

Annual Fire Protection Program Summary

Calendar Year 2024



UNITED STATES DEPARTMENT OF ENERGY

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Summary Provided by:

DOE Office of ES&H Reporting and Analysis

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Executive Summary

The Department of Energy (DOE) Order 231.1B, *Environment, Safety, and Health Reporting*, requires organizations responsible for maintaining property under the stewardship of DOE to enter reportable fire and fire protection-related incidents into the DOE Fire Protection Reporting System (FPRS). This report examines calendar year (CY) 2024 and includes information submitted by 33 DOE elements representing approximately 99 percent of DOE's facility and property valuation.

Information reported by DOE elements into the FPRS documented a total of 82 fire protection-related (fire and non-fire) incidents in 2024, resulting in monetary losses of \$4,317,777. Compared to 2023 data, this represents a 14 percent decrease in the number of incidents, but a 77 percent increase in monetary losses. Of the 82 incidents, 40 resulted in monetary losses while 42 had no reported monetary losses.

There were 31 fire loss incidents (directly attributable to fire or smoke) in 2024, resulting in monetary losses of \$3,962,444. This represents a 33 percent decrease in the number of incidents, and a 130 percent increase in the monetary loss amounts from 2023. There were nine non-fire loss incidents (leaks, spills, & inadvertent releases or actuations, and hazardous materials) related to fire protection systems in 2024, totaling \$360,333. This represents a 40 percent decrease in the number of incidents, and a 49 percent decrease in monetary losses from 2023.

In 2024, there were 10 major fire losses at six sites costing \$10,000 or more, a 29 percent decrease from the 14 reported in 2023. Of these, three resulted in losses of \$50,000 or greater, compared with nine in 2023, a 67 percent decrease in the number of such incidents. The single largest fire loss incident was a transformer fire which resulted in approximately 300 gallons of leaked transformer oil at Fermi National Accelerator Laboratory (FNAL) resulting in a \$3,500,000 loss, which alone represents 81 percent of all DOE fire losses reported in 2024.

Loss comparisons among DOE sites are performed by normalizing data against total facility and property valuation as reported in the Facility Information Management System (FIMS) and the Property Information Database System (PIDS). Total DOE valuation for sites reporting into the FPRS in 2024 was \$285.8 billion, a one percent decrease from 2023. The highest calculated Fire Loss Rate was at the Fermi National Accelerator Laboratory (FNAL), at \$8.11 per \$100 of valuation. The DOE-wide 2024 Fire Loss Rate was 0.14 cents per \$100 in total site valuation.

DOE elements are required to report costs associated with recurring fire protection activities into the FPRS annually. In 2024, recurring costs for fire protection activities were \$482,727,101, a 47 percent increase from 2023. As a ratio of cost to total valuation, DOE sites spent approximately 17 cents per \$100 of valuation for recurring fire protection activities in 2024, a 48 percent increase from 2023. The Waste Isolation Pilot Plant (WIPP) had the highest rate at \$1.90 per \$100 of valuation.

There were 7,293 Fire Department responses in 2024 (an 11% increase) compared to 2023.

In calendar year 2024, no DOE site reported fire or fire protection-related injuries or fatalities into the DOE Occurrence Reporting and Processing System (ORPS). There were 94 fire or fire protection-related occurrences reported into ORPS in 2024, a 44 percent decrease from 2023. Many of these continue to be attributable to fire protection equipment degradation incidents at Pantex Plant resulting from ongoing issues associated with the Det-Tronics system. Of the 94 occurrences, 10 (11 percent) were rated High Level, 56 (60 percent) were rated Low Level, and 28 (30 percent) were rated Informational Level.

Table of Contents

Executive Summary	i
Table of Contents	ii
Tables of Tables	iii
Table of Figures	iii
Site/Facility Acronyms and Abbreviations	iv
Definitions	v
Introduction	1
Fire and Fire Protection Losses	2
Major Fire Loss Incidents (\$10,000 or greater)	4
Facility/Property Valuation and Calculated Fire Loss Rates	6
DOE Fire Loss History	9
Recurring Fire Protection Program Costs	11
Water-Based Fire Suppression System Actuations	13
Non-Water-Based Fire Suppression System Actuations	14
Fire Department Responses	15
Fire Protection Occurrences Reported in ORPS	16
Enhancements to Fire Protection Equipment	21
Fire Service Achievements	22
2025 WALTER W. MAYBEE AWARD FOR FIRE PROTECTION	22
Upcoming Developments	23
Key Observations for Calendar Year 2024	24

Tables of Tables

Table 1: Summary of Reported Fire and Fire Protection Incidents	3
Table 2: Fire Loss Causes	3
Table 3: Summary of Fire Incidents with Losses of \$50,000 or Greater	5
Table 4: DOE Fire Loss History	9
Table 5: Water-Based Fire Suppression System Actuation Causes	13
Table 6: Costliest Water-Based Fire Suppression System Actuations	13
Table 7: Non-Water-Based Fire Suppression System Actuation	14
Table 8: Fire Department Responses	15
Table 9: Distribution of Fire Protection ORPS Keywords	16
Table 10: Summaries of High Level Fire Protection ORPS Occurrences	18

Table of Figures

Figure 1: DOE Total Property and Facility Fire Losses 2005-2024	2
Figure 2 : DOE Total Property and Facility Fire Losses 2005-2024 without WIPP and FNAL Events	2
Figure 3: Major Fire Losses by Site	4
Figure 4: DOE Total Valuation from FIMS and PIDS 2005-2024	6
Figure 5: DOE Fire Loss Rates 2005-2024	7
Figure 6: Fire Loss Rates by Site	8
Figure 7: Fire Protection Program Costs by Activity in 2024	11
Figure 8: Fire Protection Program Cost Rates by Site	12
Figure 9: Fire Protection Occurrence Trend from ORPS	17

Site/Facility Acronyms and Abbreviations

AMES	Ames Laboratory
ANL	Argonne National Laboratory
BNL	Brookhaven National Laboratory
DUF6	Depleted Uranium Hexafluoride
ETTP	East Tennessee Technology Park
FNAL	Fermi National Accelerator Laboratory
GJO	Grand Junction Office
HANF	Hanford Site
INL	Idaho National Laboratory
KAPL	Knolls Atomic Power Laboratory
KCNSC	Kansas City National Security Campus
LBNL	Lawrence Berkeley National Laboratory
LLNL	Lawrence Livermore National Laboratory
LANL	Los Alamos National Laboratory
MOAB	Moab Uranium Mill Tailings Remedial Action Project
N3B	Newport News Nuclear BWXT - Los Alamos
NREL	National Renewable Energy Laboratory
NNSS	Nevada National Security Site
ORAU	Oak Ridge Associated Universities
ORISE	Oak Ridge Institute for Science and Education
ORNL	Oak Ridge National Laboratory
OST	Office of Secure Transportation
PGDP	Paducah Gaseous Diffusion Plant
PNNL	Pacific Northwest National Laboratory
PTX	Pantex Plant
PORT	Portsmouth Gaseous Diffusion Plant
PPPL	Princeton Plasma Physics Laboratory
RL	Richland Operations Office
RP	Office of River Protection
SLAC	SLAC (Stanford Linear Accelerator Center) National Accelerator Laboratory
SNL	Sandia National Laboratories, New Mexico
SRS	Savannah River Site
SPR	Strategic Petroleum Reserves
TJNAF	Thomas Jefferson National Accelerator Facility
WIPP	Waste Isolation Pilot Plant
WVDP	West Valley Demonstration Project
Y-12	Y-12 National Security Complex

Definitions

Valuation Definitions

FIMS (Facility Information Management System): The DOE corporate database that maintains the inventory and property values for government owned real property and any permanently affixed structures such as buildings, trailers, fences, bridges, etc.

PIDS (Property Information Database System): The DOE corporate database that maintains the inventory and property values for government owned accountable personal property.

Property Value/Valuation: The approximate replacement value of all DOE-owned buildings/facilities and equipment. Included in the value are the cost of all DOE-owned supplies and average inventory of all source and special nuclear materials. Excluded from the value are the cost of land, land improvements (such as sidewalks or roads), and below ground facilities not susceptible to damage by fire or explosion (such as major water mains and ponds).

Total Valuation: The combined totals from FIMS and PIDS, DOE-wide and by site.

Loss Definitions

Estimated Loss: Monetary loss determination is based on all estimated or actual costs to restore DOE facility and equipment to pre-occurrence conditions irrespective of whether such restoration is performed. The estimate includes: (1) any necessary nuclear decontamination; (2) restoration in areas that received water or smoke damage; (3) any loss reductions for salvage value; and (4) any lost revenue experienced as a result of the accident. The estimate excludes: (1) downtime; and (2) any outside agency payments. Losses sustained on private property are not reportable, even if DOE is liable for the damage and loss consequences resulting from the occurrence.

Fire Loss: All damage or loss sustained as a direct consequence of (and following the outbreak of) a fire shall be classified as a fire loss. Exception: the burnout of electric motors and other electrical equipment through overheating from electrical causes shall be considered a fire loss only if a self-sustained combustion exists after power is shut off.

Fire Loss Rate: Unit of comparison in cents loss per \$100 of valuation (facilities and equipment) as a consequence of fire incidents.

Fire Protection Loss: All damage or loss sustained as a consequence of fire incidents, or non-fire incidents involving fire protection systems; including leaks, spills, and inadvertent releases.

Non-Fire Loss: All damage sustained as a consequence of non-fire incidents involving fire protection systems; including leaks, spills, and inadvertent releases.

Introduction

The *Annual Fire Protection Summary Report*, required by the Department of Energy (DOE) Order 231.1B, *Environment, Safety and Health Reporting*, is the primary source for reporting fire and fire-related costs and monetary losses associated with facilities, property, and equipment across the DOE complex, including cost- and loss-to-valuation ratios to normalize the data for comparison purposes.

This report includes data for calendar year (CY) 2024 from information submitted by 33 DOE elements representing approximately 99 percent of DOE's facility and property valuation. DOE facilities, with the exception of the Power Marketing Administrations, Naval Propulsion Laboratories, and Headquarters offices, are required to report costs and losses associated with fire and fire protection activities into the DOE Fire Protection Reporting System (FPRS) annually by April 30 of the following year.

