	3	BWR
Davis-Besse	1,014	22	PWR
Diablo Canyon	2,005	15	PWR
Dresden	5,519	1	BWR
Farley	1,984	33	PWR
Fermi	2,648	10	BWR
FitzPatrick	2,428	833	BWR
Ginna	1,109	92	PWR
Grand Gulf	3,260	7	BWR
Hatch	3,863	225	BWR
Hope Creek	3,000	8	BWR
Indian Point	1,558	27	PWR
LaSalle	6,664	27	BWR
Limerick	6,166	78	BWR
McGuire	2,002	4	PWR
Millstone	5,104	10	PWR/BWR
Monticello	1,216	47	BWR
Morris	3,217	4	—
Nine Mile Point	5,706	249	BWR
North Anna	1,232	50	PWR
Oconee	1,455	9	PWR
Palo Verde	2,511	153	PWR
Peach Bottom	5,478	155	BWR
Perry	3,055	21	BWR
Point Beach	1,134	86	PWR
Prairie Island	1,087	8	PWR
Quad Cities	6,267	431	BWR
River Bend	2,260	49	BWR
Saint Lucie	2,434	26	PWR
Salem	2,325	95	PWR
Sequoyah	1,548	111	PWR
South Texas	2,504	31	PWR
Summer	1,256	1	PWR
Surry	830	3	PWR
Susquehanna	3,809	2	BWR
Turkey Point	2,220	8	PWR
Vogtle	2,255	19	PWR
Waterford	1,471	1	PWR
Watts Bar	790	8	PWR
Wolf Creek	1,827	43	PWR
Total	**131,743**	**3,677**	–

2.3 FUTURE LWR SNF INVENTORY FORECAST

The methods outlined above (Section 2.1) have been extended to provide the individual NPR forecasts inventory. Such forecasts vary with the estimation method parameters described above, and also with scenario-specific details. Multiple scenarios have been included in the current revision of this report, as described herein. The reference projection scenario is described in the next section and assumes 60 or 80 (depending upon the renewal status) years of operation for existing reactors, when early shutdowns have not been announced. The scenarios examined are based on the end-of-2022 inventory data, the status of early shutdown announcements as of 2024, and other assumptions as noted for each of the scenarios discussed below.

2.3.1 REFERENCE SCENARIO: 60-YEAR OPERATING LIFE FOR MOST REACTORS

The Reference Scenario assumes most reactors in the existing LWR fleet will operate for 60 years with an initial license renewal of 20 years added onto an original license period of 40 years. This scenario assumes that, other than Vogtle Units 3 and 4, which have completed construction and are now in operation, no new NPRs are constructed and operated. This is the Reference Scenario for the purpose of comparison to alternative scenarios, and it is also referred to as the "Base Scenario" in the state charts included in APPENDIX H. The Reference Scenarios does not necessarily represent the most likely scenario but serves as a basis on which other scenarios can be built and provides a basis for comparison. The inventory for this Reference Scenario includes the SNF discharged from shutdown and operating LWRs listed in Table 2-1. It also assumes the restoration and resumption of service of the Palisades nuclear power plant in 2025. Eighty-three of the 92 operating LWRs are assumed to have one 20-year life extension and will be decommissioned after 60 years of operation. As of December 31, 2024, nine reactors (i.e., Turkey Point Units 3 and 4, Peach Bottom Units 2 and 3, and Surry Units 1 and 2, North Anna Units 1 and 2, and Monticello Nuclear Generating Plant, Unit 1) have received a “subsequent” or second 20-year license extension and will operate for 80 years. The following assumptions are made in this Reference Scenario:

- Existing LWRs, including Vogtle Unit 3 and Unit 4, operate for 60 years
- Palisades starts on December 31, 2025, and operates till March 24, 2031, (60 years)
- Diablo Canyon reactors run through 2029 (Unit 1) and 2030 (Unit 2)
- 80-year operational lifetime for Turkey Point Units 3, and 4, Peach Bottom Units 2, and 3, Surry Units 1, and 2, North Anna Units 1, and 2, Monticello Unit 1.

Applying these assumptions, the last NPRs finishes operations in 2084.

The alternative 1 scenario assumes the following in addition to the Reference Scenario described above:

- 80 year operating time for Point Beach Units 1 and 2, Oconee Units 1, 2, and 3, St. Lucie Units 1, and 2, Summer Unit 1, Browns Ferry Nuclear Plant, Units 1, 2, 3, and Dresden Nuclear Power Station, Units 2 and 3
- Diablo Canyon reactors run through 2044 (Unit 1) and 2045 (Unit 2)

Table 2-12 provides the scenario inventory by reactor type as a function of the estimate phase. Actual quantities are used for discharges through December 31, 2022; forecast discharges are used for the individual reactors for later time periods.

Table 2-13 provides the scenario inventory detailed to provide actual discharges through December 31, 2022 from the GC-859 database, the projected quantities between 1/1/2023 and the end of the scenario, by major storage location category and by site Group.

Table 2-14 provides the inventory till 2022, the projected, and total inventory details for the Palisades unit and the Crane Clean Energy Center.

Figure 2-9 provides the Reference Scenario quantities at two points in time assuming a consolidated interim storage facility and/or repository is not available before 2045.

Figure 2-10 provides the Reference Scenario including the historical and forecast SNF discharges and the historical dry storage canister/casks loading assuming a consolidated interim storage facility and/or repository is not available before the end of the scenario. 297 casks were loaded in 2022 (4333.7 MTU) which equates to about 14.6 MTU/cask. This value was used to estimate the MTU loaded in 2023 and 2024 based on StoreFUEL data that 195 and 132 casks were loaded in 2023 and 2024, respectively.

Figure 2-11 provides the burnup distribution and initial enrichment distribution, respectively, for the Reference Scenario.

Figure 2-12 shows the estimated annual average burnup (GWd/MT) and the initial enrichment (% U-235) between 1968 and 2060.

Figure 2-13 provides the estimated burnup (GWd/MT) distribution based on assembly counts for the PWR and BWRs.

Figure 2-14 provides the estimated burnup (GWd/MT) distribution based on the initial uranium mass (MTU) for the PWR and BWRs.

APPENDIX C, Table C-1 through Table C-4 provide additional details for this Reference Scenario on a reactor-specific basis. APPENDIX C is discharged SNF information and does not reflect transfers.

APPENDIX D and APPENDIX E provide summary information for the Reference Scenario by state and by NRC Region, respectively.

APPENDIX F and APPENDIX H provide additional congressional district and state detail for the Reference Scenario and also DOE SNF and reprocessing waste. APPENDIX H also provides SNF discharges by reactor before and after transfers reflecting the actual or estimated quantities in storage for a given site, congressional district, or state.

Table 2-12 Projected NPR SNF Discharges for the Reference Scenario by Reactor Type[a]

Reactor Type	SNF Discharges as of 12/31/2022		Forecast Discharges 1/1/23 to 12/31/2024		Forecast Discharges 1/1/25 to 12/31/2084		Total Projected Discharged SNF	
	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
PWR	135,523	58,954	6,338	2,789	72,442	32,608	214,303	94,351
BWR	179,466	32,023	7,910	1,425	84,125	15,203	271,501	48,651
Totals	**314,989**	**90,977**	**14,248**	**4,214**	**156,567**	**47,811**	**485,804**	**143,001**

[a] Includes NPR SNF inventory at Morris and that was transferred to DOE sites, other than debris from TMI-2 (Not all SNF transferred to DOE is still in the form of SNF, some has been processed and vitrified).

Table 2-13 SNF Inventory at NPRs and Morris for the Reference Scenario by Site Group (Group Status as of 12/31/2024)

Description	Site Group	SNF Discharges as of 12/31/2022		Forecast Discharges 1/1/2023 to 12/31/2024		Forecast Discharges 1/1/2025 to 12/31/2084		Total Projected Discharged SNF	
		Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Operating and Future Operating Rx at Group C Sites without Diablo 1 Sites/1 Rx	C1	1,663	786.49	–	–	–	–	1,663	786.49
Operating and Future Operating Rx at Group C Sites without Diablo 49 Sites/88 Rx	C2	245,797	71,333.15	13,291	3,927.48	150,017	45,575.14	409,105	120,835.77
Operating and Future Operating Rx at Group C Sites without Diablo 1 Sites/1 Rx	C3	6,417	1,704.32	67	30.79	1,095	503.19	7,579	2,238.30

Description	Site Group	SNF Discharges as of 12/31/2022		Forecast Discharges 1/1/2023 to 12/31/2024		Forecast Discharges 1/1/2025 to 12/31/2084		Total Projected Discharged SNF	
		Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Operating Rx at Group C, Diablo only, 1 Sites/2 Rx	C2	3,861	1,657.05	179	75.54	1,009	425.78	5,049	2,158.37
Operating Rx at Group B Sites (4 Rx/2 Sites)[a]	B2	14,523	3,459.26	711	179.72	4,446	1,307.13	19,680	4,946.11
Shutdown Rx at Group B 2Rx/2 sites)	B2	3,773	616.22	–	–	–	–	3,773	616.22
Shutdown Reactors 18 Sites/23 Rx	A1	35,505	10,673.18	–	–	–	–	35,505	10,673.18
Away from Rx	F	3,217	674.29	–	–	–	–	3,217	674.29
Totals		**314,756**	**90,904**	**14,248**	**4,214**	**156,567**	**47,811**	**485,571**	**142,929**

[a] Excludes reactors with announced early shutdowns.

Table 2-14. Inventory Data from GC-859, including Shutdown, Restart Dates, Projected Inventory, and the Total Anticipated Inventory for Palisades and the Crane Clean Energy Center (Reactors Anticipated to Restart in the Near Future)

Reactor	Inventory as of 12/31/2022		Shutdown Date	Restart Date	Shutdown Date (80 years operation)	Projected Inventory		Total Anticipated Inventory	
	Assemblies	Initial Uranium (MT)				Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Palisades	2,053	850.48	5/20/22	12/31/25	3/24/51	1,356	582.71	3,409	1,433.19
Crane Clean Energy Center	1,663	786.49	9/20/19	12/31/28	4/19/54	1,089	530.34	2,752	1,316.83
Total	3,716	1,636.97	–	–	–	2,445	1113.05	6,161	2,750.02

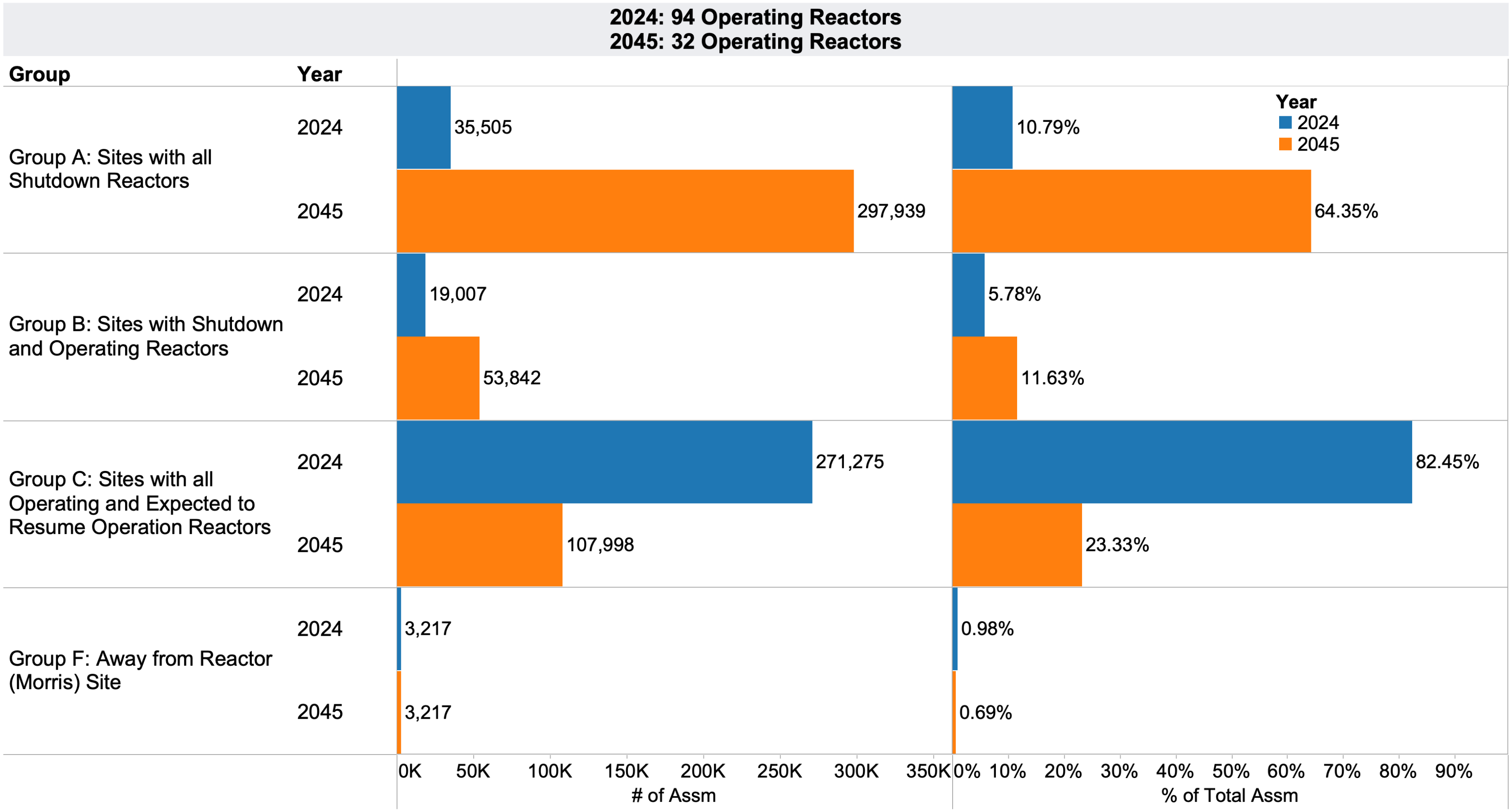

Figure 2-9 Projected Change in Distribution of Nuclear Power Reactor SNF by Group with Time (Absent Any Future Transfers)

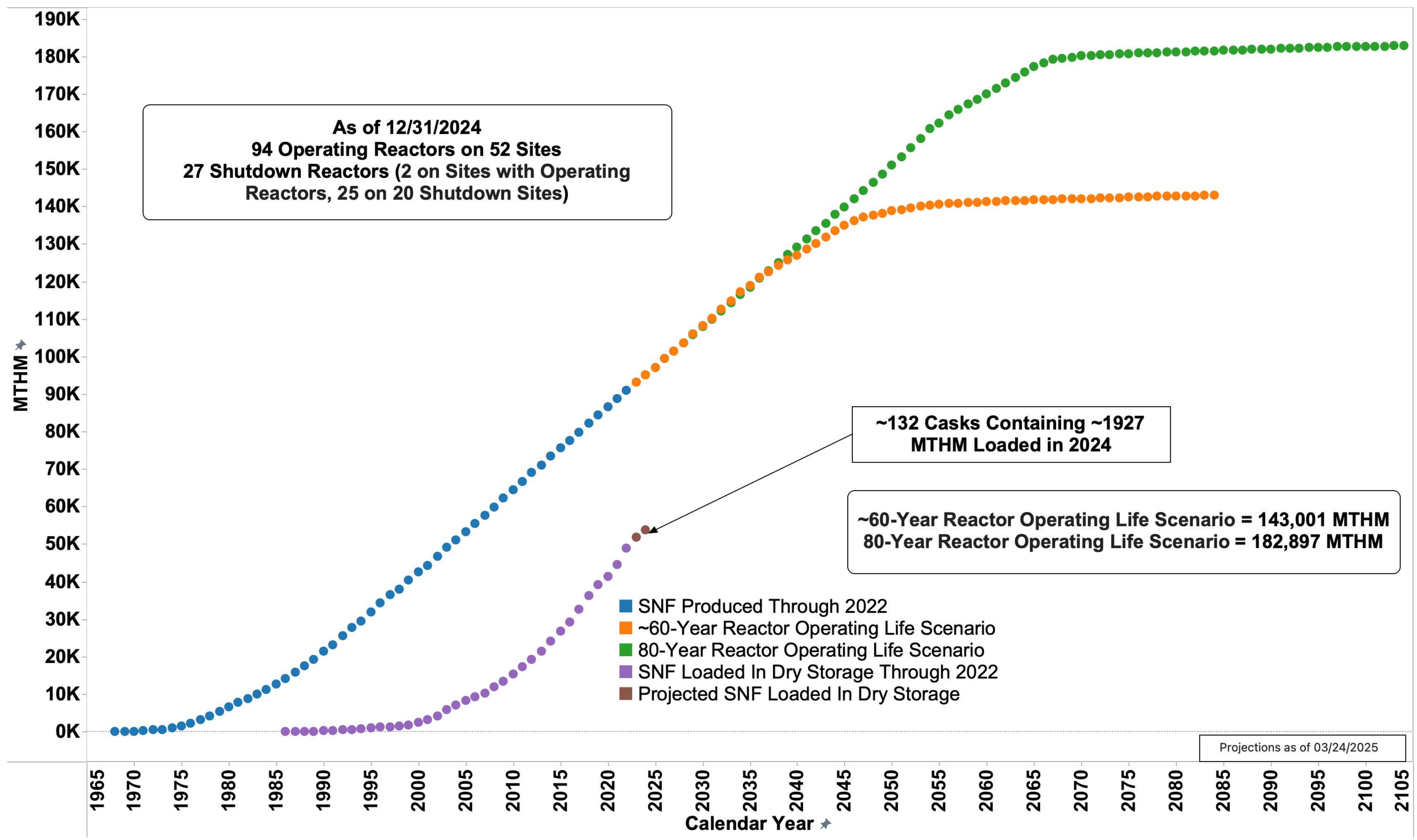

Figure 2-10 Reference Scenario Nuclear Power Reactor SNF Forecast

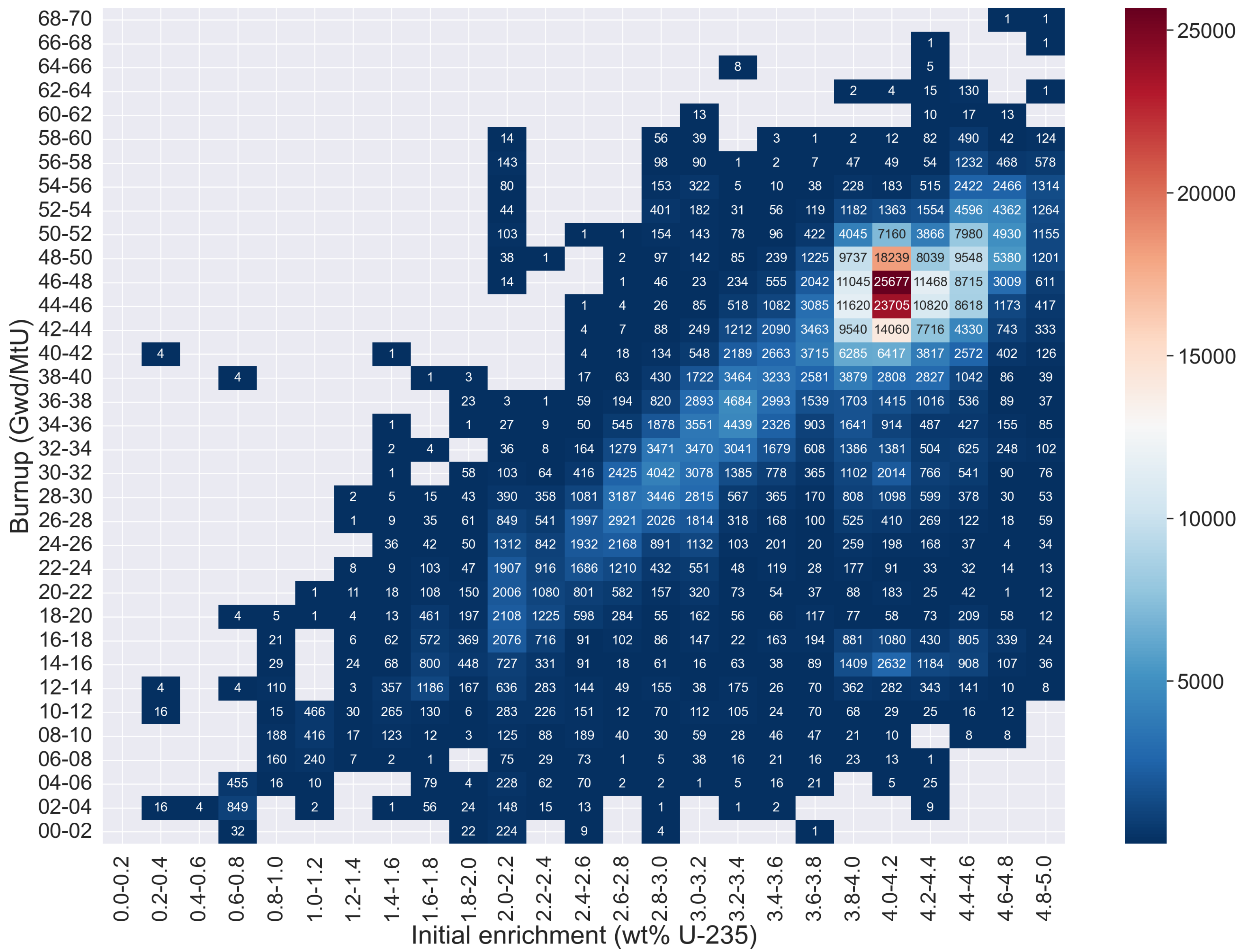

Figure 2-11 Reference Scenario SNF Burnup Distribution & Initial Enrichment Distribution for SNF Assemblies

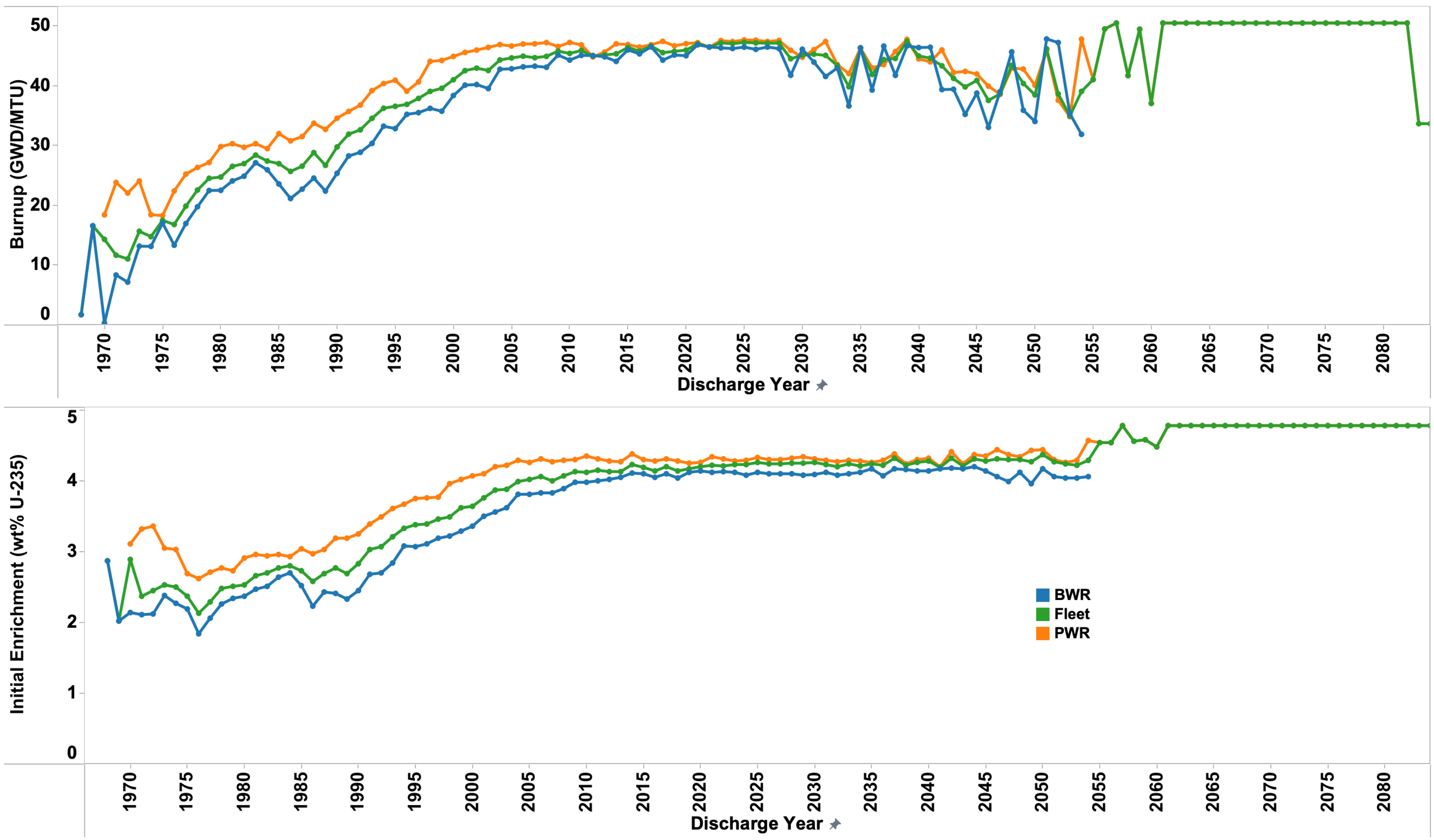

Figure 2-12 Estimated Average Annual Burnup (GWd/MT) and Enrichment (U-235%) Through 2084

BWR

Num Assm: 1 – 23K

Year	Burnup (GWD/MTU) 0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	60-65
1968-1980	875	1,329	2,396	4,049	2,913	941	2					
1980-1990	1,012	574	1,776	2,344	7,995	11,141	3,836	58	9			
1990-2000	191	191	728	1,231	1,621	6,376	14,662	11,235	2,563	301	92	
2000-2010	1	2	298	209	328	654	2,415	9,390	16,490	11,293	1,805	6
2010-2020		4	25	439	117	114	611	2,862	14,424	21,634	3,595	
2020-2030			65	404	123	76	537	1,231	11,339	23,337	3,615	
2030-2040			1,001	1,605	10	986	1,687	1,273	9,581	18,266	2,550	
2040-2050			1,106	2,374	46	1,059	2,399	710	4,017	10,082	1,597	
2050-2060			164	505	1	167	497	17	296	1,422	197	

PWR

Num Assm: 1 – 14K

Year	Burnup (GWD/MTU) 0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65
1968-1980	34	139	689	1,530	1,141	2,265	1,279	299	2				
1980-1990		25	475	1,305	1,300	4,153	6,795	4,927	1,302	104	9	12	
1990-2000	16	129	326	392	684	1,225	4,139	8,654	9,475	6,040	1,126	67	2
2000-2010	1		8	33	101	141	531	2,409	8,308	13,652	7,203	827	3
2010-2020	1	23	176	189	128	339	662	2,014	7,279	10,999	8,852	1,433	4
2020-2030	4		12	132	216	508	770	1,610	7,366	11,725	8,060	1,953	73
2030-2040		10	461	822	257	736	1,100	1,379	6,418	10,386	6,392	1,276	80
2040-2050		4	465	1,287	228	732	1,227	671	3,825	5,958	3,530	595	43
2050-2060			208	322	197	485	453	131	775	1,403	872	30	
2060-2075			8	64	280	398	282	63	8	688	675	21	
2075-2085		44	30	140	38	25	106	20		415	413	13	

Figure 2-13 Estimated Burnup (GWd/MTHM) Distribution by Assembly Count for SNF Through December 2084

BWR

Burnup (GWD/MTU)

Year	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	60-65
1968-1980	162.9	242.5	435.9	717.4	523.8	173.2	0.3					
1980-1990	183.2	103.1	318.5	420.3	1,462.5	2,011.2	689.4	10.4	1.6			
1990-2000	35.4	35.0	129.1	220.7	288.9	1,154.5	2,620.6	1,985.2	449.4	51.6	15.6	
2000-2010	0.2	0.4	53.6	37.4	57.3	113.9	422.6	1,639.4	2,874.5	1,970.0	310.3	1.0
2010-2020		0.7	4.5	79.2	22.1	20.6	110.5	517.7	2,591.3	3,878.3	647.0	
2020-2030			11.3	70.9	22.1	13.4	95.1	223.0	2,047.8	4,204.7	652.7	
2030-2040			180.2	283.6	1.8	177.5	298.3	229.3	1,726.8	3,289.9	461.5	
2040-2050			200.5	430.1	8.3	192.0	434.6	127.8	722.3	1,821.6	289.4	
2050-2060			28.4	90.4	0.2	28.9	89.0	3.0	52.3	255.5	35.5	

MTU 0.2 – 4K

PWR

Burnup (GWD/MTU)

Year	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65
1968-1980	7.2	51.6	281.9	652.7	475.2	926.5	532.8	126.3	0.9				
1980-1990		7.6	205.3	581.5	576.7	1,800.4	2,915.6	2,087.2	538.7	43.0	3.9	5.1	
1990-2000	6.4	48.7	137.7	174.6	307.9	541.4	1,807.1	3,783.3	4,093.2	2,572.4	478.0	26.2	0.8
2000-2010			3.0	14.4	47.9	64.5	234.6	1,056.3	3,682.7	6,013.9	3,099.4	342.8	1.3
2010-2020	0.4	10.2	77.0	77.8	58.7	149.8	287.2	870.1	3,241.2	4,889.7	3,846.7	629.8	1.6
2020-2030	1.3		4.5	56.0	97.4	222.2	331.7	702.0	3,263.7	5,218.4	3,548.9	850.8	30.9
2030-2040		4.3	202.2	357.2	115.4	326.0	475.9	596.3	2,857.8	4,673.8	2,859.5	561.0	34.1
2040-2050		1.6	206.2	574.2	103.3	329.4	547.7	296.2	1,713.6	2,717.6	1,601.2	259.6	18.3
2050-2060			93.5	144.2	90.6	220.9	204.9	59.3	350.8	669.3	427.7	14.4	
2060-2075			3.7	29.4	128.8	183.1	129.7	29.0	3.7	362.7	356.7	11.1	
2075-2085		20.2	13.8	71.7	17.5	11.5	55.1	10.3		220.0	218.9	6.9	

MTU 0.4 – 6K

Figure 2-14 Estimated Burnup (GWd/MTHM) Distribution by Initial Uranium Mass for SNF Through December 2084

2.3.2 ALTERNATIVE SCENARIO 1: SUBSEQUENT LICENSE RENEWALS WITH APPLICATIONS PENDING

Alternative scenario 1 builds on the reference case scenario (Section 2.3.1) in addition to assuming that Diablo Canyon Units 1 and 2 operate till 2044 and 2045, respectively. The alternative 1 scenario also assumes that the following subsequent license renewal applications (80 years) are approved (six sites, 13 units):

- Point Beach Units 1 and 2
- Oconee Units 1, 2, and 3
- St. Lucie Units 1, and 2
- Summer Unit 1
- Browns Ferry Nuclear Plant, Units 1, 2, 3
- Dresden Nuclear Power Station, Units 2 and 3.

Table 2-15 provides the scenario inventory by reactor type as a function of the estimate phase. Actual quantities are used for discharges to December 31, 2022. Forecast discharges are used for the individual reactors for later time periods.

Table 2-16 provides the scenario inventory detailed for actual discharges through December 31, 2022, from the GC-859 database and the projected quantities from January 1, 2023, to December 31, 2024, and January 1, 2025, to December 31, 2084, by major storage location category and site group.

Table 2-15 Projected NPR SNF Discharges for Alternative Scenario 1 by Reactor Type[a]

Reactor Type	SNF Discharges as of 12/31/2022		Forecast Discharges 1/1/2023 to 12/31/2024		Forecast Discharges 1/1/2025 to 12/31/2084		Total Projected Discharged SNF	
	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
PWR	135,523	58,954	6,338	2,789	80,724	36,164	222,585	97,907
BWR	179,466	32,023	7,910	1,425	98,295	17,703	285,671	51,150
Totals	**314,989**	**90,977**	**14,248**	**4,214**	**179,019**	**53,867**	**508,256**	**149,057**

[a] Includes NPR SNF inventory at Morris and that was transferred to DOE sites, other than debris from TMI-2. (Not all SNF transferred to DOE is still in the form of SNF, some has been processed and vitrified.)

Table 2-16 Projected SNF Inventory at NPR and Morris for Alternative Scenario 1 by Site Group (Group Status as of 12/31/2024)

Description	Site Group	SNF Discharges as of 12/31/2022		Forecast Discharges 1/1/2023 to 12/31/2024		Forecast Discharges 1/1/2025 to 12/31/2084		Total Projected Discharged SNF	
		Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Operating and Future Operating Rx at Group C Sites without Diablo 1 Sites/1 Rx	C1	1,663	786.49	–	–	–	–	1,663	786.49
Operating and Future Operating Rx at Group C Sites without Diablo (49 Sites/88 Rx)[a]	C2	245,797	71,333.15	13,291	3,927.48	150,017	45,575.14	409,105	120,835.77
Operating and Future Operating Rx at	C3	6,417	1,704.32	67	30.79	1,095	503.19	7,579	2,238.30

Description	Site Group	SNF Discharges as of 12/31/2022		Forecast Discharges 1/1/2023 to 12/31/2024		Forecast Discharges 1/1/2025 to 12/31/2084		Total Projected Discharged SNF	
		Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Group C Sites without Diablo 1 Sites/1 Rx									
Operating Rx at Group C, Diablo only, 1 Sites/2 Rx	C2	3,861	1,657.05	179	75.54	2,713	1,145.00	6,753	2,877.59
Operating Rx and Future Operating at Group C	C	253,877	73,824.00	13,358	3,958.00	167,060	50,587.00	434,295	128,369.00
Operating Rx at Group B Sites (4 Rx/2 Sites)	B2	14,523	3,459.26	711	179.72	9,246	2,135.00	24,480	5,773.98
Shutdown Rx at Group B 2Rx/2 sites)	B2	3,773	616.22	–	–	–	–	3,773	616.22
Shutdown Reactors 18 Sites/23 Rx	A1	35,505	10,673.18	–	–	–	–	35,505	10,673.18
Away from Rx	F	3,217	674.29	–	–	–	–	3,217	674.29
Totals		**314,756**	**90,904**	**14,248**	**4,214**	**179,019**	**53,867**	**508,023**	**148,985**

[a] Excludes reactors with announced early shutdowns.

2.3.3 ALTERNATIVE SCENARIO 2: SUBSEQUENT LICENSE RENEWAL APPLICATIONS PLANNED

Alternative scenario 2 adds to what was covered in the alternative scenario 1. Here, it is assumed that reactor sites that have submitted a notice of intent for license renewal are approved by the NRC. The reactor sites assumed to operate for 80 (at the end of 2024) years include:

- H. B. Robinson Steam Electric Plant, Unit Number 2
- Edwin I. Hatch Nuclear Plant, Units 1 and 2
- Palisades Nuclear Plant
- Nine Mile Point, Unit 1
- Ginna
- Cooper Nuclear Station
- Watts Bar Nuclear Plant, Unit 1
- Joseph M. Farley Nuclear Plant, Unit 1 and 2
- Prairie Island Nuclear Generating Plant, Units 1 and 2
- Hope Creek Generating Station
- Salem Nuclear Generating Station, Units 1 and 2
- Donald C. Cook Nuclear Plant, Units 1 and 2
- Millstone Power Station, Units 2 and 3
- Three Mile Island, Unit 1 / Crane Clean Energy Center (assuming December 2028 startup).

Table 2-17 provides the scenario inventory by reactor type as a function of the estimate phase. Actual quantities are used for discharges to December 31, 2022. Forecast discharges are used for the individual reactors for later time periods.

Table 2-18 provides the scenario inventory detailed for actual discharges through December 31, 2022, from the GC-859 database and the projected quantities between January 1, 2023, and the end of the scenario (2084), by major storage location category and by site group.

The assumptions in this scenario are projected to result in an increase of SNF assemblies relative to the projections of the Reference Scenario as can be seen when Table 2-17 values are compared to Table 2-12

Table 2-17 Projected NPR SNF Discharges for Alternative Scenario 2 by Reactor Type[a]

Reactor Type	SNF Discharges as of 12/31/2022		Forecast Discharges 1/1/2023 to 31/12/2024		Forecast Discharges 1/1/2025 to 12/31/2084		Total Projected Discharged SNF	
	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
PWR	135,523	58,954	6,338	2,789	94,373	42,111	236,234	103,854
BWR	179,466	32,023	7,910	1,425	108,619	19,563	295,995	53,010
Totals	**314,989**	**90,977**	**14,248**	**4,214**	**202,992**	**61,674**	**532,229**	**156,865**

[a] Includes NPR SNF inventory at Morris and that was transferred to DOE sites, other than debris from TMI-2 (not all SNF transferred to DOE is still in the form of SNF; some has been processed and vitrified).

Table 2-18 Projected SNF Inventory at NPR and Morris for Alternative Scenario 2 by Site Group (Group Status as of 12/31/2024)

Description	Site Group	SNF Discharges as of 12/31/2022		Forecast Discharges 1/1/2023 to 12/31/2024		Forecast Discharges 1/1/2025 to 12/31/2084		Total Projected Discharged SNF	
		Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Operating and Future Operating Rx at Group C Sites without Diablo 1 Sites/1 Rx	C1	1,663	786.49	0	0	0	0	1,663	786.49
Operating and Future Operating Rx at Group C Sites without Diablo 49 Sites/88 Rx	C2	245,797	71,333.15	13,291	3,927.48	150,017	45,575.14	409,105	120,835.77
Operating and Future Operating Rx at Group C Sites without Diablo 1 Sites/1 Rx	C3	6,417	1,704.32	67	30.79	1,095	503.19	7,579	2,238.3
Operating Rx at Group C, Diablo only, 1 Sites/2 Rx	C2	3,861	1,657.05	179	75.54	2,713	1,144.89	6,753	2,877.48
Operating Rx and Future Operating at Group C[a]	C	253,877	73,823.96	13,358	3,958.27	188,906	57,483.24	456,141	135,265.47
Operating Rx at Group B Sites (4 Rx/2 Sites)[a]	B2	14,523	3,459.26	711	179.72	11,373	3,046.26	26,607	6,685.24
Shutdown Rx at Group B 2Rx/2 sites)	B2	3,773	616.22	0	0	0	0	3,773	616.22
Shutdown Reactors 18 Sites/23 Rx	A1	35,505	10,673.18	0	0	0	0	35,505	10,673.18
Away from Rx	F	3,217	674.29	0	0	0	0	3,217	674.29
Totals		**314,756**	**90,904**	**14,248**	**4,214**	**202,992**	**61,674**	**531,996**	**156,792**

[a] Excludes reactors with announced early shutdowns.

2.3.4 ALTERNATIVE SCENARIO 3: SUBSEQUENT LICENSE RENEWALS FOR ALL REACTORS

Alternative scenario 3 considers a subsequent license renewal for all reactors that were operating in 2025. This includes Palisades (assuming December 2025 startup), Diablo Canyon (Units 1 and 2), Vogtle (Units 3 and 4), and the Crane Clean Energy Center (assuming December 2028 startup).

Table 2-19 provides the scenario inventory by reactor type as a function of the estimate phase. Actual quantities are used for discharges to December 31, 2022. Forecast discharges are used for the individual reactors for later time periods.

Table 2-20 provides the scenario inventory detailed for actual discharges through December 31, 2022 from the GC-859 database; and the projected quantities from January 1, 2023, to December 31, 2024, and January 1, 2025, to December 31, 2104, (end of the scenario), by major storage location category and by site group.

The assumptions in this scenario are projected to result in an increase of SNF assemblies relative to the projections of the Reference Scenario as can be seen when Table 2-19 values are compared to Table 2-12.

Table 2-19 Projected NPR SNF Discharges for Alternative Scenario 3 by Reactor Type*

Reactor Type	SNF Discharges as of 12/31/2022		Forecast Discharges 1/1/23 to 12/31/2024		Forecast Discharges 1/1/25 to 12/31/2104		Total Projected Discharged SNF	
	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
PWR	135,523	58,954	6,338	2,789	133,601	59,633	275,462	121,376
BWR	179,466	32,023	7,910	1,425	155,723	28,073	343,099	61,521
Totals	**314,989**	**9,0977**	**14,248**	**4,214**	**289,324**	**87,706**	**618,561**	**182,897**

Table 2-20 Projected SNF Inventory at NPR and Morris for Alternative Scenario 3 by Site Group (Group Status as of 12/31/2024)

Description	Site Group	SNF Discharges as of 12/31/2022		Forecast Discharges 1/1/2023 to 12/31/2024		Forecast Discharges 1/1/2025 to 12/31/2104		Total Projected Discharged SNF	
		Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Operating and Future Operating Rx at Group C Sites without Diablo 1 Sites/1 Rx	C1	1,663	786.49	–	–	–	–	1,663	786.49
Operating and Future Operating Rx at Group C Sites without Diablo 49 Sites/88 Rx	C2	245,797	71,333.15	13,291	3,927.48	150,017	45,575.14	409,105	120,835.77
Operating and Future Operating Rx at Group C Sites without Diablo 1 Sites/1 Rx	C3	6,417	1,704.32	67	30.79	1,095	503.19	7,579	2,238.3
Operating Rx at Group C, Diablo only, 1 Sites/2 Rx	C2	3,861	1,657.05	179	75.54	5,222	2,202.42	9,262	3,935.01
Operating Rx and Future Operating at Group C[a]	C	253,877	73,823.96	13,358	3,958.27	272,732	82,457.74	539,967	160,239.97
Operating Rx at Group B Sites (4 Rx/2 Sites)[a]	B2	14,523	3,459.26	711	179.72	11,373	3,046.26	26,607	6,685.24
Shutdown Rx at Group B 2Rx/2 sites)	B2	3,773	616.22	–	–	–	–	3,773	616.22
Shutdown Reactors 18 Sites/23 Rx	A1	35,505	10,673.18	–	–	–	–	35,505	10,673.18
Away from Rx	F	3,217	674.29	–	–	–	–	3,217	674.29
Totals		**314,756**	**90,904**	**14,248**	**4,214**	**289,327**	**87,706**	**618,331**	**182,824**

[a] Excludes reactors with announced early shutdowns.

2.3.5 ALTERNATIVE SCENARIO 4: OPERATING PROFILE BASED ON ANNUAL ENERGY OUTLOOK REFERENCE CASE

The U.S. EIA has published the electricity capacity for the power generated using nuclear energy in their 2025 Annual Energy Outlook. The graph of their reference case is shown in Figure 2-15.

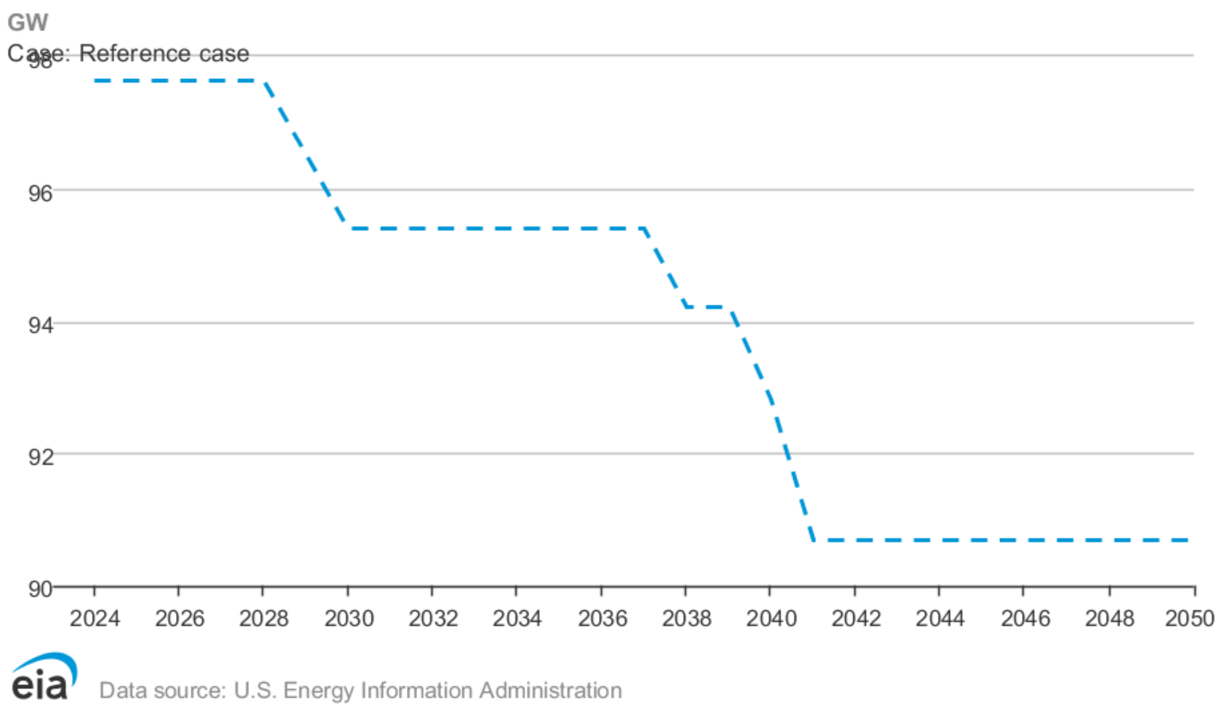

Figure 2-15 EIA's Nuclear Energy Electricity Outlook for 2025 (Reference Case)

Effort was made to create a scenario using the existing reactor fleet to match the 2025 EIA data shown above. Alternative 2 was used as the starting scenario (SLR for planned applicants). Reactor operating profiles were then adjusted to closely match the EIA electricity capacity with time (modified alternative-2 scenario).

Figure 2-16 compares the EIA projections and the modified alternative 2 projections. As can be observed, there is a very close relation between the modified alternative solution captured in the report and the graph produced by the EIA.

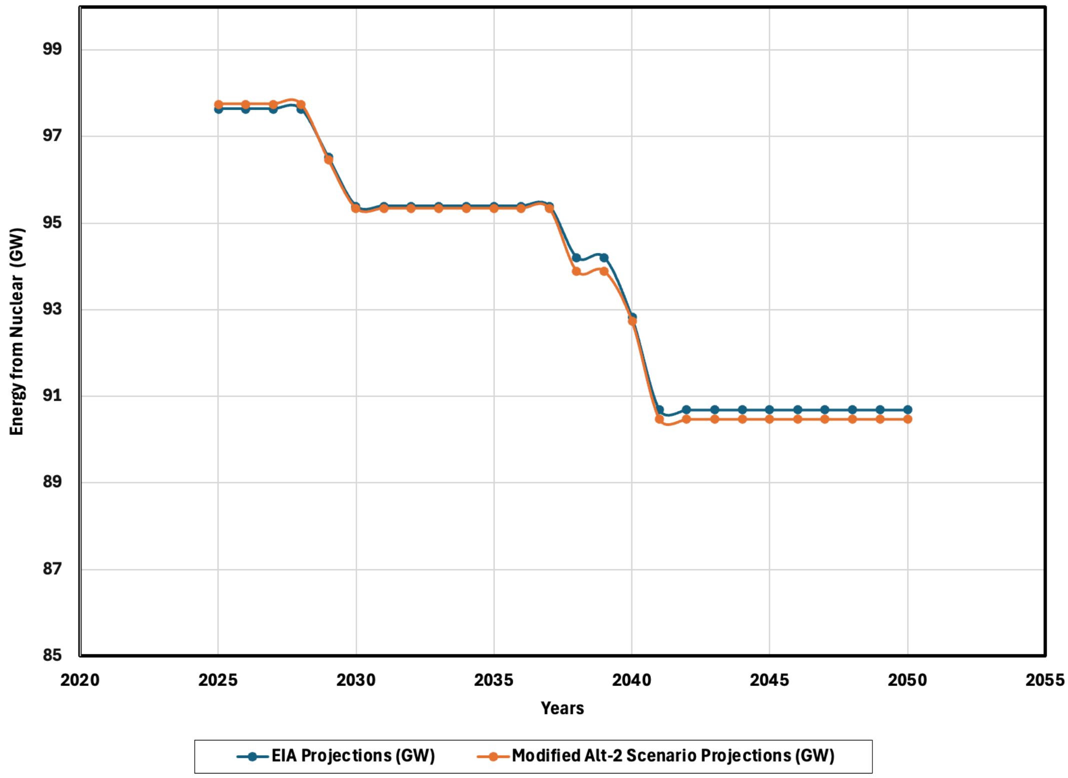

Figure 2-16 A Comparison of the EIA Data and the Modified Alternative 2 Scenario

Table 2-21 shows the yearly projections from EIA and the modified alternative 2 scenario as well as the absolute difference between the two.

Table 2-21 The EIA and the Modified Alternative 2 Scenario Projections along with the Absolute Difference

Year	EIA Projections (GW)	Modified Alt-2 Scenario Projections (GW)	Absolute Difference (GW)
2025	97.64	97.76	0.12
2026	97.64	97.76	0.12
2027	97.64	97.76	0.12
2028	97.64	97.76	0.12
2029	96.52	96.46	0.06
2030	95.40	95.34	0.06
2031	95.40	95.34	0.06
2032	95.40	95.34	0.06
2033	95.40	95.34	0.06
2034	95.40	95.34	0.06
2035	95.40	95.34	0.06
2036	95.40	95.34	0.06

Year	EIA Projections (GW)	Modified Alt-2 Scenario Projections (GW)	Absolute Difference (GW)
2037	95.40	95.34	0.06
2038	94.21	93.89	0.32
2039	94.21	93.89	0.32
2040	92.83	92.74	0.09
2041	90.69	90.47	0.22
2042	90.69	90.47	0.22
2043	90.69	90.47	0.22
2044	90.69	90.47	0.22
2045	90.69	90.47	0.22
2046	90.69	90.47	0.22
2047	90.69	90.47	0.22
2048	90.69	90.47	0.22
2049	90.69	90.47	0.22
2050	90.69	90.47	0.22

The EIA projection estimates 53,856.89 MTHM generated between 2025 and 2050, while the modified alternative-2 scenario estimates 51,652.48 MTHM generated between the same timeframes. This amounts to a difference of 2,204.41 MTHM (4.3%).

2.3.6 SCENARIO COMPARISON SUMMARY

The methods described previously have been extended to provide the forecast discharges based on several scenarios. Four alternative scenarios, in addition to the Reference Scenario, have been included in the current report. A summary and comparison are provided in Table 2-22 to illustrate the impact of the scenario assumptions for each alternative scenario, relative to the Reference Scenario. The results of the alternative scenarios considered in this revision of the report indicate a potential inventory that would vary from the Reference Scenario by indicating an increase in assemblies (and thus MTU).

Table 2-22 Summary Table of Projected NPR SNF Discharges[a]

Scenario	SNF Discharges as of 12/31/2022		Forecast Future Discharges 1/1/2023 to 12/31/2024		Forecast Future Discharges 1/1/2025 to 12/31/2084 (Scenario 3 end date: 12/31/2104)		Total Projected Discharged SNF		Delta from Reference Scenario	
	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Reference Scenario: 60-Year Operating Life for Most Reactors	314,756	90,904	14,248	4,214	156,567	47,811	485,571	142,929	–	–
Scenario 1: Subsequent License Renewa ls with Applications Pending	314,756	90,904	14,248	4,214	179,019	53,867	508,023	148,985	22,452	6,056
Scenario 2: Subsequent License Renewal Applications Pla nned	314,756	90,904	14,248	4,214	202,992	61,674	531,996	156,792	46,425	13,863
Scenario 3: Subsequent License Renewals for all Reactors	314,756	90,904	14,248	4,214	289,324	87,706	618,328	182,824	132,757	39,895

Scenario	SNF Discharges as of 12/31/2022		Forecast Future Discharges 1/1/2023 to 12/31/2024		Forecast Future Discharges 1/1/2025 to 12/31/2084 (Scenario 3 end date: 12/31/2104)		Total Projected Discharged SNF		Delta from Reference Scenario	
	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Scenario 4: Operating Profile Based on Annual Energy Outlook Reference Case	314,756	90,904	142,84	4,214	272,531	81,531	601,571	176,649	116,000	33,720

[a] Prior to transfers excluding TMI-2 fuel debris.

2.4 SPENT NUCLEAR FUEL DRY STORAGE SYSTEMS

SNF is initially stored at the nuclear plants in water-filled pools. Most of these pools were not designed for long-term storage, and many facilities have run out of capacity to store all the SNF in their pools. At these facilities, dry storage systems are utilized to store the SNF. As more facilities run out of pool storage and as reactors continue to generate SNF, the amount of dry storage is increasing. Table 2-6 and APPENDIX B list the number of SNF casks assemblies loaded at NPR sites as of December 31, 2024. The distribution of SNF by storage method and vendor is provided in Figure 2-17.

As of the end of 2024, only Shearon Harris does not have dry storage capabilities. Shearon Harris will not require dry storage before the end of the current license.

SNF storage methods have changed since its inception, and today, there are three broad categories of storage methods: SNF assemblies in heavy composite wall casks, which provide integral confinement and shielding (often called bare fuel casks), SNF in welded steel canisters loaded into storage/transportation overpacks, and SNF in welded steel canisters, stored in vented concrete storage overpacks, which provide shielding for the SNF canister pending transportation. Table 2-23 provides the distribution by storage method.

Table 2-23 Dry Storage Method Distribution

Storage Method	Canisters/Casks	Assemblies
Welded Canisters in Storage/Transportation Overpacks	12	866
Bare Fuel Casks	235	10,942
Weld Canisters in Concrete Storage Overpacks/Modules	3,922	171,967
Total	**4,169**	**183,775**

Only 12 welded canisters already loaded in storage/transportation overpacks are in use at three sites. These systems are no longer being loaded. See Table 2-24.

