SUMMARY OF FIRE PROTECTION PROGRAMS FOR CALENDAR YEAR 2007

UNITED STATES DEPARTMENT OF ENERGY
Office of Corporate Safety Analysis
(HS-32)
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FOREWORD

This edition of the Annual Fire Protection Program Summary for the Department of Energy (DOE) continues the series started in 1972.

Since May 1950, an Annual Fire Protection Program Summary (Annual Summary) has been submitted by DOE's fire protection community under the requirements of DOE's predecessor agencies: the Atomic Energy Commission (AEC) and the Energy Research Development Administration (ERDA). This report is currently required by section 5a.(8) of DOE Order 231.1, "Environment, Safety and Health Reporting" and is considered the primary source for quantifying monetary loss from fire across the DOE Complex.

The report for calendar year (CY) 2007 was summarized from information sent to Headquarters by 32 out of 50 reporting elements, representing approximately 89 percent of DOE's ownership. For comparison purposes, field offices are arranged according to the DOE Field Office reporting format, with a total of 24 categories represented. Abbreviations are identified in the Glossary, as are the DOE site reporting elements and major definitions.

In 1999, the Annual Summary reporting process was automated to streamline data collection and provide a more comprehensive look at reporting element activities. It is now possible to view all responses since 1991 at the Site, Operations, Lead Program Secretarial Office and Headquarters levels. For example, the information contained in this publication was extracted from the Annual Summary application taken at the Headquarters level for CY 2007. A copy of the latest version of this application can be obtained at the following internet address: (updated url needed here)

The Office of Health, Safety and Security (HSS) plans on working with the DOE Fire Safety Committee to examine the content of the annual report (including existing reporting fields contained within this Summary and other supporting fire protection program information that may be utilized) to improve its benefit to both Headquarters and Field Elements. Please contact (updated contact needed here) if you have any suggestions for improving this reporting process.

GLOSSARY

Headquarters Organizational Elements:

NNSA	National Nuclear Security Administration
SC	Office of Science
FE	Fossil Energy
NE	Nuclear Energy
EM	Environmental Management
PMA	Power Marketing Administrations[1]
EE	Energy Efficiency & Renewable Energy
RW	Radioactive Waste
LM	Legacy Management
HSS	Health Safety & Security

Field/Area/Site Organizational Elements:

CAO	Carlsbad Area Office
CH	Chicago Operations Office
HQ	DOE Headquarters
GFO	Golden Field Office
ID	Idaho Operations
KCSO	Kansas City Site Office
LSO	Livermore Site Office
LASO	Los Alamos Site Office
NETL	National Energy Technology Laboratory
NPR	Naval Petroleum Reserves
NSO	Nevada Site Office
OR	Oak Ridge Operations Office
ORP	Office of River Protection
PSO	Pantex Site Office
PFO	Pittsburgh Field Office
RLFO	Richland Field Office
SSO	Sandia Site Office
SRFO	Savannah River Field Office
SPRO	Strategic Petroleum Reserve Office[2]
YSO	Y-12 Site Office

Site abbreviations:

ALA	Ames Laboratory
ANL	Argonne National Laboratory
AEMP	Ashtabula Environmental Management Project

1. Power Administration organizations are comprised of: the Bonneville Power Administration (BPA); Southeastern Power Administration (SEPA), Southwestern Power Administration (SWPA); and the Western Area Power Administration (WAPA).

2 Strategic Petroleum Reserve Sites include: Bayou Chochtaw, Big Hill, Bryan Mound and West Hackberry.

BAPL	Bettis Atomic Power Laboratory
BNL	Brookhaven National Laboratory
ETTP	East Tennessee Technology Park
FNAL	Fermi National Accelerator Laboratory
FEMP	Fernald Environmental Management Project
HAN	Hanford Site[3]
INL	Idaho National Laboratory
KAPL	Knolls Atomic Power Laboratory
KCP	Kansas City Plant
KSO	Kesserling Site
KAFB	Kirtland AFB
LBL	Lawrence Berkeley National Laboratory
LLNL	Lawrence Livermore National Laboratories
LANL	Los Alamos National Laboratories
MEMP	Miamisburg Environmental Management Project
MGN	Morgantown Federal Energy Technology Center
NREL	National Renewable Energy Laboratory[4]
NRF	Naval Reactor Facilities
NTS	Nevada Test Site[5]
ORISE	Oak Ridge Institute of Science & Education
ORNL	Oak Ridge National Laboratories
TWPC	Tru Waste Processing Center
PAN	Pantex Site
PGDP	Paducah Gaseous Diffusion Plant[6]
PGH	Pittsburgh Federal Energy Technology Center
POR	Portsmouth Gaseous Diffusion Plant[6]
PPPL	Princeton Plasma Physics Laboratory
SLAC	Stanford Linear Accelerator Center
SNLA	Sandia National Laboratories, Albuquerque
SNLL	Sandia National Laboratories, Livermore
SRS	Savannah River Site
TJNL	Thomas Jefferson National Accelerator Facility
WIPP	Waste Isolation Pilot Plant
WVDP	West Valley Demonstration Project
Y-12	Y-12 Plant
YM	Yucca Mountain Project

The below reference is used throughout the report to identify various DOE elements:

DOE field organization (abr.)/Site(abr.)
Example: LASO/LANL

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[3] Hanford Site includes the Pacific Northwest National Laboratory

[4] National Renewable Energy Laboratory includes the Wind Site.

[5] Nevada Test Site Includes: Amador Valley Operations, Las Vegas Operations, Nevada-Los Alamos Operations, Nevada-Special Technology Laboratory, Washington Aerial Measurements Operation, and Nevada-EG&G Wolburn NV.

[6] On July 1, 1993, a lease agreement took effect between the DOE and the United States Enrichment Corporation (USEC) essentially transferring all ownership responsibilities to USEC.

DEFINITIONS

The following terms are defined in the text of DOE Manual M 231.1-1, "Environment, Safety, and Health Reporting Manual." Major definitions not included in this manual have been extracted from the rescinded order DOE 5484.1 to clarify key concepts. Section references to these documents are given at the end of the definition.

1. **Property Value:** The approximate replacement value of all DOE-owned buildings and equipment. Included are the cost of all DOE-owned supplies and average inventory of all source and special nuclear materials. Excluded 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). (APPENDIX C, DOE M 231.1)

2. **Estimated Loss:** Monetary loss determination based on all estimated or actual costs to restore DOE property and equipment to preoccurrence conditions irrespective of whether this is in fact 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) down time; and (2) any outside agency payments. Losses sustained on private property are not reportable, even if DOE is liable for damage and loss consequences resulting from the occurrence. Categorization of occurrences shall be by fire loss and non-fire loss events. (APPENDIX C, DOE M 231.1)

3. **Fire Loss:** All damage or loss sustained as a consequence of (and following the outbreak of) fire shall be classified as a fire loss. Exceptions are as follows: (1) burnout of electric motors and other electrical equipment through overheating from electrical causes shall be considered a fire loss only if self-sustained combustion exists after power is shut off. (APPENDIX C, DOE M 231.1)

5. **Loss Rate:** Unit of comparison in cents loss per $100 of property value.

EXECUTIVE SUMMARY

DOE experienced no fatalities or major injuries from fire in CY 2007. There were however, 91 fire events reported during the period causing an estimated $1,674,515 in fire fighting costs and property damage. These losses are approximately $676,710 more than fire losses sustained in CY 2006, with about 75 percent of losses attributed to 5 incidents. Loss comparisons between the DOE and private industry are performed by normalizing data against total property value. DOE property valuation increased by about 4.5 percent (from 64.5 to 67.4 Billion dollars) resulting in an overall CY 2007 fire loss rate of approximately 0.25 cents for each $100 in property value (0.10 more then the CY-06 rate).

Recurring costs for fire protection approached 168 million dollars in CY 2007 which is approximately 3 million more then what was spent in CY-2006. On a ratio of cost to total property value, the DOE spent approximately 24.9 cents per $100 in property value for recurring fire protection activities.

In CY 2007, three fires were controlled by automatic fire suppression systems (2 sprinkler and 1 wet chemical). The success of these systems was, however, offset by the inadvertent actuation of 13 systems primarily due to six weather-related events.

DOE PROPERTY LOSS EXPERIENCE

Property value estimates serve as a common denominator for comparing Annual Summary loss rates. In CY 2007, property values increased by approximately 4.5 percent to a total of approximately 67.4 billion dollars. DOE elements reported 91 fire incidents[1] that accounted for a total year-end fire loss of $1,674,515. These events are categorized as follows:

Fire/Smoke (Building)	37 Events
Fire/Smoke (Brush)	21 Events
Fire/Smoke (Vehicle)	10 Events
Fire/Smoke (Other)	23 Events

DOE's fire loss rate for CY 2007, as summarized from field organization reports, is approximately 0.25 cents loss per $100 property value.

Table 1 characterizes Annual Summary loss histories since 1950 and includes both fire and non-fire loss rate categories up to 2003 when the non-fire reporting total was discontinued. Numbers shown in parentheses represent a 5-year running average, where applicable. The accompanying figures are described as follows:

Figure 1 - graphical representation of the Department's property valuation since 1950
Figure 2 - fire and non-fire property loss since 1983
Figure 3 - fire loss rates since 1989

[1] By comparison, the Occurrence Reporting and Processing System (ORPS) logged 51 fire events in CY 2006. Also, page 14 of this report indicates that Fire Departments logged a total of 880 Fire events over the year, with a majority of events (796) determined by the sites to be insignificant for Headquarters reporting purposes.