The data for this 2024 report was extracted from the FPRS, with the following organizations reporting:

Ames Laboratory	Office of Secure Transportation
Argonne National Laboratory	ORISE-ORAU
Brookhaven National Laboratory	ORNL/EM-Isotek
DUF6 Paducah Site	ORNL-UT /Battelle
DUF6 Portsmouth Site	Pacific Northwest National Lab
East Tennessee Technology Park	Paducah Gaseous Diffusion Plant
Environmental Management Nevada Program	Pantex Plant
Fermi National Accelerator Laboratory	Portsmouth Gaseous Diffusion Plant
Hanford Site (Office of River Protection)	Princeton Plasma Physics Laboratory
Idaho Cleanup Project	Richland Operations Office
Idaho National Laboratory	Sandia National Laboratories
Kansas City National Security Campus	Savannah River Site
Lawrence Berkeley National Laboratory	SLAC National Accelerator Laboratory
Lawrence Livermore National Laboratory	Strategic Petroleum Reserves
Los Alamos National Laboratory	Thomas Jefferson National Accelerator Facility
N3B - Los Alamos	Waste Isolation Pilot Plant
National Renewable Energy Laboratory	West Valley Demonstration Project
Nevada National Security Site	Y-12 National Security Site
Office of Legacy Management	

Because some nearby reporting elements share fire department resources, throughout this report they are grouped by site, e.g., Hanford (Office of River Protection/Richland Operations Office), Paducah (Paducah Gaseous Diffusion Plant/DUF6), Portsmouth (Portsmouth Gaseous Diffusion Plant/DUF6), Idaho (Idaho National Laboratory/Idaho Cleanup Project), NNSS (Nevada National Security Site/Environmental Management Nevada Program), and LANL (Los Alamos National Laboratory/N3B-Los Alamos/EMLA).

The Fire Protection Reporting System is located at: <http://energy.gov/ehss/policy-guidance-reports/databases/fire-protection-database> [password required]. EHSS continues to collaborate with the DOE Fire Safety Committee to update and improve the data submission system and the content of the annual report to improve its utility to the DOE fire protection community and the DOE Enterprise.

Note: GJO, KAPL, MOAB may have property valuations in FIMS and/or PIDS, but do not report into the Fire Protection Reporting System (FPRS). Therefore, these sites are not included in the overall DOE fire protection calculations.

Fire and Fire Protection Losses

Fire Losses are incidents that involve fire, smoke, or both, that result in monetary losses. Figure 1 displays the 20-year trend of fire losses at DOE.

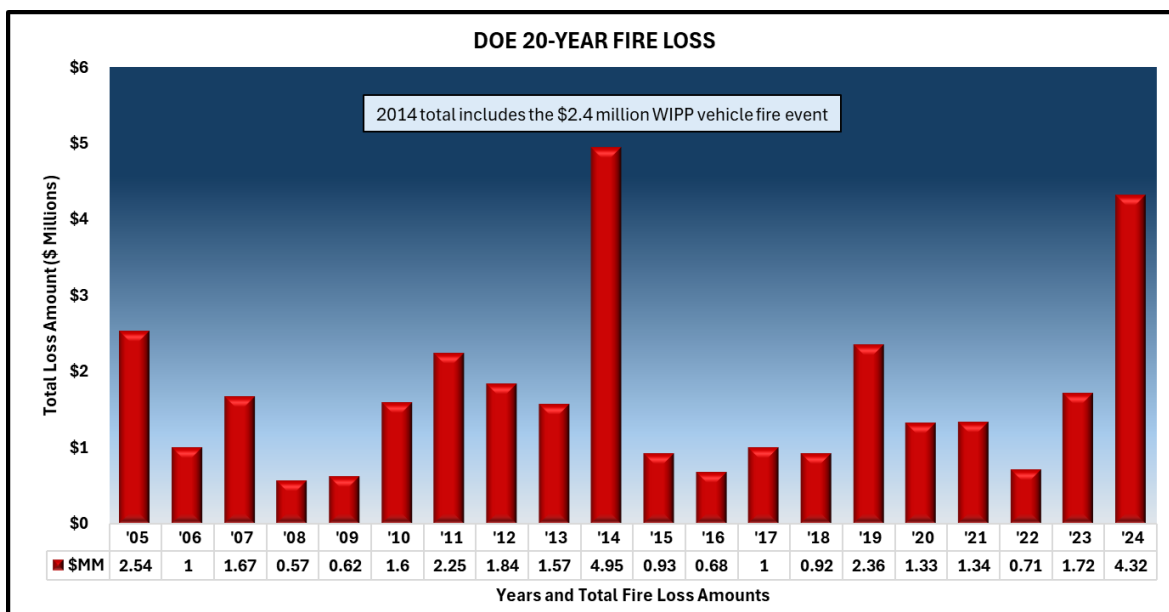


Figure 1: DOE Total Property and Facility Fire Losses 2005-2024

In 2024, DOE elements reported 31 fire loss incidents totaling \$3,962,444 in fire losses. When compared with 2023, this represents a 33 percent decrease in the number of incidents, and a 130 percent increase in loss amounts.

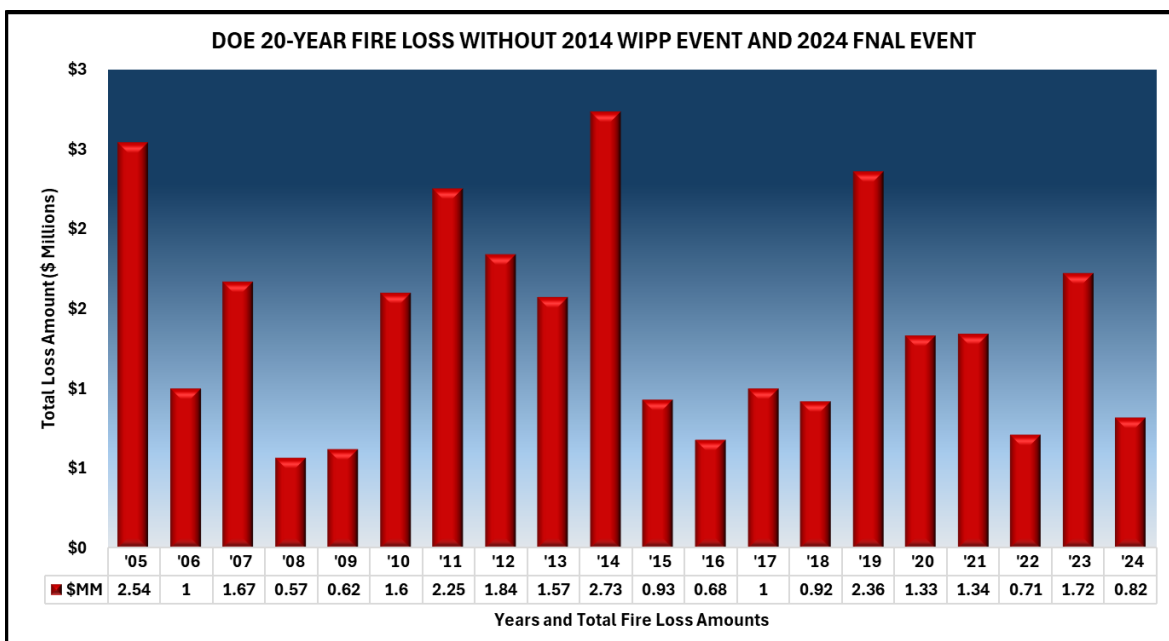


Figure 2 : DOE Total Property and Facility Fire Losses 2005-2024 without WIPP and FNAL Events

Figure 2 displays the same 20-year history of fire losses without the 2014 WIPP vehicle fire event and the 2024 FNAL transformer fire event.

DOE Annual Fire Protection Program Summary for Calendar Year 2024

Table 1 displays the 2024 loss category, loss type, and monetary losses associated with Fire Loss incidents (all damage or loss sustained as a direct consequence of a fire) and Non-Fire Loss incidents (all damage sustained as a consequence of non-fire incidents involving fire protection systems; including leaks, spills, and inadvertent releases) reported into the FPRS.

Table 1: Summary of Reported Fire and Fire Protection Incidents

FIRE AND FIRE PROTECTION INCIDENT SUMMARY			
Loss Category	Fire Loss Type	No. Incidents	Loss Amount
Fire Loss Incidents	Fire/Smoke (Brush)	1	\$ 50.00
	Fire/Smoke (Building)	6	\$ 195,170
	Fire/Smoke (Other)	15	\$ 3,532,289
	Fire/Smoke (Vehicle)	9	\$ 234,935
	Total Fire Loss Incidents	31	\$ 3,962,444
Non-Fire Loss Incidents	Leaks/Spills/Releases	8	\$ 355,333
	HAZMAT	1	\$ 5,000
	Total Monetary Losses	40	\$ 4,317,777
No Reported Loss	Non-Monetary Incidents	42	\$ -
	Total Fire Protection Incidents	82	\$ 4,317,777

In 2024 there were 82 total fire protection-related incidents reported into the FPRS, a 14 percent decrease from 2023, resulting in \$4,317,777 in monetary losses, a 77 percent increase from 2023. Of the 82 total incidents, 40 resulted in monetary losses, a 34 percent decrease from 2023. There were 42 incidents with no reported costs, a 24 percent increase from 2023. These incidents are typically small incidents or false alarms that are resolved quickly by local staff, or incidents where all costs are absorbed by the Fire Department.

Of the 40 incidents resulting in monetary losses in 2024, 31 were fire loss incidents (directly attributable to fire or smoke), a 33 percent decrease from 2023; and nine were non-fire loss incidents (leaks, spills, or inadvertent releases, and hazardous materials [HAZMAT] incidents), a 40 percent decrease from 2023. Of the eight leaks, spills, and inadvertent releases, one incident involved an inadvertent discharge of FM-200 fire extinguishing agent while the rest of the seven incidents were water-based.