Table 2-24 Welded SNF Canisters in Storage/Transportation Overpacks

Site	Cask System	Canister Name	Number of Canisters	Assemblies
Dresden	HI-STAR	MPC-68	4	272
Humboldt Bay	HI-STAR	MPC-HB	5	390
Hatch	HI-STAR	MPC-68	3	204
Total			**12**	**866**

Bare fuel casks are still in use and are routinely loaded at Prairie Island. Peach Bottom stopped loading these systems in 2019. Table 2-25 provides details on these bare fuel casks.

Table 2-25 Bare Fuel Casks by Reactor Site and Cask Vendor/Model

Site	Cask System	Cask Name	Number of Canisters	Assemblies
Surry	CASTOR	CASTOR V/21	26	558
Surry	MC-10	MC-10	1	24
Surry	NAC-I28	NAC-I28	2	56
Surry	TN Metal Casks	TN-32	26	832
McGuire	TN Metal Casks	TN-32	10	320
North Anna	TN Metal Casks	TN-32	28	896
Prairie Island	TN Metal Casks	TN-40	29	1,160
Prairie Island	TN Metal Casks	TN-40HT	21	840
Peach Bottom	TN Metal Casks	TN-68	92	6,256
Total			**235**	**10,942**

The majority of the SNF in dry storage is in welded canisters stored in concrete overpacks. These dry storage systems are referred to as vented concrete casks or modules. Table 2-26 provides the vendor distribution. Figure 2-17 summarizes the current composition of SNF dry storage systems.

Table 2-26 Welded Canisters in Concrete Storage Overpacks by Vendor

Vendor	Canisters	Assemblies
Orano TN	1,298	50,908
Holtec International	2,002	102,461
NAC	557	16,765
Energy Solutions	65	1,833
Total	**3,922**	**171,967**

Table 2-27 and Table 2-28 provide the storage systems used at the Group A and Group B shutdown sites (Leduc 2012; updated to reflect current knowledge). These tables also provide the transportation cask status for the anticipated storage cask (Leduc 2012; updated to reflect current knowledge). Except for Millstone 1, all the reactor sites listed in these tables have implemented a dry storage system. All SNF from the shutdown Millstone 1 reactor is currently still in wet storage. Dry storage operations at Millstone have thus far been limited to discharges from the two operating PWRs at this site.

An additional six casks are currently stored on the cask pad, and two casks containing SNF from West Valley are stored on railcars at CPP-2707 at INL. TMI-2 core debris is currently stored primarily in casks at the TMI-2 ISFSI at INL. The Fort St. Vrain ISFSI stores SNF elements in a vault type storage system near Platteville, Colorado.

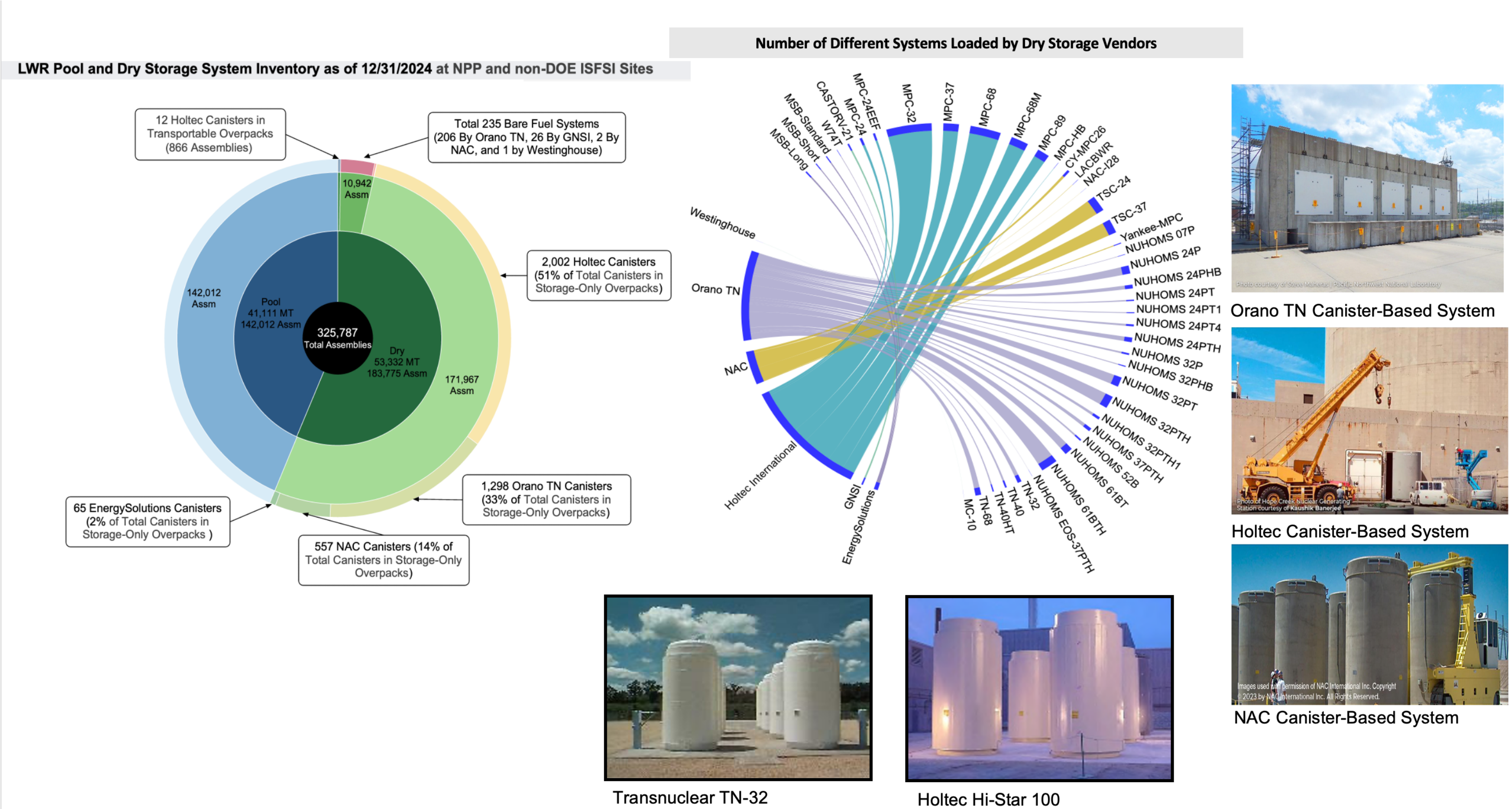

Figure 2-17 Summary of SNF storage by method and vendor (dry storage)

Table 2-27 Cask Systems Used at Group A Sites

Site	Type	First Use Load Date	Last Load Date	Storage System	Canister	Transport Cask Status
Big Rock Point	BWR	2002	2003	Fuel Solutions	W150 Storage Overpack W74 Canister	FuelSolutions TS-125 (Docket No. 71-9276); Certificate expires 11/30/2027. None fabricated
Crystal River	PWR	2017	2018	NUHOMS	NUHOMS 32PTH1	TN MP197HB (Docket No. 71-9302) Certificate expires 1/31/2028. Fabrication complete
Duane Arnold	BWR	2003	2011	NUHOMS	NUHOMS 61BT	NUHOMS MP187 (Docket No. 71-9255); Certificate expires 11/30/2028. One cask fabricated. No impact limiters.
Duane Arnold	BWR	2020	2022	NUHOMS	NUHOMS 61BTH	NUHOMS MP187 (Docket No. 71-9255); Certificate expires 11/30/2028. One cask fabricated. No impact limiters.
Fort Calhoun	PWR	2006	2020	NUHOMS	NUHOMS 32PT	TN MP197HB (Docket No. 71-9302); Certificate expires 1/31/2028.
Haddam Neck	PWR	2004	2005	NAC-MPC	CY-MPC (26 Assy) canister	NAC-STC (Docket No. 71-9235); Certificate expires 5/31/2029. Foreign use versions fabricated.
Humboldt Bay	BWR	2008	2013	HI-STAR HB	MPC-HB canister	HI-STAR HB (Docket No. 71-9261); Certificate expires 4/30/2029 SNF in canisters in fabricated casks. No impact limiters or spacers.

Site	Type	First Use Load Date	Last Load Date	Storage System	Canister	Transport Cask Status
Kewaunee	PWR	2017	2017	MAGNASTOR	TSC-37	TN MP197HB (Docket No. 71-9302); Certificate expires 1/31/2028. NAC MAGNATRAN (Docket 71-9356) Certificate expires 4/30/2029. None fabricated
Kewaunee	PWR	2009	2014	NUHOMS	NUHOMS 32PT	TN MP197HB (Docket No. 71-9302); Certificate expires 1/31/2028. NAC MAGNATRAN (Docket 71-9356) Certificate expires 4/30/2029. None fabricated
LaCrosse	BWR	2012	2012	NAC MPC	LACBWR canister	NAC-STC (Docket No. 71-9235); Certificate expires 5/31/2029. Foreign use versions fabricated.
Maine Yankee	PWR	2002	2004	NAC-UMS	UMS-24 canister	NAC-UMS Universal Transport Cask (Docket No. 71-9270); Certificate expires 11/30/2027. None fabricated
Oyster Creek	BWR	2002	2010	NUHOMS	NUHOMS 61BT	NUHOMS MP187 (Docket No. 71-9255); Certificate expires 11/30/2028.
Oyster Creek	BWR	2021	2021	HI-STORM FW	MPC-89	NUHOMS MP187 (Docket No. 71-9255); Certificate expires 11/30/2028.
Oyster Creek	BWR	2012	2018	NUHOMS	NUHOMS 61BTH & 61BTH Type 1	NUHOMS MP187 (Docket No. 71-9255); Certificate expires 11/30/2028.
Pilgrim	BWR	2015	2018	HI-STORM	MPC-68	HI-STAR 100 (Docket No. 71-9261) Certificate expires 4/30/2029. Units fabricated. No impact limiters or spacers
Pilgrim	BWR	2020	2021	HI-STORM	MPC-68M	HI-STAR 100 (Docket No. 71-9261) Certificate expires 4/30/2029. Units fabricated. No impact limiters or spacers.

Site	Type	First Use Load Date	Last Load Date	Storage System	Canister	Transport Cask Status
Rancho Seco	PWR	2001	2002	NUHOMS	FO-DSC, FC-DSC, and FF DSC canisters	NUHOMS MP187 (Docket No. 71-9255); Certificate expires 11/30/2028. One cask fabricated. No impact limiters.
San Onofre	PWR	2005	2005	NUHOMS	NUHOMS 24PT1	NUHOMS MP187 (Docket No. 71-9255); Certificate expires 11/30/2028. One cask fabricated. No impact limiters. TN MP197HB (Docket No. 71-9302); Certificate expires 1/31/2028. HI-STAR 190 (Docket No. 71-9373), Certificate expires 8/31/2027. None fabricated.
San Onofre	PWR	2007	2012	NUHOMS	NUHOMS 24PT4	NUHOMS MP187 (Docket No. 71-9255); Certificate expires 11/30/2028. TN MP197HB (Docket No. 71-9302); Certificate expires 1/31/2028. HI-STAR 190 (Docket No. 71-9373), Certificate expires 8/31/2027.
San Onofre	PWR	2018	2020	HI-STORM UMAX	MPC-37	NUHOMS MP187 (Docket No. 71-9255); Certificate expires 11/30/2028. TN MP197HB (Docket No. 71-9302); Certificate expires 1/31/2028. HI-STAR 190 (Docket No. 71-9373), Certificate expires 8/31/2027. None fabricated.
Three Mile Island	PWR	2021	2022	MAGNASTOR	MAG-TSC	NAC MAGNATRAN (Docket 71-9356) Certificate expires 4/30/2029. None fabricated
Trojan	PWR	2002	2003	TranStore Storage Overpack	MPC-24E and MPC-24EF	HI-STAR 100 (Docket No. 71-9261) Certificate expires 4/30/2029. Units fabricated but dedicated to storage at other sites. No impact limiters or spacers

Site	Type	First Use Load Date	Last Load Date	Storage System	Canister	Transport Cask Status
Vermont Yankee	BWR	2008	2017	HI-STORM	MPC-68	HI-STAR 100 (Docket No. 71-9261) Certificate expires 4/30/2029. Units fabricated. No impact limiters or spacers
Yankee Rowe	PWR	2002	2003	NAC-MPC	Yankee-MPC	NAC-STC (Docket No. 71-9235); Certificate expires 05/31/2029. Foreign use versions fabricated
Vermont Yankee	BWR	2017	2018	HI-STORM	MPC-68M	HI-STAR 100 (Docket No. 71-9261) Certificate expires 4/30/2029. Units fabricated. No impact limiters or spacers
Zion	PWR	2013	2015	MAGNASTOR	TSC 37	NAC MAGNATRAN (Docket No. 71-9356); Certificate expires 4/30/2029. No units fabricated.

Table 2-28 Cask Systems Used at Shutdown Reactors at Group B Sites[a]

Reactor Unit	Canister ID	General Canister ID	Load Dates	Canisters Name	Count
Dresden 1	1005D_MPC-68F-030	MPC-68F-030	2014	MPC-68	68
Dresden 1	1005D_MPC-68FF-343	MPC-68FF-343	2014	MPC-68FF	40
Dresden 1	HI_STAR_MPC68F_1005D_MPCF005	MPCF005	2000	MPC-68F	68
Dresden 1	HI_STAR_MPC68F_1005D_MPCF020	MPCF020	2001	MPC-68F	68
Dresden 1	HI_STAR_MPC68F_1005D_MPCF021	MPCF021	2001	MPC-68F	68
Dresden 1	HI_STORM_MPC68F_1005D_MPCF006	MPCF006	2001	MPC-68F	68
Dresden 1	HI_STORM_MPC68F_1005D_MPCF019	MPCF019	2001	MPC-68F	68

Reactor Unit	Canister ID	General Canister ID	Load Dates	Canisters Name	Count
Dresden 1	HI_STORM_MPC68F_1005D_MPCF027	MPCF027	2001	MPC-68F	68
Dresden 1	HI_STORM_MPC68F_1005D_MPCF029	MPCF029	2002	MPC-68F	67
Dresden 1	HI_STORM_MPC68_1005D_MPC008	MPC008	2001	MPC-68	34
Dresden 1	HI_STORM_MPC68_1005D_MPC009	MPC009	2001	MPC-68	68
Dresden 1	HI_STORM_MPC68_1005D_MPC016	MPC016	2001	MPC-68	68
Dresden 1	HI_STORM_MPC68_1005D_MPC017	MPC017	2001	MPC-68	68
Dresden 1	HI_STORM_MPC68_1005D_MPC018	MPC018	2001	MPC-68	68
Millstone 1	–	N/A	N/A	N/A	b
Total					**889**

[a] All Dresden 1 assemblies were loaded into dry storage prior to 2014.

[b] All BWR SNF at the Millstone is currently in pool storage.

2.5 SPENT NUCLEAR FUEL CHARACTERISTICS

To date, SNF has been discharged with burnup ranging from less than 20 gigawatt-days per metric ton (GWd/MT) and projected to approach 60 GWd/MT. Table 2-29 through Table 2-32 and Figure 2-18 through Figure 2-21 present the radionuclide decay heat for the 40 and 60 GWd/MT burnup PWR and 30 and 50 GWd/MT BWR as representative SNF. The figures and tables provide the total decay heat and decay heat by isotopic groups with similar isotopic parameters. Discharged SNF compositions (in g/MT) for representative SNF are available in Appendix C of the *Used Fuel Disposition Campaign (UFDC) Inventory* report (Carter 2013).

Table 2-29 PWR 40 GWd/MT Spent Nuclear Fuel Decay Heat

Elements	Decay Heat (Watts/MT)							
	Time (years)							
	1	10	30	50	70	100	300	500
Gases H, C, Xe, Kr, I	–	–	–	–	–	–	–	–
Cs/Sr/Ba/Rb/Y	2,765	1,054	566	354	222	110	1	–
Noble Metals Ag, Pd, Ru, Rh	2,752	11	–	–	–	–	–	–
Lanthanides La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Ho, Tm	3,593	64	10	2	–	–	–	–
Actinides Ac, Th, Pa, U	–	–	–	–	–	–	–	–
Transuranic Np, Pu, Am, Cm, Bk, Cf, Es	819	348	332	309	287	258	159	116
Others	515	15	2	1	–	–	–	–
Totals	**10,444**	**1,492**	**910**	**666**	**509**	**368**	**160**	**116**

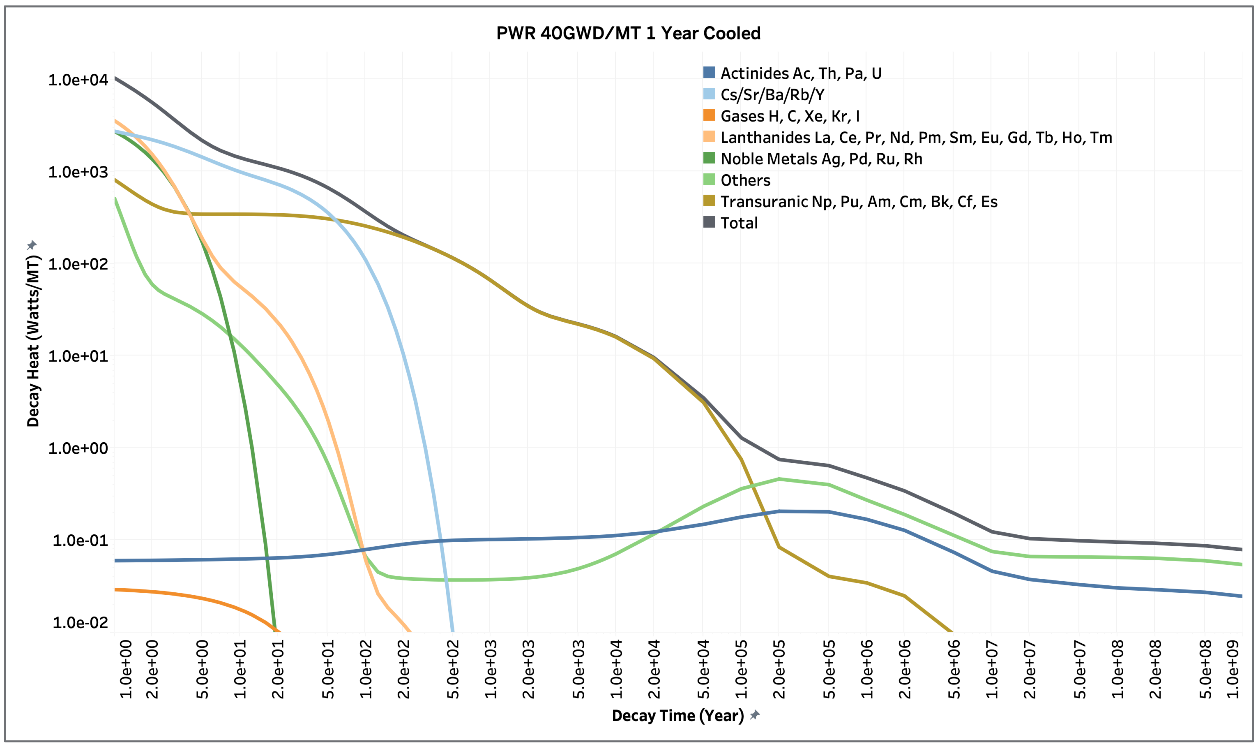

Figure 2-18 PWR 40 GWd/MT Spent Nuclear Fuel Decay Heat

Table 2-30 PWR 60 GWd/MT Spent Nuclear Fuel Decay Heat

Elements	Decay Heat (Watts/MT)							
	Time (years)							
	1	10	30	50	70	100	300	500
Gases H, C, Xe, Kr, I	–	–	–	–	–	–	–	–
Cs/Sr/Ba/Rb/Y	4,608	1,576	824	516	323	160	1	–
Noble Metals Ag, Pd, Ru, Rh	3,447	14	–	–	–	–	–	–
Lanthanides La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Ho, Tm	3,843	109	17	3	1	–	–	–
Actinides Ac, Th, Pa, U	–	–	–	–	–	–	–	–
Transuranic Np, Pu, Am, Cm, Bk, Cf, Es	1,515	785	613	516	449	381	199	139
Others	522	21	3	1	–	–	–	–
Totals	**13,936**	**2,505**	**1,458**	**1,036**	**773**	**541**	**201**	**139**

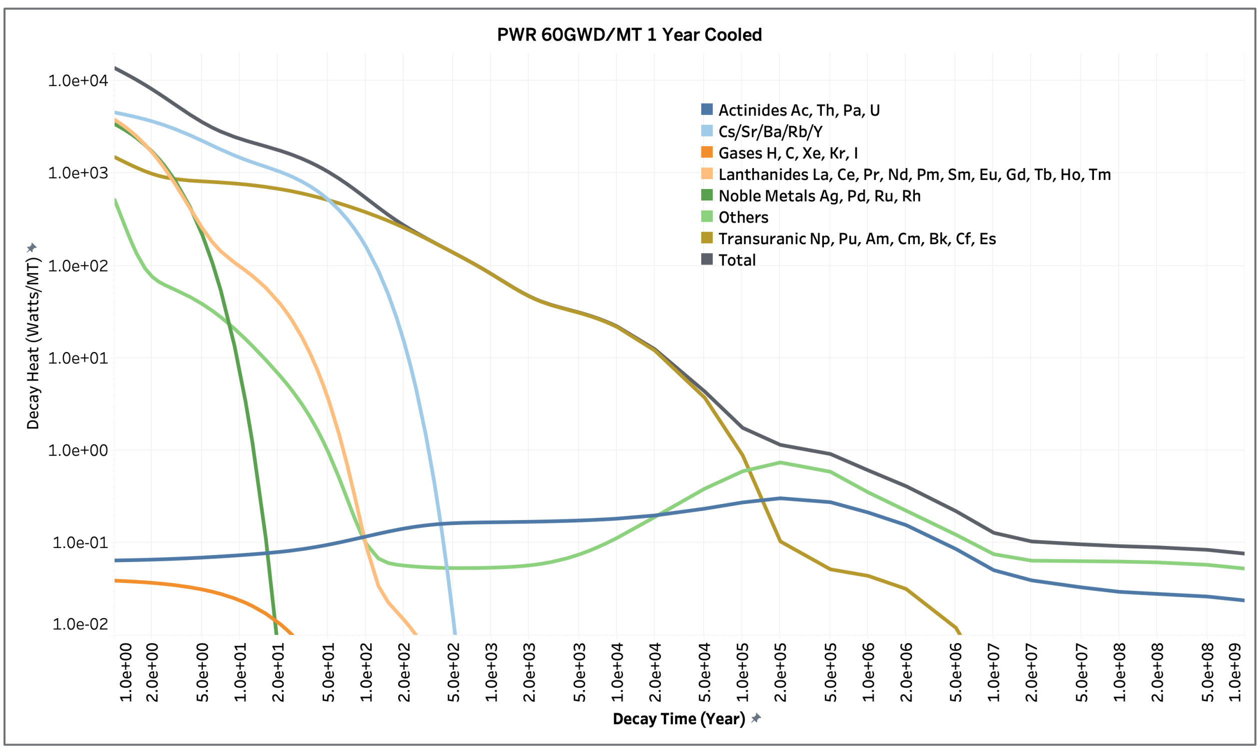

Figure 2-19 PWR 60 GWd/MT Spent Nuclear Fuel Decay Heat

Table 2-31 BWR 30 GWd/MT Spent Nuclear Fuel Decay Heat

Elements	Decay Heat (Watts/MT)							
	Time (years)							
	1	10	30	50	70	100	300	500
Gases H, C, Xe, Kr, I	–	–	–	–	–	–	–	–
Cs/Sr/Ba/Rb/Y	1,895	778	425	266	166	82	1	–
Noble Metals Ag, Pd, Ru, Rh	2,042	8	–	–	–	–	–	–
Lanthanides La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Ho, Tm	2,675	43	6	1	–	–	–	–
Actinides Ac, Th, Pa, U	–	–	–	–	–	–	–	–
Transuranic Np, Pu, Am, Cm, Bk, Cf, Es	588	225	234	225	213	196	127	94
Others	403	12	2	–	–	–	–	–
Totals	**7,603**	**1,067**	**667**	**493**	**380**	**278**	**128**	**94**

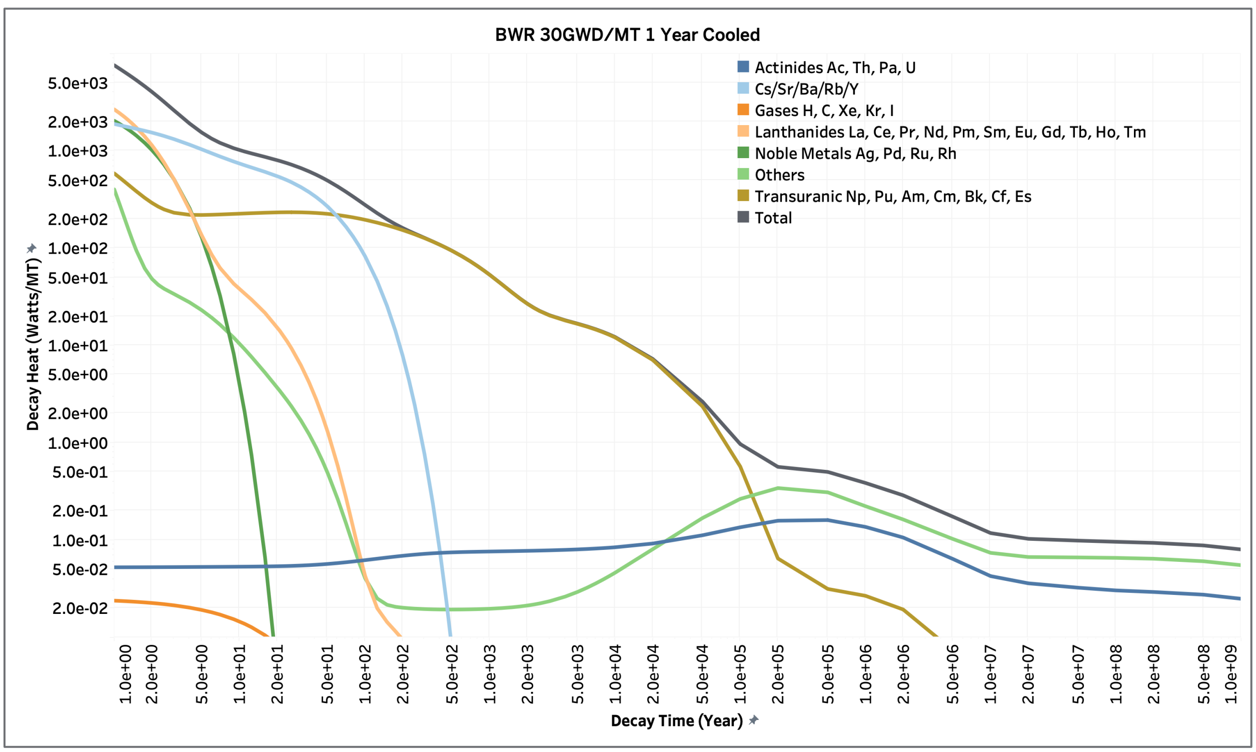

Figure 2-20 BWR 30 GWd/MT Spent Nuclear Fuel Decay Heat

Table 2-32 BWR 50 GWd/MT Spent Nuclear Fuel Decay Heat

Elements	Decay Heat (Watts/MT)							
	Time (years)							
	1	10	30	50	70	100	300	500
Gases H, C, Xe, Kr, I	–	–	–	–	–	–	–	–
Cs/Sr/Ba/Rb/Y	3,558	1,257	662	414	259	128	1	–
Noble Metals Ag, Pd, Ru, Rh	2,669	11	–	–	–	–	–	–
Lanthanides La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Ho, Tm	2,734	92	14	3	1	–	–	–
Actinides Ac, Th, Pa, U	–	–	–	–	–	–	–	–
Transuranic Np, Pu, Am, Cm, Bk, Cf, Es	1,627	760	591	496	433	369	199	139
Others	420	17	2	1	–	–	–	–
Totals	**11,008**	**2,137**	**1,271**	**914**	**693**	**498**	**200**	**139**

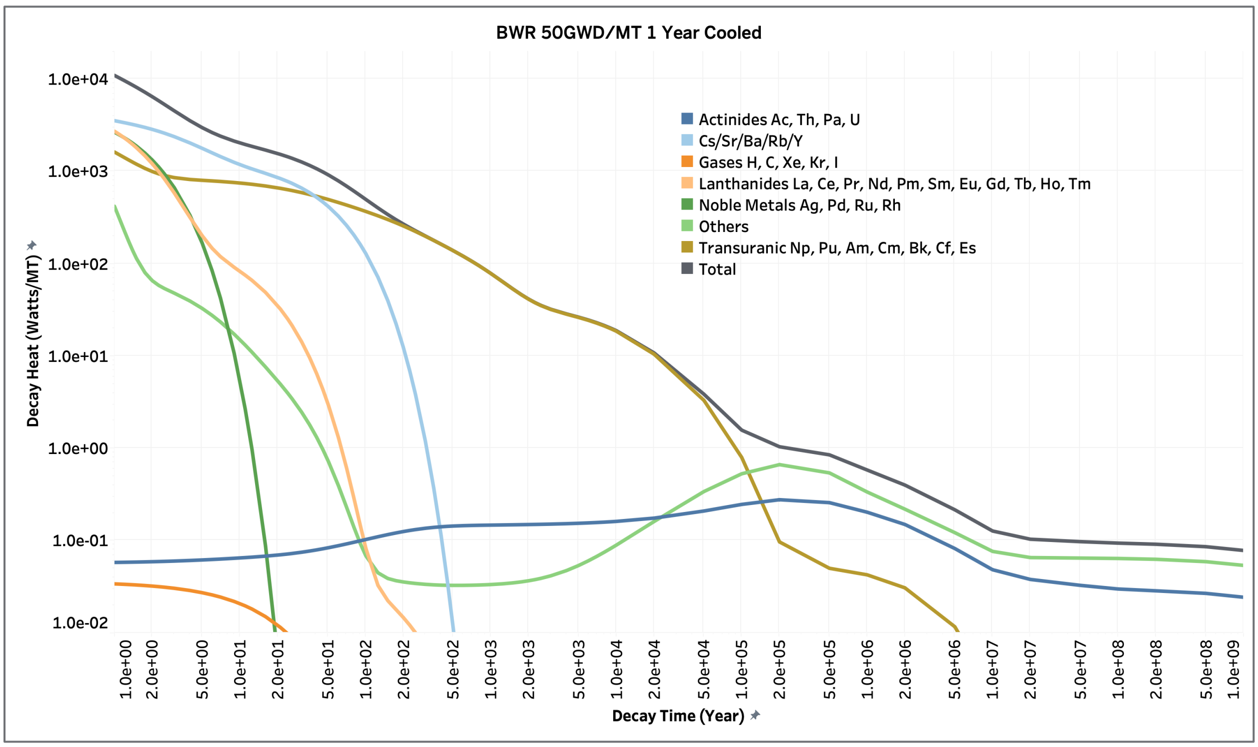

Figure 2-21 BWR 50 GWd/MT Spent Nuclear Fuel Decay Heat

3. SNF AT DOE LOCATIONS

Since the inception of nuclear reactors, the DOE and its predecessor agencies operated or sponsored a variety of production, research, test, training, and other experimental reactors both domestically and overseas. The Naval Nuclear Propulsion Program (NNPP) has generated SNF from the operation of nuclear-powered submarines, surface ships, land-based prototype reactor plants, moored training ship reactor plants, early development of NPRs, and irradiation test programs.

3.1 DOE-MANAGED SNF

The SNF located at DOE sites can be generally categorized as:

- SNF generated in production reactors that supported defense programs and other isotope production programs. An example of SNF existing today from production reactors is the N Reactor SNF stored at Hanford. This is the largest quantity (over 2,100 MTHM) by mass and is included in Section 3.1.1.
- DOE sponsored nuclear research activities in the United States and overseas. There are four main operational DOE research reactors; the Advanced Test Reactor (ATR) and the Transient Reactor Test (TREAT) Facility at INL, the Annular Core Research Reactor at Sandia National Laboratories (SNL), and the High Flux Isotope Reactor (HFIR) at Oak Ridge National Laboratory (ORNL). In addition to these, there is also the Advanced Test Reactor Critical Facility (a low-power version of the higher-powered ATR core) and the Neutron Radiography (NRAD) Reactor (a TRIGA-type reactor), both at INL. SNF from ATR is stored in the ATR canal prior to transfer to dry storage at INTEC's CPP-603 facility, while SNF from HFIR is stored in storage racks within the HFIR pool outside the core zone awaiting shipment to Savannah River Site. Additional information regarding DOE-Research Reactors can be found in APPENDIX F and APPENDIX H, the listing by state and congressional district and the state-by-state maps, respectively. The inventory is included in Section 3.1.1.
- There are numerous university and other government agency research reactor sites within the United States. A portion of the permanently discharged SNF from research reactors is stored at the INL and Savannah River Site (SRS) and included in Section 3.1.1. (See Section 4 for more information on the university and other government agency reactors.). Additional quantities of research reactor SNF remain at various reactor sites.
- DOE has some early demonstration power reactor SNF remaining from Atomic Energy Commission activities. This inventory is also included in Section 3.1.1.
- DOE has some NPR SNF resulting from the R&D activities supporting the NPRs and geologic repository development activities. This inventory is discussed in Section 3.1.2. Commercial-origin DOE SNF refers to nuclear fuel that was originally used in commercial nuclear power reactors and later came under the custody of the DOE.
- SNF resulting from the NNPP is included in Section 3.2.

3.1.1 SNF INVENTORY

The source of current inventory data for this study is the Spent Fuel Database (SFD) maintained by the National Spent Nuclear Fuel Program (NSNFP) at the INL (NSNFP 2025). The total inventory of SNF at about the end of 2024 was approximately 2,447.4 MTHM (NSNFP 2025). It is noted that SRS is actively pursuing the accelerated basin disposal mission to process SNF from L-Basin. Therefore, the SNF at SRS requiring disposal is anticipated to be lower once the mission completes. DOE continues to operate several research reactors and will be receiving SNF from universities and the foreign research reactor return program. Projected difference in material amounts (current vs. out to

2035) are relatively small (about 10.7 MTHM), and there is some uncertainty as to the total amount that will be generated or received. This quantity includes prior receipts of research reactor SNF from all sources, including SNF remaining from very early power demonstration reactors, such as Shippingport and Peach Bottom Unit 1. This quantity does not include any Naval SNF (see Section 3.2) or SNF of NPR origin (see Section 3.1.2) used in various R&D studies.

SNF comes from a wide range of reactor types, such as light- and heavy-water-moderated reactors, graphite-moderated reactors, and breeder reactors, with various cladding materials and enrichments, varying from depleted uranium to over 93% enriched ^{235}U. Many of these reactors, now decommissioned, had unique design features, such as core configuration, fuel element and assembly geometry, moderator and coolant materials, operational characteristics, and neutron spatial and spectral properties.

As described below, there is a large diversity of reactor and fuel designs. In addition, there is a relatively large number (241,555, as of the end of 2024 [NSNFP 2025]) of fuel pieces or assemblies, which range from many pieces for some reactors (N Reactor) to a few individual pieces for other unique reactors (Chicago Pile-5 converter cylinders).

There are several hundred distinct types of DOE-managed SNF. This SNF inventory was reduced to 34 groups based on fuel matrix, cladding, cladding condition, and enrichment. These parameters were selected because of their potential relevance to supporting system-level evaluations.

A discussion of each of the 34 groupings is presented in Appendix D of the *UFDC Inventory* report (Carter 2013). The discussions of each of the 34 groups provide a description of the SNF group and an example of SNF that makes up the group. Where appropriate, a more detailed description of a SNF with the largest percentage of MTHM within each group is provided. This discussion is not intended to address each SNF in the group.

Appendix D, Table D.1 of *UFDC Inventory* report (Carter 2013) describes the typical ranges of the nominal properties for SNF in the 34 groups.

3.1.1.1 SNF RADIONUCLIDE INVENTORY

Process knowledge and the best available information regarding fuel fabrication, operations, and storage for DOE SNF are used to develop a conservative source-term estimate. The DOE SNF characterization process relies on pre-calculated results that provide radionuclide inventories for typical SNF at a range of decay times. These results are used as templates that are scaled to estimate radionuclide inventories for other similar SNF.

To estimate an SNF source term, the appropriate template is selected to model the production of activation products and transuranics by matching the reactor moderator and fuel cladding, constituents, and beginning-of-life enrichment. Pre-calculated radionuclide inventories are extracted from the appropriate template at the desired decay period and then scaled to account for differences in fuel mass and specific burnup. Appendix A of *Decay Heat of Selected DOE-Managed Waste Materials* (referred to as *DOE Managed Waste* in this report) lists the projected radionuclide inventory of DOE SNF for the nominal and bounding cases as of 2010 (Wilson 2016). The nominal case is the expected or average inventory. The bounding case represents the highest burnup assembly or accounts for uncertainties if fuel burnup is not known.

From the SFD (NSNFP 2025), the total estimated nominal radionuclide inventory is 97 million curies (Ci) for the year 2030. The estimated bounding radionuclide inventory is 194.5 million Ci for the year 2030. The nominal case is the expected or average inventory. The bounding case represents the highest burnup assembly or accounts for uncertainties if fuel burnup is not known.

3.1.1.2 SNF STORAGE/CANISTERS

SNF has been stored throughout the United States at numerous facilities. A decision was made in 1995 to consolidate the material at three existing DOE sites: Hanford Site in Washington, INL in Idaho, and SRS in South Carolina. The vast majority of SNF is currently stored at these three sites. As of about the end of 2024, (NSNFP 2025), there was 2,129.3 MTHM at Hanford, 270 MTHM at INL, and 26.6 MTHM at SRS. The storage configurations vary for each of the sites and include both dry and wet storage. By mass, the largest portion of the SNF is contained in about 410 Multi-canister Overpacks (MCO) at the Hanford site. The MCO is a sealed, stainless-steel canister that is about 24 inches in diameter and about 14 feet long.

The radionuclide inventory and resulting decay heat were calculated for the year 2030 based on the estimated radionuclide inventory as described in Section 3.1.2. The decay heat per canister is calculated as the estimated decay heat associated with each SNF record divided by the number of canisters (unrounded) required for the SNF (based on volume). These values are considered adequate for this scoping evaluation.

Table 3-1 provides the distribution of standard canisters based on the 2030 nominal decay heat using the 3,634 nominal total canister count. The 2030 data indicate that about 75% of the DOE SNF canisters will be generating decay heat of less than 100 watts. About 95% of the DOE SNF canisters will be generating decay heat less than 300 watts. Nearly all the DOE SNF canisters (>99%) will be generating less than 1 kW. Since the methodology used to calculate the radionuclide inventory is very conservative, some SNF have radionuclide amounts based on bounding assumptions resulting in extreme decay heat values.

Table 3-1 Spent Nuclear Fuel Canister Decay Heat in 2030 (NSNFP 2025)

Decay heat per canister (watts)	DOE SNF	
	Number of canisters[a]	Cumulative %
<50	2,352	64.8%
50–100	430	76.6%
100–220	434	88.6%
220–300	232	95.0%
300–500	122	98.3%
500–1000	48	99.6%
1000–1500	3	99.7%
1500–2000	1	99.7%
>2000	12	100.0%
Total	**3,634**	

[a] Canister counts for each fuel type within heat-load categories assume a loading strategy that mixes compatible fuels to the extent feasible. This is a reasonable assumption that reduces the canister count.

3.1.2 SNF FROM NPR RESEARCH AND DEVELOPMENT ACTIVITIES

The SFD maintained by the NSNFP at the INL (NSNFP 2025) tracks SNF of NPR origin, which is being managed by DOE. For this study, NPR SNF is identified as having been discharged from the reactors listed in Table 2-1 as well as Three Mile Island Unit 2 debris at INL and Fort St. Vrain.

There is 173.6 MTHM of NPR SNF, as defined in this report, that is currently managed by DOE according to the SFD. The contributors to this total include 81.6 MTHM of Three Mile Island Unit 2 core debris, 23.6 MTHM for Ft St. Vrain SNF (both in Colorado [15 MTHM] and Idaho [8.6 MTHM]), and 68.4 MTHM from other NPR sites (e.g., Surry, Ginna, and Robinson) used in various R&D programs (NWTRB 2020a and 2020b). This 68.4 MTU (from other NPR sites) is less than the 73 MTU reported in GC-859 to have been transferred to DOE. This is due to DOE material disposition programs, vitrification research programs, and post-irradiation examination.

The intact portion of this SNF from LWRs could be transported and disposed in six waste packages sized to accommodate 21 PWR assemblies or 44 BWR assemblies. The non-intact portion of this SNF could be loaded into DOE standard canisters (see Section 3.1.2 for a description of the standard canister) before shipment and disposal. The non-intact portion is projected to generate 1,056 DOE standard canisters. Table 3-2 provides a breakdown of the decay heat characteristics for all 1,062 canisters containing SNF of NPR origin.

Table 3-2 Canister Decay Heat Characteristics of NPR Origin SNF in DOE Possession

Decay heat per canister (watts)	2030	
	Number of DOE Standard Canisters [a]	Cumulative %
<50	903	85.0%
50–100	54	90.1%
100–220	33	93.2%
220–300	40	97.0%
300–500	3	97.3%
500–1000	24	99.5%
1000–1500	0	99.5%
1500–2000	0	99.5%
>2000	5	100.0%
Totals [b]	**1,062**	

[a] The fractional canister counts from the application of a loading algorithm in the SFD database have been rounded up to the next whole canister. These provide a relative comparison for the quantities in each decay heat range and do not represent a future "as loaded" condition. These do not sum to the "Total" provided by the SFD database. Cumulative % is based on the algorithm values.

[b] Includes 6 canisters of intact commercial origin spent fuel (163 assemblies).

3.2 NAVAL SNF

The NNPP has generated SNF from operation of nuclear-powered submarines and surface ships, operation of land-based prototype reactor plants, operation of moored training ship reactor plants, early development of nuclear power, and irradiation test programs. The source of naval SNF information for this report is the unclassified portion of the Yucca Mountain Repository License Application (DOE 2008) and an evaluation report on options for permanent geologic disposal of SNF and HLW (SNL 2014). Since most details regarding naval SNF are classified, only limited information is presented herein.[8]

3.2.1 NAVAL SNF INVENTORY

Naval SNF consists of solid metal and metallic components that are nonflammable, highly corrosion-resistant, and neither pyrophoric, explosive, combustible, chemically reactive, nor subject to gas generation by chemical reaction or off-gassing. Approximately 41 MTHM of Naval SNF currently exists with a projected inventory of less than 65 MTHM by 2035.

New naval nuclear fuel is highly enriched uranium. As a result of the high uranium enrichment, very small amounts of transuranics (TRU) are generated by end of life when compared to NPR SNF.

3.2.2 NAVAL SNF RADIONUCLIDE INVENTORY

Each naval SNF canister is loaded such that thermal, shielding, criticality, and other characteristics of the received waste will be within the proposed repository waste acceptance requirement limits. As a result, a radionuclide inventory for a representative naval SNF canister, 5 years after reactor shutdown, was developed for use in the repository source term analyses (*UFDC Inventory* report, Appendix E, Table E.1 [Carter 2013]). Different packaging designs may be needed, dependent upon the future disposal options.

3.2.3 NAVAL SNF STORAGE/CANISTERS

SNF from the NNPP is temporarily stored at the INL. To accommodate different naval fuel assembly designs, naval SNF is loaded in either a naval short SNF canister or a naval long SNF canister. Both were sized to fit within the proposed design for the Yucca Mountain repository waste package.

The outer diameter of the naval SNF canister is 66 inches nominal (66.5 inches maximum). The maximum external dimensions ensure naval SNF canisters fit into the waste packages. The naval short SNF canister is 185.5 inches (nominal) in length (187 inches maximum), and the naval long SNF canister is 210.5 inches (nominal) in length (212 inches maximum). Except for length, the geometry of the naval SNF canisters is identical.

The Civilian Radioactive Waste Management System requirements document assumed approximately 400 naval SNF canisters (310 long and 90 short) would be disposed at Yucca Mountain. The average thermal load of these canisters was assessed to be 4,250 watts/container. The maximum heat load of all containers will be under the 11,800 watts/container limit established for Yucca Mountain. Table 3-3 provides the distribution of naval SNF canisters based on nominal decay heat (SNL 2014). The NNPP is responsible for preparing and loading naval SNF canisters and began canister loading operations in 2002. As of December 31, 2024, 209 naval SNF canisters have been loaded and are being temporarily stored at INL.

[8] Before using the information in this section for studies involving naval SNF, contact the NNPP Program Manager, Naval Spent Nuclear Fuel at (202) 781–5903.

Table 3-3 Naval SNF Canister Decay Heat

Decay heat per canister (watts)	Number of canisters	Cumulative %
500–1,000	13	3.3%
1,000–2,500	36	12.3%
2,500–5,000	94	35.8%
>5,000	257	100.0%
Total	**400**	

4. SNF AT OTHER SITES

SNF at other sites includes University Research Reactors, other government agency reactors, and Commercial R&D Centers. The SNF quantities are derived from data prepared by INL using the SFD Version 8.5.12 (released December 2024). The total SNF inventory as of December 2024, is approximately 21.4 MTHM.

4.1 UNIVERSITY RESEARCH REACTORS

University research reactors operate at power levels that range from less than a watt up to 10 MW, depending on the reactor type. Permanently discharged SNF from these reactors is generally sent to either SRS or INL, and the SNF is managed by DOE and included in the inventory discussed in this section. Excluding the Reactor Critical Facility at Rensselaer Polytechnic Institute and the AGN-201 reactors located at Idaho State University, Texas A&M University, and the University of New Mexico, which have such a low fuel burnup rate that they should never have to be refueled in their useful lifetime, there are 20 university research reactors in operation at 20 sites.[9] Table 4-1 provides a listing of the university reactors and the quantities of SNF at those locations. The quantities reported include the in-core amounts and SNF, which has not reached the end of its useful life. Permanently discharged SNF is returned to DOE and included in the inventory in Section 3.1.1. Additional information regarding research reactors at universities is included in the listing by state and congressional district (APPENDIX F) and the state-by-state maps (APPENDIX G).

[9] In this report, the Rhode Island Nuclear Science Center (RINSC) reactor is listed in the next section on other government agency research reactors. RINSC serves as the headquarters for the Rhode Island Atomic Energy Commission (RIAEC), which is the licensee for the reactor which is located on the Narragansett Bay Campus of the University of Rhode Island. The reactor is on land leased to the RIAEC from the Rhode Island Department of Higher Education, and the land adjacent to the RINSC reactor is owned and controlled by the University of Rhode Island. The reactor supports research and education at the University of Rhode Island and other universities.

Table 4-1 University Research Reactors (NSNFP 2023)

State	Installation	Inventory (kg)
California	University of California (Irvine)	20.34
	University of California (Davis)	80.34
Florida	University of Florida (Gainesville)	19.30
Indiana	Purdue University (West Lafayette)	12.03
Kansas	Kansas State University (Manhattan)	21.44
Maryland	University of Maryland (College Park)	19.84
Massachusetts	University of Massachusetts-Lowell	10.64
	Massachusetts Institute of Technology (Cambridge)	20.21
Missouri	University of Missouri (Columbia)	28.95
	University of Missouri (Rolla)	25.52
North Carolina	North Carolina State University (Raleigh)	484.05
Ohio	Ohio State University (Columbus)	26.15
Oregon	Oregon State University (Corvallis)	75.63
	Reed College (Portland)	18.95
Pennsylvania	Pennsylvania State University (University Park)	37.94
Texas	Texas A&M University (College Station)	68.76
	University of Texas (Austin)	42.83
Utah	University of Utah (Salt Lake City)	25.77
Washington	Washington State University (Pullman)	57.53
Wisconsin	University of Wisconsin (Madison)	58.29
Total		**1,154.48**

4.2 OTHER GOVERNMENT AGENCY RESEARCH REACTORS

Table 4-2 lists research reactors operated by other government organizations. Permanently discharged SNF from these reactors is generally sent to either SRS or INL, and the SNF is managed by DOE and included in the inventory discussed in Section 4.1.

Table 4-2 Other Government Agency Research Reactors SNF (NSNFP 2023)

State	Installation	Inventory (kg)
Colorado	U.S. Geological Survey (Denver)	65.76
Maryland	National Institute of Standards and Technology (Gaithersburg)	13.91
	Armed Forces Radiobiology Research Institute (Bethesda)	18.27
Rhode Island	Rhode Island Atomic Energy Commission, RINSC Reactor (Narragansett)	19.24
Total		**177.17**

4.3 COMMERCIAL RESEARCH AND DEVELOPMENT CENTERS

Table 4-3 lists commercial R&D centers. Three sites have reactors, while the BWX Technologies site in Virginia is a fuel cycle research center conducting SNF destructive examinations among other activities.

Table 4-3 Commercial R&D Centers SNF (NSNFP 2023)

State	Installation	Inventory (kg)
California	Aerotest Research Reactor (San Ramon)	17.50
	General Electric (Pleasanton)	3.98
Michigan	Dow Chemical, Research Reactor (Midland)	14.81
Virginia	BWX Technology, Fuel cycle R&D Center (Lynchburg)	43.89
Total		**80.19**

5. REPROCESSING WASTE

DOE has conducted SNF reprocessing activities since as early as the 1940's. Aqueous reprocessing of SNF is the most common source of reprocessing waste, and has occurred at the Hanford Site, INL, and SRS. In addition, INL is using electro-chemical processing to treat up to 60 MTHM of sodium-bonded SNF. The Defense Waste Processing Facility at SRS is converting the reprocessing waste into borosilicate glass, and a reprocessing waste treatment facility is under construction at the Hanford site.

Some NPR SNF was reprocessed at a private company, Nuclear Fuel Services, located at the Western New York Service Center, which is owned by the New York State Energy Research and Development Authority. All of the reprocessing waste has been treated by conversion into borosilicate glass and is stored on the site (Section 5.2). NPR SNF that was not reprocessed by NFS has been sent to INL for disposition.

5.1 REPROCESSING WASTE AT DOE SITES

High-level radioactive waste[10] is the highly radioactive material resulting from the reprocessing of SNF, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations, and other highly radioactive material that is determined, consistent with existing law, to require permanent isolation. Aqueous reprocessing waste is in a liquid form and historically has been stored in underground metal storage tanks. Long-term storage of reprocessing waste requires stabilization of the wastes into a form that will not react, or degrade, for an extended period. Two treatment methods used for stabilization of the waste are vitrification or calcination. Vitrification is the transition of the reprocessing waste into a glass by mixing with a combination of silica sand and other constituents or glass forming chemicals that are melted together and poured into stainless steel canisters. Glass canisters have a nominal diameter of 2 feet and have heights of 10 or 15 feet. Calcination of reprocessing waste is accomplished by injecting the waste with calcining additives into a fluidized bed to evaporate the water and decompose the remaining constituents into a granular solid material. Calcined waste at INL may need further treatment to ensure it will meet likely waste acceptance criteria for disposal of HLW.

In addition to aqueous reprocessing, the INL is using electro-chemical processing to treat up to 60 MTHM of sodium-bonded SNF. The process converts the bond sodium into sodium chloride and separates the SNF into a uranium product and reprocessing waste. The reprocessing waste is produced in two forms, ceramic and metal. The ceramic waste form primarily contains the salt electrolyte with active metal fission products, and the metal waste is primarily the cladding hulls and undissolved noble metals. The process has been demonstrated and used to treat about 4 MTHM of sodium-bonded SNF to date.

[10] This report does not necessarily reflect final classifications for the material being discussed; for example, material referred to as "HLW" or "SNF" may be managed as HLW and SNF, respectively, without having been actually classified as such for disposal. Final classification determinations would be made in compliance with DOE's radioactive waste management directive (DOE O 435.1). The definition of HLW used in this report is from the statutory language of the Nuclear Waste Policy Act, as amended. In this report "reprocessing waste" primarily refers to the waste stream containing most of the fission products, which is typically extracted during the first cycle of nuclear fuel reprocessing and, for aqueous reprocessing, often proposed for vitrification.

5.1.1 CURRENT REPROCESSING WASTE INVENTORY

The sources of inventory data for this report includes information collected by the Department's OCRWM for the Yucca Mountain License Application (DOE 2008), waste producing sites, and updated based on recent site treatment plans (DOE 2020; Chew, Hamm, and Wells 2019).

INL reprocessed SNF from naval propulsion reactors, test reactors, and research reactors to recover uranium and generated approximately 29,300 m^3 of liquid reprocessing waste. Between 1960 and 1997, the INL converted their liquid reprocessing waste into about 4,400 m^3 of a solid waste form called calcine (a granular solid with the consistency of powder laundry soap). These solids are stored retrievably onsite in stainless steel bins (like grain silos but smaller) within concrete vaults (NWTRB 2020c). It is noted that another source of reprocessing waste, albeit likely to be classified as TRU for disposal but currently managed as HLW, is the sodium-bearing waste presently being steam-reformed in INL's Integrated Waste Treatment Unit.

The SRS has reprocessed defense reactor SNF and nuclear targets to recover valuable isotopes since 1954 having received more than 160 million gallons of waste. Through evaporation and vitrification of the waste, SRS has reduced this inventory to the current level of about 32.9 million gallons of waste (SRS 2024). SRS began vitrifying reprocessing waste in 1996 and through December 31, 2024, has produced 4,452 vitrified waste canisters (2 feet × 10 feet).

The Hanford Site reprocessed defense reactor SNF since the 1940s and has generated about 56 million gallons of liquid reprocessing waste to recover the plutonium, uranium, and other elements for defense and other federal programs. Construction of a vitrification facility is currently underway. Table 5-1 summarizes the current reprocessing inventory.