Fire Protection Summary
For Calendar Year 2007

Figure 4 - the current year's fire event tally by Field Organizations
Figure 5 - the current year's fire loss (dollars) by Field Organizations
Figure 6 - the current year's fire loss rate by Field Organizations

Organizations not shown on Figures 4 through 6 reported either insignificant or zero losses for the year.

Trending of fire loss data indicates that a small number of incidents constitute the majority of dollar losses reported to the DOE. For example, 5 fire incidents this year accounted for approximately 75 percent of the total dollar loss amount.

The largest fire loss for the year noted as follows:

1. ID/INL – Wildland Fire of approximately 9,000 acres South and East of the East Butte at the Idaho National Laboratory. Fire Fighting costs are estimated at $500,000., with added property losses estimated at $25, 485.

Table 1
DOE Loss History From 1950 To Present

Year	Property Value (Millions of Dollars)	Fire Loss (Dollars)	Non-fire Loss (Dollars)	Loss Rates (cents per 100 Dollar Value) Fire*	Non-Fire*	Total*
50	1,800.00	486,389	10,050	2.70 -	0.06 -	2.76 -
51	2,177.10	38,318	317,797	0.18 -	1.46 -	1.64 -
52	3,055.10	449,107	356,600	1.47 -	1.17 -	2.64 -
53	4,081.00	148,142	427,430	0.36 -	1.05 -	1.41 -
54	6,095.90	185,438	190,436	0.30 -	0.31 -	0.62 -
55	6,954.20	125,685	330,103	0.18 (1.00)	0.47 (0.81)	0.66 (1.81)
56	7,364.10	2,206,478	940,945	3.00 (0.50)	1.28 (0.89)	4.27 (1.39)
57	7,973.20	590,663	885,936	0.74 (1.06)	1.11 (0.86)	1.85 (1.92)
58	8,102.50	275,560	476,265	0.34 (0.92)	0.59 (0.84)	0.93 (1.76)
59	10,301.80	199,841	998,060	0.19 (0.91)	0.97 (0.75)	1.16 (1.67)
60	10,708.60	636,228	764,823	0.59 (0.89)	0.71 (0.88)	1.31 (1.77)
61	11,929.90	325,489	5,530,566	0.27 (0.97)	4.64 (0.93)	4.91 (1.91)
62	12,108.80	3,020,023	293,341	2.49 (0.43)	0.24 (1.60)	2.74 (2.03)
63	13,288.90	599,056	776,998	0.45 (0.78)	0.58 (1.43)	1.04 (2.21)
64	14,582.80	480,519	870,516	0.33 (0.80)	0.60 (1.43)	0.93 (2.23)
65	15,679.30	1,743,448	2,106,621	1.11 (0.83)	1.34 (1.35)	2.46 (2.18)
66	16,669.00	158,220	698,753	0.09 (0.93)	0.42 (1.48)	0.51 (2.41)
67	17,450.90	359,584	2,423,350	0.21 (0.90)	1.39 (0.64)	1.59 (1.53)
68	18,611.90	155,986	713,097	0.08 (0.44)	0.38 (0.87)	0.47 (1.31)
69	20,068.30	27,144,809	909,525	13.53 (0.37)	0.45 (0.83)	13.98 (1.19)
70	22,004.30	89,456	1,611,336	0.04 (3.00)	0.73 (0.80)	0.77 (3.80)
71	24,155.80	78,483	1,857,566	0.03 (2.79)	0.77 (0.68)	0.80 (3.47)
72	26,383.50	222,590	698,061	0.08 (2.78)	0.26 (0.75)	0.35 (3.52)
73	27,166.70	117,447	2,258,241	0.04 (2.75)	0.83 (0.52)	0.87 (3.27)
74	28,255.50	249,111	930,766	0.09 (2.75)	0.33 (0.61)	0.42 (3.36)
75	31,658.30	766,868	4,485,481	0.24 (0.06)	1.42 (0.59)	1.66 (0.64)
76	35,512.70	251,849	2,040,727	0.07 (0.10)	0.57 (0.72)	0.65 (0.82)
77	39,856.10	1,084,823	2,529,161	0.27 (0.11)	0.63 (0.68)	0.91 (0.79)
78	47,027.10	12,976,036	4,501,943	2.76 (0.14)	0.96 (0.76)	3.72 (0.90)
79	50,340.80	654,716	1,886,307	0.13 (0.69)	0.37 (0.78)	0.50 (1.47)
80	54,654.70	1,385,686	7,160,249	0.25 (0.69)	1.31 (0.79)	1.56 (1.49)
81	59,988.80	2,042,633	2,600,855	0.34 (0.70)	0.43 (0.77)	0.77 (1.47)
82	65,360.40	948,691	3,252,277	0.15 (0.75)	0.50 (0.74)	0.64 (1.49)

Year	Property Value (Millions of Dollars)	Fire Loss (Dollars)	Non-fire Loss (Dollars)	Loss Rates (cents per 100 Dollar Value) Fire*	Non-Fire*	Total*
83	70,484.40	731,234	9,765,828	0.10 (0.73)	1.39 (0.71)	1.49 (1.44)
84	82,166.90	1,549,807	4,917,513	0.19 (0.19)	0.60 (0.80)	0.79 (0.99)
85	86,321.84	1,145,975	2,983,322	0.13 (0.21)	0.35 (0.85)	0.48 (1.05)
86	82,787.52	805,030	4,490,262	0.10 (0.18)	0.54 (0.65)	0.64 (0.83)
87	91,927.20	1,570,736	1,440,093	0.17 (0.13)	0.16 (0.67)	0.33 (0.81)
88	92,998.00	466,120	7,837,000	0.05 (0.14)	0.84 (0.61)	0.89 (0.74)
89	107,948.00	615,551	6,890,000	0.06 (0.13)	0.64 (0.50)	0.70 (0.63)
90	115,076.00	8,392,746	9,078,000	0.73 (0.10)	0.79 (0.51)	1.52 (0.61)
91	118,868.68	608,740	1,820,065	0.05 (0.22)	0.15 (0.59)	0.20 (0.81)
92	118,267.06	1,166,858	2,486,696	0.10 (0.21)	0.21 (0.52)	0.31 (0.73)
93	119,826.25	679,939	2,338,595	0.06 (0.20)	0.19 (0.53)	0.25 (0.73)
94	124,350.29	1,533,717	1,869,933	0.12 (0.20)	0.15 (0.40)	0.27 (0.60)
95	120,321.68	720,720	911,746	0.06 (0.21)	0.08 (0.30)	0.14 (0.51)
96	113,471.00	2,372,482	3,653,350	0.21 (0.08)	0.32 (0.16)	0.53 (0.24)
97	102,947.24	544,924	5,567,963	0.05 (0.11)	0.54 (0.19)	0.59 (0.30)
98	99,127.79	316,475	1,062,313	0.03 (0.10)	0.11 (0.26)	0.14 (0.36)
99	110,858.47	443,049	2,467,991	0.04 (0.10)	0.22 (0.24)	0.26 (0.34)
00	102,514.01	102,861,283	312,839	10.03 (0.08)	0.03 (0.25)	10.06 (0.33)
01	103,215.56	287,263	218323	0.03 (2.07)	0.02 (0.25)	0.05 (2.32)
02	98,779.44	1,541,174	920,673	0.16 (2.04)	0.09 (0.19)	0.25 (2.23)
03	70,812.80	1,075,309	No longer collected	0.15 (2.06)	NC NC	NC NC
04	72,601.95	622,613	No longer collected	0.09 (2.08)	NC NC	NC NC
05	74,951.25	2,537,565	No longer collected	0.34 (2.09)	NC NC	NC NC
06	64,547.05	997,805	No longer collected	0.15 (0.15)	NC NC	NC NC
07	67,382.01	1,674,515	No longer collected	0.25 (0.18)	NC NC	NC NC

*Numbers shown in parentheses represent the 5-year running average.