The 31 fire loss incidents in 2024 resulted in \$3,962,444 in fire losses, a 130 percent increase from 2023. The nine non-fire losses (leaks, spills, or inadvertent releases, and HAZMAT) resulted in \$360,333 in losses, a 49 percent decrease from 2023.

Table 2 displays the causes of the 31 fire loss incidents reported into the FPRS in 2024.

Table 2: Fire Loss Causes

FIRE LOSS CAUSES		
Cause	No. of Incidents	Cost
Electrical	7	\$3,529,259
Employee Related	4	\$187,550
Unspecified	5	\$183,085
Other	10	\$52,250
Design Related	5	\$10,300
Procedure Related	0	\$0
Total	31	\$3,962,444

In 2024, the majority of fire losses were attributed to “Other” causes (including equipment and vehicle fires and miscellaneous small fire incidents), followed by “Electrical” causes, although the latter category resulted in the highest monetary losses.

Major Fire Loss Incidents (\$10,000 or greater)

A small proportion of the fire incidents constitute the majority of the total fire losses reported by DOE sites. Figure 2 displays the distribution of major (\$10,000+) fire loss incidents at DOE sites.

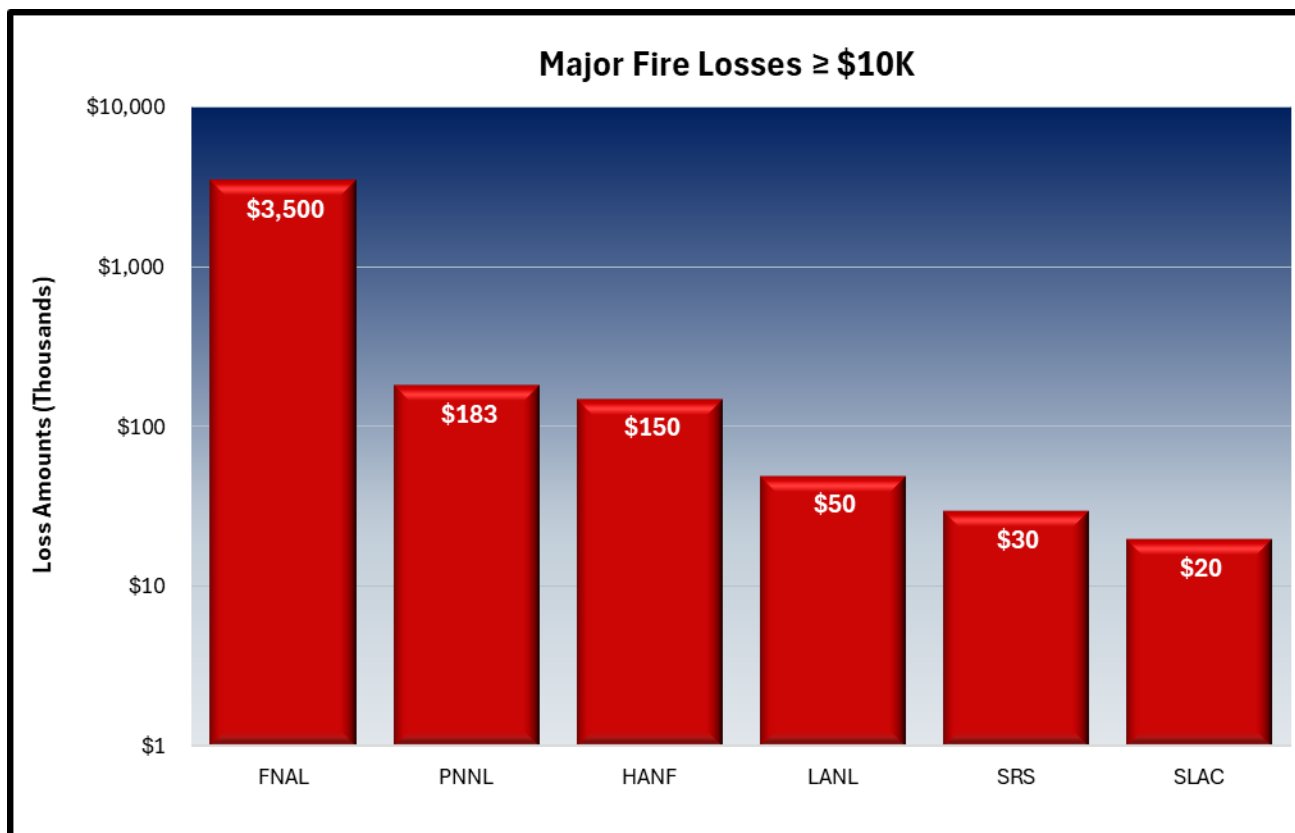


Figure 3: Major Fire Losses by Site

In 2024, there were 10 major fire losses at six sites costing \$10,000 or more, a 29 percent decrease from 2023. The 10 major loss incidents (32 percent of the 31 total incidents) represented \$3,934,085 or 99 percent of all reported fire losses in 2024. Of the 10 incidents, three resulted in losses of \$50,000 or greater, a 67 percent decrease from 2023. The single largest incident involved a transformer fire and approximately 300 gallons of leaked transformer oil at Fermi National Accelerator Laboratory (FNAL) resulting in a \$3,500,000 loss, which alone represents 81 percent of all DOE fire losses reported in 2024.

Additionally, there were three non-fire losses over \$10,000 involving leaks, spills, and releases in 2024. These non-fire losses occurred at Argonne National Laboratory (ANL), Oak Ridge National Laboratory (ORNL), and Sandia National Laboratory (SNL). The largest non-fire monetary loss was a \$200,000 loss at ANL, resulting from a frozen fire sprinkler and the damaged electrical equipment that needed replacement.

Table 3 provides information and site descriptions for the nine costliest fire losses (\$50,000 or greater). These three incidents represent \$3,781,585, or 88 percent of all DOE fire protection losses for 2024.

Table 3: Summary of Fire Incidents with Losses of \$50,000 or Greater

SUMMARY OF FIRE LOSS INCIDENTS > \$50,000				
Site	Loss Amount	Loss Type	Cause	Description
FNAL	\$3,500,000	Fire/Smoke (Other)	Electrical	On August 3, 2024, the Fermilab Fire Department (FFD) responded to a transformer fire at the Kautz Road Substation. The fire was contained to the transformer. Fermilab personnel verified that power to the substation was shut off before firefighting operations commenced. FFD personnel attempted to extinguish the fire using Carbon-Dioxide extinguishers but were ineffective on elevated portions of the transformer. Fire crews then deployed a hose line to fully extinguish the fire. Following extinguishment, approximately 300 gallons of non-polychlorinated biphenyls transformer oil were found to have leaked. FFD assisted Environment Safety & Health personnel in deploying hazmat containment measures. The fire was successfully controlled without injuries or further escalation.
HANF	\$135,585	Fire/Smoke (Vehicle)	Unspecified	On May 6, 2024, the Hanford Fire Department (HFD) was dispatched to a report of a water tanker truck on fire. The truck was in operation at the time, and the driver had heard a 'pop'. He pulled the vehicle over, and opened the engine compartment to find a fire was there. The driver attempted extinguishment with a fire extinguisher and then called 911. HFD arrived and noted that the entire engine compartment and passenger compartment were involved in the fire. Fire was extinguished without incident. Subsequent fire investigation revealed no observable cause as the damage was extensive. The fire was classified as undetermined.
PNNL	\$146,000	Fire/Smoke (Building)	Employee Related	On May 14, 2024, a fire caused by an overlooked ignition source occurred in excess materials located outside and adjacent to the building, resulting in direct fire impingement damage to a portion of the wall.

NOTE: Major losses associated with leaks, spills, releases, and actuations are detailed in the Water-Based Fire Suppression System Actuations and Non-Water-Based Fire Suppression System Actuations sections of this report.

Facility/Property Valuation and Calculated Fire Loss Rates

Facility/property valuation is calculated by combining data from the Facility Information Management System (FIMS) and Property Information Database System (PIDS). The combined totals serve as a common denominator for calculating and normalizing Fire Loss Rates and Fire Protection Program Cost Rates (discussed later in this report). For historical context, Figure 3 displays the total DOE valuation trend over the past 20 years.

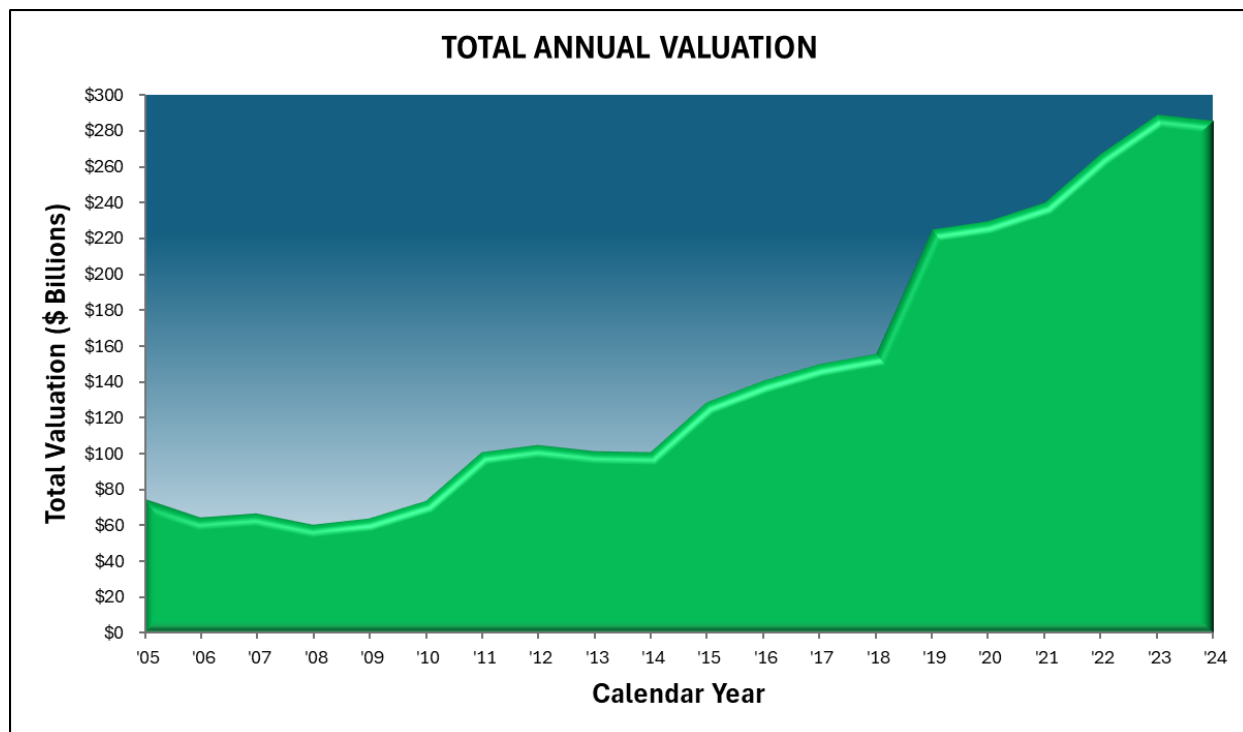


Figure 4: DOE Total Valuation from FIMS and PIDS 2005-2024

In 2024, total DOE valuation for sites reporting into the FPRS was \$285.8 billion, a one percent decrease from 2023.