Table 5-1 Current Reprocessing Waste Inventory

Site	Liquid Reprocessing Waste[a] (m^3)	Vitrified Waste Canisters[b]	Dry Reprocessing Waste[c] (m^3)
Hanford	212,000 (DOE n.d.a.)	N/A	N/A
INL	N/A	N/A	4,400 (NWTRB 2020c)
SRS	124,600	4,452[d]	N/A

[a] Reprocessing Waste stored in tanks.

[b] Vitrified Reprocessing Waste in stainless steel canisters.

[c] Calcined reprocessing waste stored in bins.

[d] Produced through December 31, 2024 (SRS 2024).

The Hanford Site encapsulated Cesium and Strontium separated from the liquid waste between 1974 and 1985. Some of these capsules were leased to companies as radiation sources. After one of the capsules developed a microscopic leak, the capsules were recalled. Hanford is storing 1,335 Cs capsules and 601 Sr capsules, which contained approximately 109 million Ci at the time of production.

No decision has been made on the disposition of the Cs/Sr capsules, yet. At present, DOE is working to construct a dry storage facility to replace wet storage in Waste Encapsulation and Storage Facility (WESF). After transferring the 1,936 capsules to dry storage, they would be safely stored until a future decision on disposition is made.

5.1.2 PROJECTED REPROCESSING WASTE INVENTORY

SRS currently has the only operating reprocessing facility in the United States, H Canyon. It is estimated that an additional 12,000 m^3 of liquid reprocessing waste may be generated with continued canyon operations (Chew, Hamm, and Wells 2019) (approximately 2026, including H-Canyon shutdown flows). With accelerated basin disposal, additional liquid reprocessing waste is anticipated to be produced from H-Canyon operations through 2034.

The projected number of vitrified reprocessing waste canisters to be generated at each site will be dependent on actual loading and final waste form. Because of this uncertainty, the actual number of reprocessing waste canisters produced may vary significantly from what is anticipated today.

SRS began conversion of the liquid defense waste into borosilicate glass in 1996 and is the only DOE site with vitrified waste in a packaged configuration. A total of 4,452 canisters has been produced through December 31, 2024. Therefore, the SRS inventory can be described as those canisters in the current inventory and those projected from future operations. Decay heat of the current inventory is based on radiological inventories contained in the production records for those canisters. The decay heat of future canisters is estimated based on the radionuclide composition of the reprocessing waste inventory remaining in the liquid waste storage tanks. The radionuclide and resulting decay heat is calculated based on the year the canister is/will be produced. The total Savannah River canister count is based on information supporting the *Liquid Waste System Plan* (Chew and Jung 2023) which assumes a Salt Waste Processing Facility start-up date of January 2021.

Table 5-2 provides the projected canister distribution of SRS canisters based on the nominal decay heat at the time of production. The data indicates that about 33% of the Savannah River canisters will be generating less than 50 watts; 96% of the Savannah River canisters will be generating less than 300 watts, and all the SRS canisters will be generating less than 500 watts.

Table 5-2 Savannah River Canister Decay Heat Distribution (projected)

Savannah River		
Decay heat per canister (watts)	Number of canisters	Cumulative %
<50	2,625	32.3%
50–100	984	44.4%
100–200	3,668	89.6%
200–300	537	96.2%
300–500	307	100.0%
500–1,000	–	100.0%
1,000–1,500	–	100.0%
1,500–2,000	–	100.0%
>2,000	–	100.0%
Totals	**8,121**	
Total Decay Heat (watts)	**855,088**	

The Hanford Waste Treatment Project (WTP) is currently under construction, and therefore, the Hanford borosilicate glass canisters are based on a reference baseline inventory for their future production taken from *River Protection Project System Plan*, Rev. 10 (Schubick et al. 2023) as 10,300 (Scenario 1) canisters of immobilized high-level waste (IHLW) glass and 6,700 (Scenario 1) TRU waste drums. *System Plan*, Rev. 10 includes six different scenarios (and four scenario variants) with glass canister (IHLW) production ranging from 9,900 (Scenario 5[d]) to 11,900 (Scenario 3 and 3A). The DOE, Environmental Protection Agency, and the State of Washington recently modified the Tri-Party Agreement (also known as the Holistic Agreement), and Hanford has indicated that the System Plan scenario most closely aligned with this agreement is consistent with SP10 Scenario 2, which projects the production of approximately 11,400 high-level waste (HLW) glass canisters.

At INL, several options were considered for ultimate disposal of the calcine. Alternatives included direct disposal, vitrification, or hot isostatic pressing (HIP) to compress the calcine into a volume-reduced monolithic waste form. A Record of Decision issued December 2009 determined that DOE will use the HIP technology to treat the calcine (DOE 2010). An amendment to the 2010 ROD is being explored and two Analysis of Alternatives were published in 2016 and 2021 indicating a preference for vitrification as the treatment method for calcine, with Cold Crucible Induction Melter technology identified as a more favorable solution compared to the Joule Heated Melter approach.

Decay heat of DOE calcined waste currently stored at the Idaho site is taken from the October 2005 Idaho Cleanup Project document titled *Decay Heat and Radiation from Direct Disposed Calcine*, EDF-6258, Rev. 0 (Herbst 2005). EDF-6258 provides this data for direct disposal of the calcine waste. The current Record of Decision for disposal of the calcine is for it to be treated using HIP, which will result in an approximate 50% increase in the volume of calcine material (due to additives) followed by about 30% decrease in the volume as a result of the HIP process. The size of the final HIP container and final packaged canister remains under investigation. The current estimate is 3,700 canisters.

Table 5-3 provides the projected distribution of DOE calcine canisters based on the nominal decay heat in the year 2017. The data indicates that 100% of calcine canisters will be less than 50 watts.

Table 5-3 Hanford and Idaho Waste Inventory (projected)

Decay heat per canister (watts)	Hanford Borosilicate Glass[a]		Idaho Calcine[b]	
	Number of canisters	Cumulative %	Number of canisters	Cumulative %
<50	9,291	83.9%	3,700	100.0%
50–100	1,237	95.0%	–	–
100–200	523	99.7%	–	–
200–300	28	100.0%	–	–
300–500	–	100.0%	–	–
500–1000	–	100.0%	–	–
1000–1500	–	100.0%	–	–
1500–2000	–	100.0%	–	–
>2000	–	100.0%	–	–
Totals	**11,079**		**3,700**	
Total Decay Heat (watts)	**304,904**		**92,674**	

[a] Projected based on future waste vitrification operations.

[b] Projected based on future waste treatment which may change.

The current best estimate and a potential range for projected vitrified reprocessing waste canisters are provided (EIS 2002; Chew, Hamm, and Wells 2019; DOE 2017).[11] Table 1-1 and APPENDIX F provide the equivalent MTHM using the "Best Estimate" canisters count and using the historical factor of 0.5 MTHM per canister (actual loadings may vary) established in DOE/DP 0020/1 (DOE 1985). Table 5-4 shows the estimated number of high-level waste canisters to be produced. The current best estimate and a potential range are also provided for reference.

[11] Memorandum from F. Marcinowski C. Kouts, *Canister Projections for High-Level Waste and Spent Nuclear Fuel*, April 16, 2008.

Table 5-4 Projected Total Number of DOE High Level Waste Canisters

Site[a]	Canister Range/ Best Estimate[b]
Hanford (Projected)	9,900–11,900/ 11,400
INL (Projected)	3,700–7,500
SRS (Projected)	8,113
West Valley (Actual)	278
Totals	**~23,500–~27,300**[c]

[a] Sources: DOE n.d.b.; Chew and Jung 2023; SRS 2024; Schubick et al. 2023; U.S. Office of Environmental Management 2021

[b] With the exception of Hanford, all canisters are 2 feet × 10 feet. Hanford canisters are 2 feet × 15 feet

[c] Rounded to nearest 100 canisters. Best estimate of 11,400 was used for Hanford

5.1.3 REPROCESSING WASTE RADIONUCLIDE INVENTORY

DOE Managed Waste (Wilson 2016, Appendix B) lists the total reprocessing waste radionuclide inventory for each of the generating sites decayed to 2017. Although there may be some variation in the number of canisters produced for the sites that have not completed waste treatment, the total amount of radionuclide will not change except by radioactive decay. The combined inventory from all three sites is approximately 1.3 million watts.

OCRWM used the “projected maximum” inventory on a per canister basis for the vitrified reprocessing waste curie content supplied by SRS. The use of the “projected maximum” on a per canister basis resulted in a conservative total curie content for SRS that is approximately twice the actual SRS tank farm inventory. The expected curie content of SRS reprocessing waste is presented in *DOE Managed Waste* (Wilson 2016, Appendix B).

SRS is also the only DOE site continuing reprocessing, and the DOE, Office of Environmental Management (EM) program periodically processes excess special isotopes via the reprocessing facility and the vitrification process. The potential for future EM special isotope disposal campaigns has not been assessed in this study.

The total radionuclide inventory for treatment of sodium-bonded SNF is shown in Table F3 of the *UFDC Inventory* report (Carter 2013).

5.1.4 VITRIFIED REPROCESSING WASTE STORAGE

The vitrified reprocessing waste canisters at SRS are stored in below grade concrete vaults, called Glass Waste Storage Buildings (GWSB). To increase capacity and avoid constructing a third building, DOE and the site contractor are implementing double-stacking modifications, which began in GWSB 1 and are now underway in GWSB 2. This approach is expected to provide sufficient space for over 9,000 HLW canisters with current projections standing at 8,113 canisters from the Defense Waste Processing Facility.

5.2 REPROCESSING WASTE AT WEST VALLEY

An SNF reprocessing plant was constructed and operated by Nuclear Fuel Service. The facility was located at Western New York Service Center, which is owned by the New York State Energy Research and Development Authority. The facility operated from 1966 through 1972 and reprocessed approximately 640 MT of SNF to recover the plutonium and unused uranium (NFS 1973). Of the SNF reprocessed at West Valley, about 260 MT were NPR fuel and about 380 MT were DOE N Reactor fuel. Included in this amount processed were approximately 30 MTHM of unirradiated fuel for the N Reactor and 3 MTHM of unirradiated fuel for the Pathfinder reactor.

During operations, about 2,500 m^3 of liquid HLW was generated (DOE n.d.c.). The liquid HLW was vitrified between 1996 and 2001 producing 278 canisters loaded in 57 storage casks (CHBWV 2014), including 275 canisters of vitrified HLW, two additional canisters used to evacuate the melter prior to decommissioning, and one non-routine HLW canister (WV-413), that are stored at West Valley; see Table 5-5 (DOE 1996). APPENDIX F provides the equivalent MTHM contained in these canisters based upon the historical factor of 2.3 MTHM per canister established in DOE/DP 0020/1 (DOE 1985). This factor is conservative for the West Valley canisters, recognizing that a portion of the fuel processed was unirradiated.

Table 5-5 West Valley High-Level Waste Inventory

Site	HLW Canisters[a]	Liquid HLW (m^3)	Dry HLW (m^3)
West Valley	278[b]	N/A	N/A

[a] Vitrified HLW in stainless steel canisters.

[b] Includes two canisters used to evacuate the melter prior to decommissioning in 2002 and one non-routine HLW canister (WV-413).

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APPENDIX A – NUCLEAR FUEL CHARACTERISTICS

Table A-1 Physical Characteristics of Pressurized Water Reactor Assembly Class

Assembly Class	Array Size	Manufacturer Code	Version	Assembly Code	Length (in.)	Width (in.)	Clad Material
B&W 15 × 15	15 × 15	B&W	B&W Mark B	B1515B	165.70	8.54	Zircaloy-4
			B&W Mark B10	B1515B10	165.70	8.54	Zircaloy-4
			B&W Mark B3	B1515B3	165.70	8.54	Zircaloy-4
			B&W Mark B4	B1515B4	165.70	8.54	Zircaloy-4
			B&W Mark B4Z	B1515B4Z	165.70	8.54	Zircaloy-4
			B&W Mark B5	B1515B5	165.70	8.54	Zircaloy-4
			B&W Mark B5Z	B1515B5Z	165.70	8.54	Zircaloy-4
			B&W Mark B6	B1515B6	165.70	8.54	Zircaloy-4
			B&W Mark B7	B1515B7	165.70	8.54	Zircaloy-4
			B&W Mark B8	B1515B8	165.70	8.54	Zircaloy-4
			B&W Mark B9	B1515B9	165.70	8.54	Zircaloy-4
			B&W Mark BGD	B1515BGD	165.70	8.54	Zircaloy-4
			B&W Mark BZ	B1515BZ	165.70	8.54	Zircaloy-4
		WE	WE	B1515W	165.70	8.54	not available
B&W 17 × 17	17 × 17	B&W	B&W Mark C	B1717B	165.70	8.54	Zircaloy-4
CE 14 × 14	14 × 14	ANF	ANF	C1414A	157.00	8.10	Zircaloy-4
		CE	CE	C1414C	157.00	8.10	Zircaloy-4
		WE	WE	C1414W	157.00	8.10	Zircaloy-4
CE 16 × 16	16 × 16	CE	CE	C1616CSD	176.80	8.10	Zircaloy-4
CE System 80	16 × 16	CE	CE System 80	C8016C	178.30	8.10	Zircaloy-4
WE 14 × 14	14 × 14	ANF	ANF	W1414A	159.80	7.76	Zircaloy-4
		ANF	ANF Top Rod	W1414ATR	159.80	7.76	Zircaloy-4
		B&W	B&W	W1414B	159.80	7.76	not available
		WE	WE LOPAR	W1414WL	159.80	7.76	Zircaloy-4
		WE	WE OFA	W1414WO	159.80	7.76	Zircaloy-4
		WE	WE Std	W1414W	159.80	7.76	Zircaloy-4

Assembly Class	Array Size	Manufacturer Code	Version	Assembly Code	Length (in.)	Width (in.)	Clad Material
WE 15 × 15	15 × 15	ANF	ANF	W1515A	159.80	8.44	Zircaloy-4
			ANF HT	W1515AHT	159.80	8.44	not available
			ANF Part Length	W1515APL	159.80	8.44	not available
		WE	LOPAR	W1515WL	159.80	8.44	Zircaloy-4
			OFA	W1515WO	159.80	8.44	Zircaloy-4
			WE Std	W1515W	159.80	8.44	Zircaloy
			WE Vantage 5	W1515WV5	159.80	8.44	not available
WE 17 × 17	17 × 17	ANF	ANF	W1717A	159.80	8.44	Zircaloy-4
		B&W	B&W Mark B	W1717B	159.80	8.44	not available
		WE	WE	W1717WRF	159.80	8.44	not available
			WE	W1717WVJ	159.80	8.44	not available
			WE LOPAR	W1717WL	159.80	8.44	Zircaloy-4
			WE OFA	W1717WO	159.80	8.44	Zircaloy-4
			WE Pressurized	W1717WP	159.80	8.44	not available
			WE Vantage	W1717WV	159.80	8.44	not available
			WE Vantage +	W1717WV+	159.80	8.44	ZIRLO
			WE Vantage 5	W1717WV5	159.80	8.44	Zircaloy-4
			WE Vantage 5H	W1717WVH	159.80	8.44	not available
South Texas	17 × 17	WE	WE	WST17W	199.00	8.43	Zircaloy-4
Ft. Calhoun	14 × 14	ANF	ANF	XFC14A	146.00	8.10	not available
		CE	CE	XFC14C	146.00	8.10	Zircaloy-4
		WE	WE	XFC14W	146.00	8.10	not available

Assembly Class	Array Size	Manufacturer Code	Version	Assembly Code	Length (in.)	Width (in.)	Clad Material
Haddam Neck	15 × 15	B&W	B&W SS	XHN15B	137.10	8.42	SS-304
			B&W Zir	XHN15BZ	137.10	8.42	Zircaloy
		GA	Gulf SS	XHN15HS	137.10	8.42	SS
			Gulf Zir	XHN15HZ	137.10	8.42	Zircaloy
		NU	NUM SS	XHN15MS	137.10	8.42	SS
			NUM Zir	XHN15MZ	137.10	8.42	Zircaloy
		WE	WE	XHN15W	137.10	8.42	SS-304
			WE Zir	XHN15WZ	137.10	8.42	not available
Indian Point-1	13 × 14	WE	WE	XIP14W	138.80	6.27	SS
Palisades	15 × 15	ANF	ANF	XPA15A	147.50	8.20	Zircaloy-4
		CE	CE	XPA15C	147.50	8.20	Zircaloy-4
St. Lucie-2	16 × 16	CE	CE	XSL16C	158.20	8.10	Zircaloy-4
San Onofre-1	14 × 14	WE	WE	XSO14W	137.10	7.76	SS-304
			WE D	XSO14WD	137.10	7.76	not available
			WE M	XSO14WM	137.10	7.76	not available
Yankee Rowe	15 × 16	ANF	ANF	XYR16A	111.80	7.62	Zircaloy-4
		CE	CE	XYR16C	111.80	7.62	Zircaloy-4
		UNC	UNC	XYR16U	111.80	7.62	not available
	17 × 18	WE	WE	XYR18W	111.80	7.62	SS

Note: Some characteristics of more recently discharged SNF (post-2002) have not yet been provided

Table A-2 Physical Characteristics of Boiling Water Reactor Assembly Classes

Assembly Class	Array Size	Manufacturer Code	Version	Assembly Code	Length (in.)	Width (in.)	Clad Material
GE BWR/ 2,3	7 × 7	ANF	ANF	G2307A	171.20	5.44	Zircaloy-2
	8 × 8	ANF	ANF	G2308A	171.20	5.44	Zircaloy-2
	9 × 9	ANF	ANF	G2309A	171.20	5.44	Zircaloy-2
			ANF IX	G2309AIX	171.20	5.44	Zircaloy-2
	8 × 8	ANF	ANF Pressurized	G2308AP	171.20	5.44	Zircaloy-2
		GE	GE-10	G2308G10	171.20	5.44	Zircaloy-2
	9 × 9	GE	GE-11	G2309G11	171.20	5.44	Zircaloy-2
	7 × 7	GE	GE-2a	G2307G2A	171.20	5.44	Zircaloy-2
			GE-2b	G2307G2B	171.20	5.44	Zircaloy-2
			GE-3	G2307G3	171.20	5.44	Zircaloy-2
	8 × 8	GE	GE-4	G2308G4	171.20	5.44	Zircaloy-2
			GE-5	G2308G5	171.20	5.44	Zircaloy-2
			GE-7	G2308G7	171.20	5.44	NA
			GE-8a	G2308G8A	171.20	5.44	Zircaloy-2
			GE-8b	G2308G8B	171.20	5.44	Zircaloy-2
			GE-9	G2308G9	171.20	5.44	Zircaloy-2
			GE-Barrier	G2308GB	171.20	5.44	Zircaloy-2
			GE-Pressurized	G2308GP	171.20	5.44	Zircaloy-2
	not available	not available	not available	9X9IXQFA	171.20	5.44	not available
GE BWR/ 4-6	9 × 9	ANF	ANF	G4609A	176.20	5.44	Zircaloy-2
	10 × 10	ANF	ANF	G4610A	176.20	5.44	NA
	9 × 9	ANF	ANF 9-5	G4609A5	176.20	5.44	Zircaloy-2
			ANF 9X	G4609A9X	176.20	5.44	Zircaloy-2
			ANF IX	G4609AIX	176.20	5.44	Zircaloy-2
	10 × 10	ANF	ANF IX	G4610AIX	176.20	5.44	not available
	9 × 9	ANF	ANF X+	G4609AX+	176.20	5.44	not available

Assembly Class	Array Size	Manufacturer Code	Version	Assembly Code	Length (in.)	Width (in.)	Clad Material
	8 × 8	ANF	ANF-Pressurized	G4608AP	176.20	5.44	Zircaloy-2
	not available	AREVA	not available	ATRIUM10	176.20	5.44	Zircaloy-2
GE BWR/ 4-6 (Continued)	10 × 10	ABB	CE	G4610C	176.20	5.44	not available
	8 × 8	GE	GE-10	G4608G10	176.20	5.44	Zircaloy-2
			GE-11	G4608G11	176.20	5.44	not available
	9 × 9	GE	GE-11	G4609G11	176.20	5.44	Zircaloy-2
	8 × 8	GE	GE-12	G4608G12	176.20	5.44	not available
	10 × 10	GE	GE-12	G4610G12	176.20	5.44	Zircaloy-2
	9 × 9	GE	GE-13	G4609G13	176.20	5.44	Zircaloy-2
	10 × 10	GE	GE-14	G4610G14	176.20	5.44	not available
	7 × 7	GE	GE-2	G4607G2	176.20	5.44	Zircaloy-2
			GE-3a	G4607G3A	176.20	5.44	Zircaloy-2
			GE-3b	G4607G3B	176.20	5.44	Zircaloy-2
	8 × 8	GE	GE-4a	G4608G4A	176.20	5.44	Zircaloy-2
			GE-4b	G4608G4B	176.20	5.44	Zircaloy-2
			GE-5	G4608G5	176.20	5.44	Zircaloy-2
			GE-8	G4608G8	176.20	5.44	Zircaloy-2
			GE-9	G4608G9	176.20	5.44	Zircaloy-2
			GE-Barrier	G4608GB	176.20	5.44	Zircaloy-2
			GE-Pressurized	G4608GP	176.20	5.44	Zircaloy-2
		WE	WE	G4608W	176.20	5.44	Zircaloy-2
Big Rock Point	9 × 9	ANF	ANF	XBR09A	84.00	6.52	Zircaloy-2
	11 × 11	ANF	ANF	XBR11A	84.00	6.52	Zircaloy-2
	7 × 7	GE	GE	XBR07G	84.00	6.52	not available
	8 × 8	GE	GE	XBR08G	84.00	6.52	not available

Assembly Class	Array Size	Manufacturer Code	Version	Assembly Code	Length (in.)	Width (in.)	Clad Material
	9 × 9	GE	GE	XBR09G	84.00	6.52	Zircaloy-2
	11 × 11	GE	GE	XBR11G	84.00	6.52	Zircaloy-2
		NFS	NFS	XBR11N	84.00	6.52	not available
Dresden-1	6 × 6	ANF	ANF	XDR06A	134.40	4.28	Zircaloy-2
		GE	GE	XDR06G	134.40	4.28	Zircaloy-2
	7 × 7	GE	GE SA-1	XDR07GS	134.40	4.28	not available
	8 × 8	GE	GE PF Fuels	XDR08G	134.40	4.28	not available
	6 × 6	GE	GE Type III-B	XDR06G3B	134.40	4.28	not available
			GE Type III-F	XDR06G3F	134.40	4.28	not available
			GE Type V	XDR06G5	134.40	4.28	not available
		UNC	UNC	XDR06U	134.40	4.28	not available
Humboldt Bay	6 × 6	ANF	6 × 6 ANF	XHB06A	95.00	4.67	Zircaloy
		GE	GE	XHB06G	95.00	4.67	Zircaloy-2
	7 × 7	GE	GE Type II	XHB07G2	95.00	4.67	Zircaloy
La Crosse	10 × 10	AC	AC	XLC10L	102.50	5.62	SS348H
		ANF	ANF	XLC10A	102.50	5.62	SS348H

Note: Some characteristics of more recently discharged SNF (post-2002) have not yet been provided.

Table A-3 Assembly Types and Their Main Characteristics as of December 31, 2017

Reactor Type	Mfg. Code	Assembly Code	Initial Uranium Loading (kg/assembly)		Enrichment (U^{235} wt %)			Burnup (MWd/MTU)	
			Avg.	Max.	Min.	Avg.	Max.	Avg.	Max.
BWR	ABB Combustion Engineering	G4610C	175.44	176.30	2.51	3.37	3.62	39,466	43,605
BWR	Advanced Nuclear Fuel Corporation	G4608AP	175.75	176.56	2.72	3.02	3.37	30,570	38,727
BWR	Advanced Nuclear Fuel Corporation	G4609A2	172.66	175.66	0.72	3.33	3.52	32,873	42,000
BWR	Advanced Nuclear Fuel Corporation	G4609A5	175.45	175.60	3.25	3.42	3.42	35,420	39,105
BWR	Advanced Nuclear Fuel Corporation	G4609AIX	176.64	177.40	3.03	3.07	3.11	29,674	33,629
BWR	Advanced Nuclear Fuel Corporation	G4609AX+	167.25	167.26	3.15	3.15	3.15	38,245	38,449
BWR	Allis Chalmers	XLC10L	120.16	121.03	3.64	3.78	3.94	14,419	21,532
BWR	Areva	G2308A	173.13	173.84	2.68	2.74	2.83	32,653	36,826
BWR	Areva	G2308AP	172.75	173.13	2.82	2.83	2.83	34,366	34,826
BWR	Areva	G2309A	168.05	169.08	2.94	3.09	3.15	35,909	40,818
BWR	Areva	G2309AIX	168.95	170.06	3.25	3.58	3.78	41,154	49,573
BWR	Areva	G4609A9X	174.01	175.39	3.79	3.91	4.10	40,854	48,140
BWR	Areva	G4609AIX	173.68	174.05	3.80	3.87	3.93	23,734	36,777
BWR	Areva	G4610A	177.72	179.53	1.63	4.02	4.61	43,173	51,607
BWR	Areva	G4610AXM	181.53	182.24	3.86	4.08	4.18	45,505	50,872
BWR	Areva	G4611A	180.96	180.97	3.69	3.69	3.69	17,953	18,078
BWR	ASEA Brown Boveri(ABB) Atom	G4610C	175.63	175.80	2.86	2.87	2.88	33,918	39,397
BWR	ASEA Brown Boveri(ABB) Atom	G4610W+	174.92	175.63	3.19	3.40	3.82	42,348	52,971
BWR	Exxon Nuclear Corporation	G2307A	181.80	183.80	2.64	2.64	2.65	24,256	27,826
BWR	Exxon Nuclear Corporation	G2308A	175.13	184.41	2.48	2.63	3.13	27,555	35,520
BWR	Exxon Nuclear Corporation	G2309A	168.31	169.52	2.78	3.13	3.14	35,956	37,999

Reactor Type	Mfg. Code	Assembly Code	Initial Uranium Loading (kg/assembly)		Enrichment (U^{235} wt %)			Burnup (MWd/MTU)	
			Avg.	Max.	Min.	Avg.	Max.	Avg.	Max.
BWR	Exxon Nuclear Corporation	G4608AP	176.90	176.90	2.81	2.81	2.81	27,786	32,877
BWR	Exxon Nuclear Corporation	G4609AX+	167.28	167.36	3.13	3.13	3.13	40,234	40,457
BWR	Exxon Nuclear Corporation	XDR06A	95.21	95.48	2.23	2.23	2.24	4,907	5,742
BWR	Exxon Nuclear Corporation	XHB06A	69.73	73.80	2.35	2.40	2.41	9,037	22,377
BWR	Exxon Nuclear Corporation	XLC10A	108.66	109.61	3.68	3.69	3.71	15,017	20,126
BWR	Framatome	G4610A	177.74	179.70	2.06	3.96	4.24	43,578	52,016
BWR	GE Nuclear Energy	G2307G2A	194.93	197.60	2.07	2.10	2.11	16,775	24,902
BWR	GE Nuclear Energy	G2307G2B	193.03	197.40	1.65	2.15	2.62	16,601	29,728
BWR	GE Nuclear Energy	G2307G3	187.47	189.11	1.96	2.42	2.61	25,504	38,860
BWR	GE Nuclear Energy	G2308A	178.16	178.16	2.40	2.40	2.40	19,807	19,807
BWR	GE Nuclear Energy	G2308G10	172.28	177.14	3.10	3.25	3.57	32,006	45,475
BWR	GE Nuclear Energy	G2308G4	183.97	185.50	2.20	2.53	2.76	26,363	32,984
BWR	GE Nuclear Energy	G2308G5	177.09	178.42	2.38	2.65	2.77	28,723	33,486
BWR	GE Nuclear Energy	G2308G8A	175.27	179.11	2.55	3.10	3.41	34,906	44,933
BWR	GE Nuclear Energy	G2308G8B	172.86	178.58	2.96	3.18	3.40	36,443	42,756
BWR	GE Nuclear Energy	G2308G9	172.08	173.11	2.85	3.28	3.50	37,922	45,330
BWR	GE Nuclear Energy	G2308GB	178.07	180.06	2.62	2.82	3.39	31,956	43,381
BWR	GE Nuclear Energy	G2308GP	177.22	183.80	2.20	2.78	3.02	28,915	38,138
BWR	GE Nuclear Energy	G2309G11	168.33	171.48	3.09	3.61	4.10	41,717	53,739
BWR	GE Nuclear Energy	G2310G14	174.45	174.67	4.12	4.12	4.14	49,406	51,406
BWR	GE Nuclear Energy	G4607G2	194.85	197.33	1.09	1.56	2.52	9,399	11,829
BWR	GE Nuclear Energy	G4607G3A	187.42	189.14	1.11	2.37	2.51	21,631	32,188
BWR	GE Nuclear Energy	G4607G3B	189.93	191.54	1.09	2.31	2.51	21,948	30,831
BWR	GE Nuclear Energy	G4608G10	177.64	186.09	2.29	3.27	3.70	37,030	47,199
BWR	GE Nuclear Energy	G4608G11	171.42	171.45	2.85	2.85	2.85	33,598	33,604

Reactor Type	Mfg. Code	Assembly Code	Initial Uranium Loading (kg/assembly)		Enrichment (U^{235} wt %)			Burnup (MWd/MTU)	
			Avg.	Max.	Min.	Avg.	Max.	Avg.	Max.
BWR	GE Nuclear Energy	G4608G4A	183.90	185.22	2.17	2.61	2.94	24,770	43,430
BWR	GE Nuclear Energy	G4608G4B	186.71	187.89	2.10	2.31	2.76	21,362	32,941
BWR	GE Nuclear Energy	G4608G5	183.01	185.37	0.70	2.36	3.02	23,966	38,224
BWR	GE Nuclear Energy	G4608G8	179.71	185.85	2.95	3.20	3.41	34,997	44,640
BWR	GE Nuclear Energy	G4608G9	177.84	185.79	1.51	3.22	3.57	36,830	47,062
BWR	GE Nuclear Energy	G4608GB	184.47	187.00	0.71	2.54	3.26	26,348	45,986
BWR	GE Nuclear Energy	G4608GP	183.11	186.89	0.71	2.36	3.26	22,850	42,428
BWR	GE Nuclear Energy	G4609G11	170.11	173.60	2.18	3.63	4.16	41,605	65,149
BWR	GE Nuclear Energy	G4609G13	171.49	176.98	1.57	3.89	4.20	43,212	54,023
BWR	GE Nuclear Energy	G4610G12	178.49	182.14	3.34	3.93	4.20	43,420	52,735
BWR	GE Nuclear Energy	G4610G14	179.36	183.37	1.47	3.93	4.43	41,198	50,906
BWR	GE Nuclear Energy	XBR07G	131.50	133.00	2.88	2.88	2.88	1,643	1,690
BWR	GE Nuclear Energy	XBR08G	112.50	113.00	2.85	2.85	2.85	4,546	7,027
BWR	GE Nuclear Energy	XBR09G	137.01	141.00	3.51	3.58	3.62	15,143	22,083
BWR	GE Nuclear Energy	XBR11G	124.50	132.00	3.11	3.46	3.63	22,802	24,997
BWR	GE Nuclear Energy	XDR06G	111.35	111.35	1.47	1.47	1.47	23,522	23,522
BWR	GE Nuclear Energy	XDR06G3B	101.61	102.52	1.83	1.83	1.83	18,632	27,106
BWR	GE Nuclear Energy	XDR06G3F	102.05	102.88	2.25	2.25	2.25	22,132	28,138
BWR	GE Nuclear Energy	XDR06G5	105.86	112.26	2.26	2.26	2.26	21,095	25,886
BWR	GE Nuclear Energy	XDR07GS	59.00	59.00	3.10	3.10	3.10	29,000	29,000
BWR	GE Nuclear Energy	XDR08G	99.71	99.71	1.95	1.95	1.95	25,287	25,287
BWR	GE Nuclear Energy	XHB06G	76.35	77.00	2.35	2.43	2.52	17,170	22,876
BWR	GE Nuclear Energy	XHB07G2	76.33	77.10	2.08	2.11	2.31	18,187	20,770
BWR	Global Nuclear Fuel	G2307G2B	193.53	193.53	2.25	2.25	2.25	15,538	21,063
BWR	Global Nuclear Fuel	G2307G3	186.76	186.76	2.30	2.30	2.30	23,839	24,667
BWR	Global Nuclear Fuel	G2308G10	171.98	172.90	3.23	3.26	3.34	40,989	43,345
BWR	Global Nuclear Fuel	G2308G4	184.05	184.80	2.19	2.41	2.62	24,651	44,457
BWR	Global Nuclear Fuel	G2308G5	177.03	177.57	2.65	2.74	2.82	30,789	33,597

Reactor Type	Mfg. Code	Assembly Code	Initial Uranium Loading (kg/assembly)		Enrichment (U^{235} wt %)			Burnup (MWd/MTU)	
			Avg.	Max.	Min.	Avg.	Max.	Avg.	Max.
BWR	Global Nuclear Fuel	G2308G8A	179.27	179.37	2.98	2.99	2.99	34,346	36,367
BWR	Global Nuclear Fuel	G2308G8B	172.87	172.93	3.12	3.19	3.20	38,976	40,440
BWR	Global Nuclear Fuel	G2308G9	172.52	172.70	3.13	3.15	3.17	38,690	41,143
BWR	Global Nuclear Fuel	G2308GP	177.32	178.20	2.09	2.72	2.84	31,985	38,966
BWR	Global Nuclear Fuel	G2309G11	168.84	171.61	3.48	3.72	3.84	45,351	53,076
BWR	Global Nuclear Fuel	G2310G12	176.65	176.69	3.31	3.32	3.32	44,299	44,328
BWR	Global Nuclear Fuel	G2310G14	174.22	176.71	1.95	3.92	4.72	43,684	52,627
BWR	Global Nuclear Fuel	G2310GG2	181.15	181.45	3.69	3.87	4.08	47,781	51,505
BWR	Global Nuclear Fuel	G4607G3A	187.73	187.92	1.10	1.90	2.30	15,854	23,403
BWR	Global Nuclear Fuel	G4608G10	178.04	178.87	3.16	3.27	3.40	35,677	41,475
BWR	Global Nuclear Fuel	G4608G4A	184.27	184.50	2.74	2.74	2.99	26,313	33,000
BWR	Global Nuclear Fuel	G4608G8	178.28	179.20	2.99	3.07	3.24	34,129	36,000
BWR	Global Nuclear Fuel	G4608GB	183.70	184.41	2.99	3.00	3.11	28,025	33,000
BWR	Global Nuclear Fuel	G4608GP	183.09	184.16	2.74	2.85	2.99	28,564	32,212
BWR	Global Nuclear Fuel	G4609G11	170.71	173.90	1.43	3.62	4.10	44,871	53,013
BWR	Global Nuclear Fuel	G4609G13	177.50	179.49	2.24	4.01	4.19	45,410	51,972
BWR	Global Nuclear Fuel	G4610G12	180.24	180.64	3.70	3.92	4.09	40,677	51,048
BWR	Global Nuclear Fuel	G4610G14	179.25	185.66	3.54	4.11	4.70	46,067	53,835
BWR	Global Nuclear Fuel	G4610G14i	169.07	169.16	4.06	4.06	4.06	49,819	49,964
BWR	Global Nuclear Fuel	G4610GG2	185.69	186.89	3.29	4.02	4.73	43,645	52,958
BWR	Gulf/United Nuclear Fuels	XDR06U	101.58	103.16	1.85	2.24	2.26	14,850	23,780
BWR	Nuclear Fuel Services	XBR11N	123.91	124.02	2.16	2.16	2.16	20,923	21,850
BWR	Siemens Nuclear Corporation	G2309AIX	168.61	170.80	3.25	3.71	3.84	38,257	50,675
BWR	Siemens Nuclear Corporation	G4608AP	176.00	176.00	2.62	2.68	2.72	31,768	35,518
BWR	Siemens Nuclear Corporation	G4609A2	172.41	172.72	3.40	3.55	3.73	36,842	45,000

Reactor Type	Mfg. Code	Assembly Code	Initial Uranium Loading (kg/assembly)		Enrichment (U^{235} wt %)			Burnup (MWd/MTU)	
			Avg.	Max.	Min.	Avg.	Max.	Avg.	Max.
BWR	Siemens Nuclear Corporation	G4609A5	175.58	175.70	2.94	3.24	3.56	37,351	43,555
BWR	Siemens Nuclear Corporation	G4609A9X	169.12	176.80	2.53	2.87	2.93	36,897	43,330
BWR	Siemens Nuclear Corporation	G4610A	177.39	178.10	3.44	3.80	3.94	43,916	50,243
BWR	Siemens Nuclear Corporation	G4610AIX	170.22	170.22	3.56	3.56	3.56	37,706	38,009
BWR	Siemens Nuclear Corporation	XBR09A	127.69	131.41	3.45	3.49	3.52	20,981	22,811
BWR	Siemens Nuclear Corporation	XBR11A	130.24	133.17	3.14	3.43	3.83	22,716	34,212
BWR	United Nuclear Corporation	XDR06U	102.68	103.44	1.83	2.23	2.26	21,708	26,396
BWR	Westinghouse Electric	G2310W02	172.41	173.65	3.89	4.00	4.12	46,478	51,786
BWR	Westinghouse Electric	G4608W	171.60	171.83	2.69	2.84	2.99	27,119	33,140
BWR	Westinghouse Electric	G4610C	174.87	175.04	3.62	3.81	3.86	40,727	44,031
BWR	Westinghouse Electric	G4610W02	177.23	177.24	4.09	4.09	4.09	44,482	45,134
PWR	ABB Combustion Engineering	C1414C	387.35	409.15	1.92	3.43	4.49	36,978	51,312
PWR	ABB Combustion Engineering	C1616AH	442.62	443.18	4.15	4.18	4.21	20,904	24,821
PWR	ABB Combustion Engineering	C1616C	416.92	442.99	1.87	3.83	4.63	39,916	63,328
PWR	ABB Combustion Engineering	C1616W	437.36	441.57	4.13	4.41	4.64	38,651	55,085
PWR	ABB Combustion Engineering	C8016C	423.82	442.01	1.92	3.68	4.32	39,408	58,745
PWR	ABB Combustion Engineering	XSL16W	398.87	402.47	3.98	4.20	4.39	48,225	53,683
PWR	ABB Combustion Engineering	XYR16C	228.77	233.40	3.51	3.80	3.92	24,282	35,999

Reactor Type	Mfg. Code	Assembly Code	Initial Uranium Loading (kg/assembly)		Enrichment (U^{235} wt %)			Burnup (MWd/MTU)	
			Avg.	Max.	Min.	Avg.	Max.	Avg.	Max.
PWR	Advanced Nuclear Fuel Corporation	C1414A	387.19	400.00	0.30	3.33	3.94	38,156	50,871
PWR	Advanced Nuclear Fuel Corporation	C1414C	376.78	376.95	3.88	3.89	3.89	46,605	46,605
PWR	Advanced Nuclear Fuel Corporation	W1414A	378.91	380.95	3.40	3.46	3.50	37,577	39,798
PWR	Advanced Nuclear Fuel Corporation	W1515A	430.65	431.84	3.16	3.35	3.61	41,340	49,708
PWR	Advanced Nuclear Fuel Corporation	W1515AH	432.47	433.83	3.54	3.79	3.92	39,881	43,723
PWR	Advanced Nuclear Fuel Corporation	XPA15A	403.15	405.75	2.67	2.97	3.23	33,829	40,533
PWR	Areva	B1515AH	485.74	491.14	1.34	4.01	4.94	43,659	57,440
PWR	Areva	B1515B	463.56	465.48	3.59	3.60	3.63	40,578	50,128
PWR	Areva	B1515B10	485.89	489.39	3.24	3.56	4.02	42,921	53,600
PWR	Areva	B1515B11	458.61	460.76	2.74	3.72	4.11	44,917	56,976
PWR	Areva	B1515B4	463.97	471.61	2.01	2.83	3.42	28,029	50,598
PWR	Areva	B1515B4Z	462.69	463.24	3.22	3.26	3.33	37,886	42,257
PWR	Areva	B1515B5Z	464.42	465.18	3.20	3.23	3.23	36,016	42,328
PWR	Areva	B1515B6	462.49	464.40	3.22	3.48	3.67	41,790	49,383
PWR	Areva	B1515B7	463.24	464.51	3.48	3.51	3.56	42,059	48,738
PWR	Areva	B1515B8	463.88	466.01	3.29	3.62	3.89	42,119	51,137
PWR	Areva	B1515B9	463.25	466.24	3.30	3.57	3.67	40,296	50,736
PWR	Areva	B1515BGD	429.56	430.26	3.92	3.92	3.92	49,027	58,310
PWR	Areva	B1515BZ	463.56	466.25	3.18	3.36	3.72	37,691	52,506
PWR	Areva	B1717B	456.72	457.93	2.65	2.85	3.04	29,517	33,904
PWR	Areva	C1414AH	398.56	401.37	2.20	3.90	4.40	45,458	55,003
PWR	Areva	C1414AHA	407.45	410.51	3.70	4.17	4.47	45,488	53,034
PWR	Areva	W1515AH	436.44	438.81	3.75	4.11	4.56	45,329	49,092
PWR	Areva	W1717A	464.80	465.04	3.82	3.83	3.84	43,231	43,561
PWR	Areva	W1717AH	454.86	460.54	3.42	4.07	4.75	43,922	50,551

Reactor Type	Mfg. Code	Assembly Code	Initial Uranium Loading (kg/assembly)		Enrichment (U^{235} wt %)			Burnup (MWd/MTU)	
			Avg.	Max.	Min.	Avg.	Max.	Avg.	Max.
PWR	Areva	W1717B	455.71	466.69	2.92	3.94	4.69	42,303	54,014
PWR	Areva	W1717BAd	466.54	468.70	4.20	4.44	4.55	47,348	54,195
PWR	Areva	W1717BM	445.72	446.05	0.26	0.26	0.26	40,311	40,459
PWR	Areva	XFC14AF	386.35	389.57	3.38	4.01	4.48	36,856	54,881
PWR	Areva	XPA15AH	431.21	435.10	0.31	4.16	4.39	48,723	55,818
PWR	Babcock & Wilcox Company	B1515B10	465.72	470.45	3.99	4.38	4.73	49,755	58,160
PWR	Babcock & Wilcox Company	B1515B12	487.84	491.72	4.18	4.44	4.72	50,185	58,084
PWR	Babcock & Wilcox Company	B1515B3	464.00	468.18	1.93	2.44	2.84	21,036	32,267
PWR	Babcock & Wilcox Company	B1515B4	464.62	474.85	1.98	2.90	3.89	29,458	57,318
PWR	Babcock & Wilcox Company	B1515B4Z	463.69	466.31	3.63	3.88	3.95	39,357	51,660
PWR	Babcock & Wilcox Company	B1515B5	468.25	468.25	3.13	3.13	3.13	38,017	39,000
PWR	Babcock & Wilcox Company	B1515B8	465.37	468.56	3.38	3.67	4.01	43,393	54,000
PWR	Babcock & Wilcox Company	B1515B9	463.97	467.57	3.89	4.31	4.76	48,135	53,952
PWR	Babcock & Wilcox Company	B1515BZ	463.07	465.13	3.06	3.60	4.18	33,537	54,023
PWR	Babcock & Wilcox Company	W1414B	383.16	383.25	3.22	3.22	3.22	24,398	24,471
PWR	Babcock & Wilcox Company	W1717B	450.36	452.77	3.36	3.52	3.57	8,919	18,069
PWR	Babcock & Wilcox Company	XHN15B	411.92	415.06	3.01	4.00	4.02	33,809	37,833
PWR	Babcock & Wilcox Company	XHN15BZ	363.92	368.07	3.41	3.81	3.92	34,278	42,956
PWR	Combustion Engineering	C1414C	380.94	399.33	1.93	3.22	4.30	33,329	57,165
PWR	Combustion Engineering	C1616C	412.97	433.20	1.87	3.34	4.01	35,557	56,175

Reactor Type	Mfg. Code	Assembly Code	Initial Uranium Loading (kg/assembly)		Enrichment (U^{235} wt %)			Burnup (MWd/MTU)	
			Avg.	Max.	Min.	Avg.	Max.	Avg.	Max.
PWR	Combustion Engineering	XFC14C	362.31	376.84	1.39	2.96	3.95	32,129	51,504
PWR	Combustion Engineering	XPA15C	412.44	416.78	1.65	2.48	3.07	16,020	33,630
PWR	Combustion Engineering	XSL16C	381.02	394.40	1.72	3.44	4.28	38,841	54,838
PWR	Exxon Nuclear Corporation	C1414A	375.82	400.00	3.00	3.41	4.00	37,489	50,327
PWR	Exxon Nuclear Corporation	W1414A	376.96	381.77	0.71	3.30	3.71	36,151	52,104
PWR	Exxon Nuclear Corporation	W1414ATR	365.14	368.01	2.40	3.39	3.58	38,054	45,969
PWR	Exxon Nuclear Corporation	W1414WO	367.77	368.91	3.54	3.56	3.57	40,796	43,353
PWR	Exxon Nuclear Corporation	W1515A	428.79	434.79	2.02	2.98	3.60	32,889	49,859
PWR	Exxon Nuclear Corporation	W1515APL	305.09	305.32	1.23	1.24	1.24	22,313	23,900
PWR	Exxon Nuclear Corporation	W1717A	402.11	405.13	3.62	3.80	4.12	40,772	50,664
PWR	Exxon Nuclear Corporation	XFC14A	353.35	358.81	3.50	3.57	3.80	37,197	46,048
PWR	Exxon Nuclear Corporation	XPA15A	391.44	404.31	1.50	2.94	3.27	30,606	39,766
PWR	Exxon Nuclear Corporation	XYR16A	233.56	237.30	3.49	3.78	4.02	29,034	35,088
PWR	Framatome	B1515AH	486.70	489.74	2.45	4.04	4.47	41,868	49,918
PWR	Framatome	B1515B10	470.75	488.60	4.25	4.46	4.71	50,151	56,983
PWR	Framatome	B1515B12	487.44	489.70	4.30	4.54	4.70	48,318	57,213
PWR	Framatome	B1515B4	463.55	463.66	3.82	3.91	4.06	45,482	55,080
PWR	Framatome	B1515B9	462.35	463.66	4.06	4.06	4.06	41,879	46,887
PWR	Framatome	B1515B9Z	463.66	463.70	4.01	4.02	4.03	46,923	55,760
PWR	Framatome	B1515BZ	462.98	465.42	4.50	4.56	4.68	50,820	52,443
PWR	Framatome	C1414A	396.23	398.59	3.65	4.02	4.34	45,407	51,655

Reactor Type	Mfg. Code	Assembly Code	Initial Uranium Loading (kg/assembly)		Enrichment (U^{235} wt %)			Burnup (MWd/MTU)	
			Avg.	Max.	Min.	Avg.	Max.	Avg.	Max.
PWR	Framatome	C1414AH	412.05	412.28	4.25	4.26	4.27	53,924	62,611
PWR	Framatome	W1515AH	434.43	438.38	3.78	4.12	4.56	46,415	53,414
PWR	Framatome	W1717AH	455.98	458.80	4.08	4.54	4.77	47,506	52,482
PWR	Framatome	W1717B	454.39	458.75	2.02	4.22	4.65	47,283	54,565
PWR	Framatome	W1717BAd	462.68	468.50	4.20	4.29	4.38	50,780	67,725
PWR	Framatome	XFC14A	371.57	373.87	3.42	3.92	4.50	41,987	51,519
PWR	Framatome	XPA15AH	433.03	437.76	0.30	3.85	4.21	45,896	54,337
PWR	General Atomics	XHN15HS	406.16	406.16	3.99	3.99	3.99	32,151	32,151
PWR	General Atomics	XHN15HZ	362.86	362.86	3.26	3.26	3.26	18,546	18,546
PWR	Gulf/United Nuclear Fuels	XHN15B	411.51	412.36	3.66	4.00	4.02	33,398	36,713
PWR	Nuclear Materials and Equipment Corporations	XHN15MS	405.98	406.99	3.66	3.66	3.66	28,324	28,324
PWR	Nuclear Materials and Equipment Corporations	XHN15MZ	370.78	371.04	2.96	2.96	2.96	25,643	25,643
PWR	Siemens Nuclear Corporation	C1414A	391.28	399.39	3.74	4.08	4.53	46,393	55,274
PWR	Siemens Nuclear Corporation	W1414A	380.54	382.72	3.40	3.62	4.10	40,649	56,328
PWR	Siemens Nuclear Corporation	W1414AH	400.01	406.84	4.00	4.29	4.50	45,228	53,956
PWR	Siemens Nuclear Corporation	W1515AH	434.72	438.07	3.52	4.18	4.59	47,124	56,922
PWR	Siemens Nuclear Corporation	W1515AHP	308.82	310.07	1.85	1.90	1.95	32,632	37,770
PWR	Siemens Nuclear Corporation	W1717A	407.64	409.95	4.00	4.60	4.95	46,462	53,325
PWR	Siemens Nuclear Corporation	W1717AH	455.85	460.54	4.08	4.54	4.78	48,898	53,958
PWR	Siemens Nuclear Corporation	XFC14A	372.77	375.20	0.34	3.66	4.05	41,519	55,274
PWR	Siemens Nuclear Corporation	XPA15A	411.42	435.04	1.19	3.77	4.05	43,073	51,486

Reactor Type	Mfg. Code	Assembly Code	Initial Uranium Loading (kg/assembly)		Enrichment (U^{235} wt %)			Burnup (MWd/MTU)	
			Avg.	Max.	Min.	Avg.	Max.	Avg.	Max.
PWR	United Nuclear Corporation	XYR16U	238.57	241.30	3.96	3.99	4.02	27,461	31,986
PWR	Westinghouse Electric	B1515B11	459.50	459.72	3.33	3.33	3.33	46,963	47,035
PWR	Westinghouse Electric	B1515W	461.82	464.76	3.90	4.06	4.22	36,993	49,075
PWR	Westinghouse Electric	C1414C	408.01	411.64	4.23	4.26	4.27	46,531	51,175
PWR	Westinghouse Electric	C1414W	403.48	411.72	2.70	3.15	3.76	30,033	37,781
PWR	Westinghouse Electric	C1414WT	407.03	411.40	1.98	4.31	4.67	47,645	62,788
PWR	Westinghouse Electric	C1616C	430.13	430.92	4.06	4.11	4.16	42,565	46,776
PWR	Westinghouse Electric	C1616W	426.55	434.73	4.03	4.25	4.43	42,363	54,126
PWR	Westinghouse Electric	C1616WN	429.37	434.63	1.30	3.96	4.47	40,440	51,922
PWR	Westinghouse Electric	C8016W	437.45	441.45	3.10	4.12	4.53	41,765	53,631
PWR	Westinghouse Electric	C8016WN	430.29	430.52	2.94	2.95	2.95	40,413	45,729
PWR	Westinghouse Electric	W1414A	359.79	360.96	3.52	3.53	3.54	38,273	39,182
PWR	Westinghouse Electric	W1414W	393.90	403.68	2.26	3.04	3.48	27,318	39,723
PWR	Westinghouse Electric	W1414WL	399.09	405.81	2.27	3.07	3.41	31,939	47,932
PWR	Westinghouse Electric	W1414WO	355.33	362.81	1.00	3.92	4.97	44,988	69,453
PWR	Westinghouse Electric	W1414WV1	349.29	352.90	3.74	4.77	4.95	50,681	58,617
PWR	Westinghouse Electric	W1414WV2	394.18	402.82	3.21	4.58	4.96	47,462	59,224
PWR	Westinghouse Electric	W1515W	448.67	451.85	2.21	3.00	3.35	29,324	41,806

Reactor Type	Mfg. Code	Assembly Code	Initial Uranium Loading (kg/assembly)		Enrichment (U^{235} wt %)			Burnup (MWd/MTU)	
			Avg.	Max.	Min.	Avg.	Max.	Avg.	Max.
PWR	Westinghouse Electric	W1515WL	455.33	465.60	1.85	2.98	3.80	30,860	55,385
PWR	Westinghouse Electric	W1515WO	458.61	465.14	1.91	3.73	4.60	41,489	57,415
PWR	Westinghouse Electric	W1515WP	452.21	457.67	1.48	4.48	4.95	47,431	59,552
PWR	Westinghouse Electric	W1515WV5	456.57	463.00	1.40	4.17	4.95	40,718	57,413
PWR	Westinghouse Electric	W1717WL	460.91	469.20	1.60	3.12	4.42	32,395	58,417
PWR	Westinghouse Electric	W1717WN	456.88	457.20	4.79	4.80	4.80	53,388	63,480
PWR	Westinghouse Electric	W1717WO	423.33	429.58	1.60	3.48	4.78	37,645	60,301
PWR	Westinghouse Electric	W1717WP	422.16	465.36	1.69	4.54	4.97	48,973	69,693
PWR	Westinghouse Electric	W1717WR	456.38	462.65	2.57	4.35	4.95	48,792	57,606
PWR	Westinghouse Electric	W1717WR2	458.00	466.80	1.50	4.35	4.97	47,390	57,476
PWR	Westinghouse Electric	W1717WV+	424.13	465.47	1.61	4.28	4.96	47,100	62,487
PWR	Westinghouse Electric	W1717WV5	423.27	463.88	1.19	4.04	4.90	43,799	56,469
PWR	Westinghouse Electric	W1717WVH	461.86	473.96	2.11	3.89	4.95	41,893	56,583
PWR	Westinghouse Electric	W1717WVJ	464.48	467.60	4.00	4.24	4.55	46,684	55,087
PWR	Westinghouse Electric	WST17W	540.75	546.58	1.51	3.37	4.41	35,737	54,399
PWR	Westinghouse Electric	WST17WR	533.43	543.08	2.99	4.08	4.47	46,314	55,614
PWR	Westinghouse Electric	WST17WR2	532.14	534.46	3.91	4.27	4.66	47,156	55,572
PWR	Westinghouse Electric	XFC14W	373.82	376.00	0.27	3.81	4.25	39,070	51,971

Reactor Type	Mfg. Code	Assembly Code	Initial Uranium Loading (kg/assembly)		Enrichment (U^{235} wt %)			Burnup (MWd/MTU)	
			Avg.	Max.	Min.	Avg.	Max.	Avg.	Max.
PWR	Westinghouse Electric	XHN15W	415.56	421.23	3.02	3.59	4.00	27,922	35,196
PWR	Westinghouse Electric	XHN15WZ	384.89	386.69	4.21	4.39	4.61	14,321	19,376
PWR	Westinghouse Electric	XIP14W	191.15	200.47	2.83	4.12	4.36	16,471	27,048
PWR	Westinghouse Electric	XSL16W	399.81	402.39	1.51	3.82	4.42	42,002	51,586
PWR	Westinghouse Electric	XSO14W	368.18	374.89	3.16	3.88	4.02	27,177	39,275
PWR	Westinghouse Electric	XSO14WZ	311.23	311.23	0.71	0.71	0.71	19,307	19,636
PWR	Westinghouse Electric	XYR18W	273.35	274.10	4.94	4.94	4.94	25,484	31,755

APPENDIX B – DECEMBER 2024 PROJECTED INVENTORY BY REACTOR

Table B-1 Estimated Inventory at Operating Reactors by Storage Type and Site (Group B & C Sites)

Reactor	Dry Inventory 12/31/2024			Pool Inventory 12/31/2024		Site Inventory 12/31/2024	
	Assemblies	Estimated Initial Uranium (MT)	SNF Casks	Assemblies	Estimated Initial Uranium (MT)	Assemblies	Estimated Initial Uranium (MT)
Arkansas Nuclear One (2)	2,927	1,288.96	107	1,274	575.20	4,201	1,864.16
Beaver Valley (2)	740	342.16	20	2,560	1182.02	3,300	1,524.18
Braidwood (2)	1,472	618.90	46	2,688	1128.45	4,160	1,747.35
Browns Ferry (3)	9,824	1,758.40	121	6,263	1141.08	16,087	2,899.48
Brunswick (2)	3,416	605.52	56	2,354	508.21	5,770	1,113.73
Byron (2)	1,696	714.25	53	2,665	1118.71	4,361	1,832.96
Callaway (1)	1,554	651.18	42	726	312.90	2,280	964.08
Calvert Cliffs (2)	3,142	1,226.39	108	1,315	531.68	4,457	1,758.07
Catawba (2)	1,871	841.60	59	2,105	942.30	3,976	1,783.90
Clinton (1)	1,602	291.00	18	3,090	563.76	4,692	854.76
Columbia (1)	3,672	645.63	54	1,448	262.07	5,120	907.70
Comanche Peak (2)	1,920	801.21	60	1,980	841.40	3,900	1,642.61
Cook (2)	2,240	974.93	70	2,439	1073.10	4,679	2,048.03
Cooper (1)	1,830	329.17	30	1,807	329.84	3,637	659.01
Davis-Besse (1)	496	238.02	15	1,093	520.37	1,589	758.39
Diablo Canyon (2)	2,240	971.17	70	1,800	761.42	4,040	1,732.59
Dresden (2)	5,911	1,035.00	86	5,453	961.47	11,364	1,996.47
Farley (2)	2,144	947.00	67	1,797	772.52	3,941	1,719.52
Fermi (1)	2,224	392.75	33	2,177	387.00	4,401	779.75
Fitzpatrick (1)	2,584	465.01	38	2,212	408.69	4,796	873.70
Ginna (1)	608	227.24	19	1,039	388.73	1,647	615.97

Reactor	Dry Inventory 12/31/2024			Pool Inventory 12/31/2024		Site Inventory 12/31/2024	
	Assemblies	Estimated Initial Uranium (MT)	SNF Casks	Assemblies	Estimated Initial Uranium (MT)	Assemblies	Estimated Initial Uranium (MT)
Grand Gulf (1)	2,992	524.73	44	3,551	645.42	6,543	1,170.15
Harris (1)	–	–	–	6,484	1,735.11	6,484	1,735.11
Hatch (2)	6,732	1,208.67	99	3,961	720.30	10,693	1,928.97
Hope Creek (1)	2,720	489.02	40	2,800	505.52	5,520	994.54
La Salle (2)	3,876	696.38	57	6,669	1,203.39	10,545	1,899.77
Limerick (2)	4,601	817.34	69	5,994	1,087.17	10,595	1,904.51
McGuire (2)	2,435	1,091.37	77	2,071	942.16	4,506	2,033.53
Millstone (2)	1,775	733.47	55	2,095	909.03	3,870	1,642.50
Monticello (1)	1,830	317.17	30	1,211	211.72	3,041	528.89
Nine Mile Point (2)	3,686	652.03	54	5,812	1,038.29	9,498	1,690.32
North Anna (2)	2,619	1,214.06	80	1,139	526.28	3,758	1,740.34
Oconee (3)	4,272	2,000.88	178	1,497	715.50	5,769	2,716.38
Palisades (1)	1,392	568.59	50	661	281.89	2,053	850.48
Palo Verde (3)	4,684	2,009.01	180	2,547	1,108.43	7,231	3,117.44
Peach Bottom (2)	7,947	1,437.32	111	5,482	993.34	13,429	2,430.66
Perry (1)	2,589	468.26	35	2,626	473.33	5,215	941.59
Point Beach (2)	1,694	643.09	56	1,273	498.06	2,967	1,141.15
Prairie Island (2)	2,000	735.16	50	1,202	458.09	3,202	1,193.25
Quad Cities (2)	5,168	913.79	76	6,276	1,109.82	11,444	2,023.61
River Bend (1)	2,516	446.74	37	2,260	406.90	4,776	853.64
Robinson (1)	872	377.89	42	302	128.60	1,174	506.49
Saint Lucie (2)	1,920	753.02	60	2,680	1,042.99	4,600	1,796.01
Salem (2)	1,568	721.14	49	2,419	1,106.99	3,987	1,828.13
Seabrook (1)	960	439.52	30	891	407.36	1,851	846.88
Sequoyah (2)	2,555	1,170.05	75	1,606	730.52	4,161	1,900.57

Reactor	Dry Inventory 12/31/2024			Pool Inventory 12/31/2024		Site Inventory 12/31/2024	
	Assemblies	Estimated Initial Uranium (MT)	SNF Casks	Assemblies	Estimated Initial Uranium (MT)	Assemblies	Estimated Initial Uranium (MT)
South Texas (2)	814	436.21	22	2,655	1,420.30	3,469	1,856.51
Summer (1)	444	188.81	12	1,390	591.73	1,834	780.54
Surry (2)	3,046	1,396.69	103	802	367.41	3,848	1,764.10
Susquehanna (2)	8,206	1,447.18	133	3,868	684.90	12,074	2,132.08
Three Mile Island (1)	1,663	786.49	46	–	–	1,663	786.49
Turkey Point (2)	1,216	553.88	38	2,417	1,096.69	3,633	1,650.57
Vogtle (4)	1,856	809.50	58	2,364	1,002.22	4,220	1,811.72
Waterford (1)	1,251	526.35	38	1,092	463.55	2,343	989.90
Watts Bar (2)	1,073	494.42	29	948	435.75	2,021	930.17
Wolf Creek (1)	2,96	134.98	8	1,798	825.41	2,094	960.39
Total (96)	**147,381**	**42,569**	**3,293**	**139,128**	**40585**	**286,509**	**83,154**

Note: This table **does** reflect SNF transfers.

