

Revised Residential Fire Loss Estimates

1980 -1998

National Estimates of Fires, Deaths, Injuries and Property Losses from Non-Incendiary, Non-Suspicious Fires

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Executive Summary

This report presents revised estimates of consumer product-related residential structure fires and fire losses for the years 1980 to 1998. All estimates were derived from data provided by the U.S. Fire Administration's (USFA) National Fire Incident Reporting System (NFIRS) and the National Fire Protection Association (NFPA) and capture only fires attended by the fire service.

Estimates presented for years prior to 1998 differ from those in previous annual reports due to changes in the estimation methodology. Residential structure fires with incendiary and suspicious causes have been excluded, reducing estimates across the board. This was done to better target the fires and fire losses potentially addressable by U.S. Consumer Product Safety Commission activities. In addition, the methodology for allocating incidents with unknown values has been revised. The change in allocation methodology does not change the overall estimates since it merely redistributes fires with unknown values among fires with known values. There may, however, be some differences for individual products.

An overview of the results follows:

- Excluding incendiary and suspicious fires, CPSC staff estimates that residential structure fires have been reduced by 49 percent for the period 1980 to 1998, resulting in a 42 percent reduction in civilian fire deaths and a 17 percent reduction in civilian fire injuries (Figure 1).
- Among the major types of equipment involved, fires involving heating equipment have shown the greatest decrease during this period (77 percent) (Table 1). Deaths and injuries from heating equipment fires have decreased by 64 percent and 53 percent respectively (Tables 2 and 3).
- Fires involving cooking equipment (primarily ranges and ovens) have decreased by 33 percent during this period (Table 1). Deaths have remained the same while injuries increased by 3 percent (Tables 2 and 3). For ranges and ovens combined, fires decreased by 34 percent while deaths increased by 6 percent and injuries increased by 4 percent. The number of fires, deaths, and injuries associated with cooking equipment now exceed those of any of the other major equipment groups.
- Among other products involved as ignition sources, cigarettes remain a major cause of residential fires even though cigarette-ignited fires have decreased by 71 percent (Table 5). Deaths and injuries in those fires decreased by 59 percent and 55 percent respectively (Tables 6 and 7).

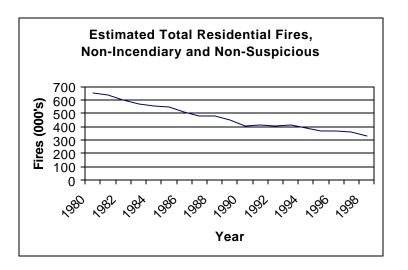
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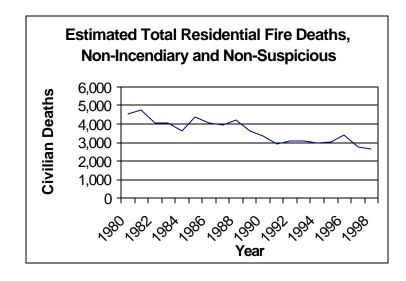
¹ The Selected Electrical Equipment tables (tables 13-16) present benchmark estimates for 1990.

- Fires involving ignition of upholstered furniture have decreased by 69 percent (Table 5). Resulting deaths and injuries decreased by 61 and 52 percent respectively (Tables 6 and 7). Nonetheless, upholstered furniture continues to be a major contributor to fire deaths.
- Fires involving ignition of mattresses/bedding have decreased by 69 percent (Table 5). Resulting deaths and injuries decreased by 52 and 27 percent respectively (Tables 6 and 7). Mattresses/bedding fires also remain a major contributor to fire deaths.
- Candles have been one of the few sources of increasing fires, exhibiting a 51 percent increase (Table 5). Resulting deaths increased by 750 percent, and resulting injuries increased by 135 percent (Tables 6 and 7).

The data presented in this report include only selected products that are the greatest contributors to fire loss. As a result, the table detail does not add to the total. Data table formats reflect multiple variables that are used by NFIRS to describe residential fires. As a result, estimates presented overlap in some cases. For example, fires that involve cigarette ignition of upholstered furniture are included in two different estimates, those based on Form of Heat of Ignition and those based on Form of Material First Ignited (Table 5). See the Methodology for a more detailed description of the NFIRS database and estimation procedure details.