Fire Loss Rates are calculated using monetary losses and total valuation. Figure 4 displays the DOE Fire Loss Rates over the past 20 years.

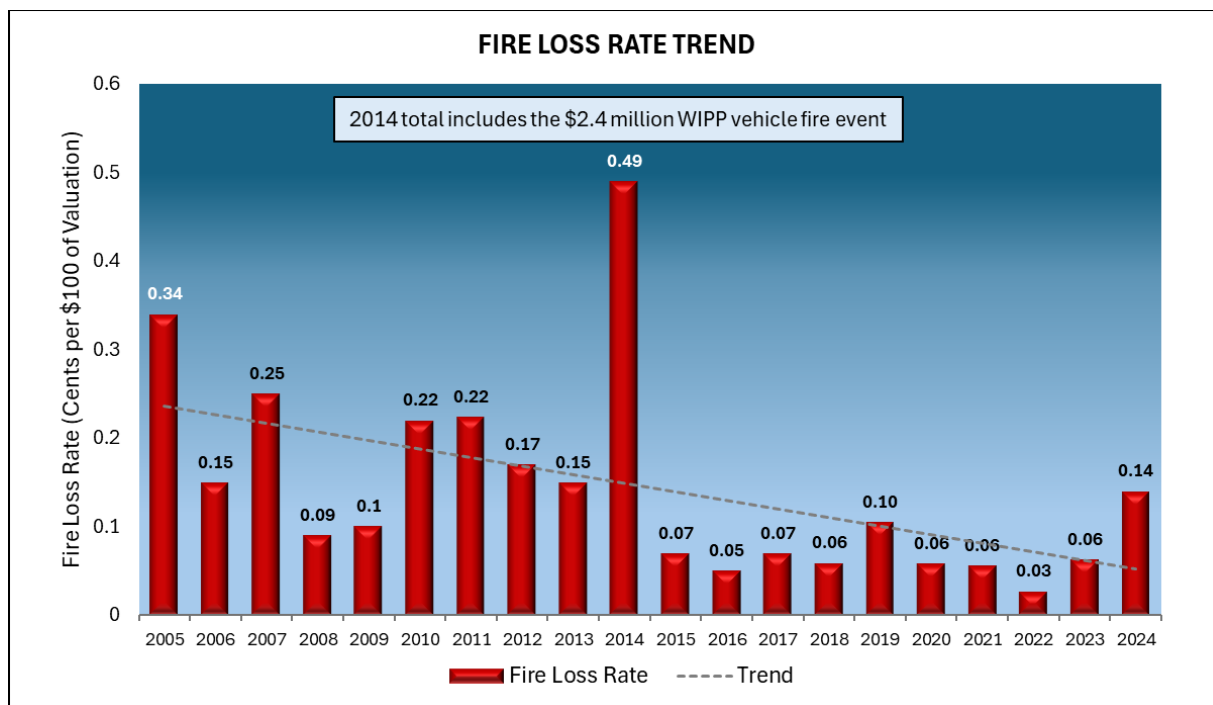


Figure 5: DOE Fire Loss Rates 2005-2024

DOE's calculated 2024 Fire Loss Rate for sites reporting into FIMS, PIDS, and the FPRS was approximately 0.14 cents per \$100 of total valuation, a 133 percent increase from 2023. This is preceded by an average of 0.06 cents per \$100 of total valuation for the previous five years.

Figure 5 displays the Fire Loss Rates for sites that reported monetary fire losses into the FPRS in 2024.

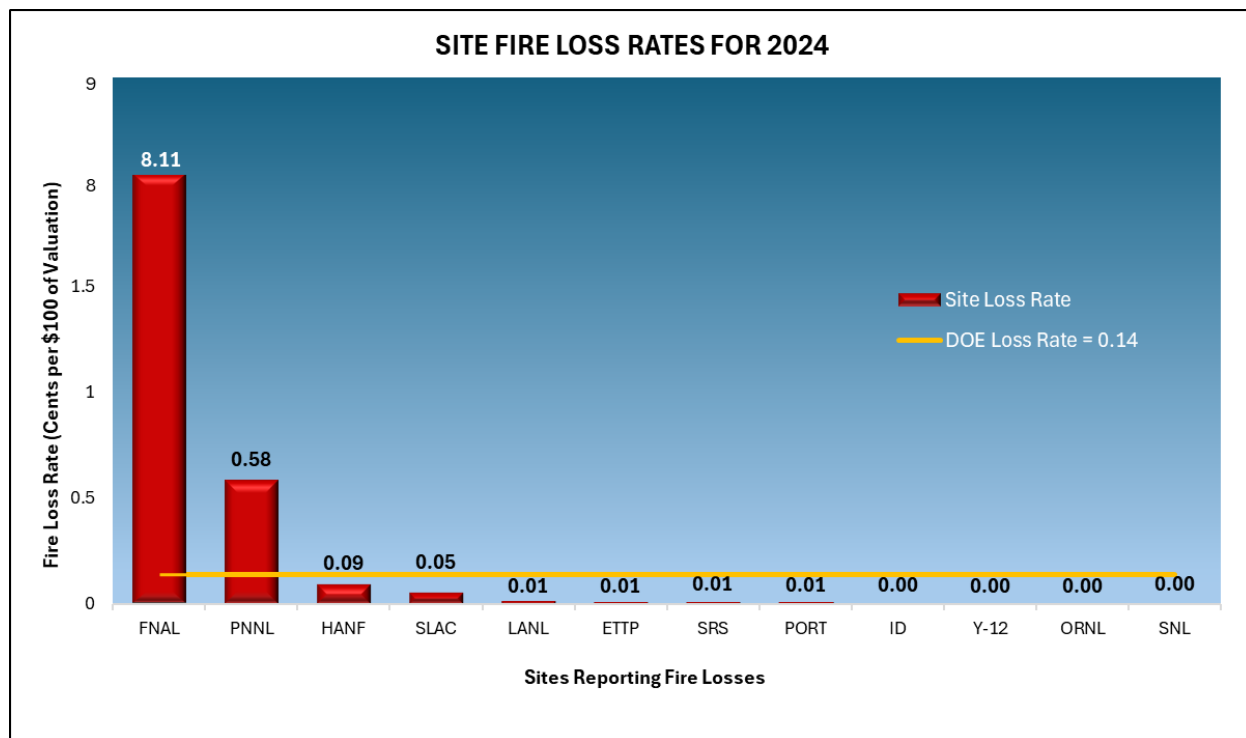


Figure 6: Fire Loss Rates by Site

Twelve sites reported fire losses in 2024, a 14 percent decrease from 2023. The DOE-wide 2024 Fire Loss Rate of 0.14 cents per \$100 is displayed as an orange line in the figure above. FNAL had the highest Fire Loss Rate of 8.11 cents per \$100 of valuation, followed by PNNL at 0.58. All other sites were at or below the DOE-wide rate, with some rounding down to zero.

DOE Fire Loss History

Table 4 displays DOE historical fire loss information, including valuations, monetary losses, and calculated Fire Loss Rates since 1950.

Table 4: DOE Fire Loss History

Year	Valuation (Millions)	Fire Loss (Dollars)	Fire Loss Rate (Cents per \$100 Valuation)	Previous 5-Year Average (Cents per \$100 Valuation)
1950	1,800.00	496,439	2.76	—
1951	2,177.10	356,115	1.64	—
1952	3,055.10	805,707	2.64	—
1953	4,081.00	575,572	1.41	—
1954	6,095.90	375,874	0.62	—
1955	6,954.20	455,788	0.66	1.81
1956	7,364.10	3,147,423	4.27	1.39
1957	7,973.20	1,476,599	1.85	1.92
1958	8,102.50	751,825	0.93	1.76
1959	10,301.80	1,197,901	1.16	1.67
1960	10,708.60	1,401,051	1.31	1.77
1961	11,929.90	5,856,055	4.91	1.91
1962	12,108.80	3,313,364	2.74	2.03
1963	13,288.90	1,376,054	1.04	2.21
1964	14,582.80	1,351,035	0.93	2.23
1965	15,679.30	3,850,069	2.46	2.18
1966	16,669.00	856,973	0.51	2.41
1967	17,450.90	2,782,934	1.59	1.53
1968	18,611.90	869,083	0.47	1.31
1969	20,068.30	28,054,334	13.98	1.19
1970	22,004.30	1,700,792	0.77	3.80
1971	24,155.80	1,936,049	0.80	3.47
1972	26,383.50	920,651	0.35	3.52
1973	27,166.70	2,375,688	0.87	3.27
1974	28,255.50	1,179,877	0.42	3.36
1975	31,658.30	5,252,349	1.66	0.64
1976	35,512.70	2,292,576	0.65	0.82
1977	39,856.10	3,613,984	0.91	0.79
1978	47,027.10	17,477,979	3.72	0.90
1979	50,340.80	2,541,023	0.50	1.47
1980	54,654.70	8,545,935	1.56	1.49
1981	59,988.80	4,643,488	0.77	1.47
1982	65,360.40	4,200,968	0.64	1.49
1983	70,484.40	10,497,062	1.49	1.44
1984	82,166.90	6,467,320	0.79	0.99