Table B-2 Estimated Inventory by Storage Type and Site (Group A)

Reactor	Dry Inventory 12/31/2024			Pool Inventory 12/31/2024		Site Inventory 12/31/2024	
	Assemblies	Initial Uranium (MT)	SNF Casks	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Big Rock Point (1)	441	57.91	7	–	–	441	57.91
Crystal River (1)	1,243	582.24	39	–	–	1,243	582.24
Duane Arnold (1)	3,648	662.64	60	–	–	3,648	662.64
Fort Calhoun (1)	1,264	465.98	40	–	–	1,264	465.98
Haddam Neck (1)	1,019	413.66	40	–	–	1,019	413.66
Humboldt Bay (1)	390	28.94	5	–	–	390	28.94
Indian Point (3)	4,001	1,776.62	127	–	–	4,001	1,776.62
Kewaunee (1)	1,335	518.70	38	–	–	1,335	518.70
LaCrosse (1)	333	37.97	5	–	–	333	37.97
Maine Yankee (1)	1,434	542.26	60	–	–	1,434	542.26
Oyster Creek (1)	4,504	802.24	67	–	–	4,504	802.24
Pilgrim (1)	4,116	734.82	62	–	–	4,116	734.82
Rancho Seco (1)	493	228.38	21	–	–	493	228.38
San Onofre (3)	3,855	1,609.36	123	–	–	3,855	1,609.36
Trojan (1)	790	359.26	34	–	–	790	359.26
Vermont Yankee (1)	3,880	705.66	58	–	–	3,880	705.66
Yankee Rowe (1)	533	127.13	15	–	–	533	127.13
Zion (2)	2,226	1,019.41	61	–	–	2,226	1,019.41
Total	**35,505**	**10,673**	**862**	**0**	**0**	**35,505**	**10,673**

Note: This table **does** reflect SNF transfers.

Table B-3 Estimated Inventory by Storage Type and Site (Shutdown Reactors at Group B Sites)[a]

Reactor [Unit]	Dry Inventory 12/31/2024			Pool Inventory 12/31/2024		Site Inventory 12/31/2024	
	Assemblies	Initial Uranium (MT)	SNF Casks	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Dresden 1	892	90.60	14	0	0[b]	892	90.60
Millstone 1	–	–	–	2,884	525.62	2,884	525.62
Totals	**889**	**90.60**	**14**	**2,884**	**525.62**	**3,776**	**616.22**

[a] This Table **does** reflect SNF transfers.
[b] Few Dresden 1 Casks are co-mingled with Unit 2 and 3 SNF.

Table B-4 Estimated Inventory Totals

Reactor Group	Dry Inventory 12/31/2024			Pool Inventory 12/31/2024		Site Inventory 12/31/2024	
	Assemblies	Initial Uranium (MT)	SNF Casks	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Operating Reactors at Groups B and C Sites	147,381	42,568.70	3,293	139,128	40,585.09	286,509	83,153.79
Shutdown Reactors at Groups B Sites	889	90.61	14	2,884	525.62	3,773	616.23
Shutdown Reactors in Group A Sites	35,505	10,673.18	862	–	–	35,505	10,673.18
Totals	**183,775**	**53,332**	**4,169**	**142,012**	**41,111**	**325,787**	**94,443**

Table B-5 Bare SNF Storage Systems in Use as of 12/31/2024

Utility	Reactor	Cask System	Licensed Purpose	Casks Loaded	Assemblies	MTiHM
Constellation	Peach Bottom	TN-68	Storage and Transportation	92	6,256	1,125.16
Dominion	North Anna	TN-32	Storage Only	28	896	417.15
Dominion	Surry	CASTOR V/21 & X/33	Storage Only	26	558	255.70
Dominion	Surry	TN-32	Storage Only	26	832	381.20
Dominion	Surry	MC-10	Storage Only	1	24	11.00
Dominion	Surry	NAC I28 S/T	Storage Only	2	56	25.70
Duke	McGuire	TN-32[1]	Storage Only	10	320	145.90
Xcel Energy	Prairie Island	TN-40	Storage & transportation	29	1,160	430.97
		TN-40HT	storage	21	840	312.08
Totals				**235**	**10,942**	**3,105**

[a] The TN-32 casks used at McGuire are TN-32A models.

Table B-6 Canister Based Storage Systems in Use as 12/31/2024

Reactor	Cask System[a]	Canister[b]	License or CoC	Amendment[c]	Canisters Loaded[d]	Assemblies[d]	MTiHM[d]
Arkansas Nuclear One	VSC-24	MSB-Long	1007	unknown	24	576	261
Arkansas Nuclear One	HI-STORM 100	MPC-24	1014	A1	9	960	435
Arkansas Nuclear One	HI-STORM 100	MPC-24	1014	A2	8		
Arkansas Nuclear One	HI-STORM 100	MPC-24	1014	A5	17		
Arkansas Nuclear One	HI-STORM 100	MPC-24	1014	A13	6		
Arkansas Nuclear One	HI-STORM 100	MPC-32	1014	A1	4	1,280	581
Arkansas Nuclear One	HI-STORM 100	MPC-32	1014	A2	8		
Arkansas Nuclear One	HI-STORM 100	MPC-32	1014	unknown	5		
Arkansas Nuclear One	HI-STORM 100	MPC-32	1014	A5	13		
Arkansas Nuclear One	HI-STORM 100	MPC-32	1014	A13	10		
Arkansas Nuclear One	HI-STORM FW	MPC-37	unknown	unknown	3	111	50
Beaver Valley	Standardized NUHOMS	NUHOMS 37PTH-S	1004	A13/A13R1	4	740	341
Beaver Valley	Standardized NUHOMS	NUHOMS 37PTH-S	1004	A13R1	6		
Beaver Valley	NUHOMS EOS	NUHOMS 37PTH	1042	A1	10		
Big Rock Point	FuelSolutions[e]	W74T	1026	A2	7	441	56
Braidwood	HI-STORM 100	MPC-32	1014	unknown	2	1,472	614
Braidwood	HI-STORM 100	MPC-32	1014	A3	7		

Reactor	Cask System[a]	Canister[b]	License or CoC	Amendment[c]	Canisters Loaded[d]	Assemblies[d]	MTiHM[d]
Braidwood	HI-STORM 100	MPC-32	1014	A9/A9R1	11		
Braidwood	HI-STORM 100	MPC-32	1014	A9R1	25		
Browns Ferry	HI-STORM 100	MPC-68	1014	unknown	3	3,060	546
Browns Ferry	HI-STORM 100	MPC-68	1014	A1	3		
Browns Ferry	HI-STORM 100	MPC-68	1014	A5	39		
Browns Ferry	HI-STORM FW	MPC-89	1014	unknown	6	6,764	1,206
Browns Ferry	HI-STORM FW	MPC-89	1014	A0/A0R1	19		
Browns Ferry	HI-STORM FW	MPC-89	1014	A0R1	51		
Brunswick	Standardized NUHOMS	NUHOMS 61BTH Type 2	1004	unknown	5	3,416	618
Brunswick	Standardized NUHOMS	NUHOMS 61BTH Type 2	1004	A10	27		
Brunswick	Standardized NUHOMS	NUHOMS 61BTH Type 2	1004	A13R1	24		
Byron	HI-STORM 100S	MPC-32	1014	A3	5	1,696	708
Byron	HI-STORM 100S	MPC-32	1014	A7	9		
Byron	HI-STORM 100S	MPC-32	1014	A9/A9R1	6		
Byron	HI-STORM 100S-B	MPC-32	1014	A9R1	33		
Callaway	HI-STORM UMAX	MPC-37	1040	A0	42	1,554	649
Calvert Cliffs	Standardized NUHOMS	NUHOMS 24P	1004	S.L.	48	1,152	469
Calvert Cliffs	Standardized NUHOMS	NUHOMS 32P	1004	S.L.	30	960	391
Calvert Cliffs	Standardized NUHOMS	NUHOMS 32PHB	1004	S.L.	16	512	209
Calvert Cliffs	HI-STORM FW	MPC-37	1032	S.L.	14	518	211
Catawba	NAC-UMS	UMS-PWR	1015	A4	24	576	263
Catawba	NAC-MAGNASTOR	TSC4 (PWR)	1031	A2/A7	6	1,295	590
Catawba	NAC-MAGNASTOR	TSC4 (PWR)	1031	A2R1/A7	9		

Reactor	Cask System[a]	Canister[b]	License or CoC	Amendment[c]	Canisters Loaded[d]	Assemblies[d]	MTiHM[d]
Catawba	NAC-MAGNASTOR	TSC4 (PWR)	1031	A7	20		
Clinton	HI-STORM FW	MPC-89	1032	unknown	1	1,602	297
Clinton	HI-STORM FW	MPC-89	1032	A0R1	17		
Columbia	HI-STORM 100	MPC-68	1014	A1	15	2,448	439
Columbia	HI-STORM 100	MPC-68	1014	A2	21		
Columbia	HI-STORM 100	MPC-68M	1014	A9R1	18	1,224	219
Comanche Peak	HI-STORM 100	MPC-32	1014	A7	60	1,920	811
Connecticut Yankee	NAC-MPC	CY-MPC, 26 Assy	1025	A3/A5	26	1,019	429
Connecticut Yankee	NAC-MPC	CY-MPC, 26 Assy	1025	A4/A5	14		
D. C. Cook	HI-STORM 100S	MPC-32	1014	A5	28	2,240	973
D. C. Cook	HI-STORM 100S	MPC-32	1014	A9/A9R1	3		
D. C. Cook	HI-STORM 100S	MPC-32	1014	A9R1	39		
Cooper	Standardized NUHOMS	NUHOMS 61BTH	1004	unknown	4	1,342	247
Cooper	Standardized NUHOMS	NUHOMS 61BTH	1004	A10/A10R1	10		
Cooper	Standardized NUHOMS	NUHOMS 61BTH	1004	A10/A13R1	8		
Cooper	Standardized NUHOMS	NUHOMS 61BT	1004	A9/A9R1	8	488	90
Crystal River	Standardized NUHOMS	NUHOMS 32PTH1 Type 2-W	1004	A14	39	1,243	576
Davis-Besse	Standardized NUHOMS	NUHOMS 24P	1004	A0/A0R1	3	72	35
Davis-Besse	Standardized NUHOMS	NUHOMS 32PH1	1004	A13R1	4	128	62
Davis-Besse	Standardized NUHOMS	NUHOMS 37PTH	1004	A0	8	296	144
Diablo Canyon	HI-STORM 100 (anchored)	MPC-32 (Diablo)	SNM-2511	S.L.	70	2,240	945
Dresden	HI-STORM 100	MPC-68	1014	unknown	12	4,080	704

Reactor	Cask System[a]	Canister[b]	License or CoC	Amendment[c]	Canisters Loaded[d]	Assemblies[d]	MTiHM[d]
Dresden	HI-STORM 100	MPC-68	1014	A2	47	2,448	422
Dresden	HI-STORM 100	MPC-68	1014	A8R1	1		
Dresden	HI-STORM 100	MPC-68M	1014	A8/A8R1	3		
Dresden	HI-STORM 100	MPC-68M	1014	A8R1	3		
Dresden	HI-STORM 100S	MPC-68M	1014	A8R1	30		
Dresden	HI-STAR 100	MPC-68F	1008	unknown	1	272	47
Dresden	HI-STAR 100	MPC-68F	1008	A2	3		
Duane Arnold	Standardized NUHOMS	NUHOMS 61BT	1004	A4	10	1,220	232
Duane Arnold	Standardized NUHOMS	NUHOMS 61BT	1004	A9	10		
Duane Arnold	Standardized NUHOMS	NUHOMS 61BTH	1004	A15	10	2,428	461
Duane Arnold	Standardized NUHOMS	NUHOMS 61BTH	1004	A17	25		
Duane Arnold	Standardized NUHOMS	NUHOMS 61BTH	1004	unknown	5		
Farley	HI-STORM 100 -S	MPC-32	1014	unknown	8	2,144	906
Farley	HI-STORM 100 -S	MPC-32	1014	A3	21		
Farley	HI-STORM 100 -S	MPC-32	1014	A9/A9R1	8		
Farley	HI-STORM 100 -S	MPC-32	1014	A9R1	16		
Farley	HI-STORM 100-S-B	MPC-32	1014	A11	14		
Fermi	HI-STORM 100	MPC-68	1014	A5	12	2,224	400
Fermi	HI-STORM 100	MPC-68 M	1014	A11	21		
Fitzpatrick	HI-STORM 100	MPC-68	1014	unknown	13	1,428	266
Fitzpatrick	HI-STORM 100	MPC-68	1014	A5	8		
Fitzpatrick	HI-STORM 100	MPC-68 M	1014	unknown	5	1,156	215
Fitzpatrick	HI-STORM 100	MPC-68 M	1014	A8R1	12		

Reactor	Cask System[a]	Canister[b]	License or CoC	Amendment[c]	Canisters Loaded[d]	Assemblies[d]	MTiHM[d]
Fort Calhoun	Standardized NUHOMS	NUHOMS 32PT-S100	1004	A8	4	1,264	487
Fort Calhoun	Standardized NUHOMS	NUHOMS 32PT-S100	1004	A9	6		
Fort Calhoun	Standardized NUHOMS	NUHOMS 32PT-S100	1004	A15	30		
Ginna	Standardized NUHOMS	NUHOMS 32PT-S125	1004	unknown	4	320	127
Ginna	Standardized NUHOMS	NUHOMS 32PT-S125	1004	A10	6		
Ginna	HI-STORM 100	MPC-32	1014	A13R1	9	288	114
Grand Gulf	HI-STORM 100	MPC-68 M	1014	unknown	2	680	126
Grand Gulf	HI-STORM 100	MPC-68 M	1014	A9R1	8		
Grand Gulf	HI-STORM 100	MPC-68	1014	A2	7	2,312	427
Grand Gulf	HI-STORM 100	MPC-68	1014	unknown	6		
Grand Gulf	HI-STORM 100	MPC-68	1014	A5	21		
Hatch	HI-STORM 100	MPC-68 (HI-STORM)	1014	unknown	14	4,080	735
Hatch	HI-STORM 100	MPC-68 (HI-STORM)	1014	A2	17		
Hatch	HI-STORM 100	MPC-68 (HI-STORM)	1014	A3	27		
Hatch	HI-STORM 100	MPC-68 (HI-STORM)	1014	A9/A9R1	2		
Hatch	HI-STORM 100	MPC-68M	1014	A9/A9R1	3	2,448	411
Hatch	HI-STORM 100	MPC-68M	1014	A9R1	19		
Hatch	HI-STORM 100	MPC-68M	1014	A11	14		
Hatch	HI-STAR 100	MPC-68 (HI-STAR)	1008	unknown	3	204	37
Hope Creek	HI-STORM 100	MPC-68	1014	unknown	11	2,312	417
Hope Creek	HI-STORM 100	MPC-68	1014	A3	3		
Hope Creek	HI-STORM 100	MPC-68	1014	A5	20		

Reactor	Cask System[a]	Canister[b]	License or CoC	Amendment[c]	Canisters Loaded[d]	Assemblies[d]	MTiHM[d]
Hope Creek	HI-STORM	MPC-32			49	1,568	283
Hope Creek	HI-STORM	MPC-68M			6	408	74
Humboldt Bay	HI-STAR 100HB	MPC-HB	SNM-2514	S.L.	5	390	30
Indian Point 1	HI-STORM 100	MPC-32	1014	A4	5	4,001	1,533
Indian Point 2	HI-STORM 100	MPC-32	1014	unknown	8		
Indian Point 2	HI-STORM 100	MPC-32	1014	A2	11		
Indian Point 2/3	HI-STORM 100	MPC-32	1014	A6	23		
Indian Point 2/3	HI-STORM 100	MPC-32	1014	A9R1	12		
Indian Point 2/3	HI-STORM 100	MPC-32	1014	A15	4		
Indian Point 2	HI-STORM 100	MPC-32	1014	A15R23	59		
Kewaunee	Standardized NUHOMS	NUHOMS 32PT-S100	1004	A9/A9R1	4	448	180
Kewaunee	Standardized NUHOMS	NUHOMS 32PT-S100	1004	A10/A10R1	10		
Kewaunee	NAC-MAGNASTOR	TSC-37	1031	A5/A6	24	887	357
LaSalle	HI-STORM 100	MPC-68	1014	A3	24	1,632	297
LaSalle	HI-STORM 100	MPC-68 M	1014	A8R1	33	2,244	408
La Crosse	NAC-MPC	LACBWR	1025	A6	5	333	38
Limerick	Standardized NUHOMS HSM 202	NUHOMS 61BTH	1004	A9	3	2,196	404
Limerick	Standardized NUHOMS HSM 202	NUHOMS 61BTH	1004	A10	5		
Limerick	Standardized NUHOMS HSM H	NUHOMS 61BTH	1004	A10	22		
Limerick	Standardized NUHOMS HSM H	NUHOMS 61BTH	1004	A14	6		

Reactor	Cask System[a]	Canister[b]	License or CoC	Amendment[c]	Canisters Loaded[d]	Assemblies[d]	MTiHM[d]
Limerick	Standardized NUHOMS HSM 202	NUHOMS 61BT	1004	A9	19	1,159	213
Limerick	HI-STORM FW	MPC-89	1032	A1R1	14	1,246	229
Maine Yankee	NAC-UMS	TSC-24	1015	A2/A5	60	1,434	553
McGuire	NAC-UMS	TSC-24	1015	A3/A4	5	672	306
McGuire	NAC-UMS	TSC-24	1015	A4	23		
McGuire	NAC-MAGNASTOR	TSC-37	1031	A2/A7	10	1,443	658
McGuire	NAC-MAGNASTOR	TSC-37	1031	A2R1/A7	6		
McGuire	NAC-MAGNASTOR	TSC-37	1031	A7	19		
Millstone	Standardized NUHOMS	NUHOMS 32PT-S100	1004	unknown	3	1,664	723
Millstone	Standardized NUHOMS	NUHOMS 32PT-S100	1004	A7/A9	2		
Millstone	Standardized NUHOMS	NUHOMS 32PT-S100	1004	A8	3		
Millstone	Standardized NUHOMS	NUHOMS 32PT-S100	1004	A9	10		
Millstone	Standardized NUHOMS	NUHOMS 32PT-L125	1004	A13	13		
Millstone	Standardized NUHOMS	NUHOMS 32PT-L125	1004	A14	3		
Millstone	Standardized NUHOMS	NUHOMS 32PT-L125	1004	A15	18		
Millstone	NUHOMS	NUHOMS EOS-37PTH			3	111	48
Monticello	Standardized NUHOMS	NUHOMS 61BT	1004	A9	10	610	106
Monticello	Standardized NUHOMS	NUHOMS 61BTH	1004	A10	6	1,220	213
Monticello	Standardized NUHOMS	NUHOMS 61BTH	1004	A10R1	14		

Reactor	Cask System[a]	Canister[b]	License or CoC	Amendment[c]	Canisters Loaded[d]	Assemblies[d]	MTiHM[d]
Nine Mile Point	Standardized NUHOMS	NUHOMS 61BT	1004	A10	16	976	175
Nine Mile Point	Standardized NUHOMS	NUHOMS 61BTH	1004	A10	13	1,464	262
Nine Mile Point	Standardized NUHOMS	NUHOMS 61BTH	1004	A10R1	6		
Nine Mile Point	Standardized NUHOMS	NUHOMS 61BTH	1004	A14	5		
Nine Mile Point	HI-STORM FW	MPC-89	1032	A3	14	1,246	223
North Anna	NUHOMS EOS	37PTH	1042	A1	12	444	205
North Anna	NUHOMS HD	MPC-32PTH	1030	unknown	3	1,279	590
North Anna	NUHOMS HD	MPC-32PTH	1030	A0	10		
North Anna	NUHOMS HD	MPC-32PTH	1030	A1	27		
Oconee	Standardized NUHOMS	NUHOMS 24PHBL	1004	A8	6	1,536	748
Oconee	Standardized NUHOMS	NUHOMS 24PHBL	1004	A9	42		
Oconee	Standardized NUHOMS	NUHOMS 24PHBL	1004	A13	14		
Oconee	Standardized NUHOMS	NUHOMS 24PHBL	1004	unknown	2		
Oconee	Standardized NUHOMS	NUHOMS 24PTH	1004	A13R1	18	720	351
Oconee	Standardized NUHOMS	NUHOMS 24PTH	1004	A15	12		
Oconee	Standardized NUHOMS	NUHOMS 24P	1004	unknown	36		
Oconee	Standardized NUHOMS	NUHOMS 24P	1004	A3	3	2,016	982
Oconee	Standardized NUHOMS	NUHOMS 24P	1004	A4	2		
Oconee	Standardized NUHOMS	NUHOMS 24P	1004	A6	1		

Reactor	Cask System[a]	Canister[b]	License or CoC	Amendment[c]	Canisters Loaded[d]	Assemblies[d]	MTiHM[d]
Oconee	Standardized NUHOMS	NUHOMS 24P	1004	A7	2		
Oconee	Standardized NUHOMS	NUHOMS 24P	1004	S.L .	40		
Oyster Creek	Standardized NUHOMS	NUHOMS 61BT	1004	A7	7	488	91
Oyster Creek	Standardized NUHOMS	NUHOMS 61BT	1004	A9	1		
Oyster Creek	Standardized NUHOMS	NUHOMS 61BTH	1004	unknown	26	1,586	297
Oyster Creek	HI-STORM FW	MPC-89	1032	A5	33	2,430	454
Palisades	Standardized NUHOMS	NUHOMS 24PTH-S	1004	A9/A9R1	13	312	134
Palisades	Standardized NUHOMS	NUHOMS 32PT-S125	1004	A7/A7R1	11	352	151
Palisades	HI-STORM FW	MPC-37	1032	A1R1	8	296	127
Palisades	VSC-24	MSB-Standard	1007	unknown	18	432	186
Palo Verde	NAC-UMS	TSC-24	1015	A2/A5	16	3,648	1,595
Palo Verde	NAC-UMS	TSC-24	1015	A3/A5	18		
Palo Verde	NAC-UMS	TSC-24	1015	A4/A5	24		
Palo Verde	NAC-UMS	TSC-24	1015	A5	94		
Palo Verde	NAC MAGNASTOR	TSC-37	1031	A7	28	1,036	453
Peach Bottom	HI-STORM FW	MPC-89	1027	A1R1	19	1,691	312
Perry	HI-STORM 100	MPC-68	1014	A5	25	1,699	306
Perry	HI-STORM FW	MPC-89	1032	A5	10	890	160
Pilgrim	HI-STORM 100	MPC-68	1014	A7/A14	17	1,156	220
Pilgrim	HI-STORM 100	MPC-68M	1014	A12/A14	11	2,960	562
Pilgrim	HI-STORM 100	MPC-68M	1014	A14	27		
Pilgrim	HI-STORM 100	MPC-68M	1014	unknown	7		
Point Beach	HI-STORM FW	MPC-37	1032	A3	6	222	87

Reactor	Cask System[a]	Canister[b]	License or CoC	Amendment[c]	Canisters Loaded[d]	Assemblies[d]	MTiHM[d]
Point Beach	VSC-24	MSB-Short	1007	unknown	16	384	151
Point Beach	Standardized NUHOMS	NUHOMS 32PT	1004	unknown	14	1,088	427
Point Beach	Standardized NUHOMS	NUHOMS 32PT	1004	A10	9		
Point Beach	Standardized NUHOMS	NUHOMS 32PT	1004	A13	5		
Point Beach	Standardized NUHOMS	NUHOMS 32PT	1004	A14	6		
Quad Cities	HI-STORM 100 S-B	MPC-68	1014	unknown	5	2,652	457
Quad Cities	HI-STORM 100 S-B	MPC-68	1014	A2	4		
Quad Cities	HI-STORM 100 S-B	MPC-68	1014	A3	28		
Quad Cities	HI-STORM 100 S-B	MPC-68	1014	A8	2		
Quad Cities	HI-STORM 100 S-B	MPC-68M	1014	A8	2	2,516	434
Quad Cities	HI-STORM 100 S-B	MPC-68M	1014	A8R1	35		
Rancho Seco	Standardized NUHOMS	NUHOMS 24PT FC-DSC	SNM-2510	S.L.	18	493	229
Rancho Seco	Standardized NUHOMS	NUHOMS 24PT FF-DSC	SNM-2510	S.L.	1		
Rancho Seco	Standardized NUHOMS	NUHOMS 24PT FO-DSC	SNM-2510	S.L.	2		
River Bend	HI-STORM 100	MPC-68	1014	unknown	7	2,108	391
River Bend	HI-STORM 100	MPC-68	1014	A5	24		
River Bend	HI-STORM 100	MPC-68M	1014	unknown	6	408	76
Robinson	NUHOMS	NUHOMS 07P	SNM-2502	S.L.	8	56	24
Robinson	Standardized NUHOMS	NUHOMS 24PTH-L	1004	A8/A8R1	4	816	357

Reactor	Cask System[a]	Canister[b]	License or CoC	Amendment[c]	Canisters Loaded[d]	Assemblies[d]	MTiHM[d]
Robinson	Standardized NUHOMS	NUHOMS 24PTH-L	1004	A9/A9R1	4		
Robinson	Standardized NUHOMS	NUHOMS 24PTH-L	1004	A10/A10R1	10		
Robinson	Standardized NUHOMS	NUHOMS 24PTH-L	1004	A13/A13R1	5		
Robinson	Standardized NUHOMS	NUHOMS 24PTH-L	1004	A13R1	11		
Saint Lucie	NUHOMS HD	NUHOMS 32PTH	1030	unknown	10	1,920	766
Saint Lucie	NUHOMS HD	NUHOMS 32PTH	1030	A0	6		
Saint Lucie	NUHOMS HD	NUHOMS 32PTH	1030	A1	17		
Saint Lucie	NUHOMS HD	NUHOMS 32PTH	1030	A2	27		
Salem	HI-STORM 100	MPC-32	1014	A5	45	1,440	259
San Onofre	HI-STORM UMAX	MPC-37	1040	A2	73	2,668	1,089
San Onofre	Advanced NUHOMS	NUHOMS 24PT1	1029	A0/A4	17	395	161
San Onofre	Advanced NUHOMS	NUHOMS 24PT4	1029	A1/A4	33	792	323
Seabrook	NUHOMS HD	NUHOMS 32PTH	1030	A0/A1	6	960	438
Seabrook	NUHOMS HD	NUHOMS 32PTH	1030	A1	8		
Seabrook	NUHOMS HD	NUHOMS 32PTH	1030	A2	16		
Sequoyah	HI-STORM 100	MPC-32	1014	unknown	3	1,408	639
Sequoyah	HI-STORM 100	MPC-32	1014	A1	5		
Sequoyah	HI-STORM 100	MPC-32	1014	A2	12		
Sequoyah	HI-STORM 100	MPC-32	1014	A5	24		
Sequoyah	HI-STORM FW	MPC-37	1032	A0/A0R1	5	1,147	520
Sequoyah	HI-STORM FW	MPC-37	1032	A0R1	10		
Sequoyah	HI-STORM FW	MPC-37	1032	A3	16		
South Texas	HI-STORM FW	MPC-37	1032	A2	22	814	433

Reactor	Cask System[a]	Canister[b]	License or CoC	Amendment[c]	Canisters Loaded[d]	Assemblies[d]	MTiHM[d]
V. C. Summer	HI-STORM FW	MPC-37	1032	A0/A0R1	4	444	185
V. C. Summer	HI-STORM FW	MPC-37	1032	A0R1	8		
Surry	NUHOMS HD	NUHOMS 32PTH	1030	A0	12	1,280	586
Surry	NUHOMS HD	NUHOMS 32PTH	1030	A1	28		
Surry	NUHOMS EOS	NUHOMS 37PTH	1042	A1	8	296	136
Susquehanna	Standardized NUHOMS	NUHOMS 52B	1004	unknown	27	1,404	248
Susquehanna	Standardized NUHOMS	NUHOMS 61BT	1004	unknown	22	2,928	518
Susquehanna	Standardized NUHOMS	NUHOMS 61BT	1004	A9	26		
Susquehanna	Standardized NUHOMS	NUHOMS 61BTH	1004	A10	15	2,806	497
Susquehanna	NUHOMS HSM 102	NUHOMS 61BTH	1004	unknown	3		
Susquehanna	NUHOMS HSM 102	NUHOMS 61BTH	1004	A10	6		
Susquehanna	NUHOMS HSM 102	NUHOMS 61BTH	1004	A10R1	6		
Susquehanna	NUHOMS HSM 102	NUHOMS 61BTH	1004	A14	16		
Susquehanna	HI-STORM FW	MPC-89	1032	A5	12	1,068	189
Three Mile Island	NAC-MAGNASTOR	TSC-37	1031	A9	46	1,663	771
Trojan	HI-STORM TranStor	MPC-24E (TranStor)	SNM-2509	S.L.	29	790	363
Trojan	HI-STORM TranStor	MPC-24EF (TranStor)	SNM-2509	S.L.	5		
Turkey Point	NUHOMS HD	NUHOMS 32PTH	1030	A1	18	1,216	546
Turkey Point	NUHOMS HD	NUHOMS 32PTH	1030	unknown	2		
Turkey Point	NUHOMS HD	NUHOMS 32PTH	1030	A2	18		
Vermont Yankee	HI-STORM 100	MPC-68	1014	A2	13	1,564	297

Reactor	Cask System[a]	Canister[b]	License or CoC	Amendment[c]	Canisters Loaded[d]	Assemblies[d]	MTiHM[d]
Vermont Yankee	HI-STORM 100 S-B	MPC-68	1014	A10	10		
Vermont Yankee	HI-STORM 100 S-B	MPC-68M	1014	A10	35	2,316	440
Vogtle	HI-STORM 100	MPC-32	1014	A7	6	1,856	783
Vogtle	HI-STORM 100	MPC-32	1014	A9/A9R1	10		
Vogtle	HI-STORM 100	MPC-32	1014	A9R1	42		
Waterford	HI-STORM 100	MPC-32	1014	A5	23	992	426
Waterford	HI-STORM 100	MPC-32	1014	A13	8		
Waterford	HI-STORM FW	MPC-37			7	259	111
Watts Bar	HI-STORM FW	MPC-37	1032	unknown	5	1,073	495
Watts Bar	HI-STORM FW	MPC-37	1032	A0/A0R1	6		
Watts Bar	HI-STORM FW	MPC-37	1032	A0R1	18		
Wolf Creek	NUHOMS EOS	NUHOMS 37PTH	storage & transportation	A1	8	296	135
Yankee Rowe	NAC-MPC	Yankee-MPC	1025	A1/A1R5	8	533	123
Yankee Rowe	NAC-MPC	Yankee-MPC	1025	A2/A2R5	7		
Zion	NAC-MAGNASTOR	TSC-37	1031	A3/A6	61	2,226	1,023
Total					**3,934**	**172,833**	**50,140**

[a] Some Cask Systems are listed twice for a given reactor since more than one canister type is used for a given system.

[b] The specific Canister variant is listed where known, otherwise a more generic canister description is provided.

[c] A(Z)/A2 where: A=Amendment number at the time of canister loading; Z = number of canisters loaded under amendment A if different from the total number of same type canisters are loaded; A2 is the current amendment the canisters are managed under, if different from A. For example, “0(6)/0R1” indicates 6 canisters were loaded under amendment 0 and are currently managed under amendment 0 Rev 1.

S.L is used for canisters loaded under a specific license requirement.

Unknown amendment number indicates either the information is not supplied in the cask registration letter send to the NRC or the cask registration letter could not be found in the ADAMS database.

[d] The inventory is as of December 31, 2024, as described in the report.

[e] Now Westinghouse

APPENDIX C – REFERENCE SCENARIO: NO REPLACEMENT NUCLEAR GENERATION FORECAST – DISCHARGED SNF BY REACTOR

Table C-1 No Replacement Nuclear Generation SNF Forecast: Discharges by Operating Reactor

Reactor [Unit]	SNF Discharges as of 12/31/2022		Forecast Future Discharges 1/1/2023 to 12/31/2024		Forecast Future Discharges 1/1/2025 to 12/31/2084		Total Projected Discharged SNF	
	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Arkansas Nuclear One 1	1,811	850.08	59	28.54	531	256.84	2,401	1,135.46
Arkansas Nuclear One 2	2,157	910.64	174	74.89	873	375.74	3,204	1,361.27
Beaver Valley 1	1,733	800.17	62	28.58	591	272.46	2,386	1,101.21
Beaver Valley 2	1,381	638.18	124	57.25	1,025	473.23	2,530	1,168.66
Braidwood 1	1,961	824.49	90	37.57	1,453	606.62	3,504	1,468.68
Braidwood 2	1,929	810.23	180	75.06	1,543	643.42	3,652	1,528.71
Browns Ferry 1	4,004	728.08	316	56.42	2,028	362.10	6,348	1,146.60
Browns Ferry 2	5,936	1,069.47	305	54.36	2,289	407.96	8,530	1,531.79
Browns Ferry 3	5,210	934.81	316	56.34	2,344	417.90	7,870	1,409.05
Brunswick 1	4,749	854.90	227	41.11	1,695	306.97	6,671	1,202.98
Brunswick 2	4,662	840.47	225	40.70	1,685	304.84	6,572	1,186.01
Byron 1	2,085	876.82	180	75.15	1,363	569.08	3,628	1,521.05
Byron 2	2,006	843.41	90	37.58	1,543	644.32	3,639	1,525.31
Callaway	2,193	927.76	87	36.32	1,324	552.73	3,604	1,516.81
Calvert Cliffs 1	2,215	873.15	101	41.15	621	253.00	2,937	1,167.30
Calvert Cliffs 2	2,044	804.14	99	40.36	811	330.61	2,954	1,175.11
Catawba 1	1,883	844.55	140	63.84	1,033	471.04	3,056	1,379.43
Catawba 2	1,879	841.78	74	33.73	1,081	492.80	3,034	1,368.31
Clinton 1	4,308	783.48	384	71.28	3,312	614.76	8,004	1,469.52

Reactor [Unit]	SNF Discharges as of 12/31/2022		Forecast Future Discharges 1/1/2023 to 12/31/2024		Forecast Future Discharges 1/1/2025 to 12/31/2084		Total Projected Discharged SNF	
	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Columbia	4,864	861.82	256	45.88	3,068	549.88	8,188	1,457.58
Comanche Peak 1	1,925	815.37	91	38.44	1,740	735.01	3,756	1,588.82
Comanche Peak 2	1,704	712.84	180	75.96	1,813	765.04	3,697	1,553.84
Cook 1	2,339	1,055.03	86	38.92	795	359.81	3,220	1,453.76
Cook 2	2,173	920.26	81	33.82	841	351.16	3,095	1,305.24
Cooper Station	4,512	824.16	181	33.25	1,272	233.66	5,965	1,091.07
Davis-Besse	1,510	719.98	79	38.41	651	316.50	2,240	1,074.89
Diablo Canyon 1	1,928	827.71	93	39.26	472	199.27	2,493	1,066.24
Diablo Canyon 2	1,933	829.34	86	36.28	537	226.51	2,556	1,092.13
Dresden 2	6,209	1,103.86	240	41.40	1,204	207.68	7,653	1,352.94
Dresden 3	5,428	955.00	240	41.41	1,204	207.76	6,872	1,204.17
Enrico Fermi 2	4,212	745.73	189	34.02	3,410	613.73	7,811	1,393.48
Farley 1	1,981	867.04	66	27.85	685	289.04	2,732	1,183.93
Farley 2	1,827	796.30	67	28.33	894	377.97	2,788	1,202.60
Fitzpatrick	4,604	837.99	192	35.71	1,328	247.00	6,124	1,120.70
Grand Gulf 1	6,252	1,116.38	291	53.77	3,710	685.53	10,253	1,855.68
Harris 1	1,516	688.22	67	30.79	1,095	503.19	2,678	1,222.20
Hatch 1	5,286	954.95	218	39.28	1,432	258.04	6,936	1,252.27
Hatch 2	4,969	895.07	220	39.66	2,100	378.53	7,289	1,313.26
HB Robinson 2	1,911	828.11	72	31.47	301	131.55	2,284	991.13
Hope Creek	5,312	957.00	208	37.54	3,676	663.50	9,196	1,658.04
LaSalle County 1	5,084	916.85	276	50.61	2,972	544.93	8,332	1,512.39

Reactor [Unit]	SNF Discharges as of 12/31/2022		Forecast Future Discharges 1/1/2023 to 12/31/2024		Forecast Future Discharges 1/1/2025 to 12/31/2084		Total Projected Discharged SNF	
	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
LaSalle County 2	4,912	883.01	273	49.30	3,494	631.01	8,679	1,563.32
Limerick 1	5,318	954.21	269	49.43	3,185	585.29	8,772	1,588.93
Limerick 2	4,737	851.03	271	49.83	4,016	738.51	9,024	1,639.37
McGuire 1	2,021	909.90	71	32.38	974	444.24	3,066	1,386.52
McGuire 2	1,968	885.32	146	66.58	996	454.19	3,110	1,406.09
Millstone 2	1,923	760.37	146	58.13	655	260.80	2,724	1,079.30
Millstone 3	1,716	785.21	85	38.77	1,383	630.89	3,184	1,454.87
Monticello	3,940	699.34	159	27.74	2,551	445.11	6,650	1,172.19
Nine Mile Point 1	4,052	722.02	143	25.06	818	143.34	5,013	890.42
Nine Mile Point 2	4,984	885.72	319	57.53	3,954	713.03	9,257	1,656.28
North Anna 1	1,810	837.82	62	28.58	1,521	701.14	3,393	1,567.54
North Anna 2	1,819	843.02	67	30.92	1,765	814.48	3,651	1,688.42
Oconee 1	2,010	943.76	79	38.48	414	201.67	2,503	1,183.91
Oconee 2	1,902	894.07	78	38.03	489	238.41	2,469	1,170.51
Oconee 3	1,923	903.92	77	37.48	485	236.08	2,485	1,177.48
Palisades	2,053	850.48	–	–	420	180.49	2,473	1,030.97
Palo Verde 1	2,256	971.19	102	44.60	1,669	729.83	4,027	1,745.62
Palo Verde 2	2,273	978.39	202	88.32	1,655	723.65	4,130	1,790.36
Palo Verde 3	2,296	990.37	102	44.56	1,771	773.68	4,169	1,808.61
Peach Bottom 2	6,548	1,184.09	316	58.46	5,188	959.74	12,052	2,202.29
Peach Bottom 3	6,256	1,131.32	311	57.18	5,429	998.15	11,996	2,186.65
Perry 1	4,932	890.67	283	50.92	3,861	694.72	9,076	1,636.31

Reactor [Unit]	SNF Discharges as of 12/31/2022		Forecast Future Discharges 1/1/2023 to 12/31/2024		Forecast Future Discharges 1/1/2025 to 12/31/2084		Total Projected Discharged SNF	
	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Point Beach 1	1,478	568.39	49	19.21	317	124.27	1,844	711.87
Point Beach 2	1,359	521.83	90	35.29	346	135.65	1,795	692.77
Prairie Island 1	1,542	574.01	57	22.42	349	137.28	1,948	733.71
Prairie Island 2	1,545	574.07	58	22.75	411	161.20	2,014	758.02
Quad Cities 1	5,571	985.30	245	42.25	1,704	293.86	7,520	1,321.41
Quad Cities 2	5,388	954.70	240	41.36	1,684	290.18	7,312	1,286.24
R. E. Ginna	1,597	595.66	90	35.60	211	83.46	1,898	714.72
River Bend 1	4,572	815.84	204	37.80	2,664	493.66	7,440	1,347.30
Salem 1	1,964	901.19	72	32.82	769	350.50	2,805	1,284.51
Salem 2	1,801	825.73	150	68.39	943	429.96	2,894	1,324.08
Seabrook	1,687	772.07	164	74.81	1,505	686.48	3,356	1,533.36
Sequoyah 1	1,962	896.00	81	36.73	1,003	454.77	3,046	1,387.50
Sequoyah 2	1,956	894.31	162	73.53	1,003	455.26	3,121	1,423.10
South Texas 1	1,624	869.91	154	81.86	1,271	675.65	3,049	1,627.42
South Texas 2	1,613	863.24	78	41.50	1,441	766.70	3,132	1,671.44
St. Lucie 1	2,409	937.80	84	33.38	805	319.92	3,298	1,291.10
St. Lucie 2	1,945	760.12	162	64.72	1,189	475.02	3,296	1,299.86
Summer	1,700	724.59	134	55.95	894	373.31	2,728	1,153.85
Surry 1	1,883	862.96	62	28.40	1,273	583.04	3,218	1,474.40
Surry 2	1,840	843.77	132	60.46	1,345	616.10	3,317	1,520.33
Susquehanna 1	5,939	1,048.61	305	53.96	3,204	566.87	9,448	1,669.44
Susquehanna 2	5,542	978.54	288	50.98	3,644	645.06	9,474	1,674.58

Reactor [Unit]	SNF Discharges as of 12/31/2022		Forecast Future Discharges 1/1/2023 to 12/31/2024		Forecast Future Discharges 1/1/2025 to 12/31/2084		Total Projected Discharged SNF	
	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Turkey Point 3	1,721	782.35	132	59.27	1,345	603.94	3,198	1,445.56
Turkey Point 4	1,733	787.90	65	29.23	1,392	625.87	3,190	1,443.00
Vogtle 1	2,071	892.34	178	75.10	1,439	607.09	3,688	1,574.53
Vogtle 2	1,880	805.87	91	38.41	1,649	696.03	3,620	1,540.31
Vogtle 3	–	–	–	–	2,770	1,468.96	2,770	1,468.96
Vogtle 4	–	–	–	–	2,770	1,468.96	2,770	1,468.96
Waterford 3	2,246	948.25	97	41.65	1,478	634.65	3,821	1,624.55
Watts Bar 1	1,398	643.04	170	77.96	1,893	868.14	3,461	1,589.14
Watts Bar 2	354	163.40	99	45.77	3,559	1,645.49	4,012	1,854.66
Wolf Creek 1	2,012	923.02	82	37.37	1,259	573.78	3,353	1,534.17
Total	**273,606**	**78,756**	**14,248**	**4,214**	**156,567**	**47,811**	**444,421**	**130,780**

Note: This table **does not** reflect SNF transfers.

Table C-2 No Replacement Nuclear Generation SNF Discharges by Reactor for Shutdown Reactors

Reactor	SNF Discharges as of 12/31/2022		Forecast Future Discharges 1/1/2023 to 12/31/2024		Forecast Future Discharges 1/1/2025 to 12/31/2084		Total Projected Discharged SNF	
	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Big Rock Point	526	69.39	–	–	–	–	526	69.39
Crystal River 3	1,243	582.24	–	–	–	–	1,243	582.24
Duane Arnold	3,648	662.64	–	–	–	–	3,648	662.64
Fort Calhoun	1,264	465.98	–	–	–	–	1,264	465.98

Reactor	SNF Discharges as of 12/31/2022		Forecast Future Discharges 1/1/2023 to 12/31/2024		Forecast Future Discharges 1/1/2025 to 12/31/2084		Total Projected Discharged SNF	
	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Haddam Neck	1,102	448.54	–	–	–	–	1,102	448.54
Humboldt Bay	390	28.94	–	–	–	–	390	28.94
Indian Point 1	160	30.58	–	–	–	–	160	30.58
Indian Point 2	1,984	900.41	–	–	–	–	1,984	900.41
Indian Point 3	1,857	845.62	–	–	–	–	1,857	845.62
Kewaunee	1,335	518.70	–	–	–	–	1,335	518.70
La Crosse	334	38.09	–	–	–	–	334	38.09
Maine Yankee	1,434	542.26	–	–	–	–	1,434	542.26
Oyster Creek	4,504	802.24	–	–	–	–	4,504	802.24
Pilgrim 1	4,116	734.82	–	–	–	–	4,116	734.82
Rancho Seco	493	228.38	–	–	–	–	493	228.38
San Onofre 1	665	244.61	–	–	–	–	665	244.61
San Onofre 2	1,726	729.99	–	–	–	–	1,726	729.99
San Onofre 3	1,734	733.16	–	–	–	–	1,734	733.16
Trojan	790	359.26	–	–	–	–	790	359.26
Vermont Yankee	3,880	705.66	–	–	–	–	3,880	705.66
Yankee Rowe	533	127.13	–	–	–	–	533	127.13
Zion 1	1,143	523.94	–	–	–	–	1,143	523.94
Zion 2	1,083	495.47	–	–	–	–	1,083	495.47
Total	**35,944**	**10,818**	**–**	**–**	**–**	**–**	**35,944**	**10,818**

Note: This table **does not** reflect SNF transfers.

Table C-3 No Replacement Nuclear Generation SNF Discharges by Reactor for Shutdown Reactors at Group B Sites

Reactor [Unit]	SNF Discharges as of 12/31/2022		Forecast Future Discharges 1/1/2023 to 12/31/2024		Forecast Future Discharges 1/1/2025 to 12/31/2084		Total Projected Discharged SNF	
	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Dresden 1	892	90.86	–	–	–	–	892	90.86
Millstone 1	2,884	525.62	–	–	–	–	2,884	525.62
Total	**3,776**	**616.48**	**–**	**–**	**–**	**–**	**3,776**	**616.48**

Note: This table **does not** reflect SNF transfers.

Table C-4 No Replacement Nuclear Generation SNF Discharges by Site Group (Totals)

Site Group	SNF Discharges as of 12/31/2022		Forecast Future Discharges 1/1/2023 to 12/31/2024		Forecast Future Discharges 1/1/2025 to 12/31/2084		Total Projected Discharged SNF	
	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Operating Reactors at Group B and C Sites	273,606	78,755.66	14,248	4,213.5	156,567	47,811.27	444,421	130,780.43
Shutdown Reactors at Group B Sites	3,776	616.48	–	–	–	–	3,776	616.48
Shutdown Reactors at Group A Sites	35,944	10,818.05	–	–	–	–	35,944	10,818.05
Totals	**313,326**	**90,190**	**14,248**	**4,214**	**156,567**	**47,811**	**484,141**	**142,215**

Note: This table **does not** reflect SNF transfers.