Figure 1

DOE Property Valuation

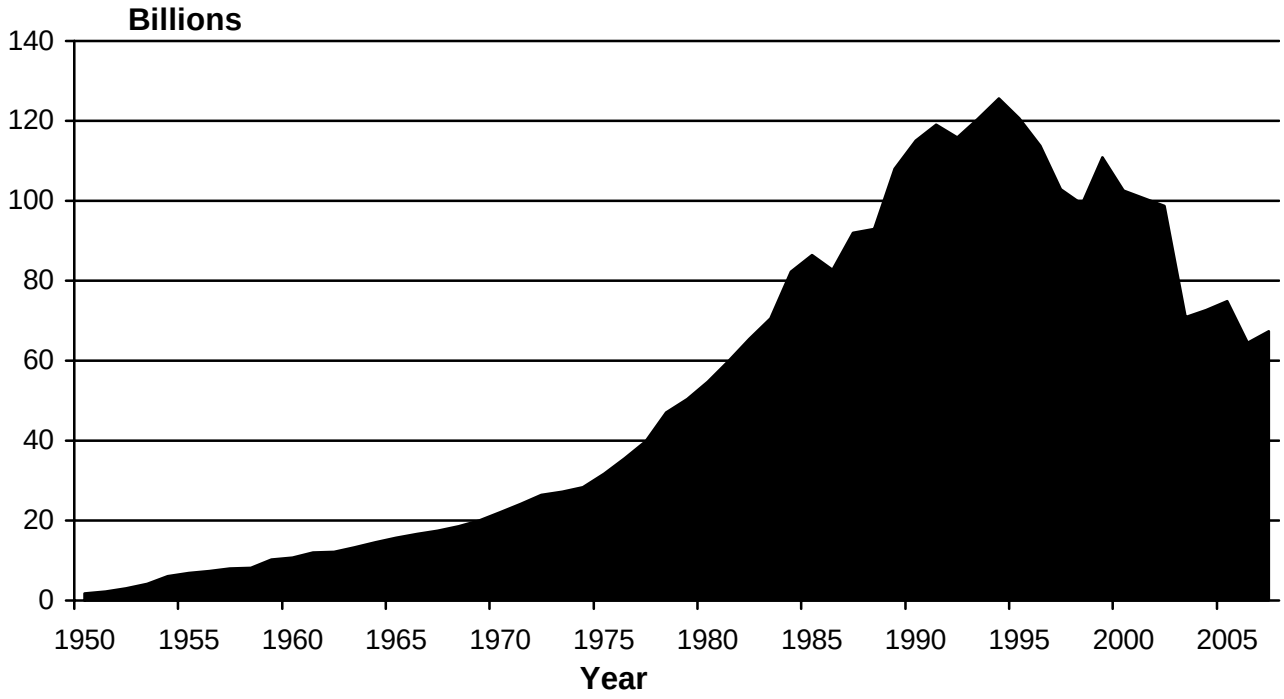


Figure 2

Property Loss

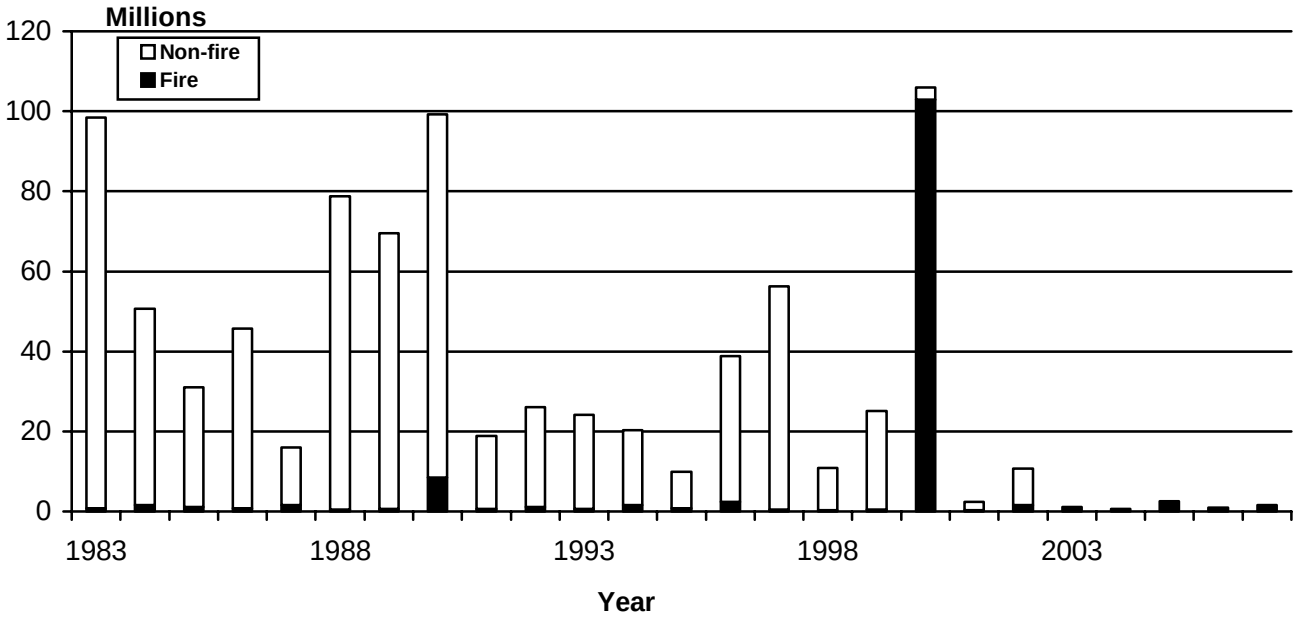


Figure 3

DOE Fire Loss Rate

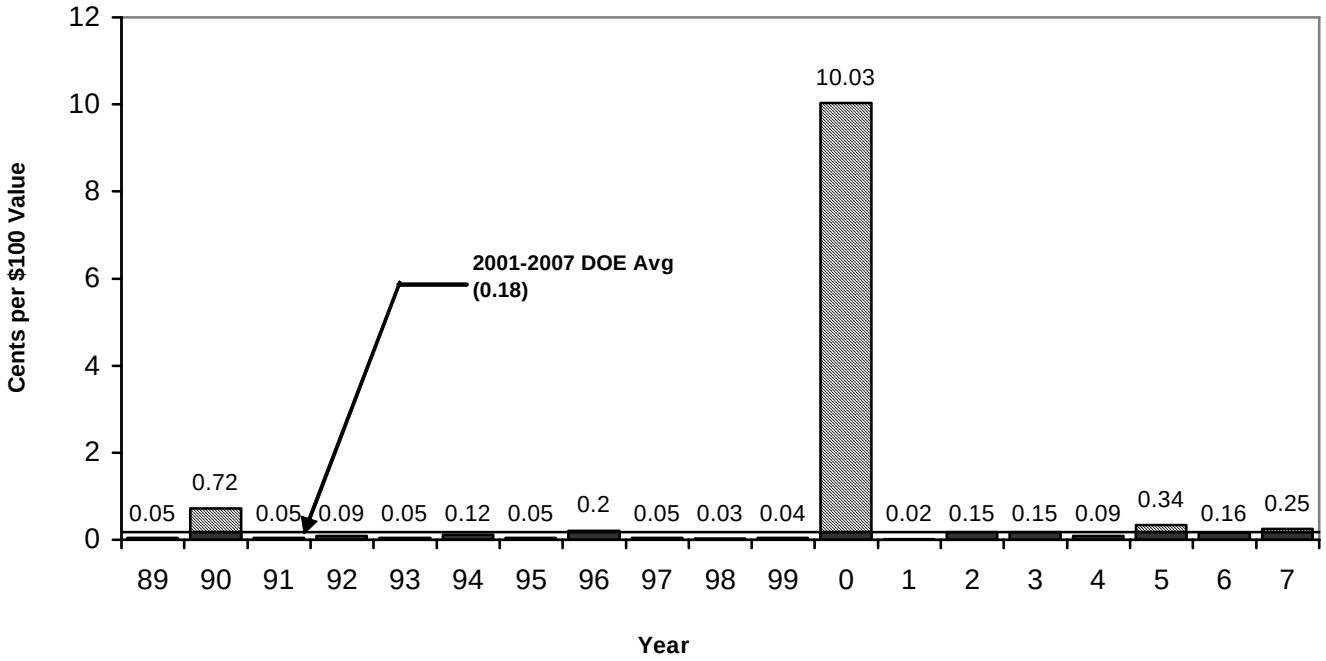


Figure 4

Fire Events by Field Organization

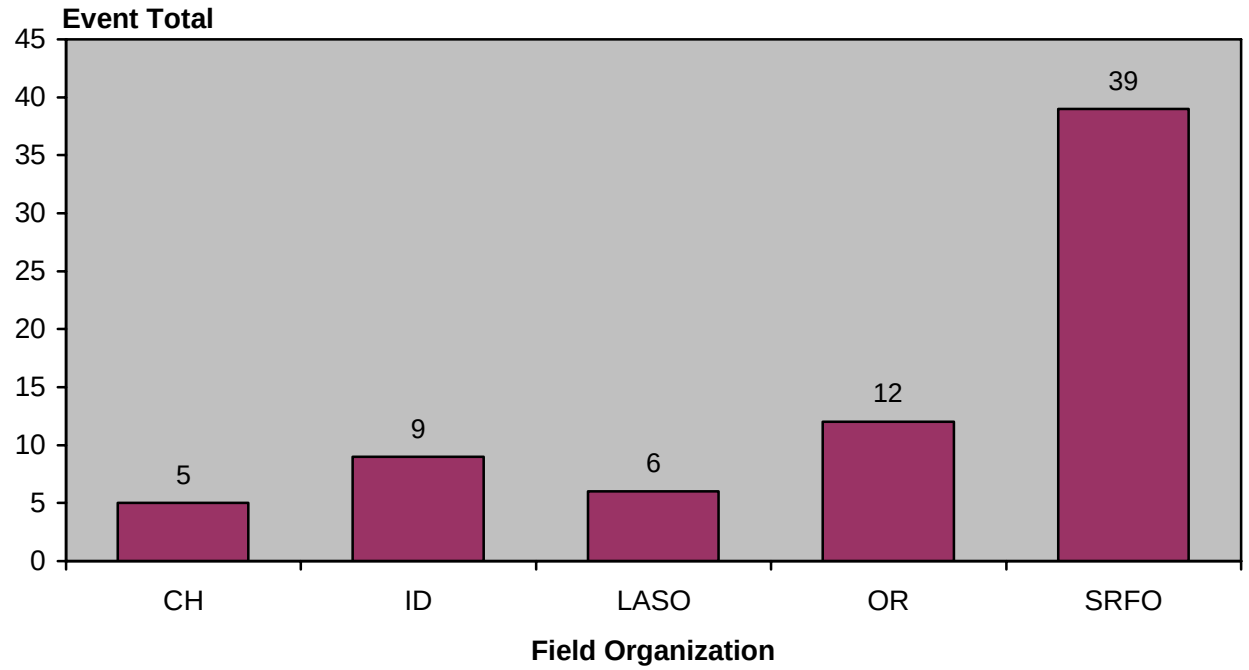


Figure 5

Fire Loss Amount by Field Organization

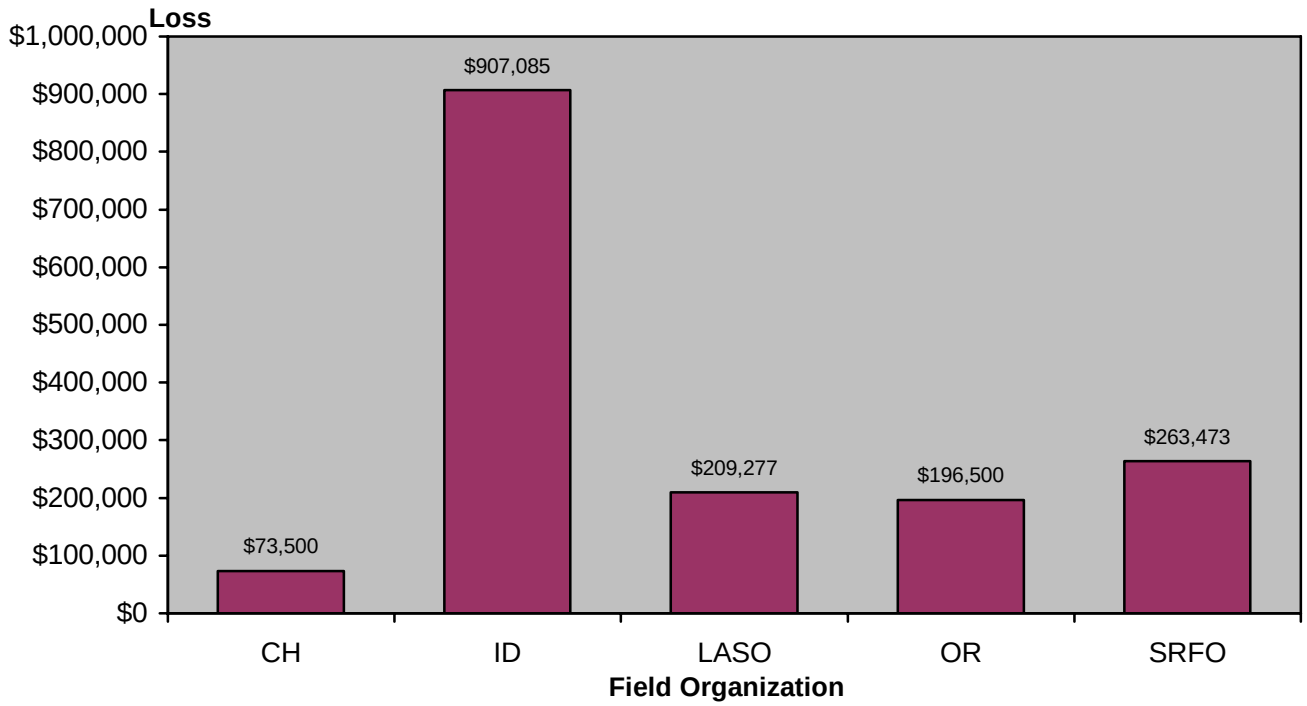
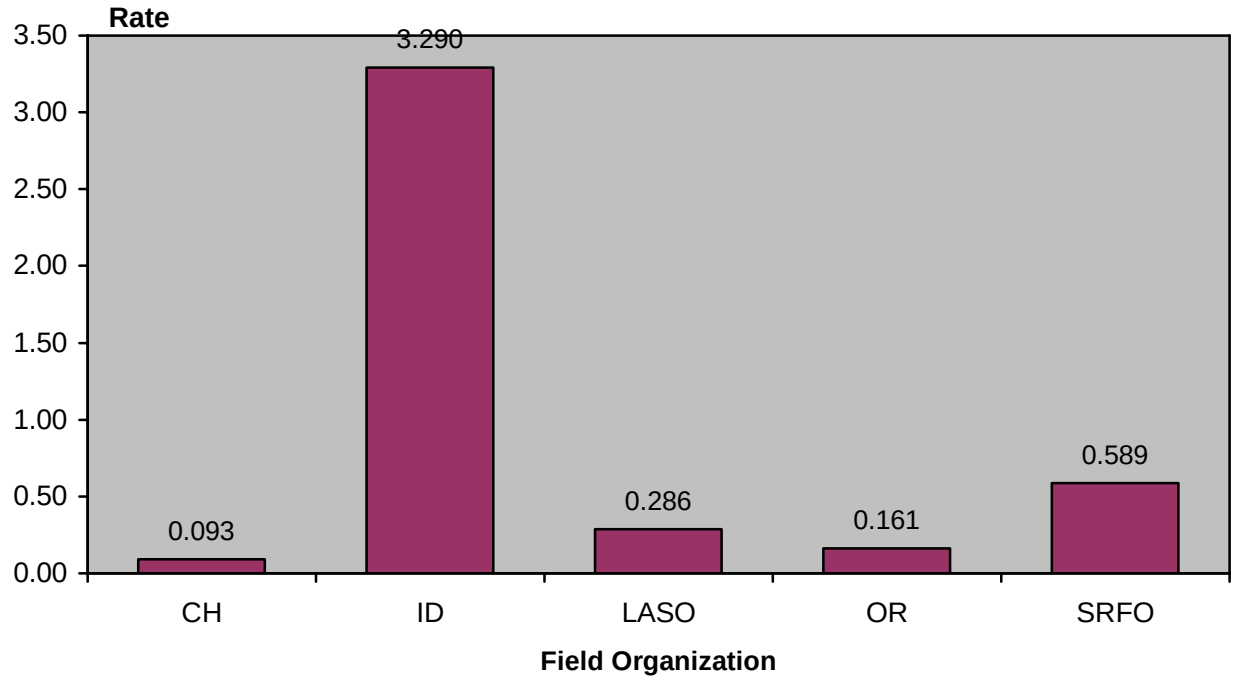


Figure 6

Fire Loss Rate by Field Organization



SUMMARY OF FIRE DAMAGE INCIDENTS

The following table provides a description of major (dollar loss greater then $5,000) DOE fire losses over the year. See Tables 3 and 6 for fire events involving fixed automatic fire suppression systems:

Table 2: **Summary of Fire Damage Incidents**

LOSS TYPE	LOCATION	DESCRIPTION	DOLLAR LOSS
Fire/Smoke (Brush)	ID/INL	Twin Butte Fire: At 1745 hours, the INL Fire Department responded to a wildland fire south and east of the East Butte. The fire, initiated by lightning, was burning in grass, sage brush and Pinion Junipers with very active flames and rate of spread. The fire eventually involved 9434 acres (8715 acres on INL land), spanning an area around East Butte to highway 20/26. A Unified Command was established between the INL Battalion Chief and the BLM Incident Commander. The fire required indirect suppression tactics including construction of dozer containment lines and backfiring operations along Highway 20. Off-site support included BLM ground and air units (four heavy air tanker drops), two federal hot shot crews, the Shelley Fire Department and the Blackfoot fire department. The fire was contained at 2100 hours on 7/19, controlled at 1600 hours on 7/21 and declared out at 2000 hours on 7/22. Fire exposure damage occurred to telecommunications equipment located on East Butte. INL property damage was limited to minor damage to cabling at the INL East Butte Facility ($16,485) and various signs (estimated at $9,000). Emergency Response Organization and MOU (BLM, Airborne suppression, etc.) costs are estimated at $500,000. The East Butte Access road will require more frequent grading, due to accumulating rocks from the hillside. Rocky Mountain Power transmission lines within the burn area experienced significant damage with multiple pole replacements required.	$525,485.00