DOE Fire Loss History (continued)

Year	Valuation (Millions)	Fire Loss (Dollars)	Fire Loss Rate (Cents per \$100 Valuation)	Previous 5-Year Average (Cents per \$100 Valuation)
1985	86,321.84	4,129,297	0.48	1.05
1986	82,787.52	5,295,292	0.64	0.83
1987	91,927.20	3,010,829	0.33	0.81
1988	92,998.00	8,303,120	0.89	0.74
1989	107,948.00	7,505,551	0.70	0.63
1990	115,076.00	17,470,746	1.52	0.61
1991	118,868.68	2,428,805	0.20	0.81
1992	118,267.06	3,653,554	0.31	0.73
1993	119,826.25	3,018,534	0.25	0.72
1994	124,350.29	3,403,650	0.27	0.60
1995	120,321.68	1,632,466	0.14	0.51
1996	113,471.00	6,025,832	0.53	0.23
1997	102,947.24	6,112,887	0.59	0.30
1998	99,127.79	1,378,788	0.14	0.36
1999	110,858.47	2,911,040	0.26	0.33
2000	102,514.01	103,174,122	10.06	0.33
2001	103,215.56	505,586	0.05	2.32
2002	98,779.44	2,461,847	0.25	2.22
2003	70,812.80	1,075,309	0.15	2.15
2004	72,601.95	622,613	0.09	2.16
2005	74,951.25	2,537,565	0.34	2.12
2006	64,547.05	997,805	0.15	0.17
2007	67,382.01	1,674,515	0.25	0.20
2008	60,576.55	573,161	0.09	0.20
2009	63,569.89	623,299	0.10	0.18
2010	74,417.99	1,608,762	0.22	0.19
2011*	101,351.17	2,250,744	0.22	0.16
2012*	105,238.57	1,840,121	0.17	0.18
2013*	101,940.69	1,572,342	0.15	0.16
2014*	101,437.21	4,953,200	0.49	0.17
2015	129,041.10	929,879	0.07	0.25
2016	141,386.52	679,619	0.05	0.22
2017	150,206.75	1,008,295	0.07	0.19
2018	156,161.05	917,936	0.06	0.17
2019	225,242.45	2,360,843	0.10	0.15
2020	229,570.58	1,328,871	0.06	0.07
2021	239,970.22	1,336,492	0.06	0.07
2022	267,078.63	711,619	0.03	0.07
2023	288,634.74	1,723,711	0.06	0.06
2024	285,787.12	3,962,444	0.14	0.06

* Fire Loss Amounts from 2011-2014 (column 3) include both fire and non-fire losses such as system leaks, spills, and releases.

Recurring Fire Protection Program Costs

DOE elements are required to report costs associated with recurring fire protection activities into the FRPS annually. Figure 6 displays the DOE recurring cost distribution by activity type in 2024.

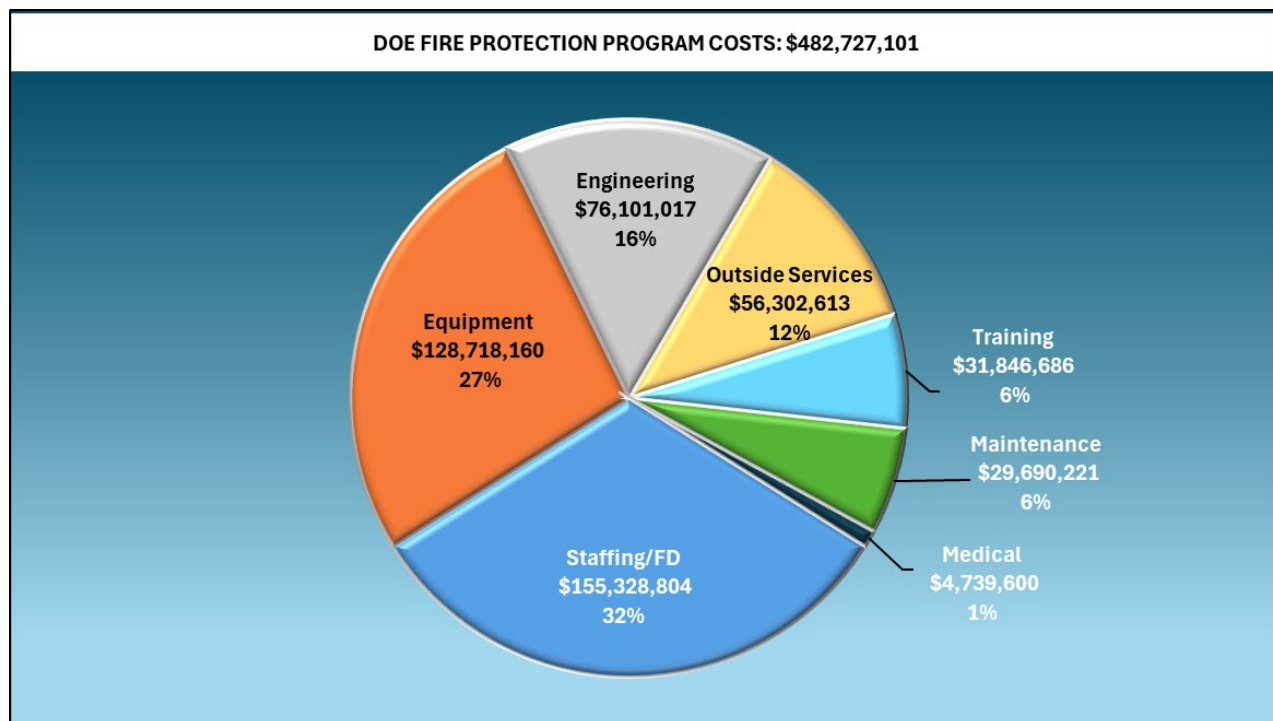


Figure 7: Fire Protection Program Costs by Activity in 2024

DOE total recurring fire protection costs for 2024 were \$482,727,101, with staffing costs comprising nearly one-third of the total costs. The 2024 number totals are a 47 percent increase from 2023, with equipment costs showing the largest increase across the Complex.

DOE Annual Fire Protection Program Summary for Calendar Year 2024

A Fire Protection Program Cost Rate may be calculated the same way as Fire Loss Rates, using facility and property valuations. Figure 7 displays the Fire Protection Program Cost Rates for the sites in 2024.

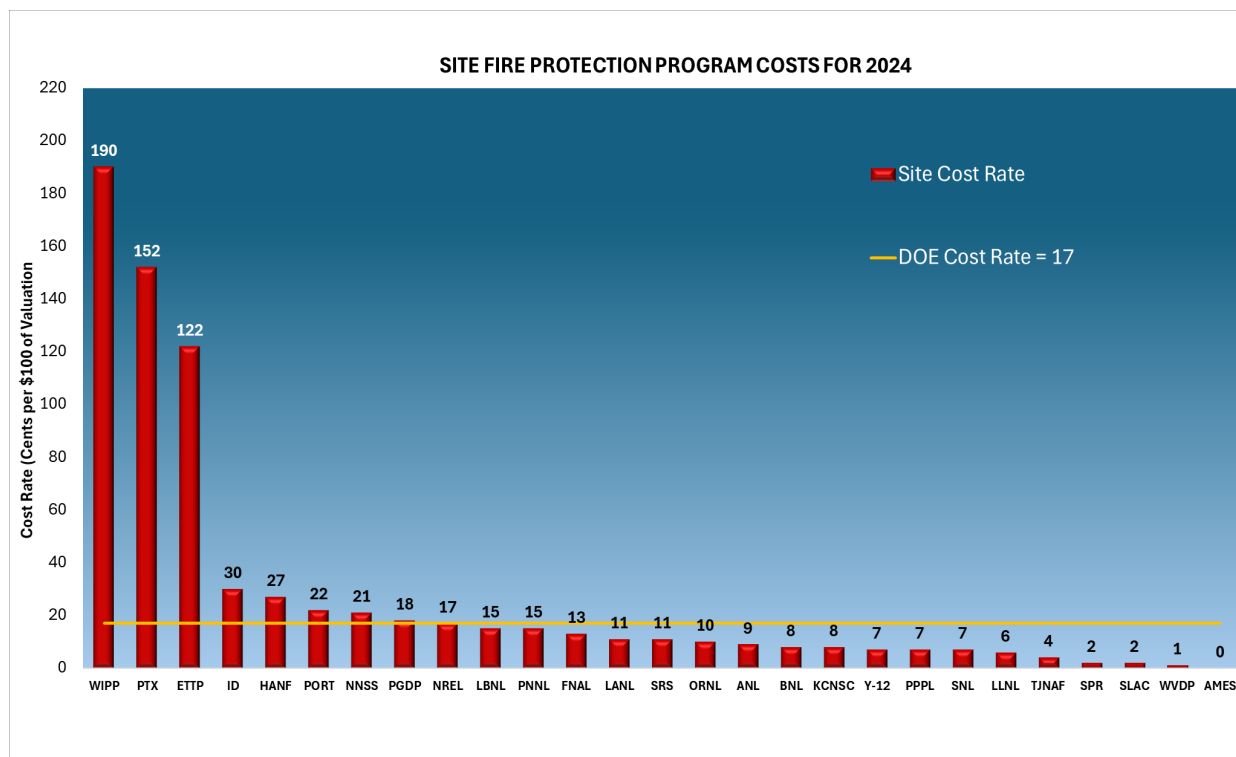


Figure 8: Fire Protection Program Cost Rates by Site

In 2024, the DOE Fire Protection Program Cost Rate was approximately 17 cents per \$100 (dollars) of property valuation for recurring fire protection activities, displayed as the orange line on the chart; a 48 percent increase from 2023.