Figure 1





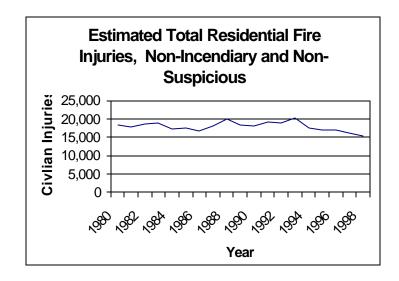


Table 1. ESTIMATED RESIDENTIAL STRUCTURE FIRES, 1980 - 1998
SELECTED EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Residential	655,000	636,500	596,200	569,200	551,900	549,500	507,600	482,000	482,200	448,000
Total Heating Equipment	208,800	212,500	215,000	210,800	190,700	181,500	148,400	129,800	121,400	111,500
Fixed Heater	42,400	56,400	63,800	67,200	64,900	63,100	49,400	43,900	40,200	37,800
Portable Heater	6,600	8,100	8,200	8,700	7,900	10,300	8,000	7,100	7,500	7,400
Central Heating	22,900	21,100	19,600	19,300	19,000	18,700	16,400	15,600	14,600	14,800
Fireplace	40,200	39,900	41,800	38,700	32,600	28,400	22,700	19,700	17,200	14,000
Chimney or Connector	78,700	71,200	65,500	61,100	51,300	45,600	37,800	30,800	29,400	26,300
Water Heater	15,400	13,300	13,600	13,300	12,400	12,800	12,000	10,600	10,500	9,300
Other	2,600	2,500	2,500	2,400	2,500	2,600	2,100	2,100	1,900	2,000
Total Cooking Equipment	139,800	142,800	126,300	115,100	113,400	115,800	114,200	110,800	111,400	104,400
Range/Oven	125,100	127,700	112,300	102,700	100,500	103,400	102,400	99,300	99,800	93,500
Gas	42,600	43,600	37,600	33,400	32,500	35,700	33,600	31,900	31,900	29,300
Electric	65,600	69,700	62,100	57,800	56,900	56,400	57,400	56,800	57,700	54,400
Other	16,800	14,400	12,600	11,400	11,200	11,300	11,300	10,500	10,200	9,800
All Other Cooking	14,700	15,100	14,100	12,500	12,800	12,400	11,900	11,500	11,700	10,900
Gas	1,100	1,600	1,400	1,400	1,400	1,300	1,400	1,300	1,400	1,400
Electric	8,800	9,300	8,600	7,700	7,800	7,400	6,900	7,000	7,000	6,700
Other	4,800	4,100	4,100	3,400	3,700	3,700	3,600	3,100	3,300	2,700
Total Electric Distribution	64,000	58,600	56,900	52,600	50,500	51,700	49,100	46,000	47,400	42,100
Installed Wiring	23,500	21,500	22,000	20,000	19,400	20,000	18,600	17,000	18,000	15,600
Cord, Plug	12,800	11,500	11,000	10,400	9,300	10,100	9,900	9,300	9,600	8,300
Switch, Outlet	7,600	7,300	6,700	6,300	6,200	6,300	5,900	5,600	5,500	4,900
Lamp, Light Fixture	12,500	11,500	10,500	9,500	9,400	9,200	8,700	8,600	8,600	8,400
Other	7,600	6,900	6,700	6,400	6,100	6,000	6,100	5,400	5,600	5,000
Total Appliances (Except Above)	49,500	45,100	40,800	38,400	37,400	35,400	34,500	32,500	33,100	30,900
TV, Radio, Phono	9,900	8,600	6,800	6,100	5,300	4,600	4,300	3,400	3,200	3,000
Dryer	19,500	17,500	16,500	15,100	15,100	14,600	14,500	14,100	14,500	13,700
Washing Machine	3,500	3,500	3,100	3,000	3,100	2,800	2,900	2,800	2,600	2,400
Heat Producing Appliance	8,000	7,400	6,500	6,500	6,100	6,000	5,300	5,400	5,700	5,500
Non-Heat Producing Appliance	2,300	1,800	1,600	1,700	1,500	1,400	1,400	1,300	1,400	1,100
Other	6,300	6,300	6,500	6,100	6,300	6,100	6,100	5,500	5,700	5,300
Total Cooling, Air Conditioning	6,300	6,300	5,900	6,000	5,800	5,600	5,600	5,500	5,500	4,500