Fire/Smoke (Building)	SRO/SRS	At 15:36, SRSFD personnel were dispatched to a fire alarm received from 221-H, 7th level, Section #2, Elevator Control Rm. All units responded and found smoke showing through the window of the door. The lock was cut from the caged area which housed the controls and panels were removed to find the source. Apparently, some type of short or failure of contactors or relays caused extensive damage inside the cabinet. Power was de-energized before FD entry. The fire self-extinguished. The FD assisted facility personnel with check of elevator shaft and car for possible trapped passengers although 100% accountability had been established. Elevator was clear. Further investigation following the fire revealed that the power and control circuits were severely damaged and have to be replaced. There were no injuries and the dollar loss is estimated at $250,000.00.	$250,000.00
Fire/Smoke (Building)	LASO/LANL	LANL TA-54-288 - Fire originating within HVAC unit of transportable office trailer (wood construction) results in total loss of structure. Automatic heat detector activation initiated FD response and suppression operations. FIMS/MOADS RPV = $130,277. Contents est to be $10,000. Demolition and removal costs est to be $50,000.	$190,277.00
Fire/Smoke (Brush)	ID/INL	Moonshiner Fire: At 1231 the INL fire department was dispatched to a report of fire south of the Buttes. While in route, the INL FD confirmed a developing smoke plume south of the Middle Butte. All INL wildland firefighting units were dispatched to respond and BLM support was requested. BLM air resources responded and initiated and directed aerial operations, including initial retardant drops along the west and south sides of the fire. Following retardant drops, the INL FD anchored at the northwest	$150,000.00