The Waste Isolation Pilot Plant (WIPP) had the highest rate at \$1.90 per \$100 of valuation, a 22 percent increase from 2023. This was followed by the Pantex Plant (PTX) at \$1.52 and East Tennessee Technology Park (ETTP) at \$1.22. DOE-wide, eight sites had cost rates higher than the DOE rate, while 19 sites were at or below the DOE rate.

It should be noted that recurring cost activities are not reported consistently across the DOE Enterprise. Some sites maintain their own fire departments, while other sites contract with local municipal or volunteer fire departments for fire protection activities. This can result in differing cost levels and/or distributions for “Staffing/FD,” “Outside Services,” “Engineering” and “Maintenance” activities.

Note: WIPP, by comparison to the other sites/facilities, reported one of the lowest valuations from FIMS and PIDS in 2024, however, WIPP also reported higher program costs for the year, resulting in a high rate when normalizing for Fire Protection Program Cost rate.

Water-Based Fire Suppression System Actuations

When a water-based fire suppression system is actuated, whether by fire, equipment malfunction, or human or environmental influence, there are costs associated with the incident. These costs may include damage or loss of facilities and equipment, replacement or repair costs, fire department response costs, recharging fire suppression systems, cleanup costs, etc. Table 5 displays the distribution of DOE Water-Based Fire Suppression System Actuations by cause in 2024.

Table 5: Water-Based Fire Suppression System Actuation Causes

WATER-BASED SYSTEM ACTUATION CAUSES		
Cause	No. of Incidents	Cost
Other	3	\$201,740
Weather Related	2	\$130,340
Unspecified	2	\$6,485
TOTAL	7	\$338,565

In 2024, DOE facilities reported actuations of seven wet-pipe suppression systems, all of which resulted in financial losses totaling \$338,565, a 47 percent decrease from 2023.

Table 6 displays the Water-Based Fire Suppression Actuation incidents resulting in costs of \$10,000 or greater. These two incidents cost \$330,000 and represent 97 percent of the total costs associated with DOE Water-Based Fire Suppression Actuations in 2024.

Table 6: Costliest Water-Based Fire Suppression System Actuations

COSTLIEST WATER-BASED SUPPRESSION SYSTEM ACTUATIONS (>\$10k)				
Site	Loss Amount	Loss Type	Cause	Description
ANL	\$200,000	Leaks, Spills, Releases	Other	On January 17, 2024, a window in the Uninterruptable Power Supply (UPS) electrical room in Building 108 became open and a fire sprinkler froze and failed. This caused the UPS to fail and the boiler house control room to lose power. Power was reset and restored and boilers back online in less than 45 minutes. The Combined Heat and Power continued to operate and provide steam to the site at a lower pressure than normal. As a result of this incident, the wet pipe sprinkler in this room was replaced with a dry barrel type. Loss amount is based on electrical equipment that needed replacement.
ORNL	\$130,000	Leaks, Spills, Releases	Weather related	On January 24, 2024, very low temperatures froze and broke a fire sprinkler line in Building 4015 (parking garage). Water damaged the elevator, which was replaced and out of service for an extended period.

Non-Water-Based Fire Suppression System Actuations

Non-water-based fire suppression system actuations include wet chemical (including halon), dry chemical, and clean agent extinguishing systems. Chlorofluorocarbons (including halon) are regulated under the 1991 Clean Air Act due to their detrimental impact on the ozone layer. The Environmental Protection Agency has published regulations to 1) prohibit halon production; 2) establish container labeling requirements; 3) impose Federal procurement restrictions and halon taxes; 4) issue requirements for the approval of alternative agents; and 5) identify essential areas where halon protection is considered acceptable.

DOE policy, as stated in Memorandum DOE F 132S.8, *Managed Phase Out of Halon Fixed Fire Suppression Systems*, prohibits the installation of any new halon systems. Field organizations have been requested to aggressively pursue alternative fire suppression agents to replace existing halon systems, and to effectively manage halon inventories. The Department's long-term goal is the eventual elimination of all halon systems.

In 2024, 114 active halon systems were reported in use at DOE sites, a 5 percent decrease from 2023. Seventy-nine of the 114 active halon systems (69 percent) were at the Savannah River Site (SRS), 19 systems (17 percent) were at the Fermi National Laboratory, and 12 systems (11 percent) were at the Thomas Jefferson National Accelerator Facility. The remaining four systems were spread across Argonne National Laboratory (ANL, 2), Lawrence Berkeley National Laboratory (LBNL, 1), and Los Alamos National Laboratory (LANL, 1).

There was one loss incident associated with Non-Water-Based Suppression Systems resulting in losses of \$16,768, a 78 percent decrease from 2023. Table 7 provides information regarding the one incident.

Table 7: Non-Water-Based Fire Suppression System Actuation

NON-WATER-BASED SYSTEM ACTUATIONS			
Site	Loss Amount	Cause of Fire	Description
SNL	\$16,768	Unspecified	On May 30, 2024, testing was being performed on the fire suppression system in Building 858S/2128 when it inadvertently discharged. Two workers were exposed to the Fire Extinguishing Agent (FM-200® Fire Extinguishing Agent with Expellant). The two workers flushed the agent from themselves and reported to Sandia Employee Health & Wellbeing as a precautionary measure. The safety data sheet for the agent states it is non-toxic. The room was secured for further investigation. Industrial Hygiene and the Building Manager were notified, and the incident was turned over to Fire Protection.

Fire Department Responses

Table 8 displays the distribution of 2024 fire department emergency and non-emergency responses at DOE sites by call category.

Table 8: Fire Department Responses

FIRE DEPARTMENT RESPONSES							
Site	Fire Calls	HazMat Calls	Other Emergency Calls	Non-Emergency Calls	Medical Calls	TOTAL CALLS	Percentage Difference 2023 to 2024
AMES	3	0	0	0	0	3	-40%
ANL	11	60	149	373	183	776	19%
BNL	19	42	92	114	115	382	4%
ETTP	2	0	0	0	0	2	-78%
FNAL	4	51	317	17	29	418	58%
HANF	33	0	123	490	194	840	13%
INL	55	3	0	20	256	334	17%
KCNSC	0	0	0	1	16	17	-35%
LBNL	4	1	34	1	16	56	-24%
LLNL	12	16	868	27	57	980	37%
LANL	13	24	152	162	97	448	-6%
NREL	0	3	1	29	10	43	-16%
NNSS	11	3	5	89	80	188	81%
LM	0	0	0	0	1	1	0 to 1 call
OST	0	0	1	1	0	2	0%
ORNL	19	4	97	172	89	381	-4%
PNNL	3	0	0	28	7	38	73%
PGDP	2	1	111	6	22	142	-31%
PTX	2	25	48	142	163	380	1%
PORT	8	9	84	0	233	334	14%
PPPL	109	0	0	0	31	140	103%
SNL	3	11	19	44	26	103	-20%
SRS	12	4	169	25	302	512	9%
SLAC	1	0	0	45	14	60	-9%
SPR	3	10	0	34	118	165	-1%
TJNAF	0	0	2	0	0	2	-60%
WIPP	25	8	16	0	54	103	-14%
WVDP	2	0	0	1	3	6	-25%
Y-12	7	14	163	37	216	437	-7%
TOTAL	363	289	2451	1858	2332	7293	11%

There were 7,293 Fire Department responses in 2024, an 11 percent increase from 2023.

Fire Protection Occurrences Reported in ORPS

Fire and fire protection incidents that meet the reportability thresholds described in DOE O 232.2A, *Occurrence Reporting and Processing of Operations Information*, are required to be input into the Occurrence Reporting and Processing System (ORPS) database. Depending on which Reporting Criteria is assigned to the incident, these reports are categorized as either High, Low, or Informational Level reports. Report Levels for each Reporting Criteria is based on the conditions listed below.

- A. High Level Report. Occurrences in this category meet any of the following conditions:
 - a. Impacted worker or public safety and health, including significant personnel injuries, environmental harm, regulatory compliance, or public/business interests;
 - b. Constituted noncompliance with regulatory requirements that created the potential for actual harm;
 - c. Posed the potential for mission interruption and requires prompt mitigative action; or
 - d. Involved circumstances that reflected degraded safety necessitating prompt management attention along with modified normal operations to prevent an adverse effect on safe facility operations.
- B. Low Level Report. Occurrences that do not meet the conditions of High Level Report occurrences but involve personnel injury, environmental releases, equipment damage, or hazardous circumstances, and additional time is appropriate for Written Notifications.
- C. Informational Level Report. Occurrences that do not meet the conditions of High or Low Level Report occurrences and generally meet the following conditions:
 - a. Determined to be a safety, environmental, or mission concern; or
 - b. Provides potential learning opportunities for others.

There were 94 fire or fire protection-related occurrences reported in ORPS in 2024, a 44 percent decrease from 2023. Of the 94 occurrences, 10 (11 percent) were rated High Level, 56 (60 percent) were rated Low Level, and 28 (30 percent) were rated Informational Level. There were also no ORPS-reportable fire or fire protection-related injuries or fatalities reported in 2023.

Table 9 displays the distribution of Fire Protection ORPS keywords. Note: The 94 fire protection occurrences resulted in 96 assigned keywords because two occurrences were assigned two keywords each.

Table 9: Distribution of Fire Protection ORPS Keywords

FIRE PROTECTION ORPS OCCURRENCES		
Code	Keyword Name	Occurrences
03A	Fire Protection Equip Degradation	60
03B	Fire Suppression Actuation	3
03C	Facility Fire	22
03D	Explosives Safety Issue	2
03E	National Fire Protection Association (NFPA) Code/Fire Protection Issue	4
03F	Explosion	1
03G	Wildland Fire	4
	TOTAL	96

In 2024, *Fire Protection Equipment Degradation* was identified in 64 percent of all fire protection ORPS reports, followed by *Facility Fire* at 23 percent.