APPENDIX D – REFERENCE SCENARIO: NO REPLACEMENT NUCLEAR GENERATION FORECAST – DISCHARGED SNF BY STATE

Table D-1 Estimated and Projected Inventory at NPR Sites and Morris Site by State

State	State Abbr.	SNF Discharged Prior to 12/31/2022		Forecast Future Discharges 1/1/2023 to 12/31/2024		Forecast Future Discharges 1/1/2025 to 12/31/2084		Total Projected Discharged SNF		Past Inter-State Transfer Adjustments		State's Forecast Remanning Inventory	
		Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Alabama	AL	18,958	4,395.70	1,070	223.30	8,240	1,854.98	28,268	6,473.98	–	–	28,268	6,473.98
Arizona	AZ	6,825	2,939.95	406	177.49	5,095	2,227.15	12,326	5,344.59	–	–	12,326	5,344.59
Arkansas	AR	3,968	1,760.73	233	103.43	1,404	632.58	5,605	2,496.74	–	–	5,605	2,496.74
California	CA	8,869	3,622.14	179	75.54	1,009	425.78	10,057	4,123.46	-270	-98	9,787	4,025.46
Connecticut	CT	7,625	2,519.76	231	96.91	2,038	891.69	9,894	3,508.36	-83	-35	9,811	3,473.36
Florida	FL	9,051	3,850.40	443	186.60	4,731	2,024.75	14,225	6,061.75	-18	-8	14,207	6,053.75
Georgia	GA	14,206	3,548.24	707	192.44	12,160	4,877.62	27,073	8,618.30	–	–	27,073	8,618.30
Illinois	IL	47,999	11,047.41	2,438	562.98	21,476	5,253.64	71,913	16,864.03	2,461	529	74,374	17,393.03
Iowa	IA	3,648	662.64	–	–	–	–	3,648	662.64	–	–	3,648	662.64
Kansas	KS	2,012	923.02	82	37.37	1,259	573.78	3,353	1,534.17	–	–	3,353	1,534.17
Louisiana	LA	6,818	1,764.10	301	79.46	4,142	1,128.32	11,261	2,971.88	–	–	11,261	2,971.88
Maine	ME	1,434	542.26	–	–	–	–	1,434	542.26	–	–	1,434	542.26
Maryland	MD	4,259	1,677.29	200	81.51	1,432	583.60	5,891	2,342.40	-2	-1	5,889	2,341.40
Massachusetts	MA	4,649	861.95	–	–	–	–	4,649	861.95	–	–	4,649	861.95
Michigan	MI	11,303	3,640.89	356	106.76	5,466	1,505.19	17,125	5,252.84	-85	-11	17,040	5,241.84
Minnesota	MN	7,027	1,847.42	274	72.91	3,311	743.59	10,612	2,663.92	-1,058	-198	9,554	2,465.92
Mississippi	MS	6,252	1,116.38	291	53.77	3,710	685.53	10,253	1,855.68	–	–	10,253	1,855.68
Missouri	MO	2,193	927.76	87	36.32	1,324	552.73	3,604	1,516.81	–	–	3,604	1,516.81
Nebraska	NE	5,776	1,290.14	181	33.25	1,272	233.66	7,229	1,557.05	-1,056	-198	6,173	1,359.05

State	State Abbr.	SNF Discharged Prior to 12/31/2022		Forecast Future Discharges 1/1/2023 to 12/31/2024		Forecast Future Discharges 1/1/2025 to 12/31/2084		Total Projected Discharged SNF		Past Inter-State Transfer Adjustments		State's Forecast Remanning Inventory	
		Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
New Hampshire	NH	1,687	772.07	164	74.81	1,505	686.48	3,356	1,533.36	–	–	3,356	1,533.36
New Jersey	NJ	13,581	3,486.16	430	138.75	5,388	1,443.95	19,399	5,068.86	–	–	19,399	5,068.86
New York	NY	19,238	4,818.01	744	153.89	6,311	1,186.83	26,293	6,158.73	-40	-15	26,253	6,143.73
North Carolina	NC	14,916	4,178.81	736	211.56	6,445	2,013.41	22,097	6,403.78	1,108	492	23,205	6,895.78
Ohio	OH	6,442	1,610.65	362	89.33	4,512	1,011.21	11,316	2,711.19	–	–	11,316	2,711.19
Oregon	OR	790	359.26	–	–	–	–	790	359.26	–	–	790	359.26
Pennsylvania	PA	39,117	8,372.63	1,946	405.68	26,282	5,239.30	67,345	14,017.61	-2	–	67,343	14,017.61
South Carolina	SC	13,208	5,980.77	654	298.99	4,697	2,144.87	18,559	8,424.63	-1,109	-492	17,450	7,932.63
Tennessee	TN	5,670	2,596.75	512	233.99	7,458	3,423.65	13,640	6,254.39	–	–	13,640	6,254.39
Texas	TX	6,866	3,261.35	503	237.76	6,265	2,942.40	13,634	6,441.51	–	–	13,634	6,441.51
Vermont	VT	3,880	705.66	–	–	–	–	3,880	705.66	–	–	3,880	705.66
Virginia	VA	7,352	3,387.56	323	148.36	5,904	2,714.76	13,579	6,250.68	-69	-31	13,510	6,219.68
Washington	WA	4,864	861.82	256	45.88	3,068	549.88	8,188	1,457.58	–	–	8,188	1,457.58
Wisconsin	WI	4,506	1,647.01	139	54.49	663	259.92	5,308	1,961.42	-10	-4	5,298	1,957.42
Totals[a]		**314,989**	**90,977**	**14,248**	**4,214**	**156,567**	**47,811**	**485,804**	**143,001**	**-233**	**-70**	**485,571**	**142,931**

[a] Total Interstate Transfer reflects the amount of SNF reported in GC-859 as being transferred to DOE, this is not the total quantity of NPR SNF in DOE possession. See Section 3.1.2.

Table D-2 Inventory at NPR Sites and Morris Site by State and by Storage Configuration at the End of 2024

State	Dry Inventory			Pool Inventory		Site Inventory	
	Assemblies	Initial Uranium (MT)	SNF Casks	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Alabama	11,968	2,705.40	188	8,060	1,913.60	20,028	4,619.00
Arizona	4,684	2,009.01	180	2,547	1,108.43	7,231	3,117.44
Arkansas	2,927	1,288.96	107	1,274	575.20	4,201	1,864.16
California	6,978	2,837.85	219	1,800	761.42	8,778	3,599.27
Connecticut	2,794	1,147.13	95	4,979	1,434.65	7,773	2,581.78
Florida	4,379	1,889.14	137	5,097	2,139.68	9,476	4,028.82
Georgia	8,588	2,018.17	157	6,325	1,722.52	14,913	3,740.69
Illinois	22,840	5,379.34	411	30,058	6,759.89	52,898	12,139.23
Iowa	3,648	662.64	60	–	–	3,648	662.64
Kansas	296	134.98	8	1,798	825.41	2,094	960.39
Louisiana	3,767	973.09	75	3,352	870.45	7,119	1,843.54
Maine	1,434	542.26	60	–	0	1,434	542.26
Maryland	3,142	1,226.39	108	1,315	531.68	4,457	1,758.07
Massachusetts	4,649	861.95	77	–	–	4,649	861.95
Michigan	6,297	1,994.18	160	5,277	1,741.99	11,574	3,736.17
Minnesota	3,830	1,052.33	80	2,413	669.81	6,243	1,722.14
Mississippi	2,992	524.73	44	3,551	645.42	6,543	1,170.15
Missouri	1,554	651.18	42	726	312.90	2,280	964.08
Nebraska	3,094	795.15	70	1,807	329.84	4,901	1,124.99
New Hampshire	960	439.52	30	891	407.36	1,851	846.88
New Jersey	8,792	2,012.40	156	5,219	1,612.51	14,011	3,624.91
New York	10,879	3,120.90	238	9,063	1,835.71	19,942	4,956.61
North Carolina	5,851	1,696.89	133	10,909	3,185.48	16,760	4,882.37
Ohio	3,085	706.28	50	3,719	993.70	6,804	1,699.98
Oregon	790	359.26	34	–	–	790	359.26
Pennsylvania	23,157	4,830.49	379	17,904	3,947.43	41,061	8,777.92
South Carolina	7,459	3,409.18	291	5,294	2,378.13	12,753	5,787.31
Tennessee	3,628	1,664.47	104	2,554	1,166.27	6,182	2,830.74
Texas	2,734	1,237.42	82	4,635	2,261.70	7,369	3,499.12
Vermont	3,880	705.66	58	–	–	3,880	705.66
Virginia	5,665	2,610.75	183	1,941	893.69	7,606	3,504.44
Washington	3,672	645.63	54	1,448	262.07	5,120	907.70

State	Dry Inventory			Pool Inventory		Site Inventory	
	Assemblies	Initial Uranium (MT)	SNF Casks	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Wisconsin	3,362	1,199.76	99	1,273	498.06	4,635	1,697.82
Totals	**183,775**	**53,332**	**4,169**	**145,229**	**41,785**	**329,004**	**95,117**

Note: Excludes SNF from TMI-2 (in ID) and Fort St. Vrain (in ID and CO).

Table D-3 Pool Inventory by Current Group and by State at the End of 2024

State	Group	Pool Assemblies	Pool Initial Uranium (MT)
Alabama	C	8,060	1,913.60
Arizona	C	2,547	1,108.43
Arkansas	C	1,274	575.20
California	A	–	–
California	C	1,800	761.42
Connecticut	A	–	–
Connecticut	B	4,979	1,434.65
Florida	A	–	–
Florida	C	5,097	2,139.68
Georgia	C	6,325	1,722.52
Illinois	A	–	–
Illinois	B	5,453	961.47
Illinois	C	21,388	5,124.13
Iowa	A	–	–
Kansas	C	1,798	825.41
Louisiana	C	3,352	870.45
Maine	A	–	–
Maryland	C	1,315	531.68
Massachusetts	A	–	–
Michigan	A	–	–
Michigan	C	5,277	1,741.99
Minnesota	C	2,413	669.81
Mississippi	C	3,551	645.42
Missouri	C	726	312.90
Nebraska	A	–	–
Nebraska	C	1,807	329.84
New Hampshire	C	891	407.36
New Jersey	A	–	–
New Jersey	C	5,219	1,612.51
New York	A	–	–
New York	C	9,063	1,835.71
North Carolina	C	10,909	3,185.48
Ohio	C	3,719	993.7
Oregon	A	–	–
Pennsylvania	C	17,904	3,947.43
South Carolina	C	5,294	2,378.13

State	Group	Pool Assemblies	Pool Initial Uranium (MT)
Tennessee	C	2,554	1,166.27
Texas	C	4,635	2,261.70
Vermont	A	–	–
Virginia	C	1,941	893.69
Washington	C	1,448	262.07
Wisconsin	A	–	–
Wisconsin	C	1,273	498.06
Total		**142,012**	**41,111**

Table D-4 Dry Inventory by Current Group and by State at the End of 2024

State	Group	Dry Assemblies	Dry Assemblies Initial Uranium (MT)	Casks
Alabama	C	11,968	2,705.40	188
Arizona	C	4,684	2,009.01	180
Arkansas	C	2,927	1,288.96	107
California	A	4,738	1,866.68	149
California	C	2,240	971.17	70
Connecticut	A	1,019	413.66	40
Connecticut	B	1,775	733.47	55
Florida	A	1,243	582.24	39
Florida	C	3,136	1,306.90	98
Georgia	C	8,588	2,018.17	157
Illinois	A	2,226	1,019.41	61
Illinois	B	6,800	1,125.61	100
Illinois	C	13,814	3,234.32	250
Iowa	A	3,648	662.64	60
Kansas	C	296	134.98	8
Louisiana	C	3,767	973.09	75
Maine	A	1,434	542.26	60
Maryland	C	3,142	1,226.39	108
Massachusetts	A	4,649	861.95	77
Michigan	A	441	57.91	7
Michigan	C	5,856	1,936.27	153
Minnesota	C	3,830	1,052.33	80
Mississippi	C	2,992	524.73	44
Missouri	C	1,554	651.18	42
Nebraska	A	1,264	465.98	40
Nebraska	C	1,830	329.17	30
New Hampshire	C	960	439.52	30
New Jersey	A	4,504	802.24	67
New Jersey	C	4,288	1,210.16	89
New York	A	4,001	1,776.62	127
New York	C	6,878	1,344.28	111
North Carolina	C	5,851	1,696.89	133
North Carolina	C	–	–	–
Ohio	C	3,085	706.28	50

State	Group	Dry Assemblies	Dry Assemblies Initial Uranium (MT)	Casks
Oregon	A	790	359.26	34
Pennsylvania	C	23,157	4,830.49	379
South Carolina	C	7,459	3,409.18	291
Tennessee	C	3,628	1,664.47	104
Texas	C	2,734	1,237.42	82
Vermont	A	3,880	705.66	58
Virginia	C	5,665	2,610.75	183
Washington	C	3,672	645.63	54
Wisconsin	A	1,668	556.67	43
Wisconsin	C	1,694	643.09	56
Total		**183,775**	**53,332**	**4,169**

Note: Excludes SNF from TMI-2 (in ID) and Fort St. Vrain (in ID and CO).

Table D-5 Total Inventory of Group A Sites by State at the End of 2024

State	Category	Site Assemblies	Site Initial Uranium (MT)
California	A1	4,738	1,866.68
Connecticut	A1	1,019	413.66
Florida	A1	1,243	582.24
Illinois	A1	2,226	1,019.41
Iowa	A1	3,648	662.64
Maine	A1	1,434	542.26
Massachusetts	A1	4,649	861.95
Michigan	A1	441	57.91
Nebraska	A1	1,264	465.98
New Jersey	A1	4,504	802.24
New York	A1	4,001	1,776.62
Oregon	A1	790	359.26
Vermont	A1	3,880	705.66
Wisconsin	A1	1,668	556.67
Total		**35,505**	**10,673**

Note: Excludes SNF from Fort St. Vrain at DOE-Managed ISFSI in Colorado.

Table D-6 Total Inventory of Group B Sites by State at the End of 2024

State	Category	Site Assemblies	Site Initial Uranium (MT)
Connecticut	B2	6,754	2,168.12
Illinois	B2	12,253	2,087.08
Total		**19,007**	**4,255**

Table D-7 Total Inventory of Group C Sites by State at the End of 2024

State	Category	Site Assemblies	Site Initial Uranium (MT)
Alabama	C2	20,028	4,619
Arizona	C2	7,231	3,117.44
Arkansas	C2	4,201	1,864.16
California	C2	4,040	1,732.59
Florida	C2	8,233	3,446.58
Georgia	C2	14,913	3,740.69
Illinois	C2	35,202	8,358.45
Kansas	C2	2,094	960.39
Louisiana	C2	7,119	1,843.54
Maryland	C2	4,457	1,758.07
Michigan	C2	11,133	3,678.26
Minnesota	C2	6,243	1,722.14
Mississippi	C2	6,543	1,170.15
Missouri	C2	2,280	964.08
Nebraska	C2	3,637	659.01
New Hampshire	C2	1,851	846.88
New Jersey	C2	9,507	2,822.67
New York	C2	15,941	3,179.99
North Carolina	C2	10,276	3,147.26
North Carolina	C3	6,484	1,735.11
Ohio	C2	6,804	1,699.98
Pennsylvania	C1	1,663	786.49
Pennsylvania	C2	39,398	7,991.43
South Carolina	C2	12,753	5,787.31
Tennessee	C2	6,182	2,830.74
Texas	C2	7,369	3,499.12
Virginia	C2	7,606	3,504.44
Washington	C2	5,120	907.70
Wisconsin	C2	2,967	1,141.15
Total		**271,275**	**79,515**

Table D-8 Total Inventory of Group F Site by State at the End of 2024

State	Assemblies	Initial Uranium (MT)
Illinois	3,217	674.29

Table D-9 Total Inventory by Current Group and by State at the End of 2024

State	Group	Assemblies	Initial Uranium (MT)
Alabama	C	20,028	4,619.00
Arizona	C	7,231	3,117.44
Arkansas	C	4,201	1,864.16
California	A	4,738	1,866.68
California	C	4,040	1,732.59
Connecticut	A	1,019	413.66
Connecticut	B	6,754	2,168.12
Florida	A	1,243	582.24
Florida	C	8,233	3,446.58
Georgia	C	14,913	3,740.69
Illinois	A	2,226	1,019.41
Illinois	B	12,253	2,087.08
Illinois	C	35,202	8,358.45
Iowa	A	3,648	662.64
Kansas	C	2,094	960.39
Louisiana	C	7,119	1,843.54
Maine	A	1,434	542.26
Maryland	C	4,457	1,758.07
Massachusetts	A	4,649	861.95
Michigan	A	441	57.91
Michigan	C	11,133	3,678.26
Minnesota	C	6,243	1,722.14
Mississippi	C	6,543	1,170.15
Missouri	C	2,280	964.08
Nebraska	A	1,264	465.98
Nebraska	C	3,637	659.01
New Hampshire	C	1,851	846.88
New Jersey	A	4,504	802.24
New Jersey	C	9,507	2,822.67
New York	A	4,001	1,776.62

State	Group	Assemblies	Initial Uranium (MT)
New York	C	15,941	3,179.99
North Carolina	C	16,760	4,882.37
Ohio	C	6,804	1,699.98
Oregon	A	790	359.26
Pennsylvania	C	41,061	8,777.92
South Carolina	C	12,753	5,787.31
Tennessee	C	6,182	2,830.74
Texas	C	7,369	3,499.12
Vermont	A	3,880	705.66
Virginia	C	7,606	3,504.44
Washington	C	5,120	907.70
Wisconsin	A	1,668	556.67
Wisconsin	C	2,967	1,141.15
Total		**325,787**	**94,443**

Note: Excludes SNF from TMI-2 (in ID) and Fort St. Vrain (in ID and CO).

Table D-10 Projected Inventory by Current Group and by State through 2075

State	Group	Assemblies	Initial Uranium (MT)
Alabama	C	28,268	6,473.97
Arizona	C	12,326	5,344.59
Arkansas	C	5,605	2,496.74
California	A	4,738	1,866.68
California	C	5,049	2,158.37
Connecticut	A	1,019	413.66
Connecticut	B	8,792	3,059.81
Florida	A	1,243	582.24
Florida	C	12,964	5,471.33
Georgia	C	27,073	8,618.31
Illinois	A	2,226	1,019.41
Illinois	B	14,661	2,502.52
Illinois	C	54,270	13,196.65
Iowa	A	3,648	662.64
Kansas	C	3,353	1,534.17
Louisiana	C	11,261	2,971.85
Maine	A	1,434	542.26
Maryland	C	5,889	2,341.67
Massachusetts	A	4,649	861.95
Michigan	A	441	57.91
Michigan	C	16,179	5,002.96
Minnesota	C	9,554	2,465.73
Mississippi	C	10,253	1,855.68
Missouri	C	3,604	1,516.81
Nebraska	A	1,264	465.98
Nebraska	C	4,909	892.67
New Hampshire	C	3,356	1,533.36
New Jersey	A	4,504	802.24
New Jersey	C	14,895	4,266.62
New York	A	4,001	1,776.62
New York	C	22,252	4,366.81
North Carolina	C	23,205	6,895.78
Ohio	C	11,316	2,711.20
Oregon	A	790	359.26
Pennsylvania	C	67,343	14,017.22
South Carolina	C	17,450	7,932.19

State	Group	Assemblies	Initial Uranium (MT)
Tennessee	C	13,640	6,254.39
Texas	C	13,634	6,441.52
Vermont	A	3,880	705.66
Virginia	C	13,510	6,219.20
Washington	C	8,188	1,457.58
Wisconsin	A	1,668	556.67
Wisconsin	C	3,630	1,401.07
Total		**481,934**	**142,074**

Note: Excludes SNF from TMI-2 (in ID) and Fort St. Vrain (in ID and CO).

APPENDIX E – REFERENCE SCENARIO: NO REPLACEMENT NUCLEAR GENERATION FORECAST – DISCHARGED SNF BY NRC REGION

Table E-1 Estimated and Projected Inventory by NRC Region

NRC Region	SNF Discharged Prior to 12/31/2022		Forecast Future Discharges 1/1/2023 to 12/31/2024		Forecast Future Discharges 1/1/2025 to 12/31/2084		Total Projected Discharged SNF		Past Inter-Region Transfer Adjustments		Region's Forecasted Remaining Inventory	
	Assemblies	Est. Initial Uranium (MT)	Assemblies	Est. Initial Uranium (MT)	Assemblies	Est. Initial Uranium (MT)	Assemblies	Est. Initial Uranium (MT)	Assemblies	Est. Initial Uranium (MT)	Assemblies	Est. Initial Uranium (MT)
Region I	95,470	23,755.77	3,715	951.55	42,956	10,031.84	142,141	34,739.16	-127	-51.29	142,014	34,687.87
Region II	83,361	27,938.24	4,445	1,495.24	49,635	19,054.04	137,441	48,487.52	-88	-40.11	137,353	48,447.41
Region III	80,925	20,456.03	3,569	886.47	35,428	8,773.56	119,922	30,116.06	1,308	315.57	121,230	30,431.63
Region IV	55,233	18,826.64	2,519	880.27	28,548	9,951.80	86,300	29,658.71	-1,324	-296.43	84,976	29,362.28
Totals[a]	**314,989**	**90,976.68**	**14,248**	**4,213.53**	**156,567**	**47,811.24**	**485,804**	**143,001.45**	**-231**	**-72.26**	**485,573**	**142,929**

[a] Total Interstate Transfer reflects the amount of SNF reported in GC-859 as being transferred to DOE; this is not the total quantity of NPR SNF in DOE possession. See Section 3.1.2.

Table E-2 Estimated Inventory by NRC Region and by Storage Configuration at the End of 2024

NRC Region	Dry Inventory			Pool Inventory		Site Inventory	
	Assemblies	Initial Uranium (MT)	SNF Casks	Assemblies	Initial Uranium (MT)	Assemblies	Initial Uranium (MT)
Region I	59,687	14,886.70	1,201	39,371	9,769.34	99,058	24,656.04
Region II	47,538	15,994.00	1,193	40,180	13,399.37	87,718	29,393.37
Region III	43,062	10,994.53	860	42,740	10,663.45	85,802	21,657.98
Region IV	33,488	11,457.26	915	22,938	7,952.84	56,426	19,410.10
Totals	**183,775**	**53,332.49**	**4,169**	**145,229**	**41,785.00**	**329,004**	**95,117**

Table E-3 Estimated Pool Inventory by Current Group and by NRC Region at the End of 2024

NRC Region	Group	Assemblies in Pool	Pool Inventory Initial Uranium (MT)
Region I	A	–	–
Region I	B	4,979	1,434.65
Region I	C	34,392	8,334.69
Region II	A	–	–
Region II	B	–	–
Region II	C	40,180	13,399.37
Region III	A	–	–
Region III	B	5,453	961.47
Region III	C	34,070	9,027.69
Region IV	A	–	–
Region IV	B	–	–
Region IV	C	22,938	7,952.84
Total		**142,012**	**41,111**

Table E-4 Estimated Dry Inventory by Current Group and by NRC Region at the End of 2024

NRC Region	Group	Assemblies in Dry Storage	Dry Storage Initial Uranium (MT)	SNF Casks
Region I	A	19,487	5,102.39	429
Region I	B	1,775	733.47	55
Region I	C	38,425	9,050.84	717
Region II	A	1,243	582.24	39
Region II	B	–	–	–
Region II	C	46,295	15,411.76	1,154
Region III	A	7,983	2,296.63	171
Region III	B	6,800	1,125.61	100
Region III	C	28,279	7,572.29	589
Region IV	A	6,792	2,691.92	223
Region IV	B	–	–	–
Region IV	C	26,696	8,765.34	692
Total		**183,775**	**53,332**	**4,169**

Table E-5 Estimated Total Inventory by Current Group and by NRC Region at the End of 2024

NRC Region	Group	Assemblies at Site	Site Initial Uranium (MT)
Region I	A	19,487	5,102.39
Region I	B	6,754	2,168.12
Region I	C	72,817	17,385.53
Region II	A	1,243	582.24
Region II	B	–	–
Region II	C	86,475	28,811.13
Region III	A	7,983	2,296.63
Region III	B	12,253	2,087.08
Region III	C	62,349	16,599.98
Region IV	A	6,792	2,691.92
Region IV	B	–	–
Region IV	C	49,634	16,718.18
Total		**325,787**	**94,443**

Table E-6 Projected Inventory by Current Group and by NRC Region through 2084

NRC Region	Group	Site Assemblies	Site Initial Uranium (MT)
Region I	A	19,487	5,102.39
Region I	B	8,792	3,059.81
Region I	C	113,735	26,525.68
Region II	A	1,243	582.24
Region II	B	–	–
Region II	C	136,110	47,865.17
Region III	A	7,983	2,296.63
Region III	B	14,661	2,502.52
Region III	C	94,949	24,777.61
Region IV	A	6,792	2,691.92
Region IV	B	–	–
Region IV	C	78,182	26,669.98
Total		**481,934**	**142,074**

APPENDIX F – REFERENCE SCENARIO: NO REPLACEMENT NUCLEAR GENERATION FORECAST – INVENTORY BY CONGRESSIONAL DISTRICT

Table F-1 Inventory by State and Congressional District as of December 31, 2024

State	Cong. Dist.	Rep.	Senator	Senator	Facility Name (Bold = Shutdown)	Type of Facility	SNF at NPR/ISFSI Sites (MTHM)	SNF at DOE Sites (MTHM)	Reprocessing Waste (Equiv. MTHM)[a]	Total (MTHM)
Alabama (AL)	5	Dale Strong (R)	Katie Boyd Britt (R)	Tommy Tuberville (R)	Browns Ferry	Comm Reactor	2,899.48	–	–	2,899.48
Alabama (AL)	1	Barry Moore (R)	Katie Boyd Britt (R)	Tommy Tuberville (R)	Farley	Comm Reactor	1,719.52	–	–	1,719.52
Arizona (AZ)	9	Paul Gosar (R)	Ruben Gallego (D)	Mark Kelly (D)	Palo Verde	Comm Reactor	3,117.44	–	–	3,117.44
Arkansas (AR)	4	Bruce Westerman (R)	John Boozman (R)	Tom Cotton (R)	Arkansas Nuclear One	Comm Reactor	1,864.16	–	–	1,864.16
California (CA)	49	Mike Levin (D)	Alex Padilla (D)	Adam B. Schiff (D)	**San Onofre**	Comm Reactor	1,609.36	–	–	1,609.36
California (CA)	2	Jared Huffman (D)	Alex Padilla (D)	Adam B. Schiff (D)	**Humboldt Bay**	Comm Reactor	28.94	–	–	28.94
California (CA)	24	Salud Carbajal (D)	Alex Padilla (D)	Adam B. Schiff (D)	Diablo Canyon	Comm Reactor	1,732.59	–	–	1,732.59
California (CA)	14	Eric Swalwell (D)	Alex Padilla (D)	Adam B. Schiff (D)	GE Vallecitos	Non-DOE Research Reactor	–	–	–	[b]
California (CA)	7	Doris Matsui (D)	Alex Padilla (D)	Adam B. Schiff (D)	**Rancho Seco**	Comm Reactor	228.38	–	–	228.38
California (CA)	6	Ami Bera (D)	Alex Padilla (D)	Adam B. Schiff (D)	UC Davis/McClellan Nuclear Research Center	University Reactor	–	–	–	[b]
California (CA)	12	Lateefah Simon (D)	Alex Padilla (D)	Adam B. Schiff (D)	Lawrence Berkeley National Laboratory	DOE National Lab	–	–	–	[c]
California (CA)	10	Mark DeSaulnier (D)	Alex Padilla (D)	Adam B. Schiff (D)	Aerotest Research ARRR	Non-DOE Research Reactor	–	–	–	[b]
California (CA)	14	Eric Swalwell (D)	Alex Padilla (D)	Adam B. Schiff (D)	Lawrence Livermore National Laboratory	DOE National Lab	–	–	–	[c]
California (CA)	16	Sam Liccardo (D)	Alex Padilla (D)	Adam B. Schiff (D)	SLAC National Accelerator Laboratory	DOE National Lab	–	–	–	[c]
California (CA)	50	Scott Peters (D)	Alex Padilla (D)	Adam B. Schiff (D)	General Atomics	Non-DOE Research Reactor	–	–	–	[b]
California (CA)	47	Dave Min (D)	Alex Padilla (D)	Adam B. Schiff (D)	University of California Irvine	University Reactor	–	–	–	[b]

State	Cong. Dist.	Rep.	Senator	Senator	Facility Name (Bold = Shutdown)	Type of Facility	SNF at NPR/ISFSI Sites (MTHM)	SNF at DOE Sites (MTHM)	Reprocessing Waste (Equiv. MTHM)[a]	Total (MTHM)
Colorado (CO)	8	Gabe Evans (R)	Michael F. Bennet (D)	John W. Hickenlooper (D)	Fort St. Vrain	DOE Site	–	15	–	15.00
Colorado (CO)	7	Brittany Pettersen (D)	Michael F. Bennet (D)	John W. Hickenlooper (D)	National Renewable Energy Laboratory	DOE National Lab	–	–	–	[c]
Colorado (CO)	7	Brittany Pettersen (D)	Michael F. Bennet (D)	John W. Hickenlooper (D)	U.S. Geological Survey GSTR	Non-DOE Research Reactor	–	–	–	[b]
Connecticut (CT)	2	Joe Courtney (D)	Richard Blumenthal (D)	Christopher Murphy (D)	**Haddam Neck**	Comm Reactor	413.66	–	–	413.66
Connecticut (CT)	2	Joe Courtney (D)	Richard Blumenthal (D)	Christopher Murphy (D)	Millstone	Comm Reactor	2,168.12	–	–	2,168.12
Florida (FL)	12	Gus Bilirakis (R)	Ashley Moody (R)	Rick Scott (R)	**Crystal River**	Comm Reactor	582.24	–	–	582.24
Florida (FL)	28	Carlos Gimenez (R)	Ashley Moody (R)	Rick Scott (R)	Turkey Point	Comm Reactor	1,650.57	–	–	1,650.57
Florida (FL)	21	Brian Mast (R)	Ashley Moody (R)	Rick Scott (R)	Saint Lucie	Comm Reactor	1,796.01	–	–	1,796.01
Florida (FL)	3	Kat Cammack (R)	Ashley Moody (R)	Rick Scott (R)	University of Florida UFTR	University Reactor	–	–	–	[b]
Georgia (GA)	12	Rick Allen (R)	Jon Ossoff (D)	Raphael G. Warnock (D)	Vogtle	Comm Reactor	1,811.72	–	–	1,811.72
Georgia (GA)	1	Earl Carter (R)	Jon Ossoff (D)	Raphael G. Warnock (D)	Hatch	Comm Reactor	1,928.97	–	–	1,928.97
Idaho (ID)	2	Michael Simpson (R)	Mike Crapo (R)	James E. Risch (R)	Idaho National Engineering Environmental Lab	DOE National Lab	–	270	2,800	3,070.00
Idaho (ID)	2	Michael Simpson (R)	Mike Crapo (R)	James E. Risch (R)	Idaho National Lab - Navy	DOE National Lab	–	41	–	41.00
Idaho (ID)	2	Michael Simpson (R)	Mike Crapo (R)	James E. Risch (R)	Idaho State University AGN-201	University Reactor	–	–	–	[b]
Illinois (IL)	15	Mary Miller (R)	Tammy Duckworth (D)	Richard J. Durbin (D)	Clinton	Comm Reactor	854.76	–	–	854.76
Illinois (IL)	17	Eric Sorensen (D)	Tammy Duckworth (D)	Richard J. Durbin (D)	Quad Cities	Comm Reactor	2,023.61	–	–	2,023.61
Illinois (IL)	16	Darin LaHood (R)	Tammy Duckworth (D)	Richard J. Durbin (D)	La Salle	Comm Reactor	1,899.77	–	–	1,899.77
Illinois (IL)	16	Darin LaHood (R)	Tammy Duckworth (D)	Richard J. Durbin (D)	Byron	Comm Reactor	1,832.96	–	–	1,832.96
Illinois (IL)	16	Darin LaHood (R)	Tammy Duckworth (D)	Richard J. Durbin (D)	Dresden	Comm Reactor	2,087.08	–	–	2,087.08
Illinois (IL)	16	Darin LaHood (R)	Tammy Duckworth (D)	Richard J. Durbin (D)	Morris	Non-DOE site	674.29	–	–	674.29
Illinois (IL)	1	Jonathan Jackson (D)	Tammy Duckworth (D)	Richard J. Durbin (D)	Braidwood	Comm Reactor	1,747.35	–	–	1,747.35

State	Cong. Dist.	Rep.	Senator	Senator	Facility Name (Bold = Shutdown)	Type of Facility	SNF at NPR/ISFSI Sites (MTHM)	SNF at DOE Sites (MTHM)	Reprocessing Waste (Equiv. MTHM)[a]	Total (MTHM)
Illinois (IL)	10	Bradley Schneider (D)	Tammy Duckworth (D)	Richard J. Durbin (D)	**Zion**	Comm Reactor	1,019.41	–	–	1,019.41
Illinois (IL)	11	Bill Foster (D)	Tammy Duckworth (D)	Richard J. Durbin (D)	Argonne National Laboratory	DOE National Lab	–	–	–	[c]
Illinois (IL)	3	Delia Ramirez (D)	Tammy Duckworth (D)	Richard J. Durbin (D)	Fermi National Accelerator National Laboratory	DOE National Lab	–	–	–	[c]
Indiana (IN)	4	James Baird (R)	Jim Banks (R)	Todd Young (R)	Purdue University PUR-1	University Reactor	–	–	–	[b]
Iowa (IA)	2	Ashley Hinson (R)	Joni Ernst (R)	Chuck Grassley (R)	**Duane Arnold**	Comm Reactor	662.64	–	–	662.64
Iowa (IA)	4	Randy Feenstra (R)	Joni Ernst (R)	Chuck Grassley (R)	Ames Laboratory (DOE Site)	DOE National Lab	–	–	–	[c]
Kansas (KS)	2	Derek Schmidt (R)	Roger Marshall (R)	Jerry Moran (R)	Wolf Creek	Comm Reactor	960.39	–	–	960.39
Kansas (KS)	1	Tracey Mann (R)	Roger Marshall (R)	Jerry Moran (R)	Kansas State University TRIGA II	University Reactor	–	–	–	[b]
Louisiana (LA)	5	Julia Letlow (R)	Bill Cassidy (R)	John Kennedy (R)	River Bend	Comm Reactor	853.64	–	–	853.64
Louisiana (LA)	2	Troy Carter (D)	Bill Cassidy (R)	John Kennedy (R)	Waterford	Comm Reactor	989.90	–	–	989.90
Maine (ME)	1	Chellie Pingree (D)	Susan M. Collins (R)	Angus S. Jr. King Jr. (R)	**Maine Yankee**	Comm Reactor	542.26	–	–	542.26
Maryland (MD)	5	Steny Hoyer (D)	Angela D. Alsobrooks (D)	Chris Van Hollen (D)	Calvert Cliffs	Comm Reactor	1,758.07	–	–	1,758.07
Maryland (MD)	4	Glenn Ivey (D)	Angela D. Alsobrooks (D)	Chris Van Hollen (D)	University of Maryland MUTR	University Reactor	–	–	–	[b]
Maryland (MD)	6	April McClain Delaney (D)	Angela D. Alsobrooks (D)	Chris Van Hollen (D)	National Institute of Standards and Technology	Non-DOE Research Reactor	–	–	–	[b]
Maryland (MD)	8	Jamie Raskin (D)	Angela D. Alsobrooks (D)	Chris Van Hollen (D)	Armed Forces Radiobiology Research Institute TRIGA	Non-DOE Research Reactor	–	–	–	[b]
Massachusetts (MA)	9	William Keating (D)	Edward J. Markey (D)	Elizabeth Warren (D)	**Pilgrim**	Comm Reactor	734.82	–	–	734.82
Massachusetts (MA)	1	Richard Neal (D)	Edward J. Markey (D)	Elizabeth Warren (D)	**Yankee Rowe**	Comm Reactor	127.13	–	–	127.13
Massachusetts (MA)	3	Lori Trahan (D)	Edward J. Markey (D)	Elizabeth Warren (D)	University of Lowell UMLRR	University Reactor	–	–	–	[b]
Massachusetts (MA)	7	Ayanna Pressley (D)	Edward J. Markey (D)	Elizabeth Warren (D)	Massachusetts Institute of Technology MITR-II	University Reactor	–	–	–	[b]

State	Cong. Dist.	Rep.	Senator	Senator	Facility Name (Bold = Shutdown)	Type of Facility	SNF at NPR/ISFSI Sites (MTHM)	SNF at DOE Sites (MTHM)	Reprocessing Waste (Equiv. MTHM)[a]	Total (MTHM)
Michigan (MI)	5	Tim Walberg (R)	Gary C. Peters (D)	Elissa Slotkin (D)	Cook	Comm Reactor	2,048.03	–	–	2,048.03
Michigan (MI)	1	Jack Bergman (R)	Gary C. Peters (D)	Elissa Slotkin (D)	**Big Rock Point**	Comm Reactor	57.91	–	–	57.91
Michigan (MI)	5	Tim Walberg (R)	Gary C. Peters (D)	Elissa Slotkin (D)	Fermi	Comm Reactor	779.75	–	–	779.75
Michigan (MI)	4	Bill Huizenga (R)	Gary C. Peters (D)	Elissa Slotkin (D)	Palisades	Comm Reactor	850.48	–	–	850.48
Michigan (MI)	8	Kristen McDonald Rivet (D)	Gary C. Peters (D)	Elissa Slotkin (D)	DOW Chemical TRIGA	Non-DOE Research Reactor	–	–	–	[b]
Minnesota (MN)	6	Tom Emmer (R)	Amy Klobuchar (D)	Tina Smith (D)	Monticello	Comm Reactor	528.89	–	–	528.89
Minnesota (MN)	1	Brad Finstad (R)	Amy Klobuchar (D)	Tina Smith (D)	Prairie Island	Comm Reactor	1,193.25	–	–	1,193.25
Mississippi (MS)	2	Bennie Thompson (D)	Cindy Hyde-Smith (R)	Roger F. Wicker (R)	Grand Gulf	Comm Reactor	1,170.15	–	–	1,170.15
Missouri (MO)	3	Robert Onder (R)	Josh Hawley (R)	Eric Schmitt (R)	Callaway	Comm Reactor	964.08	–	–	964.08
Missouri (MO)	3	Robert Onder (R)	Josh Hawley (R)	Eric Schmitt (R)	University of Missouri at Columbia	University Reactor	–	–	–	[b]
Missouri (MO)	8	Jason Smith (R)	Josh Hawley (R)	Eric Schmitt (R)	Missouri University of Science and Technology	University Reactor	–	–	–	[b]
Nebraska (NE)	6	Sam Graves (R)	Deb Fischer (R)	Pete Ricketts (R)	Cooper	Comm Reactor	659.01	–	–	659.01
Nebraska (NE)	3	Adrian Smith (R)	Deb Fischer (R)	Pete Ricketts (R)	**Fort Calhoun**	Comm Reactor	465.98	–	–	465.98
Nevada (NV)	4	Steven Horsford (D)	Catherine Cortez Masto (D)	Jacky Rosen (D)	Nevada National Security Site	DOE Site	–	–	–	[d]
Nevada (NV)	4	Steven Horsford (D)	Catherine Cortez Masto (D)	Jacky Rosen (D)	Yucca Mountain	DOE Site	–	–	–	–
New Hampshire (NH)	1	Chris Pappas (D)	Margaret Wood Hassan (D)	Jeanne Shaheen (D)	Seabrook	Comm Reactor	846.88	–	–	846.88
New Jersey (NJ)	2	Jefferson Van Drew (R)	Cory A. Booker (D)	Andy Kim (D)	Hope Creek	Comm Reactor	994.54	–	–	994.54
New Jersey (NJ)	2	Jefferson Van Drew (R)	Cory A. Booker (D)	Andy Kim (D)	Salem	Comm Reactor	1,828.13	–	–	1,828.13
New Jersey (NJ)	2	Jefferson Van Drew (R)	Cory A. Booker (D)	Andy Kim (D)	**Oyster Creek**	Comm Reactor	802.24	–	–	802.24
New Jersey (NJ)	12	Bonnie Watson Coleman (D)	Cory A. Booker (D)	Andy Kim (D)	Princeton Plasma Physics Laboratory	DOE National Lab	–	–	–	[c]

State	Cong. Dist.	Rep.	Senator	Senator	Facility Name (Bold = Shutdown)	Type of Facility	SNF at NPR/ISFSI Sites (MTHM)	SNF at DOE Sites (MTHM)	Reprocessing Waste (Equiv. MTHM)[a]	Total (MTHM)
New Mexico (NM)	1	Melanie Stansbury (D)	Martin Heinrich (D)	Ben Ray Luján (D)	University of New Mexico AGN-201	University Reactor	–	–	–	[b]
New Mexico (NM)	2	Gabe Vasquez (D)	Martin Heinrich (D)	Ben Ray Luján (D)	Eddy-Lea Energy Alliance LLC	Potential SNF Storage Site	–	–	–	–
New Mexico (NM)	2	Gabe Vasquez (D)	Martin Heinrich (D)	Ben Ray Luján (D)	Sandia National Laboratory	DOE National Lab	–	–	–	[b]
New Mexico (NM)	2	Gabe Vasquez (D)	Martin Heinrich (D)	Ben Ray Luján (D)	White Sands Missile Range	DOE Site	–	–	–	[d]
New Mexico (NM)	3	Teresa Leger Fernandez (D)	Martin Heinrich (D)	Ben Ray Luján (D)	Los Alamos National Laboratory	DOE National Lab	–	–	–	[c]
New York (NY)	24	Claudia Tenney (R)	Kirsten E. Gillibrand (D)	Charles E. Schumer (D)	Nine Mile Point	Comm Reactor	1,690.32	–	–	1,690.32
New York (NY)	24	Claudia Tenney (R)	Kirsten E. Gillibrand (D)	Charles E. Schumer (D)	Ginna	Comm Reactor	615.97	–	–	615.97
New York (NY)	23	Nicholas Langworthy (R)	Kirsten E. Gillibrand (D)	Charles E. Schumer (D)	West Valley Demonstration Project	DOE Site	–	–	640	640.00
New York (NY)	17	Michael Lawler (R)	Kirsten E. Gillibrand (D)	Charles E. Schumer (D)	**Indian Point**	Comm Reactor	1,776.62	–	–	1,776.62
New York (NY)	24	Claudia Tenney (R)	Kirsten E. Gillibrand (D)	Charles E. Schumer (D)	Fitzpatrick	Comm Reactor	873.70	–	–	873.70
New York (NY)	1	Nick LaLota (R)	Kirsten E. Gillibrand (D)	Charles E. Schumer (D)	Brookhaven National Laboratory	DOE National Lab	–	–	–	[c]
New York (NY)	20	Paul Tonko (D)	Kirsten E. Gillibrand (D)	Charles E. Schumer (D)	Rensselaer Polytechnic Institute	University Reactor	–	–	–	[b]
New York (NY)	20	Paul Tonko (D)	Kirsten E. Gillibrand (D)	Charles E. Schumer (D)	Knolls Atomic Power Laboratory	DOE National Lab	–	–	–	–
North Carolina (NC)	14	Tim Moore (R)	Ted Budd (R)	Thom Tillis (R)	McGuire	Comm Reactor	2,033.53	–	–	2,033.53
North Carolina (NC)	4	Valerie Foushee (D)	Ted Budd (R)	Thom Tillis (R)	Harris	Comm Reactor	1,735.11	–	–	1,735.11
North Carolina (NC)	7	David Rouzer (R)	Ted Budd (R)	Thom Tillis (R)	Brunswick	Comm Reactor	1,113.73	–	–	1,113.73
North Carolina (NC)	2	Deborah Ross (D)	Ted Budd (R)	Thom Tillis (R)	North Carolina State University PULSTAR	University Reactor	–	–	–	[b]
Ohio (OH)	9	Marcy Kaptur (D)	Jon Husted (R)	Bernie Moreno (R)	Davis-Besse	Comm Reactor	758.39	–	–	758.39
Ohio (OH)	14	David Joyce (R)	Jon Husted (R)	Bernie Moreno (R)	Perry	Comm Reactor	941.59	–	–	941.59
Ohio (OH)	3	Joyce Beatty (D)	Jon Husted (R)	Bernie Moreno (R)	Ohio State University OSURR	University Reactor	–	–	–	[b]

State	Cong. Dist.	Rep.	Senator	Senator	Facility Name (Bold = Shutdown)	Type of Facility	SNF at NPR/ISFSI Sites (MTHM)	SNF at DOE Sites (MTHM)	Reprocessing Waste (Equiv. MTHM)[a]	Total (MTHM)
Oregon (OR)	1	Suzanne Bonamici (D)	Jeff Merkley (D)	Ron Wyden (D)	**Trojan**	Comm Reactor	359.26	–	–	359.26
Oregon (OR)	3	Maxine Dexter (D)	Jeff Merkley (D)	Ron Wyden (D)	Reed College RRR	University Reactor	–	–	–	[b]
Oregon (OR)	4	Val Hoyle (D)	Jeff Merkley (D)	Ron Wyden (D)	Oregon State University OSTR	University Reactor	–	–	–	[b]
Pennsylvania (PA)	10	Scott Perry (R)	John Fetterman (D)	David McCormick (D)	**Three Mile Island 2**	Comm Reactor	–	–	–	–
Pennsylvania (PA)	11	Lloyd Smucker (R)	John Fetterman (D)	David McCormick (D)	Peach Bottom	Comm Reactor	2,430.66	–	–	2,430.66
Pennsylvania (PA)	4	Madeleine Dean (D)	John Fetterman (D)	David McCormick (D)	Limerick	Comm Reactor	1,904.51	–	–	1,904.51
Pennsylvania (PA)	9	Daniel Meuser (R)	John Fetterman (D)	David McCormick (D)	Susquehanna	Comm Reactor	2,132.08	–	–	2,132.08
Pennsylvania (PA)	17	Christopher Deluzio (D)	John Fetterman (D)	David McCormick (D)	Beaver Valley	Comm Reactor	1,524.18	–	–	1,524.18
Pennsylvania (PA)	10	Scott Perry (R)	John Fetterman (D)	David McCormick (D)	Three Mile Island	Comm Reactor	786.49	–	–	786.49
Pennsylvania (PA)	15	Glenn Thompson (R)	John Fetterman (D)	David McCormick (D)	Pennsylvania State University	University Reactor	–	–	–	[b]
Pennsylvania (PA)	12	Summer Lee (D)	John Fetterman (D)	David McCormick (D)	National Energy Technology Laboratory	DOE National Lab	–	–	–	[c]
Rhode Island (RI)	2	Seth Magaziner (D)	Jack Reed (D)	Sheldon Whitehouse (D)	Rhode Island Atomic Energy Commission Nuclear Science Center	Non-DOE Research Reactor	–	–	–	[b]
South Carolina (SC)	7	Russell Fry (R)	Lindsey Graham (R)	Tim Scott (R)	Robinson	Comm Reactor	506.49	–	–	506.49
South Carolina (SC)	3	Sheri Biggs (R)	Lindsey Graham (R)	Tim Scott (R)	Oconee	Comm Reactor	2,716.38	–	–	2,716.38
South Carolina (SC)	5	Ralph Norman (R)	Lindsey Graham (R)	Tim Scott (R)	Catawba	Comm Reactor	1,783.90	–	–	1,783.90
South Carolina (SC)	5	Ralph Norman (R)	Lindsey Graham (R)	Tim Scott (R)	Summer	Comm Reactor	780.54	–	–	780.54
South Carolina (SC)	2	Joe Wilson (R)	Lindsey Graham (R)	Tim Scott (R)	Savannah River	DOE National Lab	–	27	4,060	4,087.00
South Carolina (SC)	1	Nancy Mace (R)	Lindsey Graham (R)	Tim Scott (R)	Moored Training Ship - Unit #1 and Unit 2	Naval Training Reactor	–	–	–	[d]
Tennessee (TN)	4	Scott DesJarlais (R)	Marsha Blackburn (R)	Bill Hagerty (R)	Watts Bar	Comm Reactor	930.17	–	–	930.17

State	Cong. Dist.	Rep.	Senator	Senator	Facility Name (Bold = Shutdown)	Type of Facility	SNF at NPR/ISFSI Sites (MTHM)	SNF at DOE Sites (MTHM)	Reprocessing Waste (Equiv. MTHM)[a]	Total (MTHM)
Tennessee (TN)	3	Charles Fleischmann (R)	Marsha Blackburn (R)	Bill Hagerty (R)	Oak Ridge National Laboratory	DOE National Lab	–	–	–	[b]
Tennessee (TN)	3	Charles Fleischmann (R)	Marsha Blackburn (R)	Bill Hagerty (R)	Sequoyah	Comm Reactor	1,900.57	–	–	1,900.57
Texas (TX)	25	Roger Williams (R)	John Cornyn (R)	Ted Cruz (R)	Comanche Peak	Comm Reactor	1,642.61	–	–	1,642.61
Texas (TX)	22	Troy Nehls (R)	John Cornyn (R)	Ted Cruz (R)	South Texas	Comm Reactor	1,856.51	–	–	1,856.51
Texas (TX)	37	Lloyd Doggett (D)	John Cornyn (R)	Ted Cruz (R)	University of Texas TRIGA II	University Reactor	–	–	–	[b]
Texas (TX)	19	Jodey Arrington (R)	John Cornyn (R)	Ted Cruz (R)	Interim Storage Partners	Potential SNF Storage Site	–	–	–	–
Texas (TX)	10	Michael McCaul (R)	John Cornyn (R)	Ted Cruz (R)	Texas A&M University	University Reactor	–	–	–	[b]
Utah (UT)	1	Blake Moore (R)	John R. Curtis (R)	Mike Lee (R)	University of Utah TRIGA	University Reactor	–	–	–	[b]
Vermont (VT)	0	Becca Balint (D)	Bernard Sanders (Independent)	Peter Welch (Independent)	**Vermont Yankee**	Comm Reactor	705.66	–	–	705.66
Virginia (VA)	4	Jennifer McClellan (D)	Tim Kaine (D)	Mark R. Warner (D)	Surry	Comm Reactor	1,764.10	–	–	1,764.10
Virginia (VA)	5	John McGuire (R)	Tim Kaine (D)	Mark R. Warner (D)	North Anna	Comm Reactor	1,740.34	–	–	1,740.34
Virginia (VA)	5	John McGuire (R)	Tim Kaine (D)	Mark R. Warner (D)	BWXT	Non DOE Research Reactor	–	–	–	[c]
Virginia (VA)	3	Robert Scott (D)	Tim Kaine (D)	Mark R. Warner (D)	Thomas Jefferson National Accelerator Facility	DOE National Lab	–	–	–	[c]
Washington (WA)	4	Dan Newhouse (R)	Maria Cantwell (D)	Patty Murray (D)	Hanford	DOE Site	–	2,129	5,700	7,829.00
Washington (WA)	4	Dan Newhouse (R)	Maria Cantwell (D)	Patty Murray (D)	Pacific Northwest National Laboratory	DOE National Lab	–	–	–	[c]
Washington (WA)	4	Dan Newhouse (R)	Maria Cantwell (D)	Patty Murray (D)	Columbia	Comm Reactor	907.70	–	–	907.70
Washington (WA)	5	Michael Baumgartner (R)	Maria Cantwell (D)	Patty Murray (D)	Washington State University WSUR	University Reactor	–	–	–	[b]
Wisconsin (WI)	8	Tony Wied (R)	Tammy Baldwin (D)	Ron Johnson (D)	**Kewaunee**	Comm Reactor	518.70	–	–	518.70
Wisconsin (WI)	6	Glenn Grothman (R)	Tammy Baldwin (D)	Ron Johnson (D)	Point Beach	Comm Reactor	1,141.15	–	–	1,141.15

State	Cong. Dist.	Rep.	Senator	Senator	Facility Name (Bold = Shutdown)	Type of Facility	SNF at NPR/ISFSI Sites (MTHM)	SNF at DOE Sites (MTHM)	Reprocessing Waste (Equiv. MTHM)[a]	Total (MTHM)
Wisconsin (WI)	2	Ashley Hinson (R)	Tammy Baldwin (D)	Ron Johnson (D)	**LaCrosse**	Comm Reactor	37.97	–	–	37.97
Wisconsin (WI)	2	Mark Pocan (D)	Tammy Baldwin (D)	Ron Johnson (D)	University of Wisconsin UWNR	University Reactor	–	–	–	[b]
Total[e]							**95,117**	**2,482[f]**	**13,200**	**110,799**

Table notes

[a] Equivalent MTHM determined by using the canister counts in Tables 5.4 applying the historical factors of 2.3 and 0.5 MTU per canister for commercial and defense reprocessing waste, respectively, from DOE/DP 0020/1, An Evaluation of Commercial Repository Capacity for the Disposal of Defense High-Level Waste (DOE 1985). Applying the total radioactivity method for determining equivalent MTHM would result in much lower quantities (Knecht et al. 1999). The best estimate value of 11,400 canisters was used for Hanford, and a mid-point of the INL projected canister range of 5,600 was used. All values were rounded up to the nearest multiple of ten.

[b] SNF from research reactors primarily used for radiography, testing, training, isotope production or other non-power generating commercial services are not included.

[c] Small quantities of SNF or reprocessing waste used for R&D purposes, if any, are not included (e.g., for laboratory analysis work).

[d] Nuclear material for critical assembly machines or naval prototypes or moored training ships are not included in this table.

[e] Totals for SNF in MTHM represents rounded sums of pre-rounded site values.

[f] Total includes approximately 1 MTHM for small quantities at multiple facilities at the Oak Ridge Reservation in TN and Sandia National Laboratory in NM.