Table 2: **Summary of Fire Damage Incidents**			
LOSS TYPE	**LOCATION**	**DESCRIPTION**	**DOLLAR LOSS**
		boundary of the fire and initiated direct suppression tactics. Upon arrival of BLM ground resources, a unified command was established. Upon evaluation, it was established that the majority of the fire involved BLM property and incident command was transferred from INL to BLM. INL continued to support BLM with suppression on the south division of the fire and structural protection for private ranch structures threatened by the fire. Suppression efforts were suspended during the passing of a strong thunder cell. The same storm provided wetting rains which significantly reduced the spread of the fire. INL and BLM dozers and firefighters completed construction of an initial containment line during the course of the first burn period. All INL resources were pulled from the scene during the first evening. BLM completed follow up containment and mop up in the following days. INL response resources included the FD water tender, all four wildland units, and two dozers. BLM provided multiple engines, dozers, air attack, seven SEAT drops, and two heavy air tanker drops. The fire was declared contained at 1800 on 8/18, controlled at 1400 on 8/20 (by BLM). The fire involved an estimated 2,676 acres (1,054 INL). There was no damage to INL property.). Emergency Response Organization and MOU (BLM, Airborne suppression, etc.) costs are estimated at $150,000. Lightning was established as the probable ignition factor.	
Fire/Smoke (Building)	ID/INL	The fire initiated in building TRA 668, Rm. 98, chemical hood #688 7. A fire occurred in a laboratory fume hood as a result of ignition of red phosphorous powder during material handling evolutions. The thermal effects including smoke damage of the fire were confined to the hood, contents within the hood, and hood exhaust system. Three OSHA recordable cases resulted from the fire (one was the chemist performing the evolution, the other two were employees exposed to the smoke from the fire). The large majority of costs incurred as a result of the fire are associated with the investigation and salvage/cleanup phase (recovery).	$145,000.00
Fire/Smoke (Building)	OR/ETTP	On 24 February a fire originated near the HVAC unit of the north trailer of the 7078 E trailer at ORNL. This fire spread into the combustible concealed space above the ceiling of the west end of the trailer. It was spotted by a passerby and extinguished by the ORNL Fire department. The trailer is protected by an active sprinkler system which did not operate during this fire. The resulting damage is such that either repair or replacement of the trailer will cost around $100,000.	$100,000.00
Fire/Smoke (Brush)	ID/INL	Highway 20/26 Fire: At approximately 1740 hours, the INL fire department responded to a report of smoke on US Highway 20/26 milepost 263. BLM Atomic City was also dispatched. Upon arrival, the INL fire department encountered a working fire with moderate flame spread on the north side of the road, initially estimated at 3 acres. Strong winds from the north/northeast had pushed the fire to the highway, with a backing flame front on the north side of the fire. The INL BC assumed incident command with the initial support of INL WLU #1 and #2. INL WLU #3 and #4, the INL tender, a BLM chase vehicle, and BLM heavy wildland unit responded later in the event. Though not requested by the INL BC, a wildland unit from Arco also responded. The fire was suppressed using direct tactics. There were no dozer containment lines constructed. The fire was declared contained at 2029 and controlled at 2117 on July 14, 2007. The fire was declared out at 2142 hours on July 15, 2007. The fire was of human origin with the probable ignition factor established as a downed power line from the Rocky Mountain Power 66.9 kV service to Arco, Id. Final fire size was	$55,000.00

Table 2: **Summary of Fire Damage Incidents**			
LOSS TYPE	**LOCATION**	**DESCRIPTION**	**DOLLAR LOSS**
		estimated at 3 acres. During the response, INL Wildland Unit #1 accidentally contacted the sagging overhead power line, resulting in the electrical shock injury of two INL firefighters and damage to wildland fire unit #1 (tires, wheels, radios, light bar). Damage to the vehicle was estimated at $5,000. One power pole required repair by Rocky Mountain Power personnel. The balance of the fire loss figure is attributed to the investigation of the wildland fire/electrical shock incident.	
Fire/Smoke (Building)	OR/ORNL	The ORNL Fire Department responded to a VESDA Alert Supervisor Alarm condition in Building 8300 at the Spallation Neutron Source Site. While responding, the condition escalated to a VESDA Fire Alarm condition. The assignment was upgraded. Upon arrival, facility personnel reported to the Command Post and advised Command they had lost a modulator in the west end of Building 8300. The entry team made first entry and found a moderate amount of smoke coming from one modulator and around a blue transformer directly behind the modulator, but no fire was showing, only moderate smoke. Also a small amount of liquid had leaked from the modulator. Further investigation and dismantling of the equipment revealed a small fire inside the modulator that was extinguished with three portable fire extinguishers. Once the fire was extinguished, the facility was ventilated and turned back over to facility management for recovery.	$50,000.00
Fire/Smoke (Building)	CH/SLAC	Electrical cable fire in PEP II region 4 estimated at approximately $50,000	$50,000.00
Fire/Smoke (Vehicle)	ID/INL	Workers discovered that a rechargeable battery had failed during unattended charging and overheated, severely damaging one of the UAVs. The heat did extensive damage to the fixed wing UAV fuselage and melted a light fixture diffuser. Also black soot was deposited throughout the trailer as a result of the melted plastics from the event. The trailer was located adjacent to the UAV runway. No personnel witnessed the event and no personnel were injured.	$23,000.00
Fire/Smoke (Building)	CH/ANL	The fire originated from the failure of a heater control system for an experiment that resulted in overheating of oil used in the experiment and the melting of its plastic container. A fire extinguisher was used by a Fire Department officer to extinguish the fire. The officer suffered breathing problems because he was not using an air pack and inhaled smoke and products of combustion. Fire damage was limited to the experiment cabinet with no fire damage to the room or surroundings.	$22,000.00
Fire/Smoke (Building)	KSO/KCP	While grinding circuit boards consisting of plastic and metal components the exhaust system became clogged and a small dust deflagration occurred with an ensuing fire located with in the grinder and duct work. Fire was extinguished using ABC fire extinguisher and water. KCMO FD responded to provide assistance and back up support. ORPS report #NA-KCSO-KCP-2007-0012.	$14,700.00
Fire/Smoke (Building)	OR/ORNL	Fire alarm master box #152 received from Building 2525. All units responded. IC established on the north side. Upon arrival, an employee working in West section of the facility informed the IC that there was smoke coming from a room near the south center portion of the building and that all other employees (six) working in the facility had evacuated and were in Building 2518. Water was flowing from the sprinkler system drain. The entry team advanced a hose line to the area that smoke was visible. Room 124A was checked and found water on the floor but no visible smoke and/or fire. Entry team continued search to Room 124B and found that a sprinkler	$10,000.00

Table 2: **Summary of Fire Damage Incidents**			
LOSS TYPE	**LOCATION**	**DESCRIPTION**	**DOLLAR LOSS**
		head was flowing water and the fire was contained to Room 124B). A small fire was visible on the floor under the desk top. The attack line was advanced into the room and the fire was completely extinguished. Once the fire was out the thermal imaging camera was used to check for hot spots. Elevated temperatures were found on the south wall of the adjoining office. The entry team returned to Room 124B and removed sheetrock below and above the desk to confirm there was no fire extension. Ventilation fans were set up to remove smoke from within the building. Overhaul of the room was initiated and debris was placed in a large trash container and moved outside, south side.	
Fire/Smoke (Building)	OR/ORNL	The ORNL Fire Department responded to a report of smoke coming from a Building 7078 office trailer. Upon arrival smoke was seen from the west end of the trailer. Emergency crews donned full turn out gear. A water supply was established using two 3-inch supply lines from a hydrant to Engine 1. Emergency crews entered the facility with a charged line and with a backup team in place. Pump operator used water from pre-piped deck gun on Engine 1 to protect nearby exposures. Fire was found in the attic above the finished ceiling. The sprinkler system did not activate. Sprinkler piping and sprinkler heads were installed below the finished ceiling and not in the concealed space where the fire was located. Fire Attack crew entered the men's restroom on the west end of the trailer, forced entry into the attic space and extinguished the fire. Fire controlled at approximately 1430 hrs. Power was secured to the facility using Shift E-Squad personnel and Electrical Utility Operations. IC initiated mutual aid support which was provided by Y-12. Off duty fire department personnel initiated to cover balance of plant. Overhaul was conducted, salvage tarps were used to cover furniture in the conference room area, and the thermal imager was used to check the area for hot spots. No hot spots were found. Water was used to saturate the insulation in the attic over the conference room. Command was terminated 1640 hrs. A Fire Watch was established at the facility until 2400 hrs with two hour checks to continue at the discretion of the Officer In Charge. Facility Management on the scene with Bechtel Jacobs Company, LLC Fire Protection representative. Facility turned over to Facility Management for fire origin and cause investigation.	$10,000.00
Fire/Smoke (Building)	FETC/LANL	LANL TA-3-261 Otowi - Employee placed plastic mug in microwave to re-heat it. Fire ignited in microwave. Employee called 911, another employee activated fire alarm, and facility evacuated. FD responded and extinguished fire with portable fire extinguisher, and vented smoke from area by breaking exterior window. Fire/smoke damage to microwave, carpet, several office cubicles, replace window, and clean-up of smoke and dry chemical residue required. Loss of work time for clean-up not calculated. ORPS NA--LA-LANL-BOP-2007-0017	$10,000.00
Fire/Smoke (Building)	OR/ORNL	The ORNL Fire Department responded to a VESDA smoke detector and manual pull station activation in Building 8300 at the Spallation Neutron Source site. Upon arrival facility personnel reported that there had been a small fire in a modulator and that they had extinguished the fire with a ten pound multi-purpose fire extinguisher and then pulled the manual pull	$7,500.00