DOE Annual Fire Protection Program Summary for Calendar Year 2024

Over the past 5 years, Pantex Plant occurrences reported into ORPS have increased, rising above 60 percent of all DOE fire protection occurrences between 2021 and 2023. A considerable portion of these continue to be attributable to fire protection equipment degradation incidents at Pantex Plant resulting from ongoing issues associated with the Det-Tronics system. Figure 8 displays the 5-year trend of DOE fire protection ORPS occurrences, with and without Pantex Plant.

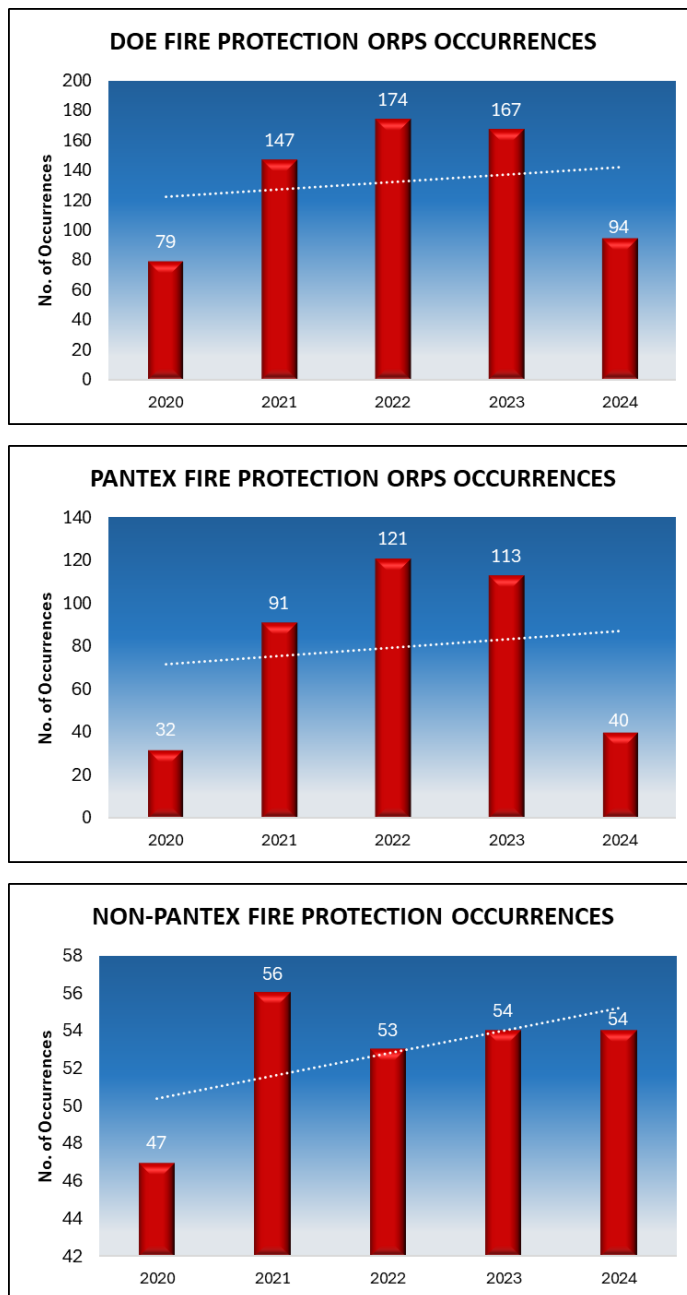


Figure 9: Fire Protection Occurrence Trend from ORPS

While DOE fire protection ORPS occurrences continue to trend upward, the trendline is much flatter when considering only Pantex Plant occurrences due to a fall in incidents in 2024. The equipment degradation incidents at Pantex Plant accounted for 98 percent (39 occurrences) of all Pantex fire protection occurrences and 43 percent of total DOE fire protection occurrences.

Table 10 displays summaries of the 10 fire protection ORPS occurrences rated as High Level in 2024.

Table 10: Summaries of High Level Fire Protection ORPS Occurrences

HIGH-LEVEL FIRE PROTECTION ORPS OCCURRENCES	
Site	Occurrence Description
SNL	On January 9, 2023, a Department 7547 worker was conducting work with a flammable powder when an unplanned energetic reaction occurred. The reaction caused second degree burns to the worker's right arm and hand and the material that dispersed from the reaction started a fire in a nearby trash can. The Laboratory's fire detection system initiated the fire alarm; however, there was no activation of the sprinkler system. The trash can was moved out of the building and the fire was extinguished. The worker received initial treatment from paramedics but refused ambulance services. The worker transported themselves to a local hospital later in the day where they received additional medical care. Building 894 was evacuated and Room 132 was closed.
PNNL	On January 14, 2024, Pacific Northwest National Laboratory (PNNL) Security Operations Center (SOC) received a waterflow indication via ONYX alarm system for the North Fire Riser in the basement of Physical Science Laboratory (PSL). The City of Richland Fire Department (RFD) was dispatched, and arrived on scene and confirmed the small fire had been extinguished by the fire sprinkler head located above the immediate area. The Cognizant Space Manager (CSM), Building Manager Delegate (BM), PNNL Fire Protection Engineer, Electrical Authority Having Jurisdiction (E-AHJ), Energy and Environment Operations Manager, and two Power Operators were notified by the SOC that a fire had occurred and responded accordingly. The E-AHJ met with CSM, BM, and PNNL Research staff members to determine which equipment could be turned off to eliminate any hot spots or re-ignition points. The E-AHJ, PNNL Researcher 1, and PNNL Researcher 2, donned dielectric boots, and the E-AHJ escorted both Researchers to deenergize (unplug) equipment and place in a safe configuration using insulated gloves and protectors. At this time, the cause of the fire has not been determined and is under further investigation. The immediate area has been secured pending additional investigation. Additionally, the CSM closed the 500 and 600 hallways and laboratories pending water clean-up. A critique was held on January 16.
PTX	On February 27, 2024, Pantex declared an Operational Emergency due to approaching regional wildfires in the area that threatened the Pantex Plant. The Emergency Response Organization implemented appropriate protective actions to ensure plant personnel and responders were safe, as the fire came within four miles of the plant boundary. Notifications were made to local, state, and federal entities and the Emergency Response Organization was activated. A curfew for all personnel was announced and the Fire Department implemented 100 feet fire breaks on the northern boundary of the Pantex Plant.
PNNL	On May 14, 2024, a Pacific Northwest National Laboratory staff member reported to the Security Operations Center (SOC) that they identified smoke on the west side of the Applied Engineering Laboratory (AEL). The SOC dispatched the Richland Fire Department (RFD) who extinguished a fire located on the west, outside of the perimeter of the facility. Once the exterior fire was extinguished, the RFD entered the AEL and removed west side paneling to extinguish smoldering building materials in the facility west wall. The RFD extinguished the fire and all hot spots in the immediate area and the scene was secured pending further investigation. A fire watch has been established by the Fire Protection Engineer. The Stationary Operating Engineer will perform the duties of the fire watch until further notice. Entry into AEL has been restricted. A Fact Gathering meeting was held.

DOE Annual Fire Protection Program Summary for Calendar Year 2024

NREL	On May 15, 2024, a researcher was working in Field Test Laboratory Building Lab 204 on the lab bench next to the fume hood when a reactor in an adjacent fume hood carrying 10 milliliters of pyrolysis oil and hot sand failed. Based on the visual evidence, the reactor compression fittings projected off the end of two reactors during the experiment run. As a result, hot sand from the sand bath was released across the fume hood and the fitting projectiles punctured the hood ceiling and cracked the overhead light. The sash on the reactor fume hood was down. The researcher deenergized the equipment, there were no additional immediate hazards, the hood was secured in its current state with restricted access to preserve the scene for the investigation. No alarms were activated in the lab. This issue is currently under investigation and is being tracked in National Renewable Energy Laboratory's internal Issues Management System as Incident #IT-00230.
LLNL	On June 1, 2024, a grassland fire now being referred to by local, regional, and national media as the "Corral Fire", broke out at Site 300 (S300) disrupting ongoing site operations. Several S300 facilities experienced power interruption. The fire was first seen east of Building 892 in the west firing area and was driven eastward by prevailing winds. The fire quickly spread and moved through the Building 834 complex and Engineering Test Area, in the southeast area of S300. The fire extended into the General Services Area, reaching up to Building 871, and crossed Corral Hollow Road to the southeast, affecting offsite property. The perimeter and security fencing were secured with no structural damage. No major issues were reported in areas west of the Engineering Test Area including the East and West Firing Areas, Chemistry Area, Process Area, and the General Services Area. Lawrence Livermore National Lab requested Alameda County Fire Department for a cause and origin report. Routine operations resumed on June 5. This occurrence report is being tracked in LLNL's Issues Tracking System, reference Assessment No 123708.
FNAL	On August 3, 2024, the laboratory duty electrician and duty mechanic found yard transformer T88 in the Kautz Road Substation on fire when responding to identify causes for alarms indicating Alternating Current power loss. The Fermilab Fire Department was called. The laboratory's High Voltage team contacted the local utility provider, Commonwealth Edison, to de-energize the 345 Kilovolt line feed. The laboratory's electricians verified the line feed was de-energized. The Fermilab Fire Department extinguished the fire with Carbon dioxide and dry-chemicals and then applied water. The fire was extinguished. The laboratory's High Voltage team then transferred affected feeds to the Master Substation. The Kautz Road Substation was powered by an emergency generator until Monday afternoon. Following the fire, the waste cleanup team was contacted and responded to assist in cleaning up leaked transformer oil. The team initially recovered approximately 15 gallons. The transformer has continued to leak oil into its secondary containment and the containment was drained periodically. A total of approximately 100 gallons was recovered from the secondary containment. Lab Management and Fermi Site Office were notified of the fire. The Lab assembled a team to coordinate investigation into the direct cause of the fire, determine the extent of damage to the transformer and rest of the substation, and identify options for transformer repair or replacement.