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 1. (cont'd) ESTIMATED RESIDENTIAL STRUCTURE FIRES, 1980 - 1998
SELECTED EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Residential	402,600	413,400	408,300	411,000	392,300	369,200	371,200	357,700	332,300
Total Heating Equipment	84,300	85,100	83,100	84,300	73,900	68,300	63,000	60,000	48,800
Fixed Heater	27,900	27,300	27,100	26,500	22,300	19,500	15,900	14,600	11,000
Portable Heater	5,300	5,400	5,300	5,700	5,500	5,400	5,700	5,200	3,900
Central Heating	11,600	11,500	11,700	12,000	11,000	10,200	10,500	10,600	8,300
Fireplace	11,600	11,800	11,200	10,500	9,100	9,100	7,800	7,400	6,200
Chimney or Connector	17,700	18,600	17,700	19,200	15,900	14,400	13,000	12,900	10,700
Water Heater	8,600	8,800	8,500	8,600	8,200	8,000	8,400	7,700	7,400
Other	1,500	1,700	1,600	1,700	1,800	1,700	1,600	1,500	1,300
Total Cooking Equipment	105,100	106,300	112,400	111,300	102,300	96,900	98,700	102,300	93,300
Range/Oven	93,800	94,800	100,200	99,200	90,900	86,000	87,600	90,800	82,900
Gas	29,600	30,300	30,900	30,500	26,400	22,900	25,900	25,400	22,500
Electric	54,900	55,300	59,300	58,900	55,800	54,500	52,300	55,700	51,800
Other	9,200	9,300	10,000	9,800	8,700	8,600	9,500	9,600	8,700
All Other Cooking	11,300	11,500	12,200	12,000	11,400	10,900	11,100	11,500	10,300
Gas	1,500	1,500	1,600	1,600	1,500	1,500	1,500	1,500	1,300
Electric	6,900	7,300	7,700	7,600	7,100	6,700	6,800	7,200	6,400
Other	2,900	2,700	2,900	2,800	2,700	2,700	2,700	2,800	2,600
Total Electric Distribution	41,600	43,100	40,700	42,900	42,500	41,600	41,100	41,100	38,800
Installed Wiring	15,500	16,700	15,100	15,700	15,700	15,000	14,900	14,500	14,000
Cord, Plug	8,400	8,300	7,700	8,000	7,700	7,400	7,300	7,200	7,000
Switch, Outlet	4,800	5,200	4,900	5,400	5,000	5,100	4,900	4,700	4,900
Lamp, Light Fixture	7,900	7,700	7,900	8,500	8,800	8,800	9,000	9,600	8,000
Other	5,000	5,200	5,100	5,200	5,300	5,300	5,100	5,000	4,900
Total Appliances (Except Above)	29,900	30,000	29,500	30,000	30,400	29,300	28,900	29,000	27,300
TV, Radio, Phono	2,700	2,500	2,400	2,200	2,300	2,000	2,100	2,000	1,900
Dryer	14,100	14,100	14,700	15,200	15,800	16,300	16,100	16,500	15,600
Washing Machine	2,600	2,500	2,600	2,500	2,200	2,000	2,000	1,900	1,600
Heat Producing Appliance	4,500	4,400	4,000	3,900	3,900	3,400	3,400	3,300	2,800
Non-Heat Producing Appliance	1,100	1,100	900	1,000	1,000	900	900	900	900
Other	5,000	5,400	4,800	5,200	5,100	4,700	4,500	4,400	4,500
Total Cooling, Air Conditioning	5,100	5,200	4,700	4,900	4,400	4,600	4,000	3,800	4,100