Table 2: **Summary of Fire Damage Incidents**			
LOSS TYPE	**LOCATION**	**DESCRIPTION**	**DOLLAR LOSS**
		station. Upon arrival, facility personnel reported to the Command Post and advised Command they had lost a modulator in the west end of Building 8300. The entry team made first entry and found a moderate amount of smoke coming from one modulator and around a blue transformer directly behind the modulator, but no fire was showing, only moderate smoke. Also a small amount of liquid had leaked from the modulator. Further investigation and dismantling of the equipment revealed a small fire inside the modulator that was extinguished with three portable fire extinguishers. Once the fire was extinguished, the facility was ventilated and turned back over to facility management for recovery.	
Fire/Smoke (Other)	FETC/LANL	LANL TA-15-494 AROE improperly configured HVAC fresh air intake allowed cold into server room. Freeze damage to a sprinkler head allowed slow leak, misting and freezing of released water, and water damage to server equipment. Flow rate insufficient to actuate flow switch. Server equipment dried to extent possible. One server rack required replacement for return to service.	$7,500.00
Fire/Smoke (Building)	PSO/PAN	On December 4, 2007, at approximately 0930, the Aramark cafeteria crew observed smoke coming from the grill located on the east side of the 12-70 cafeteria. After seeing smoke but no flame, one of the workers pulled the wet cehmical fire suppression system manual release. Upon arrival of the PXFD, fire department personnel smelled smoke, but did not see any fire. After further investigation a small grease fire was observed inside and underneath the grill. This small grease fire was extingusihed by the PXFD with a Class K fire extinguisher that was located on the wall adjacent to the grill.	$7,500.00
Fire/Smoke (Building)	OR/ORNL	The ORNL Fire Department responded to a supervisor fire alarm condition from Building 8300 at the Spallation Neutron Source site. While responding, the VESDA smoke detection system elevated from an Alert Supervisor condition to an Action Fire Alarm condition. The assignment was upgraded to an emergency response. Upon arrival Fire Department personnel found moderate smoke in the general area of an electrical modulator with fire contained inside the modulator. Fire Department personnel made entry into the facility after consulting with facility personnel, located the affected modulator, de-energized the modulator, and activated the manually activated local application fixed Carbon Dioxide fire extinguishing system.	$7,500.00
Fire/Smoke (Building)	OR/ORNL	The ORNL Fire Department responded to a VESDA Alert Supervisor Alarm from Building 8300 at the Spallation Neutron Source site. While responding, the condition escalated to a VESDA Fire Alarm condition. The Fire Department assignment was upgraded to emergency. Upon arrival facility personnel indicated that there was an event in one of the modulators and that there was no fire. The modulator was de-energized and the manually activated local application carbon dioxide system was discharged as a precaution. Fire Department personnel investigated the modulator, declared the scene safe, and returned responsibility of the facility and equipment to the facility manager.	$7,500.00

WATER-BASED AUTOMATIC SUPPRESSION SYSTEM PERFORMANCE

A total of 12 incidents were reported where water-based suppression systems operated in CY 2006. System actuations are broken down as follows: (1) Dry-pipe; (7) Wet-pipe; and, (2) Deluge and (2) Preaction. Of these, two actuations were directly caused by fire. Causes for the remaining system actuations are as follows: design/material related (3), weather related (6) and unspecified (1).

Water-based system activations of interest are listed in Table 3.

Table 3: **Water Based System Actuations**

LOSS TYPE	LOCATION	DESCRIPTION	DOLLAR LOSS
Fire/Smoke (Building)	OR/ORNL	Fire alarm master box #152 received from Building 2525. All units responded. IC established on the north side. Upon arrival, an employee working in West section of the facility informed the IC that there was smoke coming from a room near the south center portion of the building and that all other employees (six) working in the facility had evacuated and were in Building 2518. Water was flowing from the sprinkler system drain. The entry team advanced a hose line to the area that smoke was visible. Room 124A was checked and found water on the floor but no visible smoke and/or fire. Entry team continued search to Room 124B and found that a sprinkler head was flowing water and the fire was contained to Room 124B). A small fire was visible on the floor under the desk top. The attack line was advanced into the room and the fire was completely extinguished. Once the fire was out the thermal imaging camera was used to check for hot spots. Elevated temperatures were found on the south wall of the adjoining office. The entry team returned to Room 124B and removed sheetrock below and above the desk to confirm there was no fire extension. Ventilation fans were set up to remove smoke from within the building. Overhaul of the room was initiated and debris was placed in a large trash container and moved outside, south side.	$10,000.00
Fire/Smoke (Other)	FETC/LANL	LANL TA-15-494 AROE improperly configured HVAC fresh air intake allowed cold into server room. Freeze damage to a sprinkler head allowed slow leak, misting and freezing of released water, and water damage to server equipment. Flow rate insufficient to actuate flow switch. Server equipment dried to extent possible. One server rack required replacement for return to service.	$7,500.00
Leaks, Spills, Releases	SSO/SNL-AL	SNL-NM On December 28 , 2007 at approximately 4:00 pm a pilot head for the deluge fire protection sprinkler system in building 9967 failed causing an activation of the deluge system. The cause of the failure was due to a power failure creating freezing conditions in the facility. No damage was reported. Approximately 20 man hours was required to complete repairs and return the system to service	$820.00
Leaks,	SSO/SNL-AL	SNL-NM: On December 29, 2007 at approximately 1:40 pm a	$620.00

Table 3: **Water Based System Actuations**			
LOSS TYPE	**LOCATION**	**DESCRIPTION**	**DOLLAR LOSS**
Spills, Releases		frozen fire protection sprinkler failed in the west penthouse of building 893. Building 893 is in the abatement stage of D&D and is equipped with temporary heat except for the penthouse and a couple of the attached portions of the building. The penthouse has a floor drain that managed all of the water. No damage was reported. Approximately 15 man hours was required to complete the repairs and return the system to service.	
Leaks, Spills, Releases	SSO/SNL-AL	SNL-NM: On December 29, 2007 at approximately 12:20 pm a inspectors test valve failed in the chemical dispense room of 858N causing an activation of the Fire Cycle automatic sprinkler system. The cause of the failure was due to a improperly sealed door creating freezing conditions in the facility. No damage was reported. Approximately 7.5 man hours was required to complete the repairs and return the system to service	$320.00
Leaks, Spills, Releases	SNR/KS	Frozen sprinkler on a Dry Pipe Sprinkler system	$0.00
Leaks, Spills, Releases	PSO/PAN	Broken sprinkler	$0.00
Leaks, Spills, Releases	PSO/PAN	Broken sprinkler	$0.00
Leaks, Spills, Releases	KSO/KCP	Due to pipe corrosion a hole developed in the water pipe of the pre-action dry-pipe system, allowing a loss of air pressure and system activation.	$0.00
Leaks, Spills, Releases	KSO/KCP	Outside dry pipe system froze, rupturing a 2" drain line.	$0.00
Leaks, Spills, Releases	YSO/Y-12	Deluge system actuated due to an air leak in the detection system.	$0.00
Leaks, Spills, Releases	YSO/Y-12	Frozen sprinkler system due to loss of building heat.	$0.00

There are a total of 250 incidents in DOE records where water based extinguishing systems operated in a fire. The satisfactory rate of performance is 98.8 percent, or 248 times out of 251 incidents. In CY-07 the DOE experienced a situation where sprinklers were installed, but did not operate in a fire. This event occurred when a fire in a sprinklered trailer entered the combustible concealed space. Two other failures during a fire were attributed to; a closed cold weather valve in 1958 controlling a single sprinkler in a wood dust collector and, a deluge system failure due to a hung-up trip weight in a 1963 transformer explosion.

From the above history, DOE has experienced 121 fires that were either controlled or extinguished by the wet-pipe type of automatic suppression system. Table 4 below provides a summary on the number of sprinklers actuated to control or extinguish a fire against the number of occurrences where this event was

reported. For example: 95 percent of these fires were controlled or extinguished with 4 or less sprinklers activating, 92 percent were controlled with 3 or less sprinklers activating, and so on.

The significance of this table is to highlight actual performance on systems that have been installed according to standard design practices (in this case the National Fire Protection Association (NFPA) Standard 13, Installation of Sprinkler Systems). By comparing the actual performance to design requirements, the designer or reviewer can get a sense of the conservativeness of the design area requirement in the National consensus standard. This table could also be used to apply this performance metric to other design aspects, such as sprinkler system water containment, since no specific design criteria exist on the subject.