DOE Annual Fire Protection Program Summary for Calendar Year 2024

NNSS	On August 22, 2024, while monitoring the Wildland Fire Detection Camera System on the Nevada National Security Site (NNSS), the operations command center identified smoke plumes in Area 20. NNSS Fire and Rescue (F&R) units verified a wildland fire but, due to the terrain, were not able to gain access. F&R established a fire watch, and an operational emergency not requiring classification was declared. The NNSS F&R Chief contacted the Bureau of Land Management (BLM) Las Vegas Field Office Manager and requested aerial tanker assets from the BLM wildland fire division and put ground crews in place. The fire was estimated at covering 300 acres and was running.” All employees were directed to avoid Area 20 until notified and the OFF LIMITS was lifted. On August 25, the Area 20 fire was declared to be 100% contained, burning 7,890 acres. An incident investigation was initiated on August 26, and actions deriving from the report will be tracked in the Company-wide Issue Resolution and Improvement System under# 37720. No injuries were reported and at this time, there was no impact to mission facilities or assets.
HANF	On September 3, 2024, sprinkler deflectors in 2402WE were identified to not be within 6 inches below the structural members of the ceiling roof/deck and therefore were not in compliance with National Fire Protection Association (NFPA) 13. This results in uncertainty whether the 2402WE fire suppression system would be capable of preventing a medium fire from becoming a large fire in a timely manner. The Fire Suppression System (FSS) functionality is assured by the design, construction, testing, and routine inspection performed per NFPA requirements. NFPA 13 requires sprinkler deflectors located within the horizontal planes of 1inch to 6 inches below the structural members and a maximum distance of 22 inches below the ceiling roof/deck. Operability of the 2402WE fire suppression system was originally restored in accordance with Limiting Condition for Operation (LCO) 3.0.2 on August 15 after the FSS was replaced. However, it has been determined that operability of the system should not have been declared due to the non-compliance with NFPA 13. A Technical Safety Requirements violation was reported in accordance with HNF-15280, Rev. 12E Section 5.8.2 due to a failure to meet a LCO or Specific Administrative Control. Building 2402WE remains in stand-by mode and has been placed in a safe configuration.
WIPP	On September 17, 2024, two Facility Operations workers (Worker #1 and Worker #2) were directed to perform a lockout/tagout (LO/TO) for the removal of fire water valve 411-FW-V-072, located in the Waste Handling Building (WHB). Worker #1 manipulated the FW-411-V-010 to the closed position and placed the LO/TO, which Worker #2 verified. Worker #1 began to manipulate FW-411-V-012 when they noticed there was a leak at the bottom of the riser. Worker #2 was informed about the leak, and the Facility Shift Manager (FSM) and Worker #2 assessed the leak. While doing so, a fire alarm was set off in the WHB. The FSM and Facility Operations workers evacuated the WHB and proceeded to the Central Monitoring Room to assess the fire alarm issue. Once the all-clear was given, they returned with Workers #1 and #2 to complete the LO/TO process. Once completed, the FSM instructed the Roving Watch to perform Surveillance (SR-2). Roving Watch realized the manipulation of FW-411-V-010 was in violation of the approved fire water system lineup and immediately contacted the FSM, who then entered Limiting Conditions of Operation (LCO) 3.1.1 C. Upper management determined that Facility Operations needed to enter LCO 3.1.1 C prior to manipulating FW-411-V-072 and FW-411-012 per the Documented Safety Analysis. As result, a Technical Safety Requirement violation was declared for Facility Operations not entering LCO 3.1.1 C prior to manipulating the Fire Water System, which in turn violated LCO 3.0.2.

Enhancements to Fire Protection Equipment

In 2024, there were six new apparatus introduced to the vehicle fleet at Nevada National Security Site (NNSS) as shown in the picture below.



NNSS added the following:

One Pierce Enforcer Pierce Ultimate Configuration Type I Fire Engine that combines a powerful 1250 gallons per minute (gpm) pump and a 1000 gallon water tank for rapid initial attack and high-flow performance in structural firefighting. Designed for efficiency and maneuverability, it seamlessly integrates with external water sources for sustained operations, ensuring reliable suppression when every second counts. It will be the first run engine out of Fire Station 2.

Two Pierce Type III Freightliner Wildland Fire Engines built for rugged terrain, featuring a 1000 gpm pump and a 500 gallon water tank. Designed for off-road capabilities, it delivers powerful performance and mobility, ensuring quick access to remote areas while maintaining a reliable water supply for initial attack. Each fire engine will be assigned to the two fire stations at NNSS. Engine 321 at Station 2 is being used as an auxiliary fire engine that replaced the medium duty rescue truck. The other Engine 311 will be used as the second out brush engine in Area 23.

Two BME Ford F-550 Type VI “Sawtooth” Brush Fire Engines, each equipped with a 180 gpm pump and a 300 gallon water tank, are designed for quick response in rugged terrain. With their exceptional off-road capabilities, these compact engines provide efficient fire suppression in remote areas, ensuring rapid intervention when wildland fires strike. Engine 621 will be first out for wildland fire from Station 2. Engine 611 will be first out from Station 1.

One F250 Ford Extended Cab Wildland Fire Incident Command Vehicle for incident command from Fire Station 1 is equipped for seamless coordination and management of wildfire operations. Designed for versatility and mobility, this vehicle provides a reliable base for incident commanders, ensuring effective communication and decision-making in the field.

Fire Service Achievements

2025 Walter W. Maybee Award for Fire Protection

Each year, the Walter W. Maybee Award recognizes an individual whose exceptional dedication, leadership, and commitment to the fire service has left a lasting impact on their department, site or community. This prestigious award celebrates those who embody the highest standards of professionalism and integrity—qualities that define the legacy of Walter W. Maybee himself. This year's recipient stands as a shining example of those values.

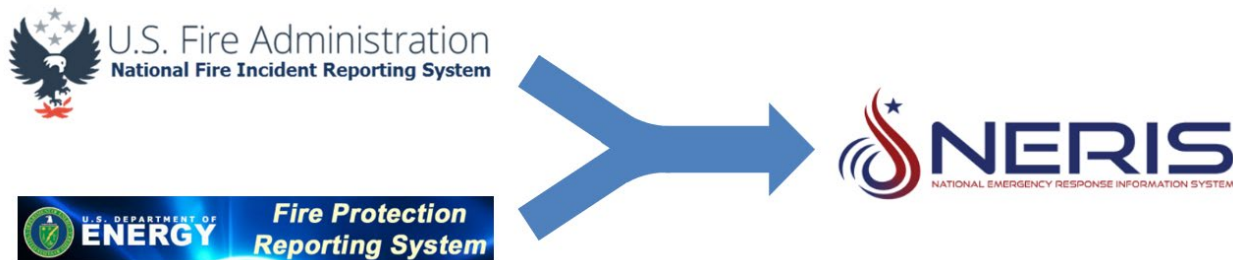
The DOE Fire Safety Committee recognizes Steve Thorne as the recipient of the 2025 Walter W. Maybee Award for Fire Protection due to his direct and indirect actions towards the protection of life and property.



Steve Thorne has had a career of over 39 years in fire protection engineering. His support in developing and authoring fire hazard analysis, baseline needs assessments, life safety evaluations, and other technical work has been invaluable throughout the complex. His work has taken him to INL, West Valley, WIPP, Idaho Falls, Rocky Flatts, Portsmouth, Paducah, Oak Ridge, and other DOE sites. He not only provided technical assistance to the site contractors, but to DOE offices throughout the years. His significant contributions to fire engineering and fire service communities are known and he has resolved many issues in the fire protection arena.

Upcoming Developments

As part of our modernization strategy, the DOE is transitioning from the Fire Protection Reporting System (FPRS) to the National Emergency Response Information System (NERIS), the new interoperable fire information and analytics platform that will replace the existing national database, the National Fire Incident Reporting System (NFIRS) at the end of 2025. NERIS is designed to empower local fire and emergency services by providing near real-time data and analytical tools that support informed decision-making, ultimately enhancing preparedness and response to all-hazard incidents.



In 2024, two of our sites, Pantex Plant and Oak Ridge National Laboratory, UT-Battelle, served as early adopters of NERIS, placing them among the first to implement the new system nationwide. These sites were the 51st and 52nd out of more than 27,000 fire departments across the country to begin using NERIS. Their early engagement will provide valuable insights that will help shape the broader rollout and ensure a smoother transition for others to follow.



Starting January 1, 2026, all DOE sites will report into NERIS as both NFIRS and FPRS will be decommissioned and no longer available for use.

In 2024, DOE entered a partnership with the U.S. Fire Administration, FEMA, and Underwriters Laboratories, LLC.



FEMA



Key Observations for Calendar Year 2024

- The DOE-wide 2024 Fire Loss Rate was 0.14 cents per \$100 in total site valuation. This exhibited a 132 percent increase from 2023.
- DOE elements reported 82 fire protection-related (fire and non-fire) incidents resulting in monetary losses of \$4,317,777. Compared with 2023 data, this represents a 14 percent decrease in the number of incidents, but a 77 percent increase in monetary losses.
- There were 31 fire loss incidents (directly attributable to fire or smoke) in 2024, resulting in monetary losses of \$3,962,444. This represents a 33 percent decrease in the number of incidents, and a 130 percent increase in the monetary loss amounts from 2023.
- There were 10 major fire losses at six sites costing \$10,000 or more, a 40 percent decrease from the 10 reported in 2023. Of these major fire losses, three resulted in losses of \$50,000 or greater, compared with nine in 2023, a 67 percent decrease in the number of such incidents.
- There were seven water-based system actuations in 2024, costing \$338,565 in monetary losses, a 47 percent decrease from 2023. Two of those incidents represented 97 percent (\$330,000) of total water-based system actuation losses.
- There were 94 fire or fire protection-related occurrences reported into ORPS, a 44 percent decrease over 2023. A considerable portion of these (43 percent) continues to be attributable to fire protection equipment degradation incidents at Pantex Plant resulting from ongoing issues associated with the Det-Tronics system.
- NNSS significantly improved their firefighting capability by adding six new vehicles.
- EHSS-23 secured a partnership with the U.S. Fire Administration, FEMA, and Underwriters Laboratories, LLC. to use the 12-million-dollar National Emergency Reporting Information System (NERIS) at no cost to DOE.

Summary provided by:

Office of ES&H Reporting and Analysis