APPENDIX G – REVISION HISTORY

A general description of the changes made with each revision to this document and precursors to it is provided in this appendix. Some of these revisions were only issued as drafts. In prior years, this inventory report was issued with report number FCRD-NFST-2013-000263, Revision 0 through Revision 9 at which time a new report number, PNNL-33938, was introduced since the earlier numbering scheme had become obsolete.

PNNL-33938, Revision 0 (FCRD-NFST-2013-000263, Revision 9) provided inventory data for current storage locations of SNF discharged through 2021. This revision also reflected Indian Point moving to a shutdown status.

PNNL-33938, Revision 1 updates the inventory data for current storage locations of SNF discharged through 2022. Data for commercial NPRs is based on data submitted via the latest Nuclear Fuel Data Survey using Form GC-859. This revision reflects Palisades moving to a shutdown status in 2022 and placement of large quantities of spent nuclear fuel from the spent fuel pool into storage systems at Three Mile Island also in 2022. This revision also includes new and updated graphics, especially for the state inventory data sheets contained in APPENDIX H.

PNNL-33938, Revision 1.1 was issued to correct an error in Table 5.5.

A new report number INL-RPT-EXT-25-xxxxx is introduced since the earlier numbering scheme has become obsolete. This version reports inventory data for current storage locations of SNF discharged through 2022 (PNNL-33938, Revision 1.1) and future projections for various scenarios of interest.

APPENDIX H – REFERENCE SCENARIO: 60-YEAR OPERATING LIFE FOR MOST REACTORS – STATE INVENTORY DATA

Spent Nuclear Fuel and Reprocessing Waste Inventory

ALABAMA

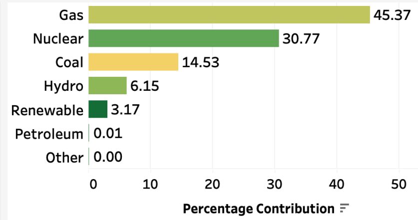
Reactor Status
- BWR/ Operating
- PWR/ Operating

Facility Category
- Commercial Dry Storage Site

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

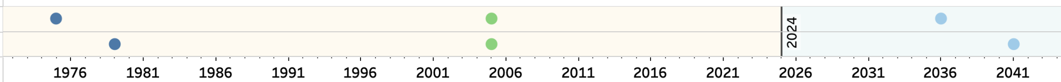
Governor	Kay Ivey (R)
Senators	Britt, Katie Boyd (R) and Tuberville, Tommy (R)
No. of Commercial Site	2
No. of Commercial Dry Storage Site	2
No. of Commercial Operating Reactors	5
Commercial SNF at Dry Storage (MTU)	2705.4
Commercial SNF at Pool (MTU)	1913.6
Total Commercial SNF (MTU)	4619
No. of Commercial SNF Dry Casks	188

2024 Electricity Generation Mix (Note# 3)



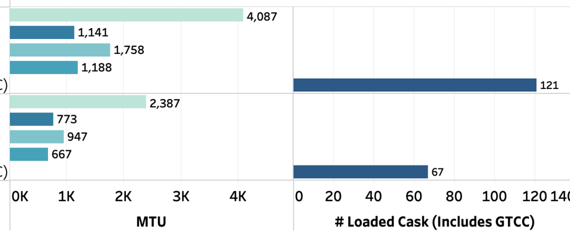
Facility Timeline

Facility Name	# Rx
Browns Ferry	3
Farley	2



Events
- First Discharge Year
- Dry Storage Start Year
- Shutdown Year
- Dry Loading Completion Year
- Final Projected Discharge
- Off-Site Storage Start Year

Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
5	Strong, Dale (R)	Tennessee Valley Authority	Browns Ferry 1	1974-2033	BWR/ Operating	2005/GL	1146.6	-
			Browns Ferry 2	1975-2034	BWR/ Operating	2005/GL	1531.79	-
			Browns Ferry 3	1977-2036	BWR/ Operating	2005/GL	1409.05	-
1	Moore, Barry (R)	Southern Nuclear Operating Company, Inc.	Farley 1	1977-2037	PWR/ Operating	2005/GL	1183.93	-
			Farley 2	1981-2041	PWR/ Operating	2005/GL	1202.6	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
948.9	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed Feb 14, 2025.

2. Governor from https://www.stateside.com/state-resource/governors, Accessed Feb 14, 2025.

3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.

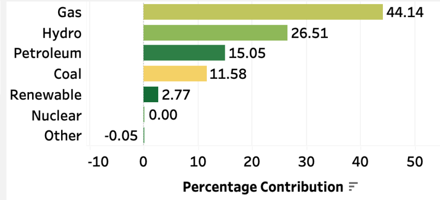
4. The Nuclear Waste Policy Act established the Federal Government's responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A "one-time fee" was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees.

ALASKA

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Mike Dunleavy (R)	-
Senators	Murkowski, Lisa (R) and Sullivan, Dan (R)	-

2024 Electricity Generation Mix (Note# 3)



Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
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ARIZONA

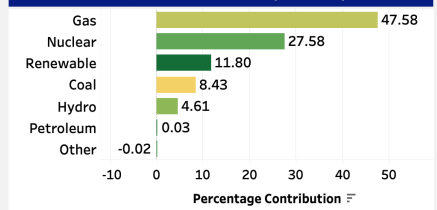
Reactor Status: PWR/ Operating

Facility Category: Commercial Dry Storage Site

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

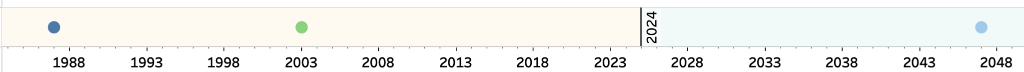
Governor	Katie Hobbs (D)
Senators	Gallego, Ruben (D) and Kelly, Mark (D)
No. of Commercial Site	1
No. of Commercial Dry Storage Site	1
No. of Commercial Operating Reactors	3
Commercial SNF at Dry Storage (MTU)	2009.01
Commercial SNF at Pool (MTU)	1108.43
Total Commercial SNF (MTU)	3117.44
No. of Commercial SNF Dry Casks	180

2024 Electricity Generation Mix (Note# 3)



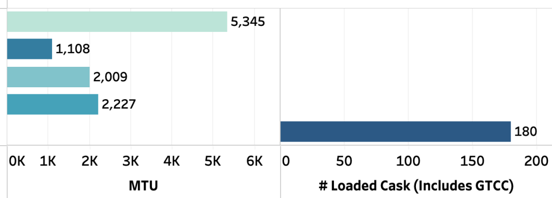
Facility Timeline

Facility Name	# Rx
Palo Verde	3



Current and Projected Inventory (Base Scenario, includes applicable transfers)

Facility		
Palo Verde	Total Inventory	5,345
	Current Pool Inventory	1,108
	Current Dry Inventory	2,009
	Projected Inventory	2,227
	# Loaded Cask (Includes GTCC)	180



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
9	Gosar, Paul (R)	Arizona Public Service Company (APS)	Palo Verde 1	1986-2045	PWR/ Operating	2003/GL	1745.62	-
			Palo Verde 2	1986-2046	PWR/ Operating	2003/GL	1790.36	-
			Palo Verde 3	1988-2047	PWR/ Operating	2003/GL	1808.6	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
686.6	0	4

Notes:

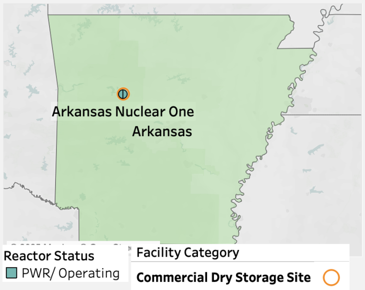
1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.

2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.

3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.

4. The Nuclear Waste Policy Act established the Federal Government's responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A "one-time fee" was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees.

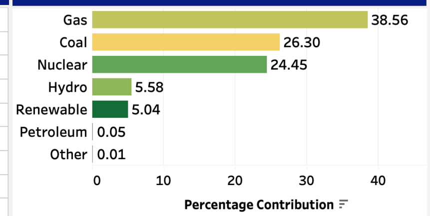
ARKANSAS



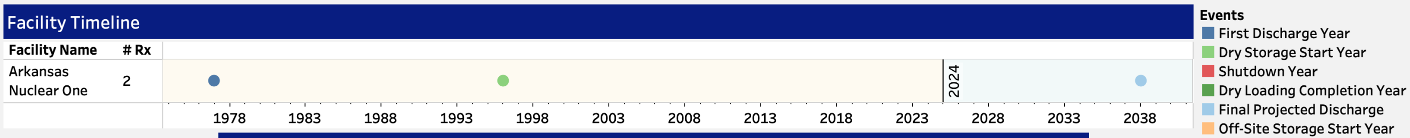
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Sarah Huckabee Sanders (R)
Senators	Boozman, John (R) and Cotton, Tom (R)
No. of Commercial Site	1
No. of Commercial Dry Storage Site	1
No. of Commercial Operating Reactors	2
Commercial SNF at Dry Storage (MTU)	1288.96
Commercial SNF at Pool (MTU)	575.2
Total Commercial SNF (MTU)	1864.16
No. of Commercial SNF Dry Casks	107

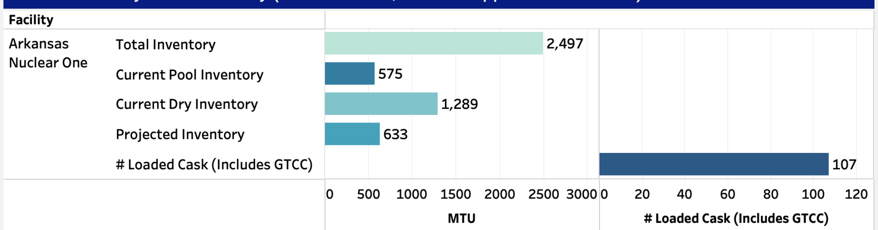
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
4	Westerman, Bruce (R)	Entergy Services, LLC	Arkansas Nuclear One 1	1974-2034	PWR/ Operating	1996/GL	1135.46	-
			Arkansas Nuclear One 2	1980-2038	PWR/ Operating	1996/GL	1361.27	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
367.1	216	4

Notes:

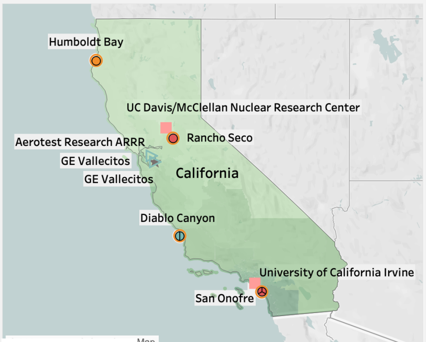
1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.

2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.

3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.

4. The Nuclear Waste Policy Act established the Federal Government's responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A "one-time fee" was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees. Does not include $2.263M One Mill Fee and $5.293M One Time Fee payments by DOE.

CALIFORNIA



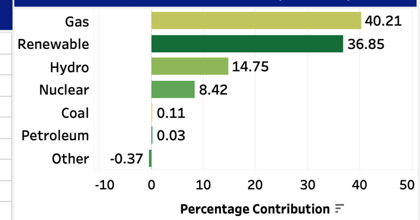
Reactor Status
- BWR/ Shutdown
- PWR/ Operating
- PWR/ Shutdown

Facility Category
- Commercial Dry Storage Site
- Operating Non-DOE Research Reactor
- Operating University Research Reactor
- Shutdown Non-DOE Research Reactor

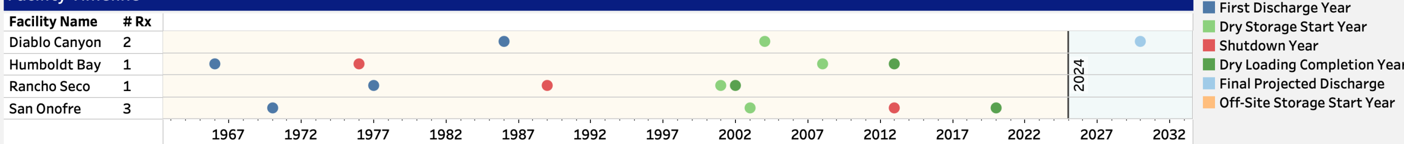
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Gavin Newsom (D)
Senators	Padilla, Alex (D) and Schiff, Adam B. (D)
No. of Commercial Site	4
No. of Commercial Dry Storage Site	4
No. of Commercial Operating Reactors	2
No. of Commercial Shutdown Reactors	5
Commercial SNF at Dry Storage (MTU)	2837.85
Commercial SNF at Pool (MTU)	761.42
Total Commercial SNF (MTU)	3599.27
No. of Commercial SNF Dry Casks	219
No. of Commercial GTCC Casks	15
No. of Operating Research Reactors	3 at 3 Sites
No. of Shutdown Research Reactors	5 at 3 Sites

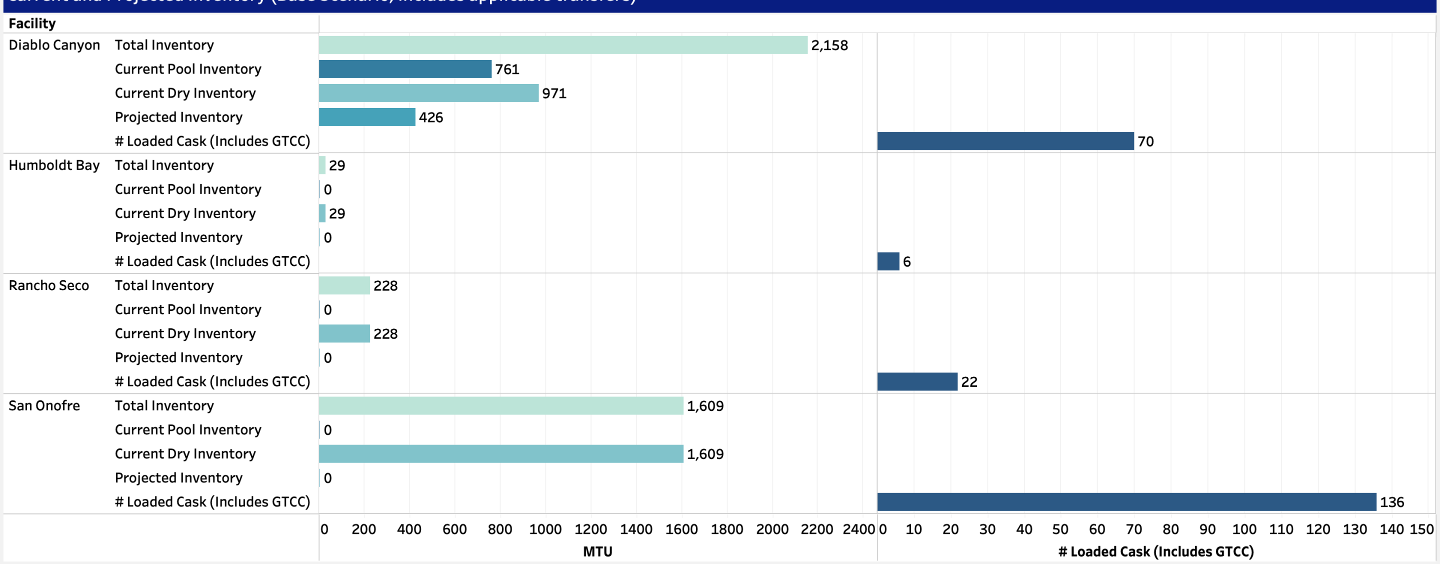
2024Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



CALIFORNIA

Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
50	Peters, Scott (D)	General Atomics	General Atomics	1957-1997/ SAFSTOR	R&TRF TRIGA MARK I/ Shutdown	-	-	-
				1960-1995/ DECON	R&TRF TRIGA MARK F/ Shutdown	-	-	-
49	Levin, Mike (D)	Southern California Edison Company	San Onofre 1	1967-1992/ DECON SAFSTOR	PWR/ Shutdown	2003/GL	244.61	5
			San Onofre 2	1983-2013/ DECON in Progress	PWR/ Shutdown	2003/GL	729.99	-
			San Onofre 3	1984-2013/ DECON in Progress	PWR/ Shutdown	2003/GL	733.16	-
47	Min, Dave (D)	University of California	University of California Irvine	1969- License R-116	R&TRF TRIGA MARK I, 250 kW/ Shutdown	-	-	-
24	Carbajal, Salud (D)	Pacific Gas & Electric Company (PG&E)	Diablo Canyon 1	1985-2029	PWR/ Operating	2004/SL	1066.24	-
			Diablo Canyon 2	1986-2030	PWR/ Operating	2004/SL	1092.12	-
14	Swalwell, Eric (D)	GE-Hitachi Nuclear Energy Americas LLC	Vallecitos Boiling Water Reactor (VBWR)	1957-1963/ SAFSTOR possession only License DPR-1	BWR/ Shutdown	-	-	6
			Nuclear Test Reactor (NTR)	1957-2021 License R-33	R&TRF Nuclear Test, 100 kW/Operating	-	-	-
			Vallecitos Experimental Superheat Reactor (VESR)	1970-2016/ SAFSTOR possession only License DR-10	R&TRF/Shutdown	-	-	7
			General Electric Test Reactor (GETR)	1986-2016/ SAFSTOR possession only License TR-1	R&TRF/Shutdown	-	-	7
10	DeSaulnier, Mark (D)	Nuclear Labrinith Aerotest	ARRR	1965- License R-98	R&TRF TRIGA MARK I, 250 kW/ Shutdown	-	-	8
7	Matsui, Doris (D)	Sacramento Municipal Utility District (SMUD)	Rancho Seco	1974-1989/ DECON Completed	PWR/ Shutdown	2000/SL	228.38	-
6	Bera, Ami (D)	University of California	UC Davis	1998- License R-130	R&TRF TRIGA MARK II, 2,300 kW/ Operating	-	-	-
2	Huffman, Jared (D)	Pacific Gas & Electric Company (PG&E)	Humboldt Bay	1963-1976/ Decon in Progress	BWR/ Shutdown	2005/SL	28.94	-

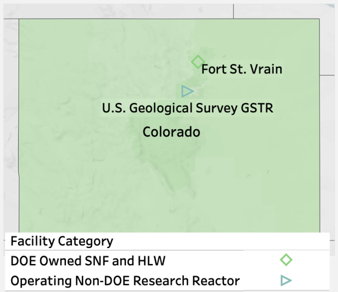
Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
953.9	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.
4. The Nuclear Waste Policy Act established the Federal Government's responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A "one-time fee" was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees. Includes one-time fees paid by GE. Does not include $2.263M One Mill Fee and $5.293M One Time Fee payments by DOE
5. Does not include 98 MTU transferred to Morris, Illinois.
6. No fuel on site. The licensee plans to maintain the facility in SAFSTOR until ongoing site nuclear activities are terminated and the entire site can be decommissioned in an integrated fashion.
7. NRC issued a possession-only license for GETR and VESR on February 5, 1986. The license was renewed on September 30, 1992; licensee requested continuation of their current license 12/15/15. There are also hot cells that are used for power reactor fuel post irradiation examination.
8. Ownership issues have been resolved and Nuclear Labyrinth is now the parent company of ARRR, the license renewal is under NRC review Source: ADAMS ML17277B261. By letter dated December 6, 2021, (ML21242A463), license amendment number 6 was issued by the NRC which revised the ARRR's operating license to remove the authority to operate and to authorize possession-only of the reactor and fuel. By letter dated July 20, 2021 (ML21230A304), and supplemented by letter dated January 20, 2022 (ML22025A200), the licensee submitted a license amendment to the NRC for approval of the Decommissioning Plan (DP) for ARRR.

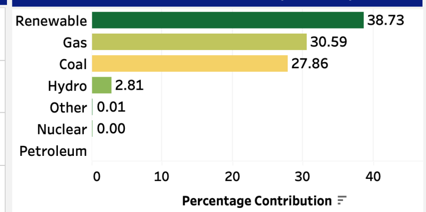
COLORADO



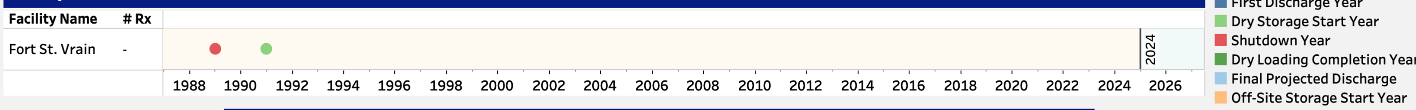
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Jared Polis (D)
Senators	Bennet, Michael F. (D) and Hickenlooper, John W. (D)
No. of Operating Research Reactors	1 at 1 Sites
DOE Owned SNF and/or HLW Site	1 Site (15 MTHM)

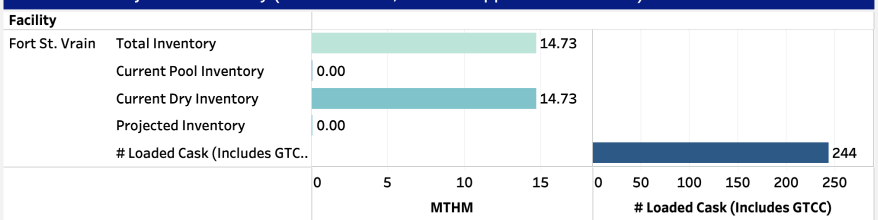
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Actual & Projected Discharged SNF (MTHM)	Note #
8	Evans, Gabe (R)	Department of Energy	Fort St. Vrain	1973-1989/ DECON Completed	HTGR/ Shutdown	1991-2031/SL	24	5
7	Pettersen, Brittany (D)	USGS	U.S. Geological Survey GSTR	1969- License R-113	R&TRF TRIGA MARK I, 1000 kW/ Operating	-	-	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
0.2	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.

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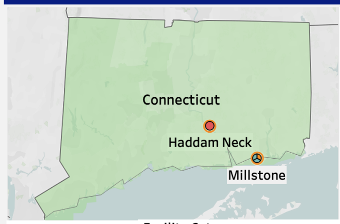
5. Actual discharge includes 8.6 MTHM transferred to INL.

CONNECTICUT



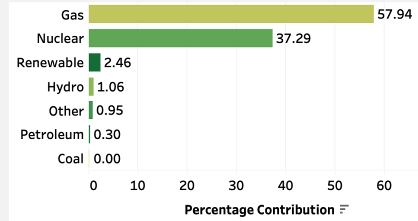
Reactor Status
- BWR/ Shutdown
- PWR/ Operating
- PWR/ Shutdown

Facility Category
- Commercial Dry Storage Site

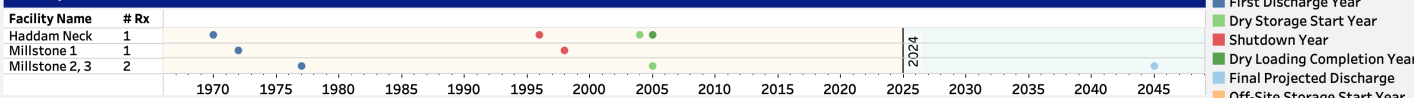
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Ned Lamont (D)
Senators	Blumenthal, Richard (D) and Murphy, Christopher (D)
No. of Commercial Site	2
No. of Commercial Dry Storage Site	2
No. of Commercial Operating Reactors	2
No. of Commercial Shutdown Reactors	2
Commercial SNF at Dry Storage (MTU)	1147.13
Commercial SNF at Pool (MTU)	1434.65
Total Commercial SNF (MTU)	2581.78
No. of Commercial SNF Dry Casks	95
No. of Commercial GTCC Casks	3

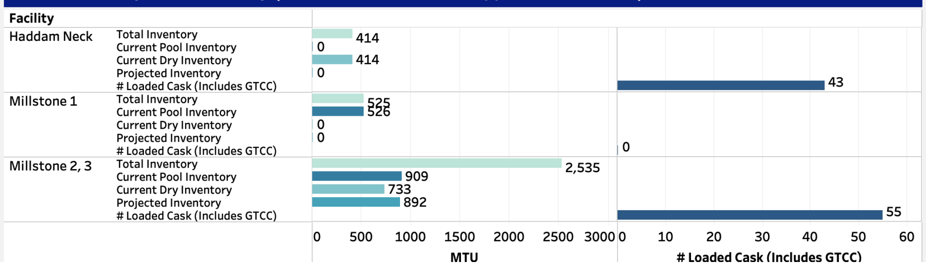
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
2	Courtney, Joe (D)	Connecticut Yankee Atomic Power Company	Haddam Neck	1974-1996/ DECON Completed	PWR/ Shutdown	2004/GL	448.54	5
		Dominion Energy	Millstone 1	1970-1998/ SAFSTOR	BWR/ Shutdown	-	525.62	-
			Millstone 2	1975-2035	PWR/ Operating	2005/GL	1079.3	-
			Millstone 3	1986-2045	PWR/ Operating	2005/GL	1454.87	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
931.4	5.6	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.

2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.

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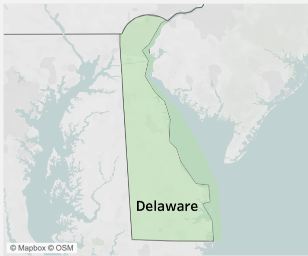
4. The Nuclear Waste Policy Act established the Federal Government's responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A "one-time fee" was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees. Does not include $2.263M One Mill Fee and $5.293M One Time Fee payments by DOE.

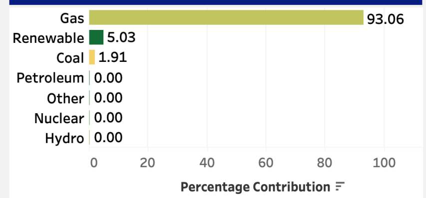
DELAWARE



State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Matt Meyer (D)
Senators	Blunt Rochester, Lisa (D) and Coons, Christopher A. (D)

2024 Electricity Generation Mix (Note# 3)



Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
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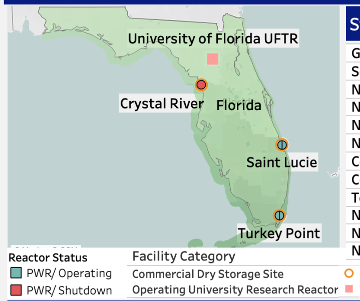
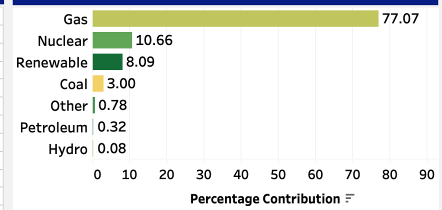
FLORIDA



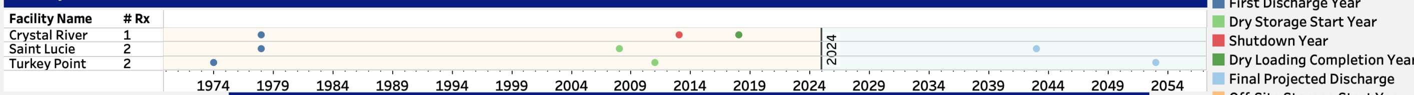
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Ron DeSantis (R)
Senators	Moody, Ashley (R) and Scott, Rick (R)
No. of Commercial Site	3
No. of Commercial Dry Storage Site	3
No. of Commercial Operating Reactors	4
No. of Commercial Shutdown Reactors	1
Commercial SNF at Dry Storage (MTU)	1889.14
Commercial SNF at Pool (MTU)	2139.68
Total Commercial SNF (MTU)	4028.82
No. of Commercial SNF Dry Casks	137
No. of Commercial GTCC Casks	2
No. of Operating Research Reactors	1 at 1 Sites

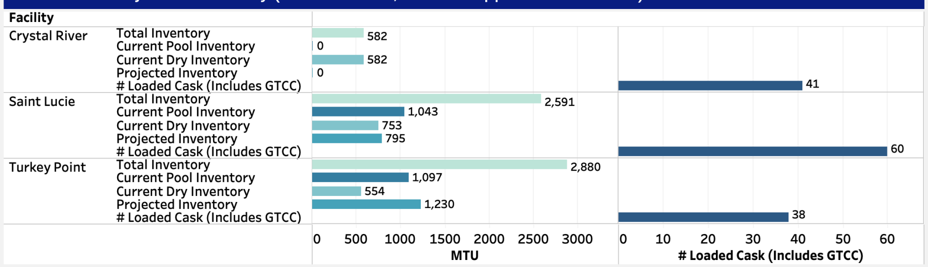
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Actual & Projected Discharged SNF (MTU)	Note #
28	Gimenez, Carlos (R)	NextEra Energy, Inc	Turkey Point 3	1972-2052	PWR/ Operating	2010/GL	1445.56	5, 6
			Turkey Point 4	1973-2053	PWR/ Operating	2010/GL	1443	5, 6
21	Mast, Brian (R)	NextEra Energy, Inc	St. Lucie 1	1976-2036	PWR/ Operating	2008/GL	1291.1	-
			St. Lucie 2	1983-2043	PWR/ Operating	2008/GL	1299.86	-
12	Bilirakis, Gus (R)	Accelerated Decommissioning Partners SF1, LLC	Crystal River 3	1977-2013/ SAFSTOR in Progress	PWR/ Shutdown	2017/GL	582.24	-
3	Cammack, Kat (R)	University of Florida	University of Florida UFTR	1959- License R-56	R&TRF Argonaut, 100 kW/ Operating	-	-	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
887	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
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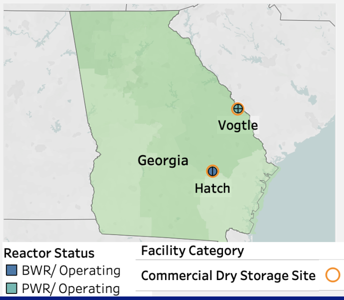
4. The Nuclear Waste Policy Act established the Federal Government's responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A "one-time fee" was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees. Does not include $2.263M One Mill Fee and $5.293M One Time Fee payments by DOE.
5. Includes 8 MTU transferred to Idaho National Laboratory.
6. Turkey Point Units 3 and 4 were the first reactors in the United States to receive a subsequent (or second) 20 year operating license extension. These units are now licensed to operate a total of 80 years. This operational period is reflected in the base scenario.

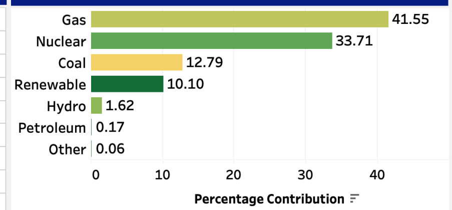
GEORGIA



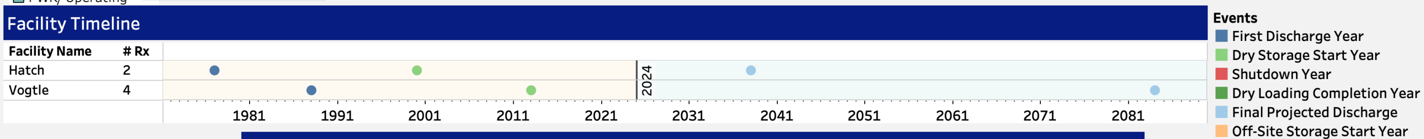
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Brian Kemp (R)
Senators	Ossoff, Jon (D) and Warnock, Raphael G. (D)
No. of Commercial Site	2
No. of Commercial Dry Storage Site	2
No. of Commercial Operating Reactors	6
Commercial SNF at Dry Storage (MTU)	2018.17
Commercial SNF at Pool (MTU)	1722.52
Total Commercial SNF (MTU)	3740.69
No. of Commercial SNF Dry Casks	157

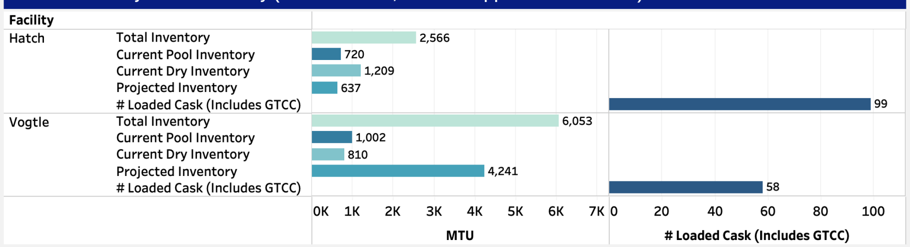
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Actual & Projected Discharged SNF (MTU)	Note #
12	Allen, Rick (R)	Southern Nuclear Operating Company, Inc.	Vogtle 1	1987-2047	PWR/ Operating	2012/GL	1574.53	-
			Vogtle 2	1989-2049	PWR/ Operating	2012/GL	1540.31	-
			Vogtle 3	2023-2083	PWR/ Operating	2012/GL	1468.96	5
			Vogtle 4	2024-2084	PWR/ Operating	2012/GL	1468.96	5
1	Carter, Earl (R)	Southern Nuclear Operating Company, Inc.	Hatch 1	1975-2034	BWR/ Operating	2000/GL	1252.28	-
			Hatch 2	1979-2038	BWR/ Operating	2000/GL	1313.26	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
846.1	0	4

Notes:

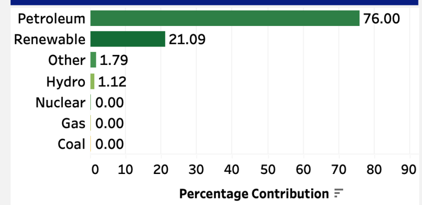
1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.
4. The Nuclear Waste Policy Act established the Federal Government's responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A "one-time fee" was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees. Does not include $2.263M One Mill Fee and $5.293M One Time Fee payments by DOE.
5. Vogtle 3 entered commercial operation on July 31, 2023 and Vogtle 4 entered commercial operation on April 29, 2024.

Hawaii

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Josh Green (D)
Senators	Hirono, Mazie K. (D) and Schatz, Brian (D)

2024 Electricity Generation Mix (Note# 3)



Notes:

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2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.

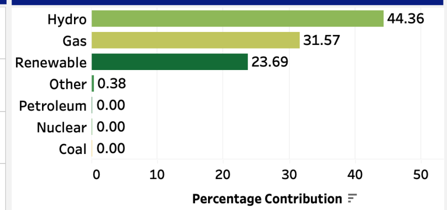
IDAHO

Facility Category
- DOE Owned SNF and HLW
- National Laboratory
- Naval Reactor Fuel
- Operating DOE Research Reactor
- Operating University Research Reactor

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

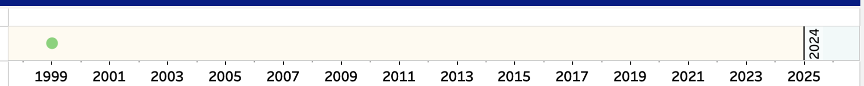
Governor	Brad Little (R)
Senators	Crapo, Mike (R) and Risch, James E. (R)
No. of Operating Research Reactors	5 at 2 Sites
DOE Sites with SNF and/or HLW	1 Site

2024 Electricity Generation Mix (Note# 3)



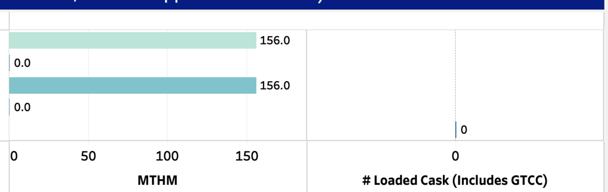
Facility Timeline

Facility Name	# Rx
Idaho National Lab	-



Events
- First Discharge Year
- Dry Storage Start Year
- Shutdown Year
- Dry Loading Completion Year
- Final Projected Discharge
- Off-Site Storage Start Year

Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Actual & Projected Discharged SNF (MTHM)	Note #
2	Simpson, Michael (R)	Department of Energy	INL	1948-	National Laboratory	-	-	5, 6, 7
			Transient Test Reactor (TREAT)	1959-	Test Reactor	-	-	-
			Advanced Test Reactor Critical Facility	1964-	Test Reactor	-	-	-
			INL: Advanced Test Reactor (ATR)	1967-	Test Reactor	-	-	8
			INL: CPP-749, Underground Storage Vault	1971-2035	Dry Storage	-	-	10
			INL: CPP-603, Irradiated Fuel Storage	1974-2035	Dry Storage	-	-	10, 11
			INL: CPP-666, Fuel Storage Basins	1984-2035	Pool Storage	-	-	10
			INL TMI-2	1999-2019	Dry Storage	-	-	13
			INL: CPP-2707, Cask Pad and Rail Car	2003-2035	Dry Storage	-	-	10, 12
			INL Idaho Spent Fuel Facility (ISFF)	Licensed, but not yet con..	Dry Storage	-	-	-
			Neutron Radiograohy Facility	mid-1970s	R&TRF TRIGA	-	-	-
			INL: Materials and Fuels Complex	Null	Null	-	-	9, 10
			Naval Facility	NULL	Various	-	-	14
		Idaho State University	Idaho State University	1967- License R-110	AGN-201 #103, 0.0..	-	-	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
0	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
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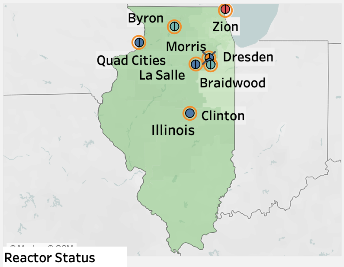
4. The Nuclear Waste Policy Act established the Federal Government's responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A "one-time fee" was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees. Does not include $2.263M One Mill Fee and $5.293M One Time Fee payments by DOE.
5. Commercial SNF at INL includes 81.6 MTHM from TMI-2 core debris, 8.6 MTHM transferred from Ft. St. Vrain, and the balance from various R&D programs. INL also has approximately 114 MTHM of SNF from DOE and other sources for a total of 271 MTHM of DOE-Managed SNF, excluding Navy SNF.
6. Since 1951, 52 reactors have been built on the grounds of what was originally the Atomic Energy Commission's National Reactor Testing Station, currently the location of Idaho National Laboratory. Only 3 reactors continue to operate. The 49 other experimental test reactors have been decommissioned.
7. The INL receives SNF from foreign research reactors (FRR) and domestic research reactors (DRR).
8. SNF removed from ATR is temporarily maintained in the reactor canal before it is transferred to CPP-666 (basins) for storage.
9. Materials and Fuels Complex, formerly Argonne West, was part of Argonne National Laboratory (Illinois) until 2004 when it was incorporated into the INL. SNF from Experimental Breeder Reactor-II (EBR-2) is stored in cylinders in the Radioactive Scrap and Waste Facility. SNF from the Hanford Fast Flux Test Facility (HFFTF) is stored in the Hot Fuel Examination Facility.
10. DOE regulated facility. The DOE Authorization Basis for all DOE-regulated SNF facilities assumes operations through 2035.
11. Receipt of approximately 14 MTHM of Foreign Research Reactor (FRR) and Domestic Research Reactor (DRR) SNF is expected through 2035.
12. Includes 6 casks containing fuel from the Test Area North Fuel Examination Facility plus a rail car holding 2 casks from West Valley (New York) containing SNF of commercial origin.
13. Contains Three Mile Island 2 fuel debris.
14. DOE Regulated Facilities.

ILLINOIS



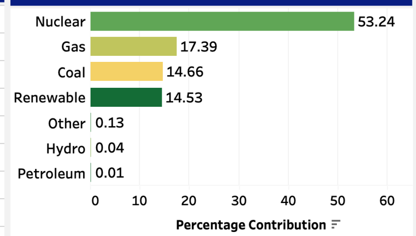
Reactor Status
- BWR/ Operating
- BWR/ Shutdown
- PWR/ Operating
- PWR/ Shutdown

Facility Category
- Commercial Away-From-Reactor Pool Storage
- Commercial Dry Storage Site

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

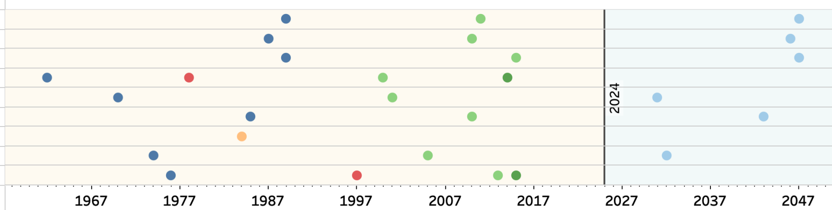
Governor	J.B. Pritzker (D)
Senators	Duckworth, Tammy (D) and Durbin, Richard J. (D)
No. of Commercial Site	7
No. of Commercial Dry Storage Site	7
No. of Commercial Operating Reactors	11
No. of Commercial Shutdown Reactors	3
Commercial SNF at Dry Storage (MTU)	5379.34
Commercial SNF at Pool (MTU)	6085.6
Total Commercial SNF (MTU)	11464.9
No. of Commercial SNF Dry Casks	411
No. of Commercial GTCC Casks	5
Commercial Away-From-Reactor Pool Storage Site	1 Site

2024 Electricity Generation Mix (Note# 3)

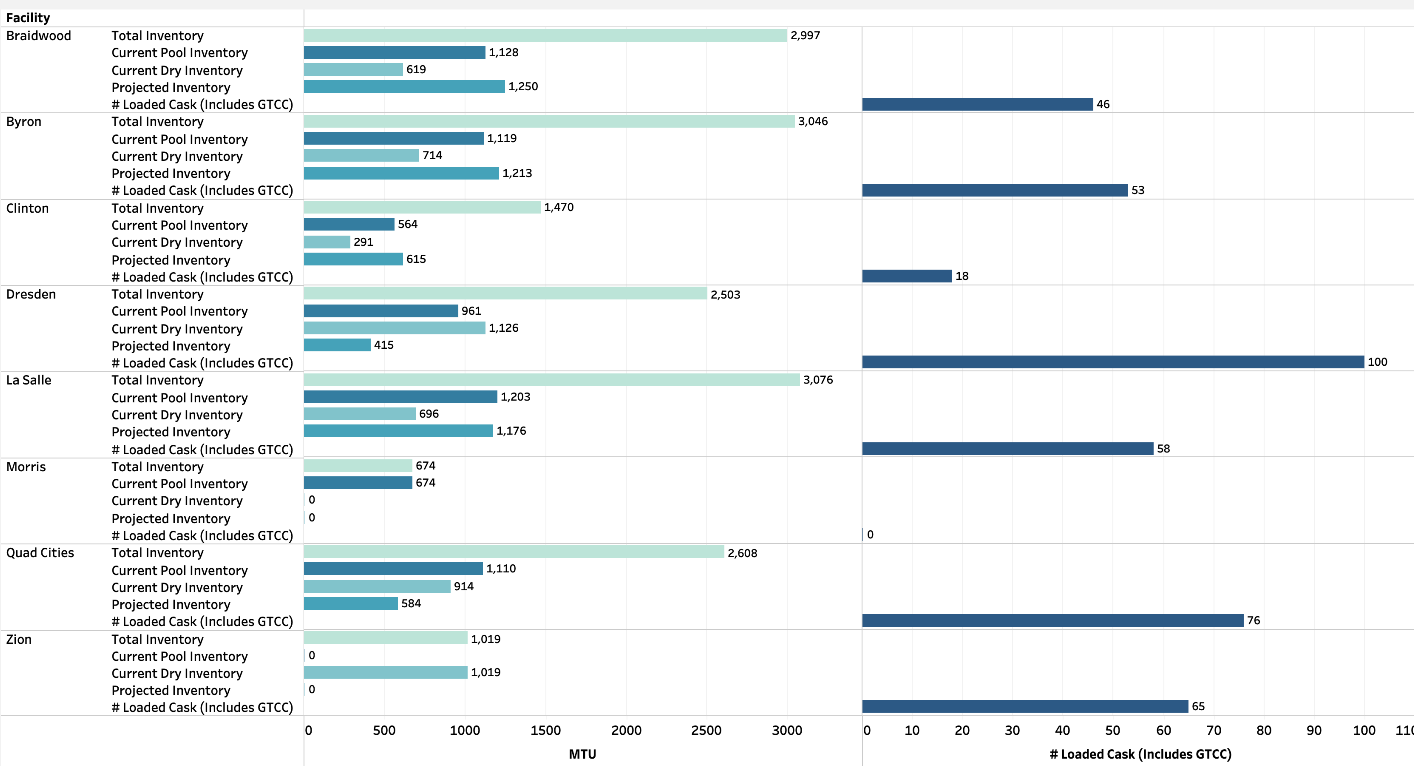


Facility Timeline

Facility Name	# Rx
Braidwood	2
Byron	2
Clinton	1
Dresden 1	1
Dresden 2, 3	2
La Salle	2
Morris	-
Quad Cities	2
Zion	2



Events
- First Discharge Year
- Dry Storage Start Year
- Shutdown Year
- Dry Loading Completion Year
- Final Projected Discharge
- Off-Site Storage Start Year



ILLINOIS

Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Actual & Projected Discharged SNF (MTU)	Note #
17	Sorensen, Eric (D)	Constellation Energy Generation, LLC	Quad Cities 1	1973-2032	BWR/ Operating	2005/GL	1321.41	-
			Quad Cities 2	1973-2032	BWR/ Operating	2005/GL	1286.24	-
16	LaHood, Darin (R)	Constellation Energy Generation, LLC	Dresden 1	1960-1978/ SAFSTOR	BWR/ Shutdown	2000/GL	90.86	5
			Dresden 2	1970-2029	BWR/ Operating	2000/GL	1352.94	6
			Dresden 3	1971-2031	BWR/ Operating	2000/GL	1204.18	-
			LaSalle County 1	1984-2022	BWR/ Operating	2010/GL	1512.39	-
			LaSalle County 2	1984-2023	BWR/ Operating	2010/GL	1563.33	-
			Byron 1	1985-2044	PWR/ Operating	2010/GL	1521.06	-
			Byron 2	1987-2046	PWR/ Operating	2010/GL	1525.32	-
		GE-Hitachi Nuclear Energy Americas L..	Morris	1984-2022	NULL	1982/GL	-	-
15	Miller, Mary (R)	Constellation Energy Generation, LLC	Clinton 1	1987-2027	BWR/ Operating	2016/GL	1469.52	-
10	Schneider, Brad..	Constellation Energy Generation, LLC	Zion 1	1973-1997/ DECON in Progress	PWR/ Shutdown	2014/GL	523.94	-
			Zion 2	1974-1996/ DECON in Progress	PWR/ Shutdown	2014/GL	495.47	-
1	Jackson, Jonathan (D)	Constellation Energy Generation, LLC	Braidwood 1	1988-2026	PWR/ Operating	2011/GL	1468.69	-
			Braidwood 2	1988-2027	PWR/ Operating	2011/GL	1528.71	-

Transfer to Morris

State	Facility	MTU To Morris
California	San Onofre	98.41
Connecticut	Haddam Neck	34.48
Illinois	Dresden	145.19
Minnesota	Monticello	198.19
Nebraska	Cooper	198.02

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
2,261.20	1219	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
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5. Discharges includes 0.26 MTU transferred to Idaho National Laboratory.
6. Discharges includes 145 MTU transferred to Morris.

INDIANA

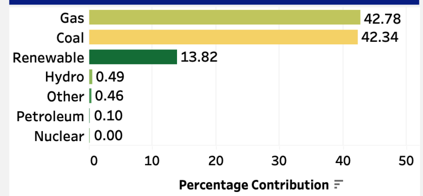
Facility Category

Operating University Research Reactor

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Mike Braun (R)
Senators	Banks, Jim (R) and Young, Todd (R)
No. of Operating Research Reactors	1 at 1 Sites

2024 Electricity Generation Mix (Note# 3)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
4	Baird, James (R)	Purdue University	PUR-1	1962- License R-87	R&TRF Lockheed, 1 kW/ Operating	-	-	-

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.

IOWA

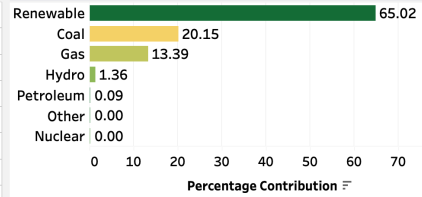
Reactor Status
BWR/ Shutdown

Facility Category
Commercial Dry Storage Site

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

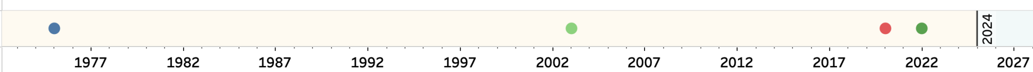
Governor	Kim Reynolds (R)
Senators	Ernst, Joni (R) and Grassley, Chuck (R)
No. of Commercial Site	1
No. of Commercial Dry Storage Site	1
No. of Commercial Shutdown Reactors	1
Commercial SNF at Dry Storage (MTU)	662.64
Total Commercial SNF (MTU)	662.64
No. of Commercial SNF Dry Casks	60

2024 Electricity Generation Mix (Note# 3)



Facility Timeline

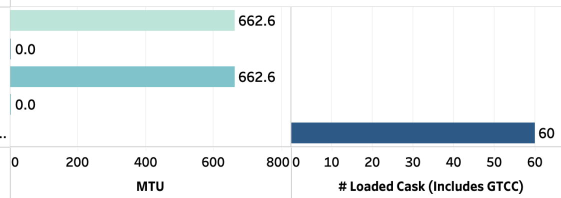
Facility Name	# Rx
Duane Arnold	1



Events
- First Discharge Year
- Dry Storage Start Year
- Shutdown Year
- Dry Loading Completion Year
- Final Projected Discharge
- Off-Site Storage Start Year

Current and Projected Inventory (Base Scenario, includes applicable transfers)

Facility		
Duane Arnold	Total Inventory	662.6
	Current Pool Inventory	0.0
	Current Dry Inventory	662.6
	Projected Inventory	0.0
	# Loaded Cask (Includes GTC..	60



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
2	Hinson, Ashley (R)	NextEra Energy, Inc	Duane Arnold	1975-2034	BWR/ Shutdown	2003/GL	662.64	-

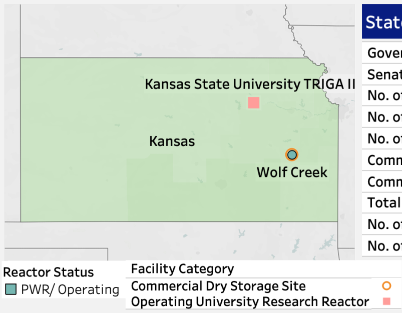
Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	N
137.1	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.
4. The Nuclear Waste Policy Act established the Federal Government's responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A "one-time fee" was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees. Does not include $2.263M One Mill Fee and $5.293M One Time Fee payments by DOE.

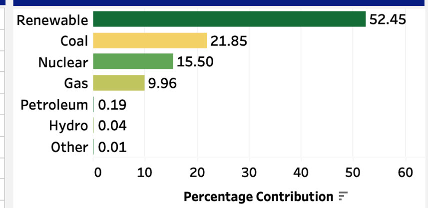
KANSAS



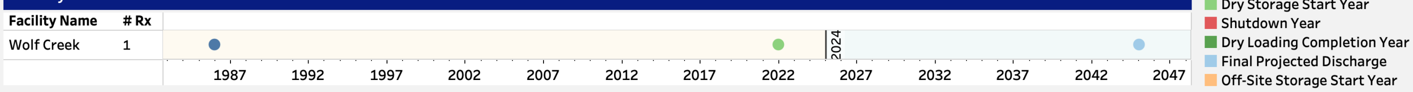
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Laura Kelly (D)
Senators	Marshall, Roger (R) and Moran, Jerry (R)
No. of Commercial Site	1
No. of Commercial Dry Storage Site	1
No. of Commercial Operating Reacto..	1
Commercial SNF at Dry Storage (MT..	134.98
Commercial SNF at Pool (MTU)	825.41
Total Commercial SNF (MTU)	960.39
No. of Commercial SNF Dry Casks	8
No. of Operating Research Reactors	1 at 1 Sites

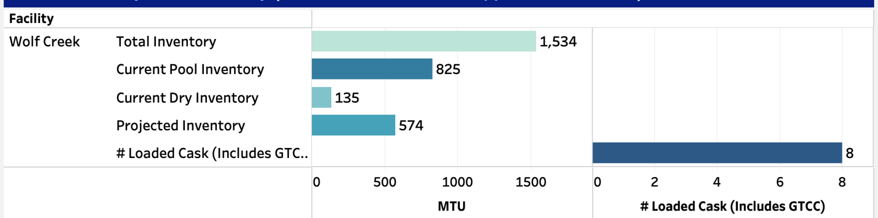
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
2	Schmidt, Derek (R)	Evergy, Inc	Wolf Creek 1	1985-2045	PWR/ Operating	-	1534.17	-
1	Mann, Tracey (R)	Kansas State University	Kansas State University	1962- License R-88	R&TRF TRIGA MARK II, 1,250 kW/ Operating	-	-	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
225.3	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025..
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.
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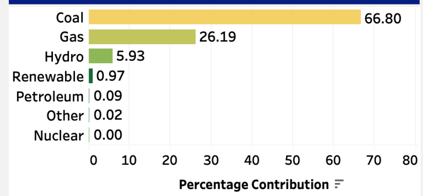
KENTUCKY

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Andy Beshear (D)
Senators	McConnell, Mitch (R) and Paul, Rand (R)

2024 Electricity Generation Mix (Note# 3)



Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous ..