Table 4
DOE Wet-Pipe Automatic Suppression Performance
1955 to 2003

Number of Sprinklers Activated per Fire Event	Number of Events	Cumulative Total of Events	Percentage of Event	Cumulative Percentage of Events
1	86	86	71	72
2	19	105	16	88
3	6	111	5	92
4	4	115	3	95
5	2	117	2	97
6	1	118	1	98
7	2	120	2	99
8	0	120	0	99
9+	1	121	1	100

NON WATER-BASED FIRE SUPPRESSION SYSTEM PERFORMANCE

Concerns regarding the effect of chlorinated fluorocarbons (CFCs) and Halon on the ozone layer have led to their regulation under the 1991 Clean Air Act. The Environmental Protection Agency has subsequently published rules on this regulation to include; prohibiting new Halon production, establishing container labeling requirements, imposing Federal procurement restrictions, imposing significant Halon taxes, issuing requirements for the approval of alternative agents, and listing essential areas where Halon protection is considered acceptable.

DOE's current policy does not allow the installation of any new Halon systems. Field organizations have been requested to aggressively pursue alternative fire suppression agents to replace existing systems and to effectively manage expanding Halon inventories. The long-term goal is the gradual replacement of all Halon systems.

In CY 2007, the DOE retained 249 Halon 1301 systems in operation containing approximately 79,463 pounds of agent. Stored Halon 1301 inventory was reported at approximately 47,203 pounds[2]. Operational and stored inventory amounts for the Halon 1211 were reported at 21,063 and 48,941 pounds, respectively.

Sites considering Halon transfers outside the DOE should contact the local Defense Logistics Agency for specific information relating to such transfers.

A total of 6 incidents were reported at DOE where Halon 1301 or other non-water based suppression systems operated in CY 2007. Of these, three release events were directly caused by a fire (2 manual, 1 automatic) and no sites reported any system failures during a fire. Additionally, approximately 390[3] pounds of Halon 1301 were released to the environment. Non-water-based system activations of interest are listed in Table 6 below.

Table 6: **Non Water Based System Actuations**

LOSS TYPE	LOCATION	DESCRIPTION	DOLLAR LOSS
Leaks, Spills, Releases	SSO/SNL-AL	SNL-NMFAC -2007 A CO2 system Bldg. 858N discharged on the Verteq benches WB17 and WB18 that was caused by a faulty fire suppression unit controller.	$12,069.00
Fire/Smoke (Building)	OR/ORNL	The ORNL Fire Department responded to a supervisor fire alarm condition from Building 8300 at the Spallation Neutron Source site. While responding, the VESDA smoke detection system elevated from an Alert Supervisor condition to an Action Fire Alarm condition. The assignment was upgraded to an emergency response. Upon arrival Fire Department personnel found moderate smoke in the general area of an electrical modulator with fire contained inside the modulator. Fire Department personnel made entry into the facility after consulting with facility personnel, located the affected modulator, de-energized the modulator, and activated the manually activated local application fixed Carbon Dioxide fire extinguishing system.	$7,500.00
Fire/Smoke (Building)	OR/ORNL	The ORNL Fire Department responded to a VESDA Alert Supervisor Alarm from Building 8300 at the Spallation Neutron Source site. While responding, the condition escalated to a VESDA Fire Alarm condition. The Fire Department assignment was upgraded to emergency. Upon arrival facility personnel indicated that there was an event in one of the modulators and that there was no fire. The modulator was de-energized and the manually activated local application carbon dioxide system was discharged as a precaution. Fire Department personnel investigated the modulator, declared the scene safe, and returned responsibility of the facility and equipment to the facility manager.	$7,500.00
Fire/Smoke (Building)	PSO/PAN	On December 4, 2007, at approximately 0930, the Aramark cafeteria crew observed smoke coming from the grill located on the east side of the 12-70 cafeteria. After seeing smoke but no flame, one of the workers pulled the wet cehmical fire suppression system manual release. Upon arrival of the PXFD, fire department personnel smelled smoke, but did not see any fire. After further investigation a small grease fire was observed inside and	$7,500.00

[2] Amount excludes banked inventory at the SRS – 51,747 pounds Halon 1301, 0 pounds Halon 1211. SRO reports that the Halon bank is no longer accepting Halon inventory from the sites.

[3] The above figure does not consider system leakage in a stable condition.

Table 6: **Non Water Based System Actuations**			
LOSS TYPE	**LOCATION**	**DESCRIPTION**	**DOLLAR LOSS**
		underneath the grill. This small grease fire was extingusihed by the PXFD with a Class K fire extinguisher that was located on the wall adjacent to the grill.	
Leaks, Spills, Releases	SSO/SNL-AL	SNL-NMFAC-2007-0009 Air Conditioning Motor Malfunction Causes Activation of Halon Fire Suppression System in Bldg. 981. At approximately 6:05 am on 7/12/2007, a fire alarm system was activated and released the Halon fire suppression agent (390 pounds of Halon #1301) in Room 117 of Building 981. The building was evacuated due to the event. Investigation into the incident identified that a roof top air conditioning unit (RTU) motor overheated. The motor overload protection failed in the closed position which allowed the motor to continue running and overheat. The function of the overloads is to open the motor circuit shutting down the motor in an over load condition. The heat created by the motor caused the insulating varnish on the motor windings to smoke. The smoke entered the room through the duct, activated the smoke detection system, and released the Halon fire suppression agent. The Halon system is being replaced by a water based suppression system	$6,650.00
Leaks, Spills, Releases	PSO/PAN	Dry Chemical Release due to power outage.	$0.00

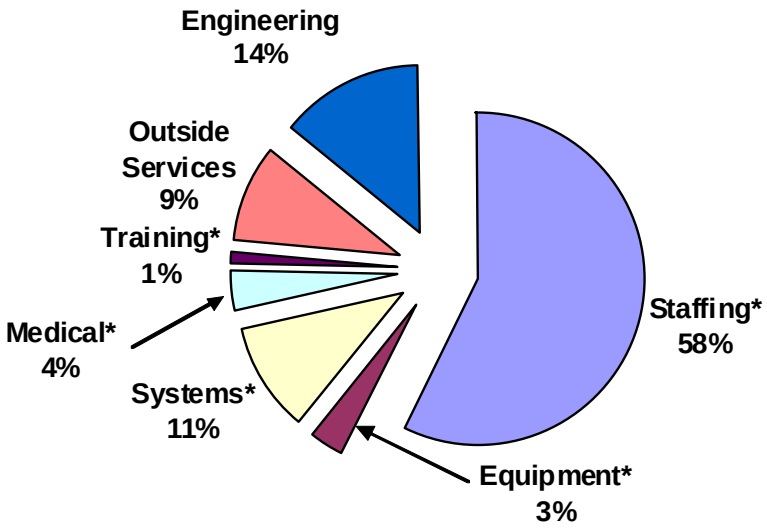
RECURRING FIRE PROTECTION PROGRAM COSTS

Yearly or recurring fire protection costs for CY 2007 reached $167,641,740 for the DOE Complex. On a ratio of cost to replacement property value (recurring cost rate), the DOE spent approximately 24.88 cents per $100 property value for recurring fire protection activities.

Figure 11 shows the CY 2007 recurring cost distribution by activity. Figure 12 lists the recurring cost rate by DOE field organizations. It should be noted that not all recurring cost activities were consistently reported, such as outside contracts and maintenance activities. Additionally, sites that did not report recurring costs this calendar year (BNL, WIPP) had their costs carried forward from the past reporting period to maintain the validity of the statistic.

Figure 11

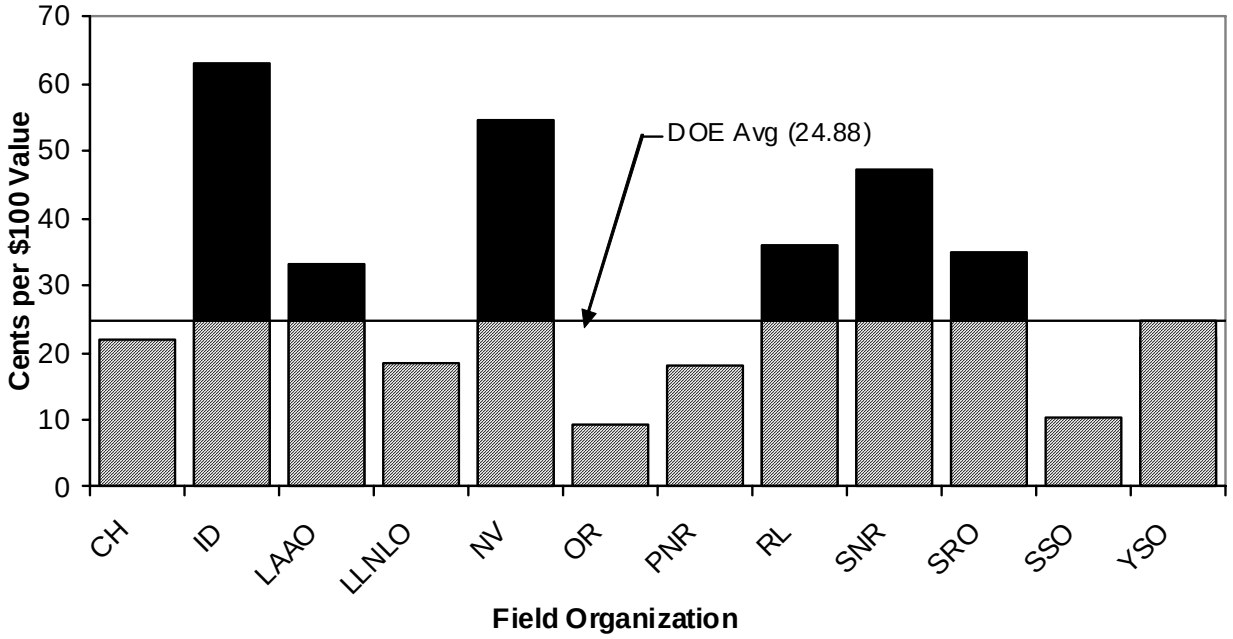
Recurring Fire Protection Cost Distribution



* Fire Department Activities

Figure 12

Cost Rate by Operations Office



FIRE DEPARTMENT ACTIVITIES

a. Number of Responses: The following is a summary of fire department responses for CY 2005.

1.	Fire	737
2.	Hazardous Materials	403
3.	Other Emergency	4,097
4.	Other Non-Emergency	2,791
5.	Medical	1,816
	Total	9,844

Comparing this data to the actual type of response is difficult since sites do not report incident responses in a consistent fashion. The Office of Health, Safety and Security is examining the use of a standard reporting format which complies with the National Fire Protection Association's Guide 901,"Uniform Coding for Fire Protection" that could be linked to other DOE incident reporting programs for an accurate and cost effective approach to data collection in DOE. Other options, such as folding DOE's fire data collection into State or National programs such as the National Fire Incident Reporting System, are also being considered.

b.Major Equipment Purchases:

Table 7: **Major Equipment Purchases**		
LOCATION	**DESCRIPTION**	**AMOUNT**
RL/HAN	Replacement of 65-ft Aerial	742,000.00
PSO/PAN	Wildland vehicles	410,921.00
NV/NTS	(2) Type 1 Ambulances	150,000.00
NV/NTS	(2) type V1 Wild-land Engines	150,000.00
SNR/KAPL	ESS Turnout Gear	43,000.00
SNR/KAPL	Haz-Mat Trailer	7,000.00
PNR/BAPL	PPE, Nozzels,Attack Line Hose	5,251.00
RL/HAN	Rescue 93	649.00
RL/HAN	Replacement of 65-ft Aerial	742,000.00
PSO/PAN	Wildland vehicles	410,921.00
NV/NTS	(2) Type 1 Ambulances	150,000.00

c. Notable Response Descriptions, such as mutual aid responses, that are not already included in this Report:

Table 8: **Notable Responses**		
LOCATION	**DATE**	**DESCRIPTION**
YSO/Y-12	5/1/2007	Cooling Tower 9409-24E was under refurbishment with deluge sprinkler locked out for modifications. Cooling towers wooden structure burned with four to six feet flames.
CH/PPPL	12/31/07	During the course of year 2007, 124 mutual aid responses were accomplished.
ID/INL	7/7/07	A single juniper was ignited by lightning.
ID/INL	7/20/07	A 13 acre human cause fire was extinguished by INL and BLM wildland firefighters.
ID/INL	8/1/07	A small wildland fire occurred due to a blown tire.
ID/INL	8/13/07	A small four acre fire occurred near highway 20, possibly due to human causes.
ID/INL	8/16/07	A small 1.5 acre wildland fire occurred north of highway 20/26.
ID/INL	8/17/07	A 1/4 acre wildland fire occurred in Kyle canyon area.
ID/INL	8/20/07	A 50 acre fire occurred near Jeffereson Avenue, suspect human caused.
ID/INL	4/5/07	A fire occurred within a resistive load back, during testing of diesel generators. When energized the load bank can generate significant heat. Leaves from nearby trees had accumulated within the load bank. The INL Fire Department responded, but the fire h
ID/INL	5/31/07	A 5 acre wildland fire occurred along highway 20/26.
ID/INL	7/3/07	A vehicle catalytic converter sarted a small wildland fire (300 sq.ft.).
ID/INL	7/7/07	A four acre, lightning started, wildland fire occurred near East Butte
ID/INL	4/5/07	A fire occurred within a resistive load back, during testing of diesel generators. When energized the load bank can generate significant heat. Leaves from nearby trees had accumulated within the load bank. The INL Fire Department responded, but the fire h
ID/INL	5/31/07	A 5 acre wildland fire occurred along highway 20/26.
ID/INL	7/3/07	A vehicle catalytic converter sarted a small wildland fire (300 sq.ft.).
ID/INL	7/7/07	A four acre, lightning started, wildland fire occurred near East Butte

Table 8: **Notable Responses**		
LOCATION	**DATE**	**DESCRIPTION**
ID/INL	7/7/07	A single juniper was ignited by lightning.
PSO/PAN	3/2/07	Small grass fire at the burning grounds - fire started from normal burning and was easily containied to the center of the burning grounds.
PSO/PAN	12/4/07	Small grease fire in cafeteria, extinguished with a portable class K extinguisher.
CH/LBL	03/12/07	Private vehicle had fire in the engine compartment in the Cafeteria parking lot.
CH/LBL	08/27/07	Overheated private vehicle fire occurred near main entrance to Lab at Blackberry Gate
ID/INL	7/20/07	A 13 acre human cause fire was extinguished by INL and BLM wildland firefighters.
ID/INL	8/1/07	A small wildland fire occurred due to a blown tire.
ID/INL	8/13/07	A small four acre fire occurred near highway 20, possibly due to human causes.
ID/INL	8/16/07	A small 1.5 acre wildland fire occurred north of highway 20/26.
ID/INL	8/17/07	A 1/4 acre wildland fire occurred in Kyle canyon area.
ID/INL	8/20/07	A 50 acre fire occurred near Jeffereson Avenue, suspect human caused.
ID/INL	4/5/07	A fire occurred within a resistive load back, during testing of diesel generators. When energized the load bank can generate significant heat. Leaves from nearby trees had accumulated within the load bank. The INL Fire Department responded, but the fire h
ID/INL	5/31/07	A 5 acre wildland fire occurred along highway 20/26.
ID/INL	7/3/07	A vehicle catalytic converter sarted a small wildland fire (300 sq.ft.).
ID/INL	7/7/07	A four acre, lightning started, wildland fire occurred near East Butte
ID/INL	7/7/07	A single juniper was ignited by lightning.
ID/INL	7/20/07	A 13 acre human cause fire was extinguished by INL and BLM wildland firefighters.
ID/INL	8/1/07	A small wildland fire occurred due to a blown tire.
ID/INL	8/13/07	A small four acre fire occurred near highway 20, possibly due to human causes.
ID/INL	8/16/07	A small 1.5 acre wildland fire occurred north of highway 20/26.
ID/INL	8/17/07	A 1/4 acre wildland fire occurred in Kyle canyon area.
ID/INL	8/20/07	A 50 acre fire occurred near Jeffereson Avenue, suspect human caused.
ID/INL	4/5/07	A fire occurred within a resistive load back, during testing of diesel generators. When energized the load bank can generate significant heat. Leaves from nearby trees had accumulated within the load bank. The INL Fire Department responded, but the fire h
ID/INL	5/31/07	A 5 acre wildland fire occurred along highway 20/26.
ID/INL	7/3/07	A vehicle catalytic converter sarted a small wildland fire (300 sq.ft.).
ID/INL	7/7/07	A four acre, lightning started, wildland fire occurred near East Butte
ID/INL	7/7/07	A single juniper was ignited by lightning.
ID/INL	7/20/07	A 13 acre human cause fire was extinguished by INL and BLM wildland firefighters.
ID/INL	8/1/07	A small wildland fire occurred due to a blown tire.
ID/INL	8/13/07	A small four acre fire occurred near highway 20, possibly due to human causes.
ID/INL	8/16/07	A small 1.5 acre wildland fire occurred north of highway 20/26.
ID/INL	8/17/07	A 1/4 acre wildland fire occurred in Kyle canyon area.
ID/INL	8/20/07	A 50 acre fire occurred near Jeffereson Avenue, suspect human caused.
RL/HAN	7/13/2007	The Hanford Fire Department responded to a grass fire south of the 100F Area. The fire was determined to be caused by a lightning strike. The fire was approximately 1 acre in size and did not threaten any facility or radiological/hazardous material area
RL/HAN	7/19/2007	The Hanford Fire Department responded to and extinguished a grass fire, approximately 25 acres in size, on the Hanford Site near the 100K Area. The fire was initially believed to have been caused by a lightning strike; however, further investigation iden

Table 8: **Notable Responses**		
LOCATION	**DATE**	**DESCRIPTION**
RL/HAN	8/13/2007	The Hanford Fire Department, along with personnel and equipment from other fire departments per mutual aid agreements, responded to a report of a wildland fire on State Route 240 between mile posts 17 and 18. The fire was burning on US Fish and Wildlife
RL/HAN	8/16/2007	At approximately 1630 hours on 8/16/07, the DOE activated the Hanford Emergency Operations Center due to a large and fast moving fire that crossed State Route 240 and moved onto the Hanford Site. The Wautoma Fire originated about 12 miles west of the Han
YSO/Y-12	5/1/2007	Cooling Tower 9409-24E was under refurbishment with deluge sprinkler locked out for modifications. Cooling towers wooden structure burned with four to six feet flames.

CONCLUSIONS

DOE experienced no fatalities or major injuries from fire in CY 2007. The Annual Summary reporting process has recently been automated to streamline data collection and provide a more through review of DOE Reporting Element activities. It is now possible to view all Annual Summary Reporting Element responses since 1991 at the Site, Operations, Lead Program Secretarial Office and Headquarters levels, as well as reference other DOE reporting activities such as ORPS. A copy of the latest version of this application can be obtained at the following internet address:

(updated url needed here)