LOUISIANA

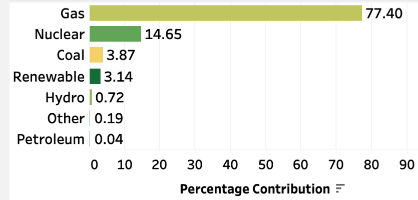
Reactor Status
- BWR/ Operating
- PWR/ Operating

Facility Category
- Commercial Dry Storage Site

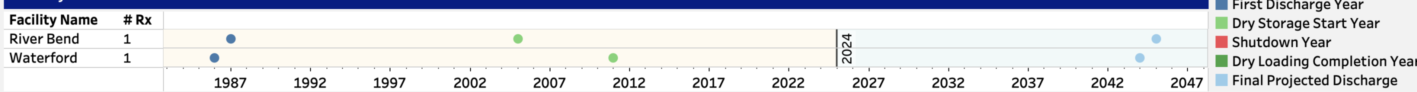
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Jeff Landry (R)
Senators	Cassidy, Bill (R) and Kennedy, John (R)
No. of Commercial Site	2
No. of Commercial Dry Storage Site	2
No. of Commercial Operating Reactors	2
Commercial SNF at Dry Storage (MTU)	973.09
Commercial SNF at Pool (MTU)	870.45
Total Commercial SNF (MTU)	1843.54
No. of Commercial SNF Dry Casks	75

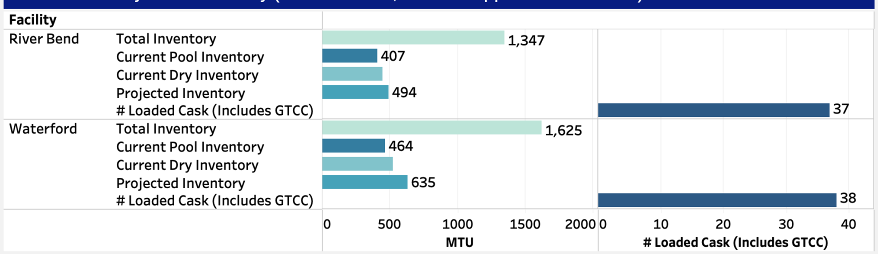
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
5	Letlow, Julia (R)	Entergy Services, LLC	River Bend 1	1986-2025	BWR/ Operating	2005/GL	1347.31	-
2	Carter, Troy (D)	Entergy Services, LLC	Waterford 3	1985-2024	PWR/ Operating	2011/GL	1624.56	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
407.4	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.
4. The Nuclear Waste Policy Act established the Federal Government's responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A "one-time fee" was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees. Does not include $2.263M One Mill Fee and $5.293M One Time Fee payments by DOE.

MAINE

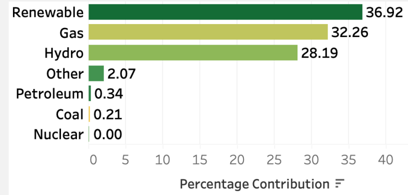
Reactor Status
PWR/ Shutdown

Facility Category
Commercial Dry Storage Site

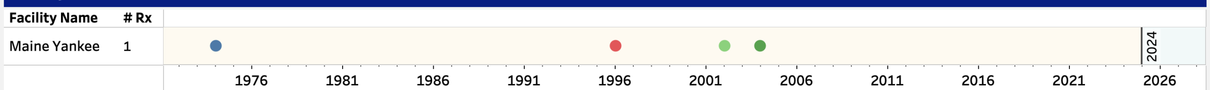
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Janet Mills (D)
Senators	Collins, Susan M. (R) and King, Angus S., Jr. (I)
No. of Commercial Site	1
No. of Commercial Dry Storage Site	1
No. of Commercial Shutdown Reactors	1
Commercial SNF at Dry Storage (MTU)	542.26
Total Commercial SNF (MTU)	542.26
No. of Commercial SNF Dry Casks	60
No. of Commercial GTCC Casks	4

2024 Electricity Generation Mix (Note# 3)

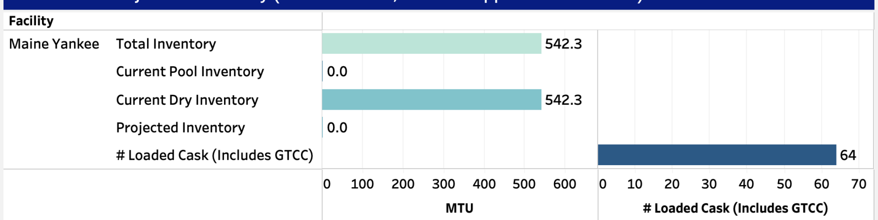


Facility Timeline



Events
- First Discharge Year
- Dry Storage Start Year
- Shutdown Year
- Dry Loading Completion Year
- Final Projected Discharge
- Off-Site Storage Start Year

Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
1	Pingree, Chellie (D)	Maine Yankee Atomic Power Company	Maine Yankee	1973-1997/ DECON Completed	PWR/ Shutdown	2002/GL	542.26	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
251.9	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
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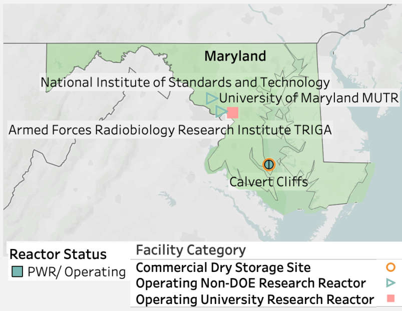
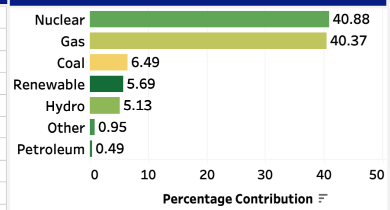
MARYLAND



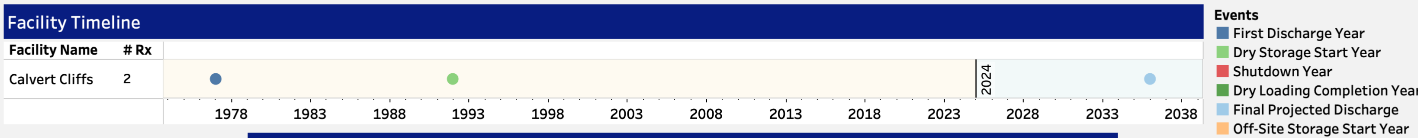
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Wes Moore (D)
Senators	Alsobrooks, Angela D. (D) and Van Hollen, Chris (D)
No. of Commercial Site	1
No. of Commercial Dry Storage Site	1
No. of Commercial Operating Reactors	2
Commercial SNF at Dry Storage (MTU)	1226.39
Commercial SNF at Pool (MTU)	531.68
Total Commercial SNF (MTU)	1758.07
No. of Commercial SNF Dry Casks	108
No. of Operating Research Reactors	3 at 3 Sites

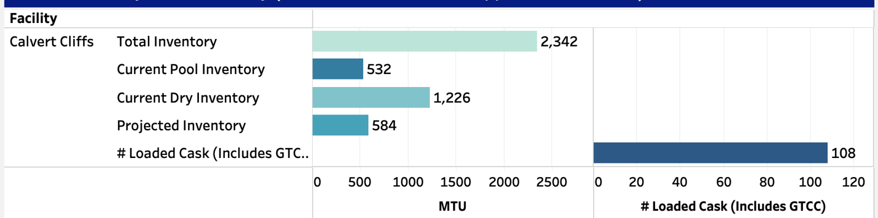
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
8	Raskin, Jamie (D)	DOD	Armed Forces Radiobiology Research Institute TRIGA	1962- License R-84	R&TRF TRIGA MARK F, 1,100 kW/ Operating	-	-	-
6	McClain Delaney, April (D)	Commerce Department	National Institute of Standards and Technology	1970- License TR-5	R&TRF Nuclear Test, 20,000 kW/ Operating	-	-	-
5	Hoyer, Steny (D)	Constellation Energy Generation, LLC	Calvert Cliffs 1	1975-2034	PWR/ Operating	1992/SL	1167.29	-
			Calvert Cliffs 2	1977-2036	PWR/ Operating	1992/SL	1175.11	-
4	Ivey, Glenn (D)	University of Maryland	University of Maryland	1960- License R-70	R&TRF TRIGA MARK I, 250 kW/ Operating	-	-	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
426.4	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
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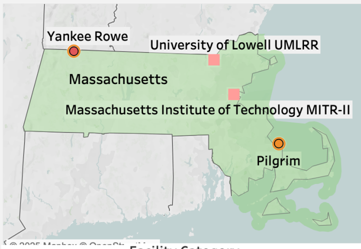
MASSACHUSETTS



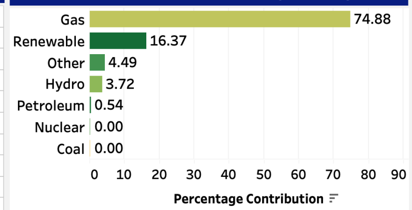
Reactor Status
- BWR/ Shutdown
- PWR/ Shutdown

Facility Category
- Commercial Dry Storage Site
- Operating University Research Reactor

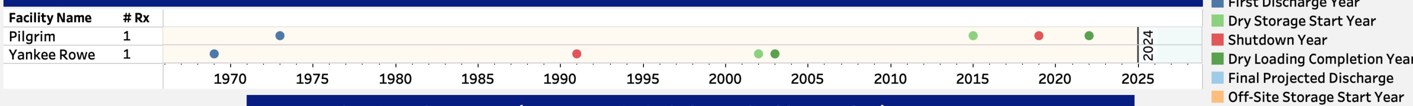
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Maura Healey (D)
Senators	Markey, Edward J. (D) and Warren, Elizabeth (D)
No. of Commercial Site	2
No. of Commercial Dry Storage Site	2
No. of Commercial Shutdown Reactors	2
Commercial SNF at Dry Storage (MTU)	861.95
Total Commercial SNF (MTU)	861.95
No. of Commercial SNF Dry Casks	77
No. of Commercial GTCC Casks	4
No. of Operating Research Reactors	2 at 2 Sites

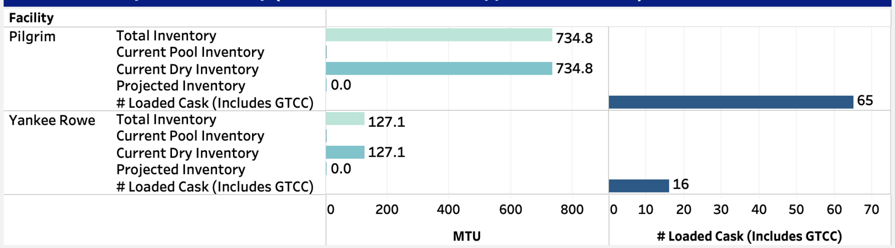
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
9	Keating, William (D)	Holtec Decommissioning International, LLC	Pilgrim 1	1972-2032/ SAFSTOR	BWR/ Shutdown	2015/GL	734.82	-
7	Pressley, Ayanna (D)	Massachusetts Institute of Technology	Massachusetts Institute of Technology MITR-II	1958- License R-37	R&TRF HWR Reflected, 6,000 kW/ Operating	-	-	-
3	Trahan, Lori (D)	University of Lowell	University of Lowell UMLRR	1974- License R-125	R&TRF GE Pool, 1,000 kW/ Operating	-	-	-
1	Neal, Richard (D)	Yankee Atomic Electric Company	Yankee Rowe	1963-1991/ DECON Completed	PWR/ Shutdown	2002/GL	127.13	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
188.4	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
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4. The Nuclear Waste Policy Act established the Federal Government’s responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A “one-time fee” was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees. Does not include $2.263M One Mill Fee and $5.293M One Time Fee payments by DOE.

MICHIGAN

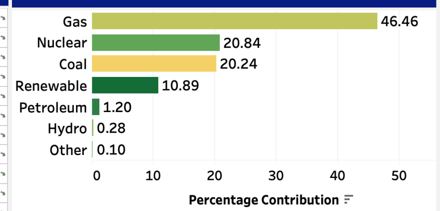
Reactor Status
- BWR/ Operating
- BWR/ Shutdown
- PWR/ Operating
- PWR/ Expected Restart

Facility Category
- Commercial Dry Storage Site
- Operating Non-DOE Research Reactor

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

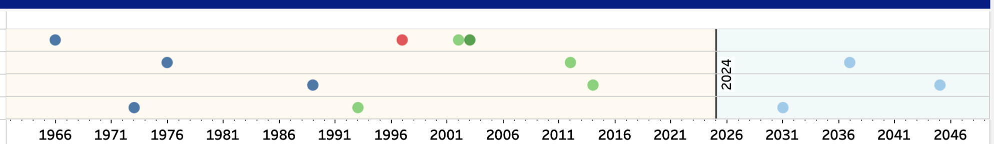
Governor	Gretchen Whitmer (D)
Senators	Peters, Gary C. (D) and Slotkin, Elissa (D)
No. of Commercial Site	4
No. of Commercial Dry Storage Site	4
No. of Commercial Operating Reactors	3
No. of Commercial Shutdown Reactors	2
Commercial SNF at Dry Storage (MTU)	1994.18
Commercial SNF at Pool (MTU)	1741.99
Total Commercial SNF (MTU)	3736.17
No. of Commercial SNF Dry Casks	160
No. of Commercial GTCC Casks	1
No. of Operating Research Reactors	1 at 1 Sites

2024 Electricity Generation Mix (Note# 3)



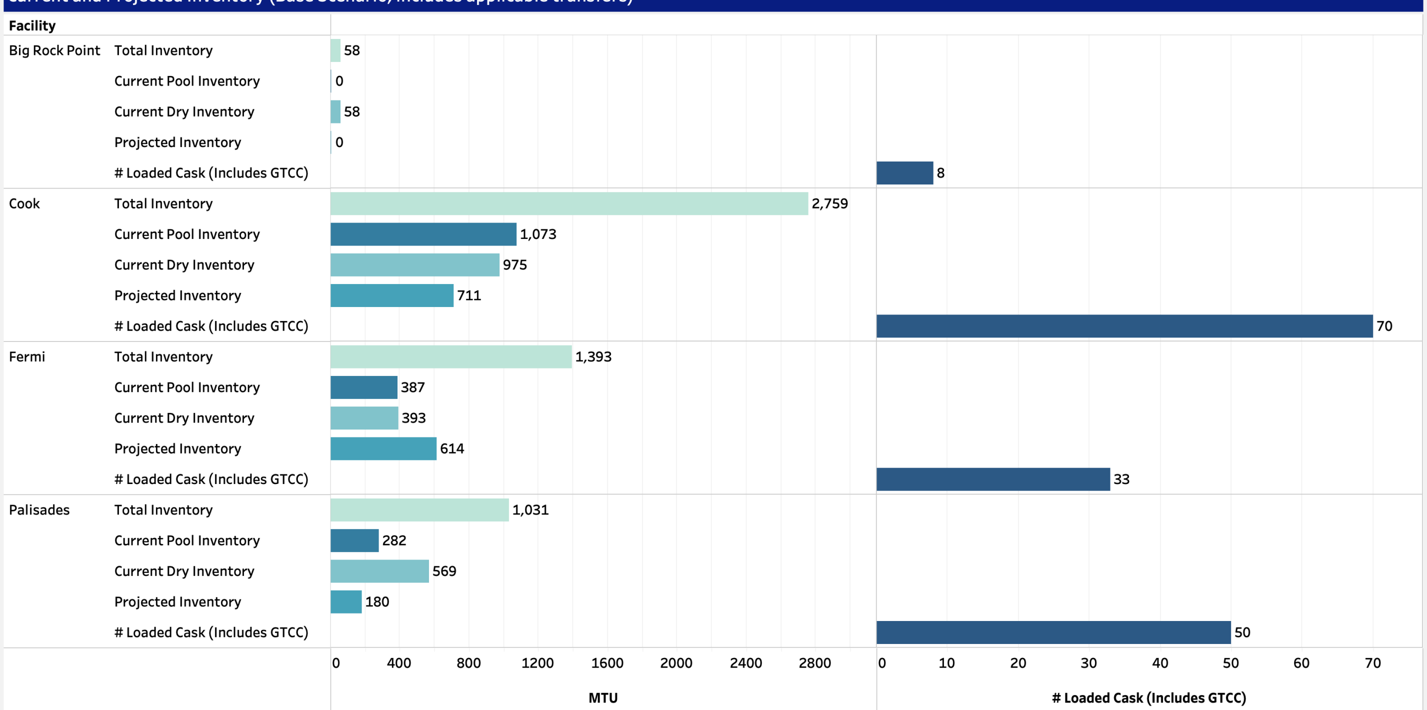
Facility Timeline

Facility Name	# Rx
Big Rock Point	1
Cook	2
Fermi	1
Palisades	1



Events
- First Discharge Year
- Dry Storage Start Year
- Shutdown Year
- Dry Loading Completion Year
- Final Projected Discharge
- Off-Site Storage Start Year

Current and Projected Inventory (Base Scenario, includes applicable transfers)



MICHIGAN

Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
8	McDonald Rivet, Kristen (D)	DOW Chemical	DOW Chemical TRIGA	1967- License R-108	R&TRF TRIGA MARK I, 300 kW/ Operating	-	-	-
5	Walberg, Tim (R)	AEP Indiana Michigan Power	Cook 1	1975-2034	PWR/ Operating	2011/GL	1453.77	-
			Cook 2	1978-2037	PWR/ Operating	2011/GL	1305.24	-
		Detroit Edison Company (DTE)	Enrico Fermi 1	1963-1972/ SAFSTOR	Fast Breeder Reactor/ Shutdown	No SNF on site	-	5
			Enrico Fermi 2	1988-2025	BWR/ Operating	2016/GL	1393.48	-
4	Huizenga, Bill (R)	Holtec Decommissioning International, LLC	Palisades	1971-2031	PWR/ Expected Restart	1993/GL	1030.97	-
1	Bergman, Jack (R)	Holtec Decommissioning International, LLC	Big Rock Point	1964-1997/ DECON Completed	BWR/ Shutdown	2002/GL	69.39	6

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
829	316.3	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
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5. Remaining Fermi Unit 1 SNF has been transferred to DOE.
6. Discharge includes 11 MTU transferred to Idaho National Laboratory.

MINNESOTA

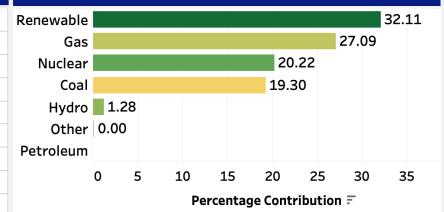
Reactor Status
- BWR/ Operating
- PWR/ Operating

Facility Category
- Commercial Dry Storage Site

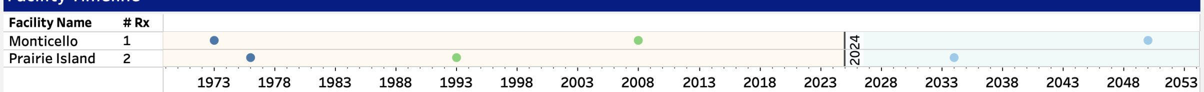
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Tim Walz (D)
Senators	Klobuchar, Amy (D) and Smith, Tina (D)
No. of Commercial Site	2
No. of Commercial Dry Storage Site	2
No. of Commercial Operating Reactors	3
Commercial SNF at Dry Storage (MTU)	1052.33
Commercial SNF at Pool (MTU)	669.81
Total Commercial SNF (MTU)	1722.14
No. of Commercial SNF Dry Casks	80

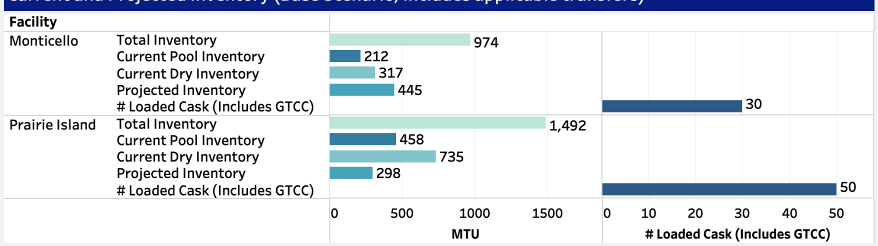
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
6	Emmer, Tom (R)	Xcel Energy - Northern States Power Company	Monticello	1971-2030	BWR/ Operating	2008/GL	1172.19	5
1	Finstad, Brad (R)	Xcel Energy - Northern States Power Company	Prairie Island 1	1973-2033	PWR/ Operating	1993/SL	733.71	-
			Prairie Island 2	1974-2034	PWR/ Operating	1993/SL	758.01	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
449.2	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
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4. The Nuclear Waste Policy Act established the Federal Government's responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A "one-time fee" was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees. Does not include $2.263M One Mill Fee and $5.293M One Time Fee payments by DOE.
5. Discharge includes 198 MTU transferred to Morris (Illinois).

MISSISSIPPI

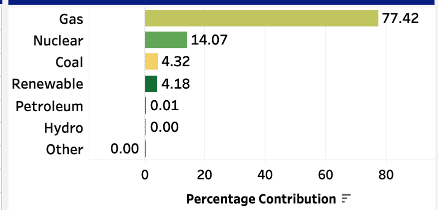
Reactor Status
BWR/ Operating

Facility Category
Commercial Dry Storage Site

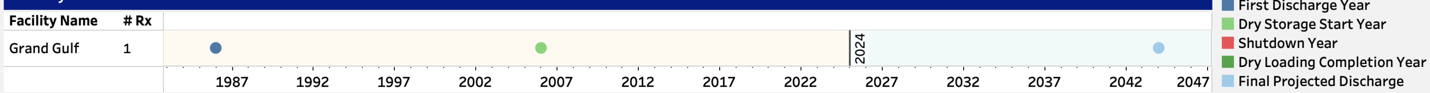
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Tate Reeves (R)
Senators	Hyde-Smith, Cindy (R) and Wicker, Roger F. (R)
No. of Commercial Site	1
No. of Commercial Dry Storage Site	1
No. of Commercial Operating Reactors	1
Commercial SNF at Dry Storage (MTU)	524.73
Commercial SNF at Pool (MTU)	645.42
Total Commercial SNF (MTU)	1170.15
No. of Commercial SNF Dry Casks	44

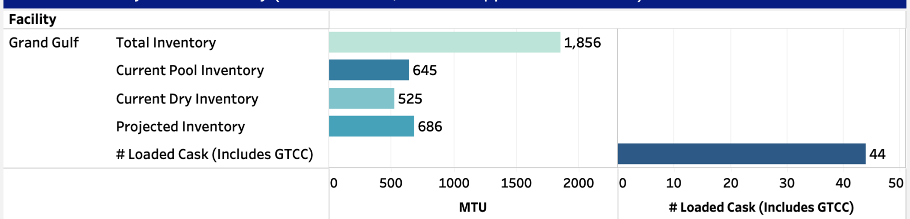
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
2	Thompson, Bennie (D)	Entergy Services, LLC	Grand Gulf 1	1985-2024	BWR/ Operating	2006/GL	1855.68	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
250.4	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
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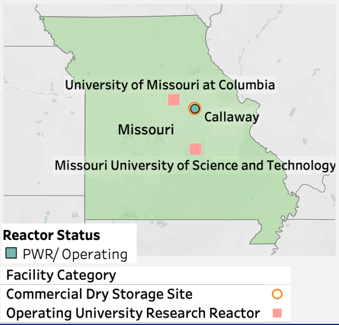
4. The Nuclear Waste Policy Act established the Federal Government's responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A "one-time fee" was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees. Does not include $2.263M One Mill Fee and $5.293M One Time Fee payments by DOE.

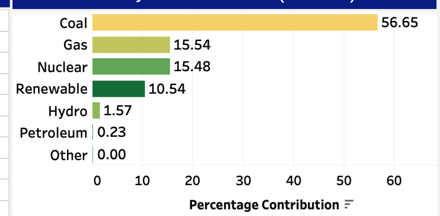
MISSOURI



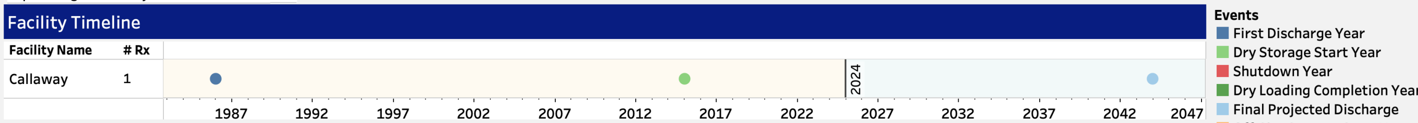
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Mike Kehoe (R)
Senators	Hawley, Josh (R) and Schmitt, Eric (R)
No. of Commercial Site	1
No. of Commercial Dry Storage Site	1
No. of Commercial Operating Reactors	1
Commercial SNF at Dry Storage (MTU)	651.18
Commercial SNF at Pool (MTU)	312.9
Total Commercial SNF (MTU)	964.08
No. of Commercial SNF Dry Casks	42
No. of Operating Research Reactors	2 at 2 Sites

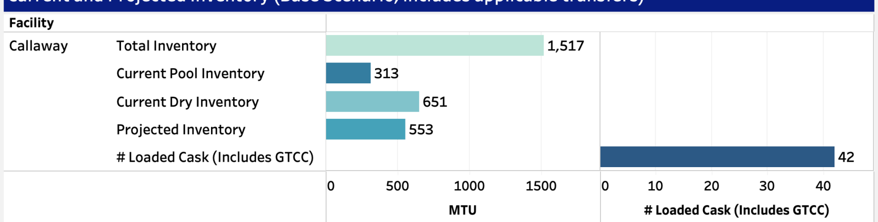
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
8	Smith, Jason (R)	Missouri University of Science and Technology	Missouri University of Science and Technology	1961- License R-79	R&TRF Pool, 200 kW/ Operating	-	-	-
3	Onder, Robert (R)	AmerenUE	Callaway	1984-2044	PWR/ Operating	2015/GL	1516.81	-
		University of Missouri at Columbia	University of Missouri at Columbia	1966- License R-103	R&TRF Tank, 10,000 kW/ Operating	-	-	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
243.1	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
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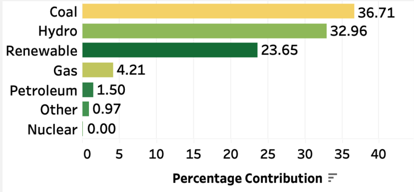
MONTANA

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Greg Gianforte (R)
Senators	Daines, Steve (R) and Sheehy, Tim (R)

2024 Electricity Generation Mix (Note# 3)



Notes:

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2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
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NEBRASKA

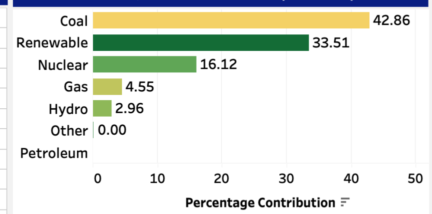
Reactor Status
- BWR/ Operating
- PWR/ Shutdown

Facility Category
- Commercial Dry Storage Site

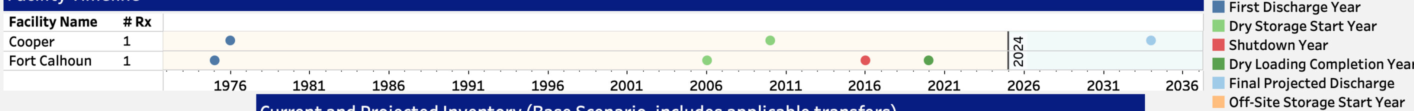
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Jim Pillen (R)
Senators	Fischer, Deb (R) and Ricketts, Pete (R)
No. of Commercial Site	2
No. of Commercial Dry Storage Site	2
No. of Commercial Operating Reactors	1
No. of Commercial Shutdown Reactors	1
Commercial SNF at Dry Storage (MTU)	795.15
Commercial SNF at Pool (MTU)	329.84
Total Commercial SNF (MTU)	1124.99
No. of Commercial SNF Dry Casks	70
No. of Commercial GTCC Casks	2

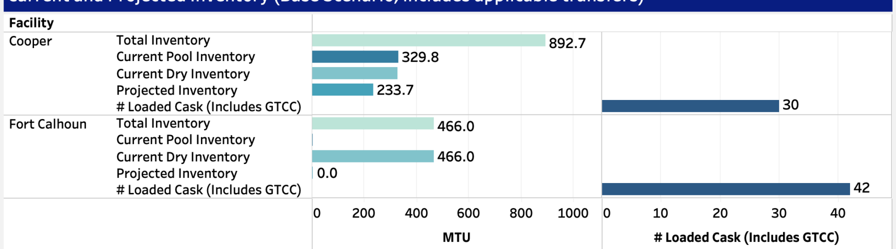
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
6	Graves, Sam (R)	Nebraska Public Power District (NPPD)	Cooper Station	1974-2034	BWR/ Operating	2010/GL	1091.07	5
3	Smith, Adrian (R)	Omaha Public Power District (OPPD)	Fort Calhoun	1973-1933	PWR/ Shutdown	2006/GL	465.98	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
300.2	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
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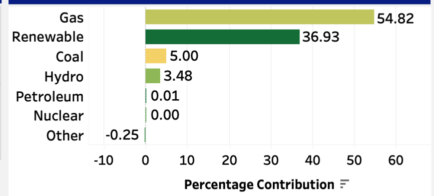
5. Discharge includes 198 MTU transferred to Morris (Illinois).

NEVADA

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Joe Lombardo (R)
Senators	Cortez Masto, Catherine (D) and Rosen, Jacky (D)

2024 Electricity Generation Mix (Note# 3)



Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
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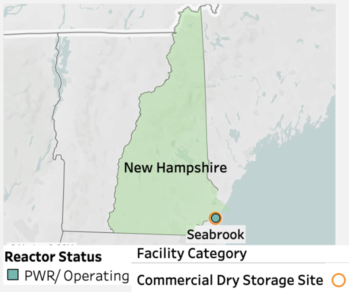
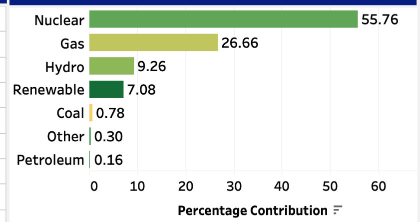
NEW HAMPSHIRE



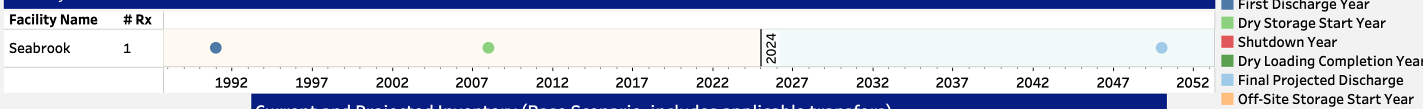
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Kelly Ayotte (R)
Senators	Hassan, Margaret Wood (D) and Shaheen, Jeanne (D)
No. of Commercial Site	1
No. of Commercial Dry Storage Site	1
No. of Commercial Operating Reactors	1
Commercial SNF at Dry Storage (MTU)	439.52
Commercial SNF at Pool (MTU)	407.36
Total Commercial SNF (MTU)	846.88
No. of Commercial SNF Dry Casks	30

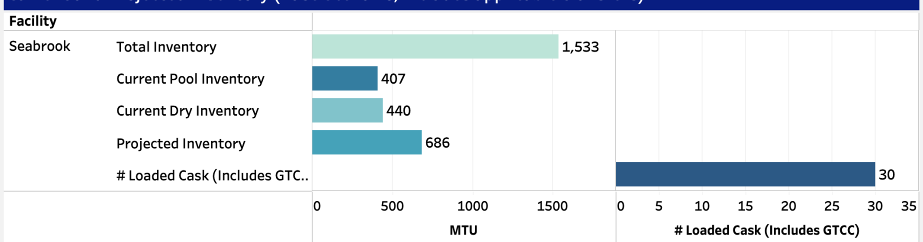
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
1	Pappas, Chris (D)	NextEra Energy, Inc	Seabrook	1990-2030	PWR/ Operating	2008/GL	1533.36	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
201.2	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.
4. The Nuclear Waste Policy Act established the Federal Government's responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A "one-time fee" was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees. Does not include $2.263M One Mill Fee and $5.293M One Time Fee payments by DOE.

NEW JERSEY

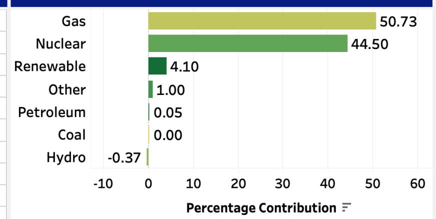
Reactor Status
- BWR/ Operating
- BWR/ Shutdown
- PWR/ Operating

Facility Category
- Commercial Dry Storage Site

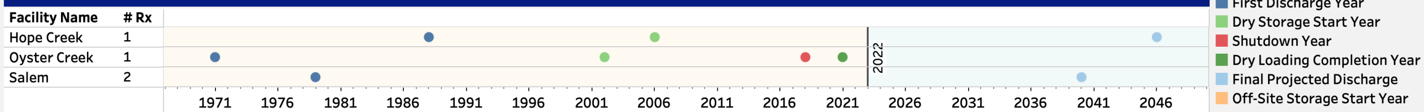
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Phil Murphy (D)
Senators	Booker, Cory A. (D) and Kim, Andy (D)
No. of Commercial Site	3
No. of Commercial Dry Storage Site	3
No. of Commercial Operating Reactors	3
No. of Commercial Shutdown Reactors	1
Commercial SNF at Dry Storage (MTU)	2012.4
Commercial SNF at Pool (MTU)	1612.51
Total Commercial SNF (MTU)	3624.91
No. of Commercial SNF Dry Casks	156
No. of Commercial GTCC Casks	4

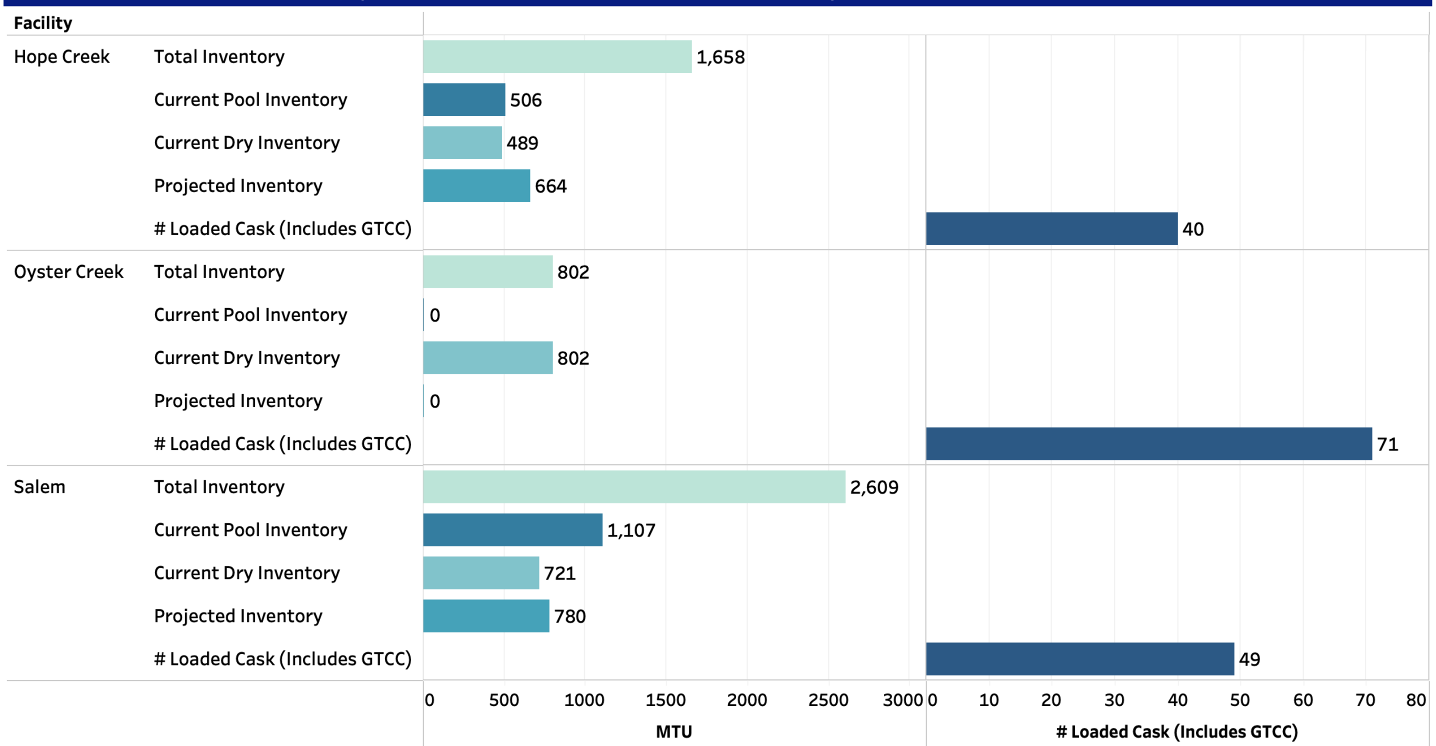
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



NEW JERSEY

Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
2	Van Drew, Jefferson (R)	Holtec Decommissioning Inte..	Oyster Creek	1969-2029/SAFSTOR	BWR/ Shutdown	2002/GL	802.24	-
		PSEG Services Corporation	Salem 1	1977-2036	PWR/ Operating	2010/GL	1284.5	-
			Salem 2	1981-2040	PWR/ Operating	2010/GL	1324.08	-
			Hope Creek	1986-2046	BWR/ Operating	2006/GL	1658.04	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
769.6	208.4	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
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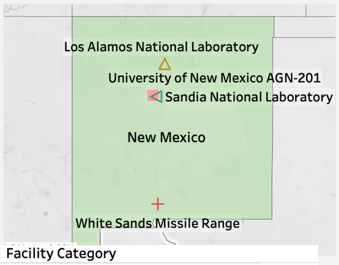
NEW MEXICO

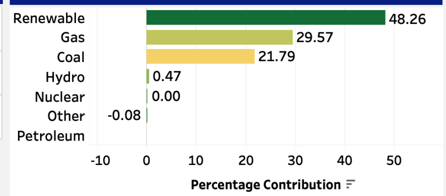


Facility Category
- National Laboratory △
- Operating DOE Research Reactor ◁
- Operating U.S. Army Research Reactor +
- Operating University Research Reactor ■

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Michelle Lujan Grisham (D)
Senators	Heinrich, Martin (D) and Luján, Ben Ray (D)
No. of Operating Research Reactors	3 at 3 Sites

2024 Electricity Generation Mix (Note# 3)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
3	Leger Fernandez, Teresa (D)	Department of Energy	Los Alamos National Laboratory	None	Various	-	-	-
2	Vasquez, Gabe (D)	Department of Energy	Sandia National Laboratory	1979-	Test Reactor	-	-	-
				None	Various	-	-	-
		U.S. Airforce	White Sands Missile Range	None	R&TRF FGR/ Operating	-	-	-
1	Stansbury, Melanie (D)	University of New Mexico	University of New Mexico AGN-201	1966- License R-102	R&TRF AGN-201M #112, 0.005 kW/ Operating	-	-	-

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
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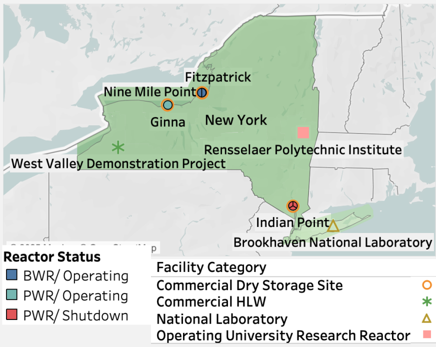
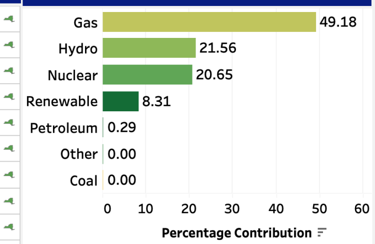
NEW YORK



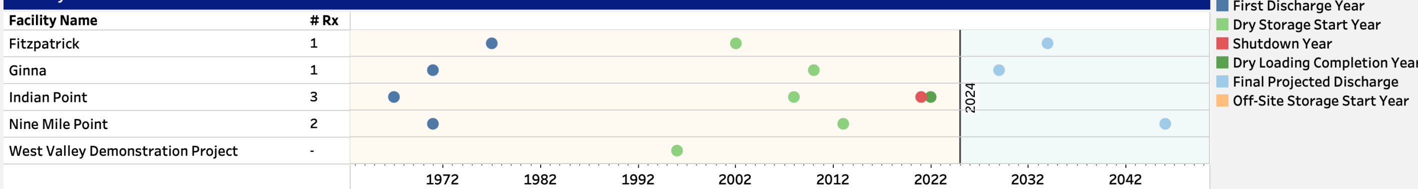
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Kathy Hochul (D)
Senators	Gillibrand, Kirsten E. (D) and Schumer, Charles E. (D)
No. of Commercial Site	4
No. of Commercial Dry Storage Site	4
No. of Commercial Operating Reactors	4
No. of Commercial Shutdown Reactors	3
Commercial SNF at Dry Storage (MTU)	3120.9
Commercial SNF at Pool (MTU)	1835.71
Total Commercial SNF (MTU)	4956.61
No. of Commercial SNF Dry Casks	238
No. of Commercial GTCC Casks	2
No. of Operating Research Reactors	1 at 1 Sites
Commercial HLW	1 Site

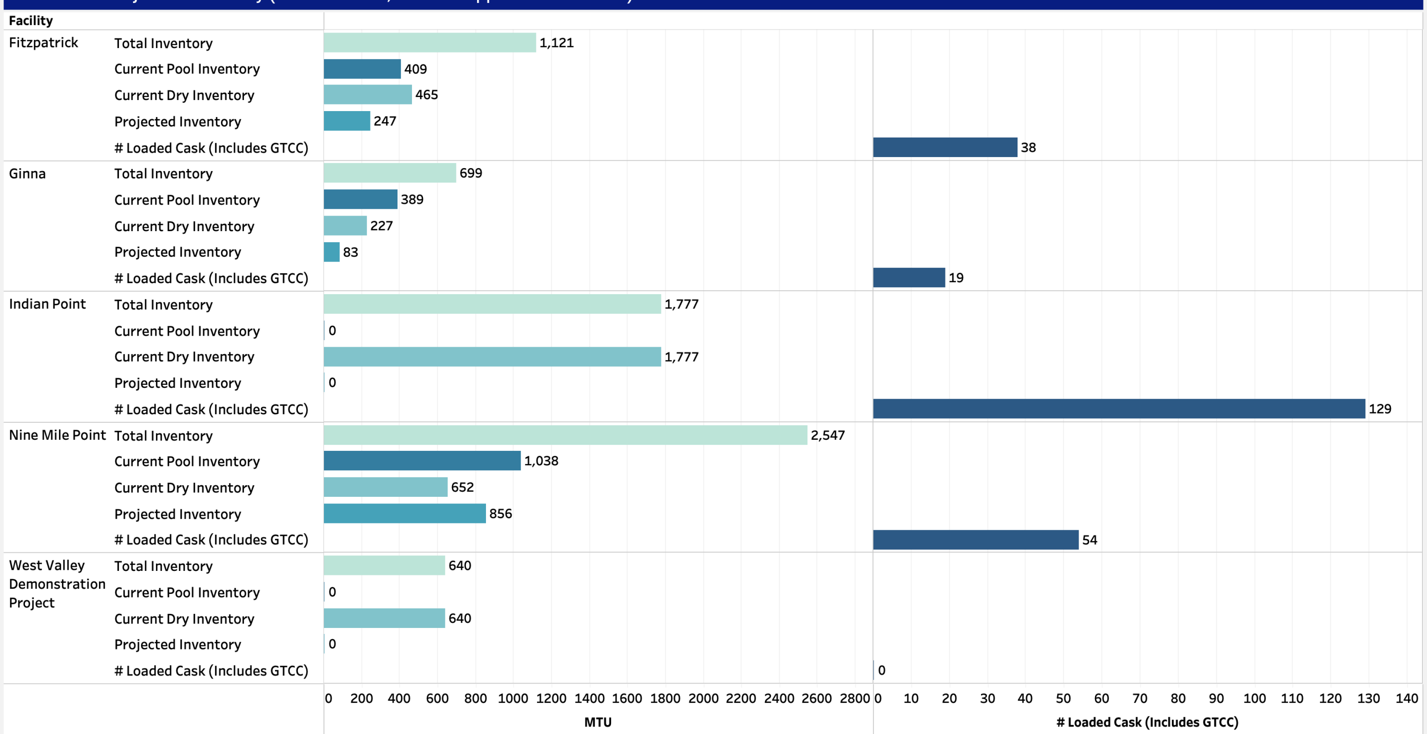
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



NEW YORK

Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Actual & Projected Discharged SNF (MTU)	Note #
24	Tenney, Claudia (R)	Constellation Energy Generation, LLC	Nine Mile Point 1	1969-2029	BWR/ Operating	2012/GL	890.41	-
			R. E. Ginna	1970-2029	PWR/ Operating	2010/GL	714.72	5
			Fitzpatrick	1975-2034	BWR/ Operating	2002/GL	1120.7	-
			Nine Mile Point 2	1988-2046	BWR/ Operating	2012/GL	1656.27	-
23	Langworthy, Nicholas (R)	Department of Energy	West Valley Demonstration Project	1966-1972/ DECON	Reprocessing Plant/ Shutdown	-	-	6
20	Tonko, Paul (D)	Rensselaer Polytechnic Institute	Rensselaer Polytechnic Institute	1974- License CX-22	R&TRF Critical Assembly, 0.1 kW/ Operating	-	-	-
17	Lawler, Michael (R)	Holtec Decommissioning International, LLC	Indian Point 1	1962-1974/ SAFSTOR	PWR/ Shutdown	2008/GL	30.58	-
			Indian Point 2	1974-2024	PWR/ Shutdown	2008/GL	900.41	-
			Indian Point 3	1976-2025	PWR/ Shutdown	2008/GL	845.62	-
1	LaLota, Nick (R)	Department of Energy	Brookhaven National Laboratory	None	Various	-	-	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
1,011.80	603.6	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
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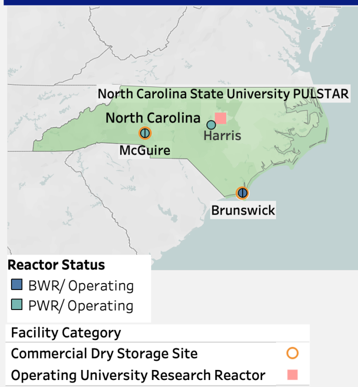
5. Discharge includes 15 MTU transferred to Idaho National Laboratory.
6. About 640 MTU were reprocessed producing about 2,500 m3 of liquid high-level waste (HLW). The liquid was vitrified between 1996 and 2001 producing 278 HLW canisters. These canisters have been moved to 56 canisters in concrete vented overpacks, similar to SNF storage, to allow facility decommissionng to continue.

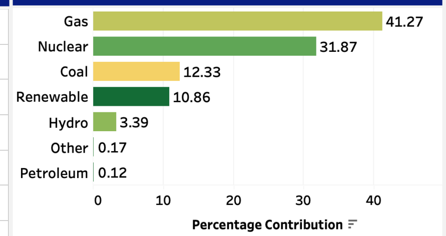
NORTH CAROLINA



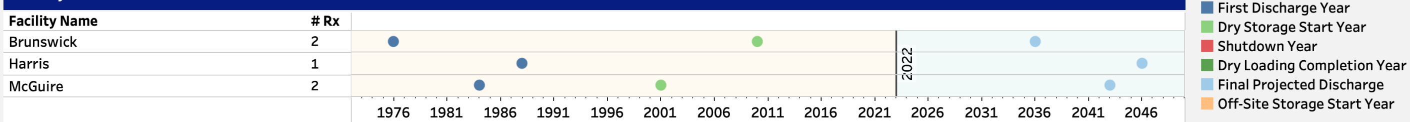
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Josh Stein (D)
Senators	Budd, Ted (R) and Tillis, Thom (R)
No. of Commercial Site	3
No. of Commercial Dry Storage Site	2
No. of Commercial Operating Reactors	5
Commercial SNF at Dry Storage (MTU)	1696.89
Commercial SNF at Pool (MTU)	3185.48
Total Commercial SNF (MTU)	4882.37
No. of Commercial SNF Dry Casks	133

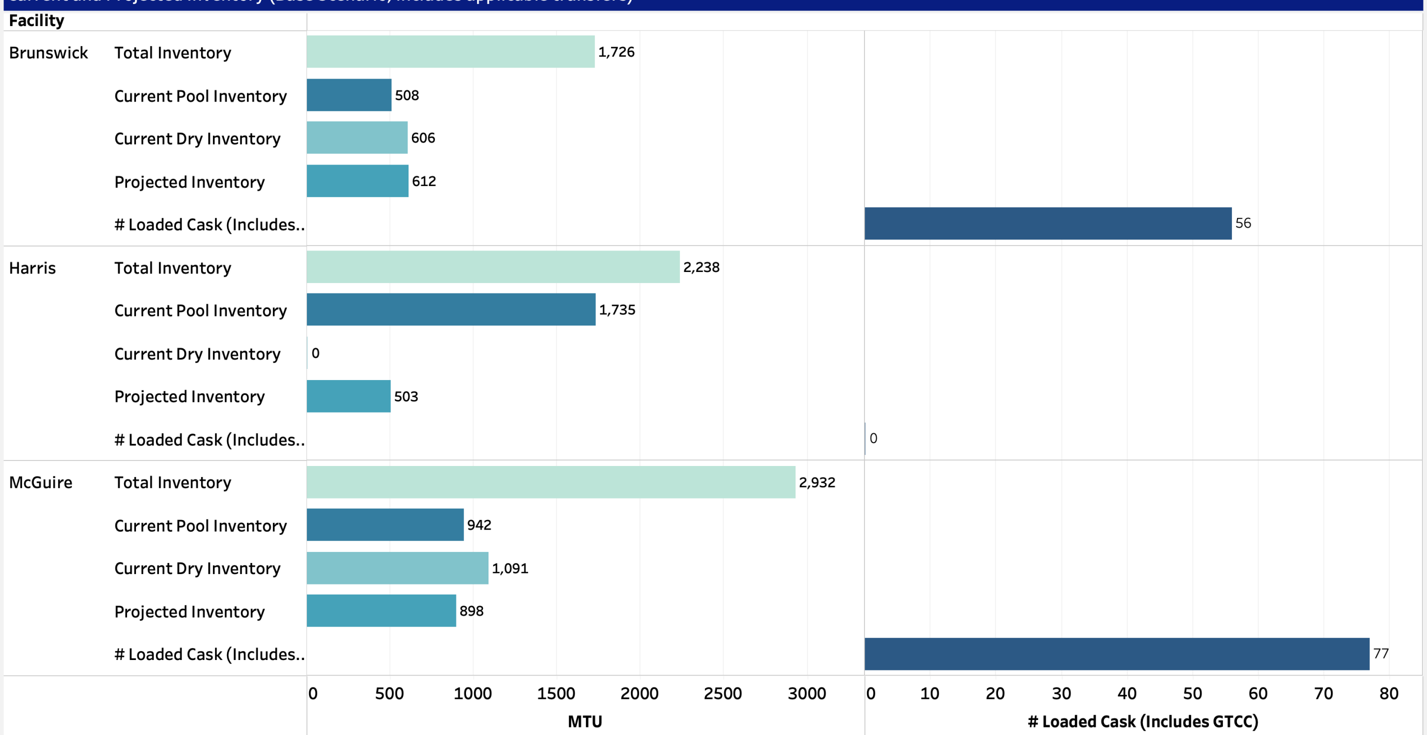
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



NORTH CAROLINA

Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Actual & Projected Discharged SNF (MTU)	Note #
14	Moore, Tim (R)	Duke Energy Corporation	McGuire 1	1981-2041	PWR/ Operating	2001/GL	1386.52	-
			McGuire 2	1984-2043	PWR/ Operating	2001/GL	1406.09	-
7	Rouzer, David (R)	Duke Energy Corporation	Brunswick 2	1975-2034	BWR/ Operating	2010/GL	1186.01	-
			Brunswick 1	1977-2036	BWR/ Operating	2010/GL	1202.98	-
4	Foushee, Valerie (D)	Duke Energy Corporation	Harris 1	1987-2046	PWR/ Operating	-	1222.19	-
2	Ross, Deborah (D)	North Carolina State University PULSTAR	North Carolina State University PULSTAR	1972- License R-120	R&TRF Pulstar, 1,000 kW/ Operating	-	-	-

SNF Transfers

Transferred To	Transferred From	MTU	Transferring From State
Brunswick	Robinson	136.84	South Carolina
Harris	Brunswick	800.29	North Carolina
	Robinson	215.81	South Carolina
McGuire	Oconee	139.35	South Carolina

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
1,034.60	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
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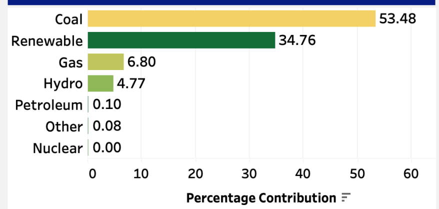
5. Discharge includes 15 MTU transferred to Idaho National Laboratory.
6. About 640 MTU were reprocessed producing about 2,500 m3 of liquid high-level waste (HLW). The liquid was vitrified between 1996 and 2001 producing 278 HLW canisters. These canisters have been moved to 56 canisters in concrete vented overpacks, similar to SNF storage, to allow facility decommissionng to continue.

NORTH DAKOTA

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Kelly Armstrong (R)
Senators	Cramer, Kevin (R) and Hoeven, John (R)

2024 Electricity Generation Mix (Note# 3)



Notes:

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2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 202.
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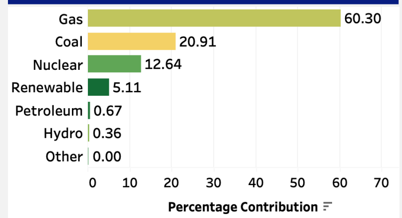
OHIO

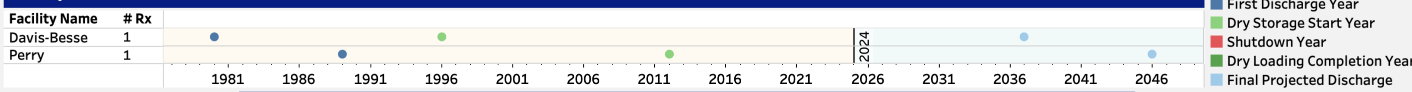
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Mike DeWine (R)
Senators	Husted, Jon (R) and Moreno, Bernie (R)
No. of Commercial Site	2
No. of Commercial Dry Storage Site	2
No. of Commercial Operating Reactors	2
Commercial SNF at Dry Storage (MTU)	706.28
Commercial SNF at Pool (MTU)	993.7
Total Commercial SNF (MTU)	1699.98
No. of Commercial SNF Dry Casks	50
No. of Operating Research Reactors	1 at 1 Sites

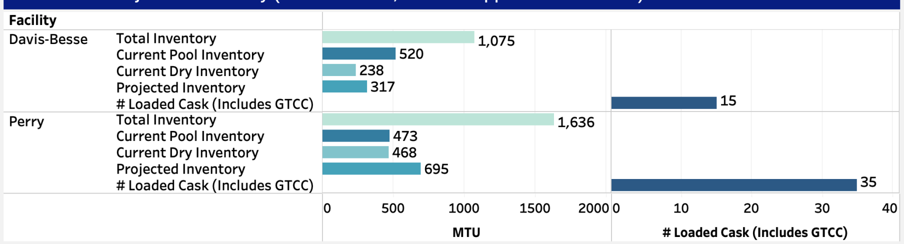
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



OHIO

Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
14	Joyce, David (R)	Energy Harbor Nuclear Generation LLC	Perry 1	1987-2026	BWR/ Operating	2007/GL	1636.31	-
9	Kaptur, Marcy (D)	Energy Harbor Nuclear Generation LLC	Davis-Besse	1978-2037	PWR/ Operating	1996/GL	1074.88	-
3	Beatty, Joyce (D)	Ohio State University OSURR	Ohio State University OSURR	1961- License R-75	R&TRF Pool, 500 kW/ Operating	-	-	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
381.5	39	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.
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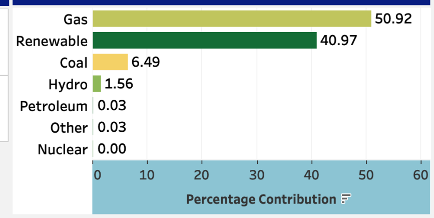
OKLAHOMA

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Kevin Stitt (R)
Senators	Lankford, James (R) and Mullin, Markwayne (R)

2024 Electricity Generation Mix (Note# 3)



Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
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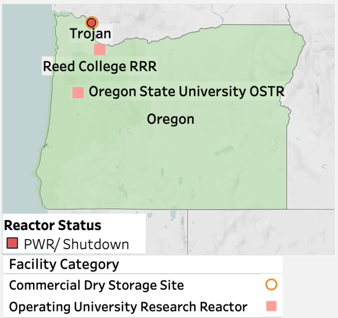
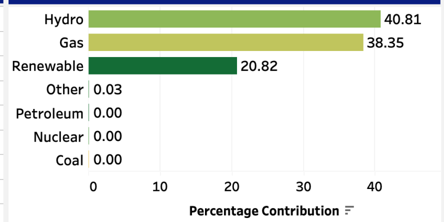
OREGON



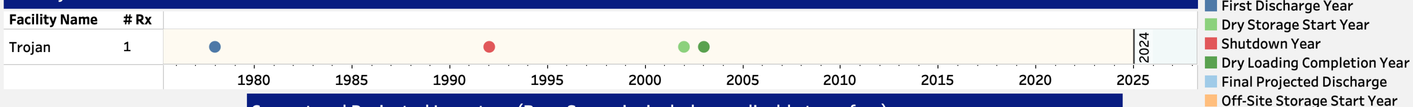
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Tina Kotek (D)
Senators	Merkley, Jeff (D) and Wyden, Ron (D)
No. of Commercial Site	1
No. of Commercial Dry Storage Site	1
No. of Commercial Shutdown Reactors	1
Commercial SNF at Dry Storage (MTU)	359.26
Total Commercial SNF (MTU)	359.26
No. of Commercial SNF Dry Casks	34
No. of Operating Research Reactors	2 at 2 Sites

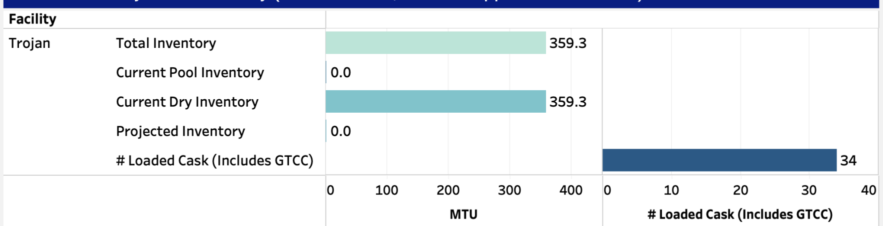
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
4	Hoyle, Val (D)	Oregon State University	Oregon State University OSTR	1967- License R-106	R&TRF TRIGA Mark II, 1,100 kW/ Operating	-	-	-
3	Dexter, Maxine (D)	Reed College	Reed College RRR	1968- License R-112	R&TRF TRIGA MARK I, 250 kW/ Operating	-	-	-
1	Bonamici, Suzanne (D)	Portland General Electric	Trojan	1975-1992/ DECON Completed	PWR/ Shutdown	1999/GL	359.26	-

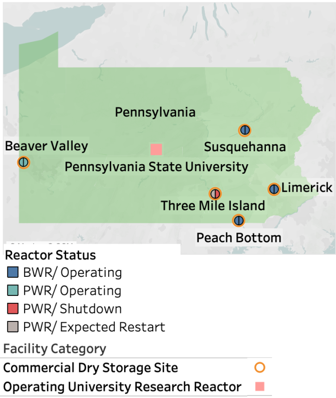
Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
75.5	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.
4. The Nuclear Waste Policy Act established the Federal Government's responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A "one-time fee" was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees.

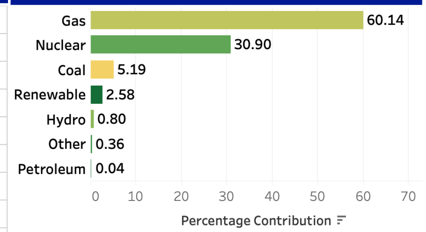
PENNSYLVANIA



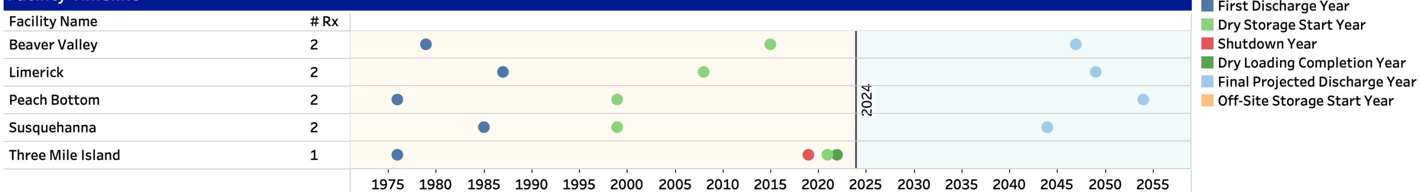
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Josh Shapiro (D)
Senators	Fetterman, John (D) and McCormick, David (R)
No. of Commercial Site	5
No. of Commercial Dry Storage Site	5
No. of Commercial Operating Reactors	8
No. of Commercial Shutdown Reactors	1
Commercial SNF at Dry Storage (MTU)	4830.49
Commercial SNF at Pool (MTU)	3947.43
Total Commercial SNF (MTU)	8777.92
No. of Commercial SNF Dry Casks	379
No. of Commercial GTCC Casks	1
No. of Operating Research Reactors	1 at 1 Sites

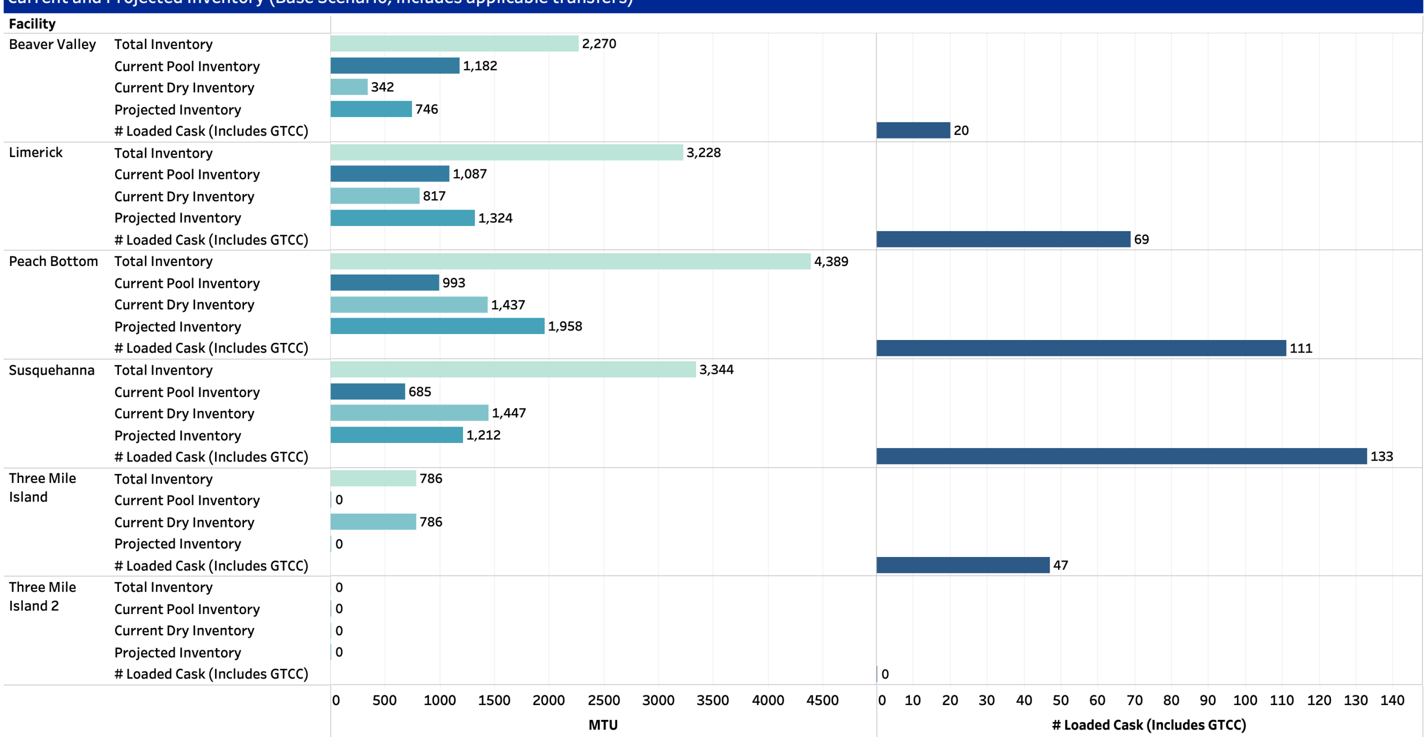
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



PENNSYLVANIA

Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Actual & Projected Discharged SNF (MTU)	Note #
17	Deluzio, Christopher (D)	Energy Harbor Nuclear Generation LLC	Beaver Valley 1	1976-2036	PWR/ Operating	2015/GL	1101.21	-
			Beaver Valley 2	1987-2047	PWR/ Operating	2015/GL	1168.65	-
15	Thompson, Glen..	Pennsylvania State University	Pennsylvania State University	1955- License R-2	R&TRF TRIGA BNR/ Operating	-	-	-
11	Smucker, Lloyd (R)	Constellation Energy Generation, LLC	Peach Bottom 2	1974-2053	BWR/ Operating	2000/GL	2202.29	5, 6
			Peach Bottom 3	1974-2054	BWR/ Operating	2000/GL	2186.65	6
10	Perry, Scott (R)	Constellation Energy Generation, LLC	Three Mile Island 1	1974-2034	PWR/ Expected Restart	-	786.49	-
		TMI-2 Solutions, LLC	Three Mile Island 2	1978-1979	PWR/ Shutdown	-	-	7
9	Meuser, Daniel (R)	Susquehanna Nuclear, LLC	Susquehanna 1	1983-2042	BWR/ Operating	1999/GL	1669.45	-
			Susquehanna 2	1985-2044	BWR/ Operating	1999/GL	1674.58	-
4	Dean, Madeleine (D)	Constellation Energy Generation, LLC	Limerick 1	1986-2044	BWR/ Operating	2008/GL	1588.93	-
			Limerick 2	1990-2049	BWR/ Operating	2008/GL	1639.37	-

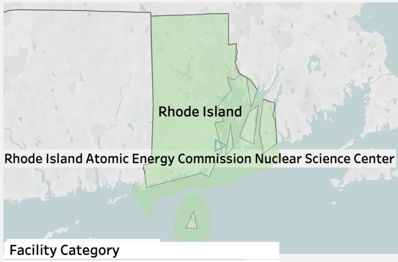
Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
1,947.30	106.1	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.
4. The Nuclear Waste Policy Act established the Federal Government’s responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A “one-time fee” was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees.
5. Discharges includes 0.38 MTU transferred to Idaho National Laboratory.
6. Data include the subsequent or second 20 year license renewal granted on March 5, 2020.
7. Most of the Three Mile Island Unit 2 fuel shipped to Idaho National Laboratory, a small quantity (~1.125 MT) remains to be removed during decommissioning.

RHODE ISLAND



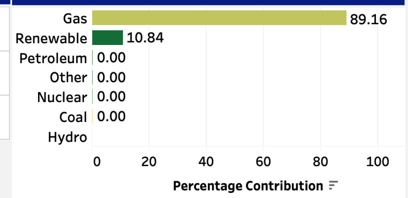
Facility Category

Operating Non-DOE Research Reactor

State Summary (includes applicable transfers) as of 12/31/2022 (Note# 1, 2)

Governor	Dan McKee (D)
Senators	Reed, Jack (D) and Whitehouse, Sheldon (D)
No. of Operating Research Reactors	1 at 1 Sites

2022 Electricity Generation Mix (Note# 3)



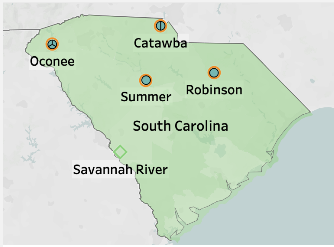
Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
2	Magaziner, Seth (D)	Rhode Island Atomic Energy Commission Nuclear Science Center	Rhode Island Atomic Energy Commission Nuclear Science Center	1964- License R-95	R&TRF GE Pool, 2,000 kW/ Operating	-	-	-

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 202.
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.

SOUTH CAROLINA



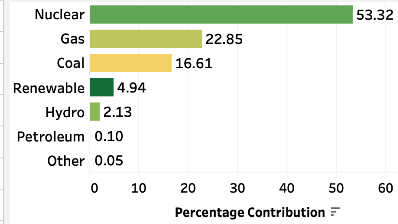
Reactor Status
PWR/ Operating

Facility Category
Commercial Dry Storage Site
DOE Owned SNF and HLW

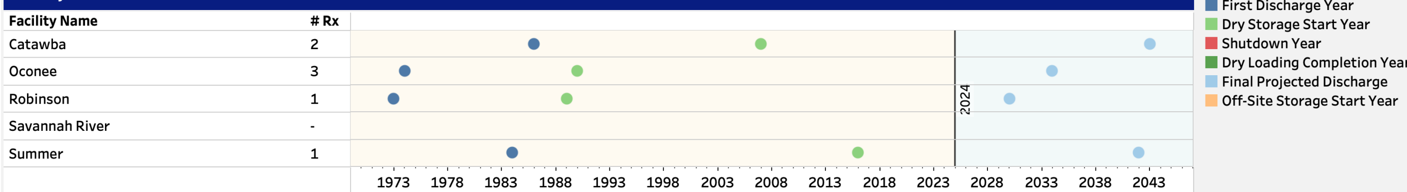
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Henry McMaster (R)
Senators	Graham, Lindsey (R) and Scott, Tim (R)
No. of Commercial Site	4
No. of Commercial Dry Storage Site	4
No. of Commercial Operating Reactors	7
Commercial SNF at Dry Storage (MTU)	3409.18
Commercial SNF at Pool (MTU)	2378.13
Total Commercial SNF (MTU)	5787.31
No. of Commercial SNF Dry Casks	291
DOE Owned SNF and/or HLW Site	1 Site

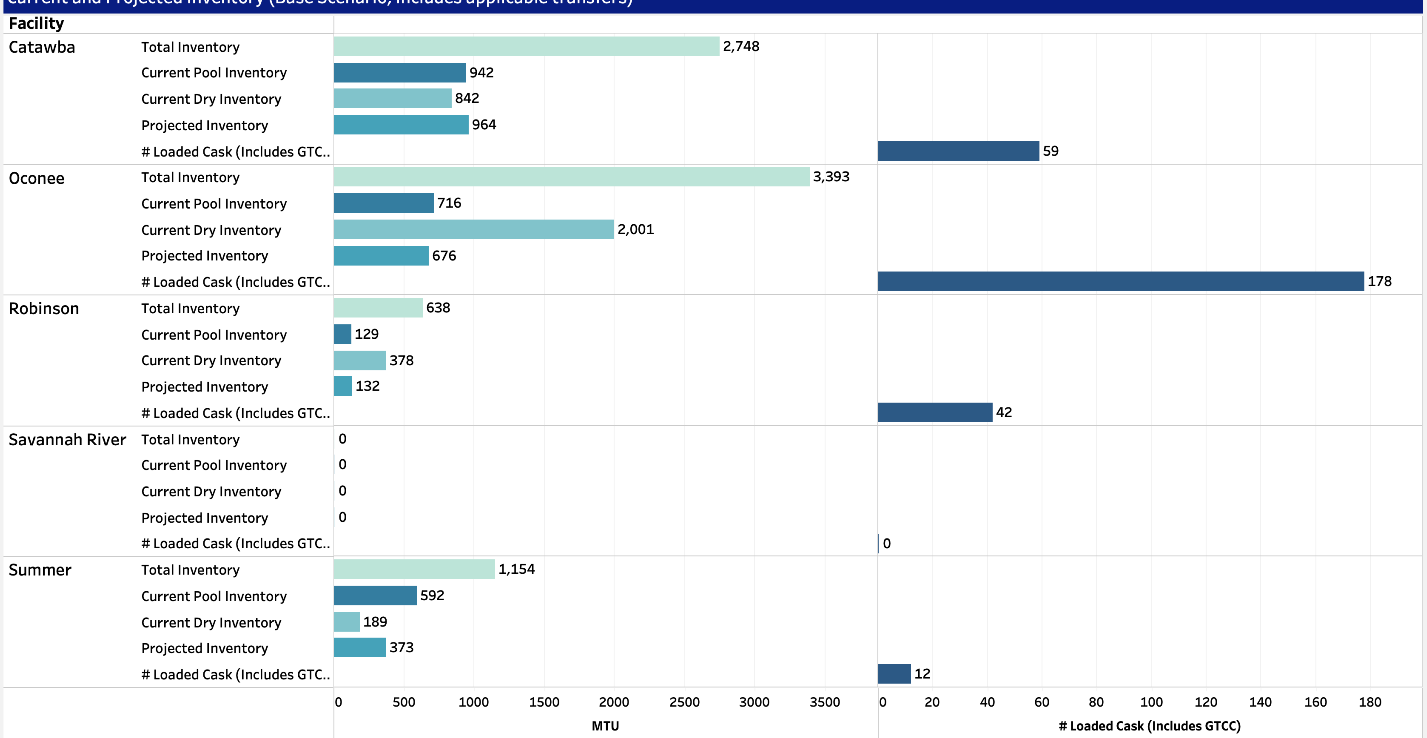
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



SOUTH CAROLINA

Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Actual & Projected Discharged SNF (MTU)	Note #
7	Fry, Russell (R)	Duke Energy Corporation	HB Robinson 2	1971-2030	PWR/ Operating	1986/SL, 2005/GL	991.12	5
5	Norman, Ralph (R)	Duke Energy Corporation	Catawba 1	1985-2043	PWR/ Operating	2007/GL	1379.43	-
			Catawba 2	1986-2043	PWR/ Operating	2007/GL	1368.32	-
		South Carolina Electric and Gas Company	Summer	1984-2042	PWR/ Operating	2016/GL	1153.85	-
3	Biggs, Sheri (R)	Duke Energy Corporation	Oconee 1	1973-2033	PWR/ Operating	1990/SL, 1999/GL	1183.92	6
			Oconee 2	1974-2033	PWR/ Operating	1990/SL, 1999/GL	1170.51	6
			Oconee 3	1974-2034	PWR/ Operating	1990/SL, 1999/GL	1177.48	6
2	Wilson, Joe (R)	Department of Energy	Savannah River	None	Various	-	-	7

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
1,498.70	0	4

Notes:

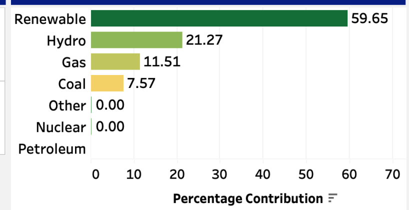
1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.
4. The Nuclear Waste Policy Act established the Federal Government's responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A "one-time fee" was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees.
5. Discharges include 0.44 MTU transferred to Idaho National Laboratory, 136.84 MTU to Brunswick (North Carolina), and 215.81 MTU to Harris (North Carolina).
6. Discharges include 139.35 MTU transferred to McGuire (North Carolina).
7. Savannah River site has approximately 29 MT from DOE sources.

SOUTH DAKOTA

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Larry Rhoden (R)
Senators	Rounds, Mike (R) and Thune, John (R)

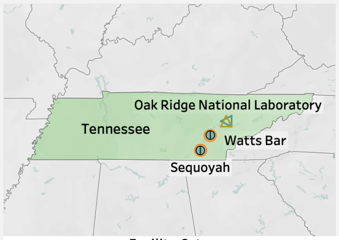
2024 Electricity Generation Mix (Note# 3)



Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.

TENNESSEE



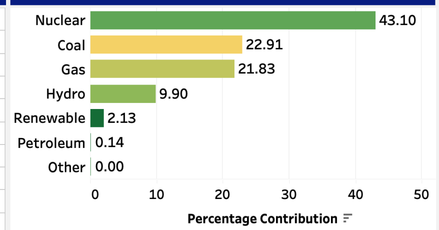
Reactor Status
PWR/ Operating

Facility Category
Commercial Dry Storage Site
National Laboratory
Operating DOE Research Reactor

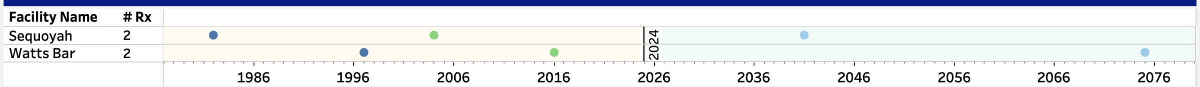
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Bill Lee (R)
Senators	Blackburn, Marsha (R) and Hagerty, Bill (R)
No. of Commercial Site	2
No. of Commercial Dry Storage Site	2
No. of Commercial Operating Reactors	4
Commercial SNF at Dry Storage (MTU)	1664.47
Commercial SNF at Pool (MTU)	1166.27
Total Commercial SNF (MTU)	2830.74
No. of Commercial SNF Dry Casks	104
No. of Operating Research Reactors	1 at 1 Sites

2024 Electricity Generation Mix (Note# 3)

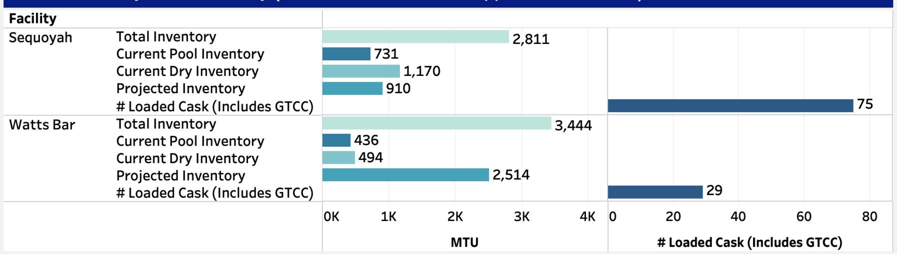


Facility Timeline



Events
- First Discharge Year
- Dry Storage Start Year
- Shutdown Year
- Dry Loading Completion Year
- Final Projected Discharge
- Off-Site Storage Start Year

Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
4	DesJarlais, Scott (R)	Tennessee Valley Authority	Watts Bar 1	1996-2035	PWR/ Operating	2016/GL	1589.14	-
			Watts Bar 2	2016-2055	PWR/ Operating	2016/GL	1854.66	-
3	Fleischmann, Charles (R)	Department of Energy	High Flux Isotope Reactor (HFIR)	mid-1960s	Test Reactor	-	-	5
			ORNL	None	Various	-	-	-
		Tennessee Valley Authority	Sequoyah 1	1981-2040	PWR/ Operating	2004/GL	1387.5	-
			Sequoyah 2	1982-2041	PWR/ Operating	2004/GL	1423.1	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
596.9	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
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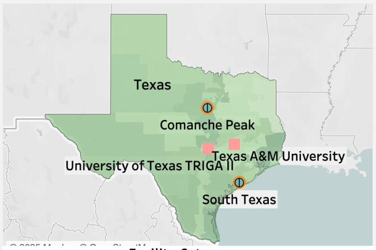
5. Some of the SNF is stored on-site awaiting transfer to Savannah River Site.

TEXAS



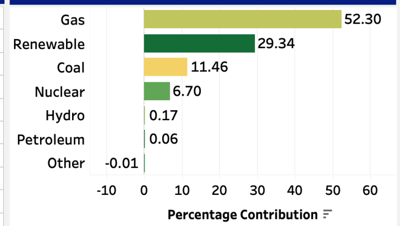
Reactor Status
PWR/ Operating

Facility Category
Commercial Dry Storage Site
Operating University Research Reactor

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

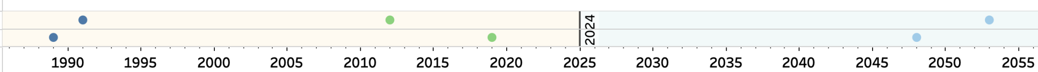
Governor	Greg Abbott (R)
Senators	Cornyn, John (R) and Cruz, Ted (R)
No. of Commercial Site	2
No. of Commercial Dry Storage Site	2
No. of Commercial Operating Reactors	4
Commercial SNF at Dry Storage (MTU)	1237.42
Commercial SNF at Pool (MTU)	2261.7
Total Commercial SNF (MTU)	3499.12
No. of Commercial SNF Dry Casks	82
No. of Operating Research Reactors	3 at 2 Sites

2024 Electricity Generation Mix (Note# 3)



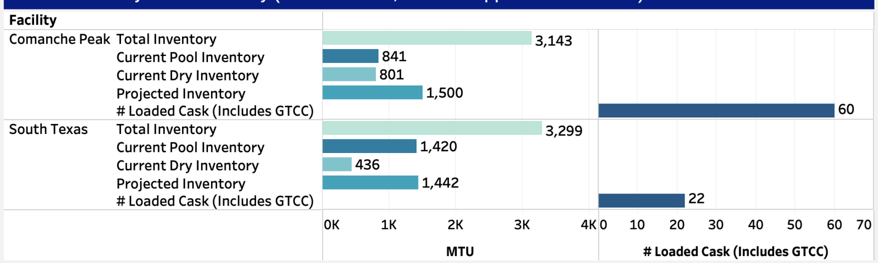
Facility Timeline

Facility Name	# Rx
Comanche Peak	2
South Texas	2



Events
First Discharge Year
Dry Storage Start Year
Shutdown Year
Dry Loading Completion Year
Final Projected Discharge
Off-Site Storage Start Year

Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
37	Doggett, Lloyd (D)	University of Texas	University of Texas TRIGA II	1992- License R-129	R&TRF TRIGA Mark II, 1,100 kW/ Operating	-	-	-
25	Williams, Roger (R)	Comanche Peak LLC	Comanche Peak 1	1990-2030	PWR/ Operating	2012/GL	1588.82	-
			Comanche Peak 2	1993-2033	PWR/ Operating	2012/GL	1553.84	-
22	Nehls, Troy (R)	STP Nuclear Operating Company	South Texas 1	1988-2027	PWR/ Operating	2019/GL	1627.43	-
			South Texas 2	1989-2028	PWR/ Operating	2019/GL	1671.44	-
10	McCaul, Michael (R)	Texas A&M University	Texas A&M University	1957- License R-23	R&TRF AGN-201M #106, 0.005 kW/ Operating	-	-	-
				1961- License R-83	R&TRF TRIGA MARK I, 1,000 kW/ Operating	-	-	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
812.3	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
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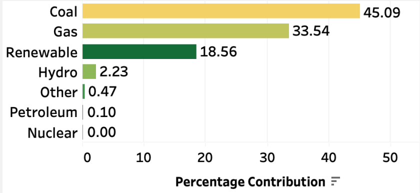
UTAH

Facility Category
Operating University Research Reactor

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Spencer Cox (R)
Senators	Curtis, John R. (R) and Lee, Mike (R)
No. of Operating Research Re..	1 at 1 Sites

2024 Electricity Generation Mix (Note# 3)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
1	Moore, Blake (R)	University of Utah	University of Utah TRIGA	1975- License R-126	R&TRF TRIGA MARK I, 100 kW/ Operating	-	-	-

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.

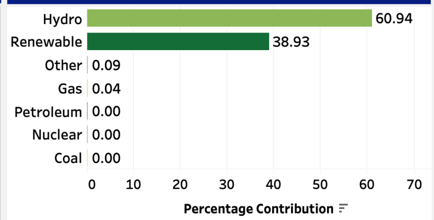
VERMONT

Reactor Status: BWR/ Shutdown
Facility Category: Commercial Dry Storage Site

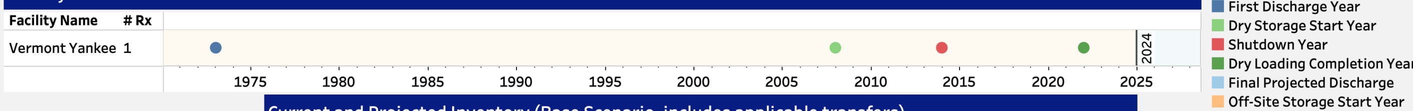
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Phil Scott (R)
Senators	Sanders, Bernard (I) and Welch, Peter (D)
No. of Commercial Site	1
No. of Commercial Dry Storage Site	1
No. of Commercial Shutdown Reactors	1
Commercial SNF at Dry Storage (MTU)	705.66
Total Commercial SNF (MTU)	705.66
No. of Commercial SNF Dry Casks	58
No. of Commercial GTCC Casks	1

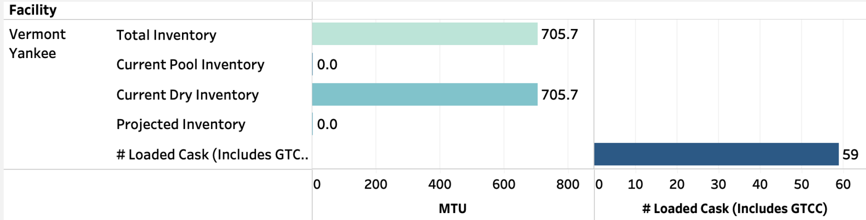
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
0	Balint, Becca (D)	NorthStar Vermont Yankee, LLC	Vermont Yankee	1972-1932	BWR/ Shutdown	2008/GL	705.66	-

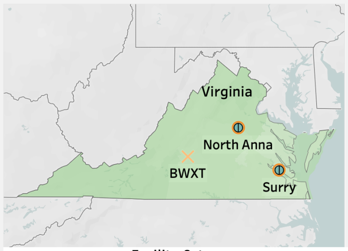
Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
272.3	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.
4. The Nuclear Waste Policy Act established the Federal Government's responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A "one-time fee" was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees. Does not include $2.263M One Mill fee and $5.293M one time fee payments by DOE.

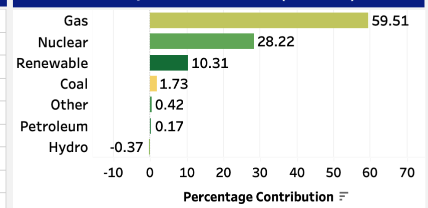
VIRGINIA



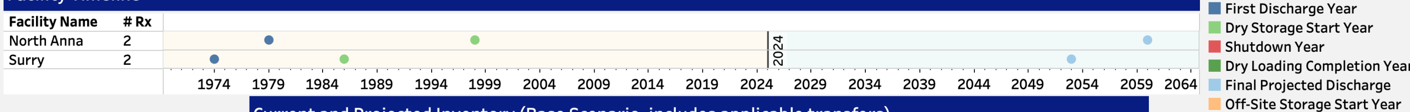
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Glen Youngkin (R)
Senators	Kaine, Tim (D) and Warner, Mark R. (D)
No. of Commercial Site	2
No. of Commercial Dry Storage Site	2
No. of Commercial Operating Reactors	4
Commercial SNF at Dry Storage (MTU)	2610.75
Commercial SNF at Pool (MTU)	893.69
Total Commercial SNF (MTU)	3504.44
No. of Commercial SNF Dry Casks	183
Commercial R&D Site	1 Site

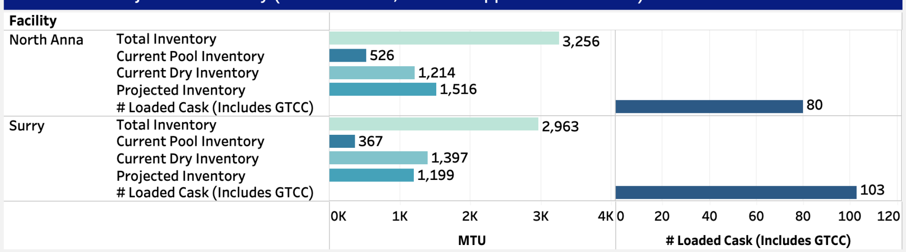
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
5	McGuire, John (R)	BWXT	BWXT	SNM-42	Dry and Pool Storage/ Operating	-	-	5
		Dominion Energy	North Anna 1	1978-2038	PWR/ Operating	1998/SL, 2008/GL	1567.54	-
			North Anna 2	1980-2040	PWR/ Operating	1998/SL, 2008/GL	1688.42	-
4	McClellan, Jennifer (D)	Dominion Energy	Surry 1	1972-2052	PWR/ Operating	1986/SL, 2007/GL	1474.4	6, 7
			Surry 2	1973-2053	PWR/ Operating	1986/SL, 2007/GL	1520.33	6, 7

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
837	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.
4. The Nuclear Waste Policy Act established the Federal Government's responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A "one-time fee" was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees. Does not include $2.263M One Mill fee and $5.293M one time fee payments by DOE. Includes one-time fee paid by B&W.
5. Facility manufactures nuclear fuel elements. Dry and wet storage of SNF is included in the operating license.
6. Discharge includes 31.49 MTU transferred to Idaho National Laboratory.
7. Reflects subsequent operating license renewal.

WASHINGTON

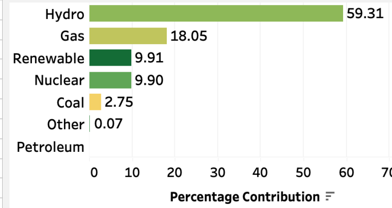
Reactor Status
- BWR/ Operating

Facility Category
- Commercial Dry Storage Site
- DOE Owned SNF and HLW
- National Laboratory
- Operating University Research Reactor

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

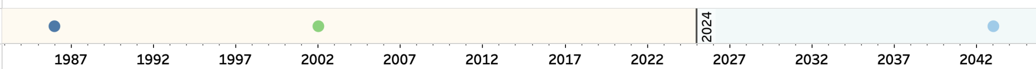
Governor	Bob Ferguson (D)
Senators	Cantwell, Maria (D) and Murray, Patty (D)
No. of Commercial Site	1
No. of Commercial Dry Storage Site	1
No. of Commercial Operating Reactors	1
Commercial SNF at Dry Storage (MTU)	645.63
Commercial SNF at Pool (MTU)	262.07
Total Commercial SNF (MTU)	907.7
No. of Commercial SNF Dry Casks	54
No. of Operating Research Reactors	1 at 1 Sites
DOE Owned SNF and/or HLW Site	1 Site

2024 Electricity Generation Mix (Note# 3)



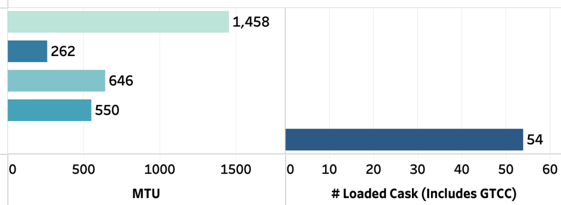
Facility Timeline

Facility Name	# Rx
Columbia	1



Events
- First Discharge Year
- Dry Storage Start Year
- Shutdown Year
- Dry Loading Completion Year
- Final Projected Discharge
- Off-Site Storage Start Year

Current and Projected Inventory (Base Scenario, includes applicable transfers)



Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
5	Baumgartner, Michael (R)	Washington State University	Washington State University WSUR	1961- License R-76	R&TRF TRIGA, 1,000 kW/ Operating	-	-	-
4	Newhouse, Dan (R)	Department of Energy	Hanford	None	Various/ Shutdown	-	-	-
			Pacific Northwest National Laboratory	None	Various	-	-	-
		Energy Northwest	Columbia	1984-2043	BWR/ Operating	2002/GL	1457.58	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
198.9	0	4

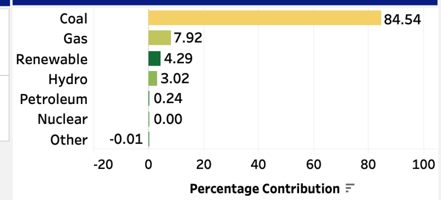
Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.
4. The Nuclear Waste Policy Act established the Federal Government's responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A "one-time fee" was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees. Does not include $2.263M One Mill fee and $5.293M one time fee payments by DOE.

WEST VIRGINIA

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)	
Governor	Patrick Morrisey (R)
Senators	Capito, Shelley Moore (R) and Justice, James C. (R)

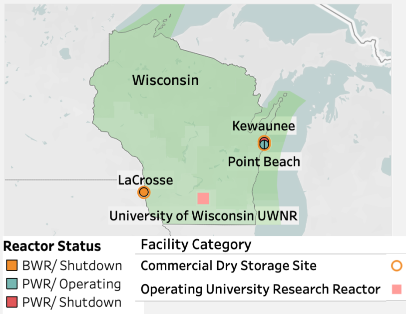
2024 Electricity Generation Mix (Note# 3)



Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 202.
3. Data for Electricity Generation Mix from Tables 1.4.B-1.13.B, Electric Power Monthly - January 2025. Year-to-Date Data through November 2024. Petroleum includes both liquid and coke. Gas includes both natural gas and other gases. Hydro includes both conventional and pumped storage. Renewable includes wind, biomass, geothermal, and solar. Other includes manufactured, supplemental gaseous fuel, propane, and waste gases.

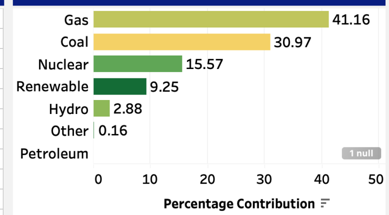
WISCONSIN



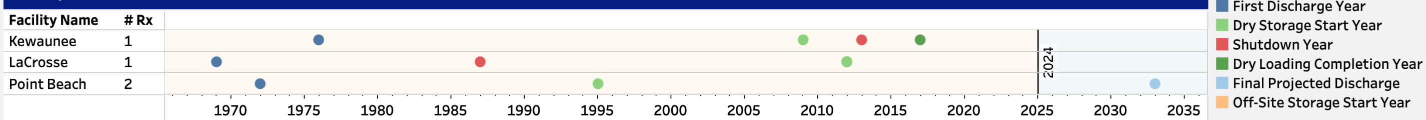
State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Tony Evers (D)
Senators	Baldwin, Tammy (D) and Johnson, Ron (R)
No. of Commercial Site	3
No. of Commercial Dry Storage Site	3
No. of Commercial Operating Reactors	2
No. of Commercial Shutdown Reactors	2
Commercial SNF at Dry Storage (MTU)	1199.76
Commercial SNF at Pool (MTU)	498.06
Total Commercial SNF (MTU)	1697.82
No. of Commercial SNF Dry Casks	99
No. of Commercial GTCC Casks	2

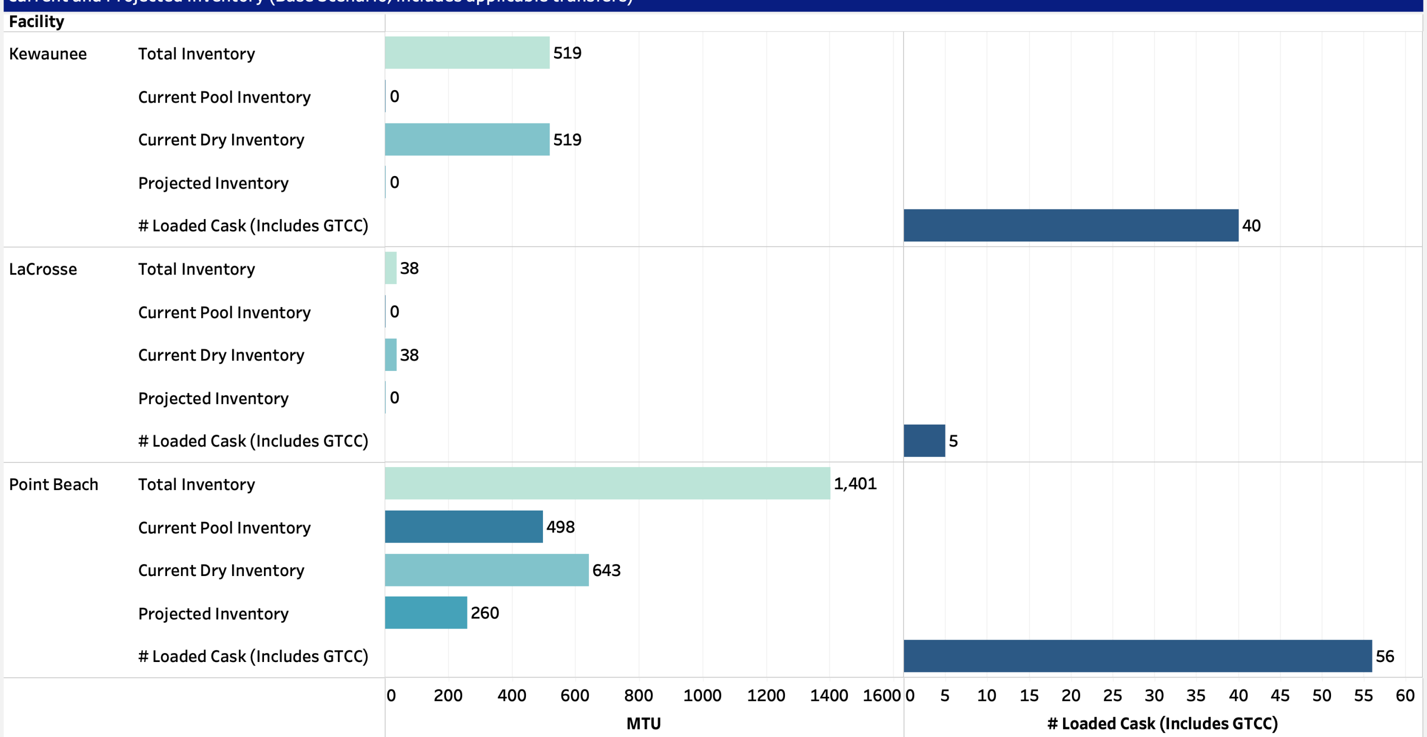
2024 Electricity Generation Mix (Note# 3)



Facility Timeline



Current and Projected Inventory (Base Scenario, includes applicable transfers)



WISCONSIN

Facility/Reactor Status Including SNF Discharge Through Projected Operation Period Using Base Scenario (Does not include applicable fuel transfers)

Congressional district	Representative	Utility	Facility Name	Operating Period/ Status	Facility Type/ Status	ISFSI License Year/ Type	Projected Discharged SNF (MTU)	Note #
8	Wied, Tony (R)	Kewaunee Solutions, Inc.	Kewaunee	1974-2013	PWR/ Shutdown	2009/GL	518.7	-
6	Grothman, Glenn (R)	NextEra Energy, Inc	Point Beach 1	1970-2030	PWR/ Operating	1996/GL	711.87	5
			Point Beach 2	1972-2033	PWR/ Operating	1996/GL	692.77	-
2	Hinson, Ashley (R)	Dairyland Power Cooperative	La Crosse	1967-1987	BWR/ Shutdown	2011/GL	38.09	6
	Pocan, Mark (D)	University of Wisconsin	University of Wisconsin UWNR	1960- License R-74	R&TRF TRIGA MARK I, 1,000 kW/ Operating	-	-	-

Nuclear Waste Fund

Paid (in million $)	One-time Fee Owed (in million $)	Note #
416.4	0	4

Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
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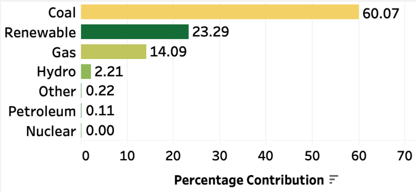
4. The Nuclear Waste Policy Act established the Federal Government's responsibility to provide permanent disposal of commercial spent nuclear fuel (SNF) and high-level radioactive waste (HLW), and the Nuclear Waste Fund, composed of payments made by the generators and owners of SNF (primarily nuclear utilities) and HLW, to ensure that the costs of carrying out activities relating to the disposal be borne by the generators and owners of the SNF and HLW. A "one-time fee" was established for SNF created before April 7, 1983, and an ongoing quarterly fee based on electricity generated and sold from April 7, 1983 forward. Payments and amounts owed are as of December 31, 2024 using the Department of Energy Consolidated Accounting & Investment System (CAIS) data. Paid amounts are net of fee and interest credits/refunds. One-time fee owed includes both fees and interest on fees. Does not include $2.263M One Mill fee and $5.293M one time fee payments by DOE.
5. Discharge includes 2.36 MTU transferred to Idaho National Laboratory.
6. Discharge includes 0.12 MTU transferred to Savannah River Site.

WYOMING

State Summary (includes applicable transfers) as of 12/31/2024 (Note# 1, 2)

Governor	Mark Gordon (R)	
Senators	Barrasso, John (R) and Lummis, Cynthia M. (R)	

2024 Electricity Generation Mix (Note# 3)



Notes:

1. Data for Elected Officials from https://www.senate.gov/senators/index.htm and https://geodata.bts.gov/datasets/usdot::congressional-districts/about ; Accessed February 14, 2025.
2. Governor from https://www.stateside.com/state-resource/governors, Accessed February 14, 2025.
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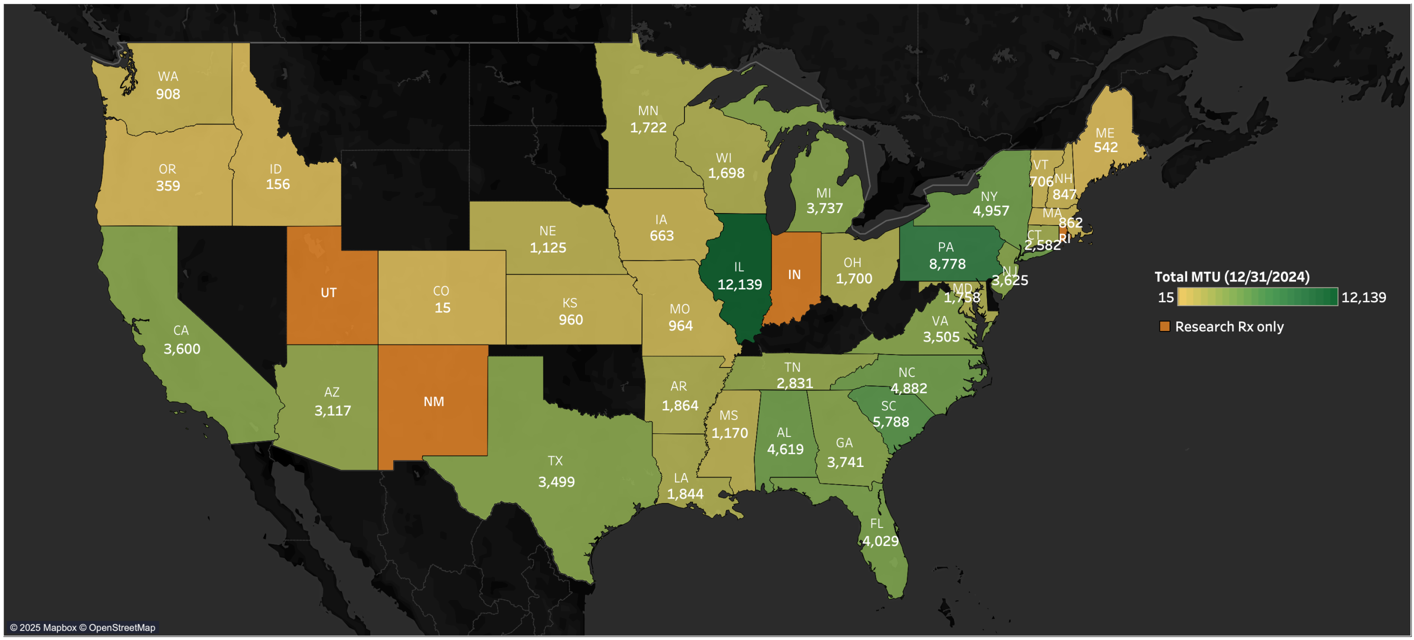
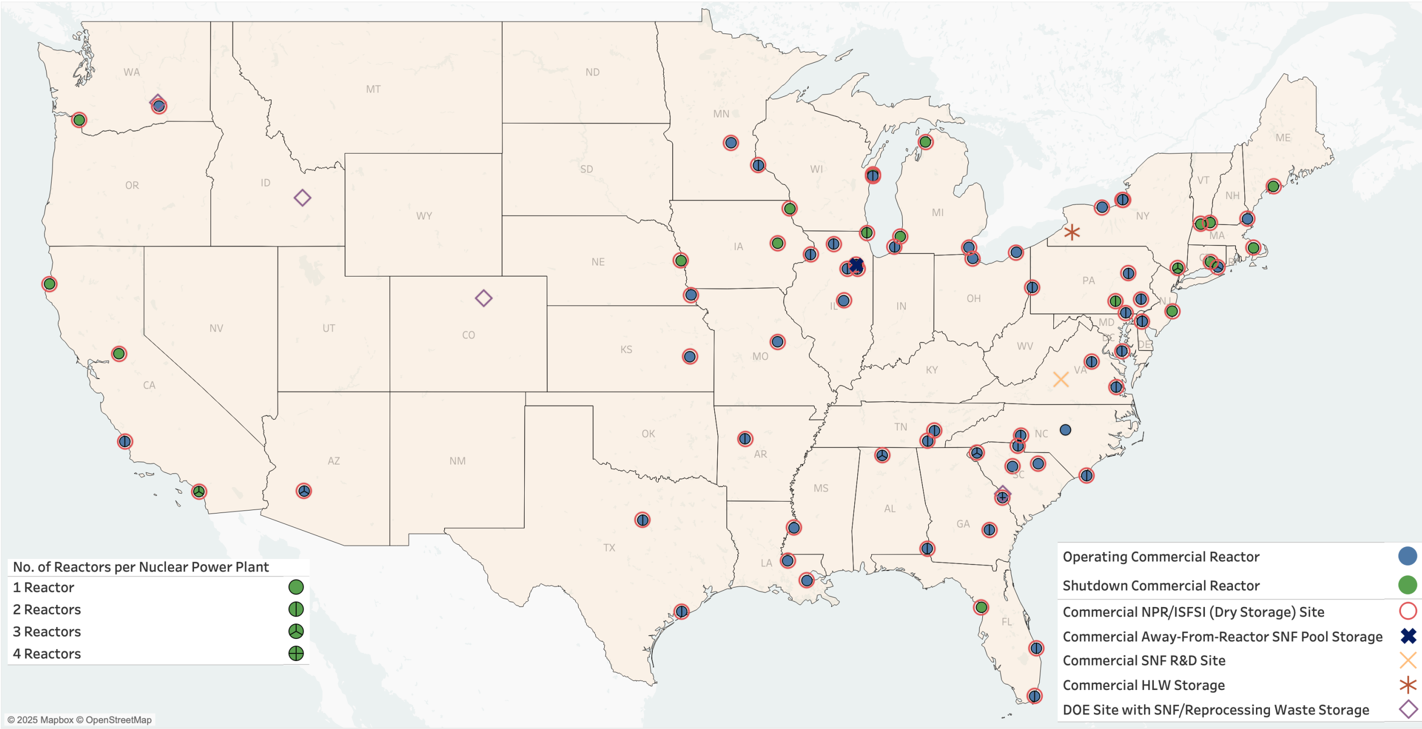
35 States with SNF from Nuclear Power Reactors (DOE Managed SNF at CO and ID)
4 States with Research Reactors Only (IN, NM, RI, UT)
Approximate Amounts in Metric Tons Heavy Metal (Estimated 12/31/24)



Note: Quantities of SNF from Research and defense programs and additional commercial-origin SNF stored under DOE authority are not included.

Spent Nuclear Fuel and Reprocessing Waste Inventory

Locations of Commercial and DOE-Owned Spent Nuclear Fuel and Reprocessing Waste



Top 10 States with LWR SNF