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 2. ESTIMATED RESIDENTIAL STRUCTURE FIRE DEATHS, 1980 - 1998 SELECTED EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Residential	4,560	4,770	4,070	4,050	3,650	4,360	4,040	3,980	4,240	3,630
Total Heating Equipment	800	830	950	920	690	1,010	590	680	710	610
Fixed Heater	320	250	320	300	210	260	120	220	220	190
Portable Heater	90	190	220	330	250	450	290	280	310	270
Central Heating	80	130	90	70	70	130	60	50	60	50
Fireplace	100	100	70	50	60	40	20	20	20	40
Chimney or Connector	110	120	70	80	30	50	30	30	60	20
Water Heater	90	30	170	70	60	70	50	20	20	20
Other	10	10	10	20	20	*	20	50	20	20
Total Cooking Equipment	390	450	370	380	400	340	410	340	360	310
Range/Oven	320	370	290	330	360	280	320	310	320	230
Gas	200	190	150	200	150	90	90	150	170	110
Electric	70	150	100	100	130	140	180	130	120	70
Other	50	40	40	40	70	50	50	30	30	40
All Other Cooking	60	80	80	50	50	70	90	20	50	80
Gas	10	10	20	*	*	10	*	*	*	*
Electric	40	60	30	30	20	50	50	10	30	50
Other	10	10	40	20	20	10	30	10	20	30
Total Electric Distribution	450	460	300	410	380	400	570	430	340	470
Installed Wiring	200	210	70	150	120	170	190	180	160	200
Cord, Plug	160	130	150	120	150	130	210	140	90	170
Switch, Outlet	20	30	20	50	10	50	40	40	40	40
Lamp, Light Fixture	40	70	60	60	80	40	100	30	40	30
Other	30	30	*	50	10	20	40	40	10	40
Total Appliances (Except Above)	260	160	210	130	100	110	130	80	140	110
TV, Radio, Phono	150	50	70	60	40	20	60	10	50	40
Dryer	*	20	60	*	10	*	10	20	10	10
Washing Machine	*	10	*	10	*	*	*	*	*	*
Heat Producing Appliance	40	60	40	20	40	70	30	40	40	30
Non-Heat Producing Appliance	70	10	10	10	10	10	*	*	20	*
Other	*	20	30	20	10	10	30	10	20	30
Total Cooling, Air Conditioning	20	10	10	20	10	*	40	40	10	20

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 2 (con't) ESTIMATED RESIDENTIAL STRUCTURE FIRE DEATHS, 1980 - 1998 SELECTED EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Residential	3,370	2,930	3,110	3,090	2,980	3,010	3,440	2,760	2,660
Total Heating Equipment	560	480	470	530	480	440	620	380	290
Fixed Heater	140	150	130	230	160	140	140	160	100
Portable Heater	240	190	170	180	180	150	270	100	110
Central Heating	30	30	40	50	70	80	30	20	30
Fireplace	20	40	30	10	10	10	60	20	20
Chimney or Connector	60	20	30	10	10	10	40	10	10
Water Heater	60	40	50	30	30	20	50	30	20
Other	10	10	30	20	20	20	20	30	*
Total Cooking Equipment	340	250	250	350	290	280	340	280	390
Range/Oven	310	220	230	300	230	240	290	260	340
Gas	140	100	90	130	110	170	160	130	150
Electric	150	100	130	150	70	60	110	100	150
Other	20	20	20	10	40	10	10	30	40
All Other Cooking	30	30	20	50	60	40	50	30	50
Gas	10	*	*	10	10	*	*	*	*
Electric	20	20	10	30	40	30	40	30	30
Other	*	10	10	*	10	10	*	*	20
Total Electric Distribution	340	280	320	330	370	380	370	260	280
Installed Wiring	80	70	140	80	150	170	120	110	110
Cord, Plug	160	120	120	140	110	90	120	100	60
Switch, Outlet	30	30	10	20	40	40	30	10	40
Lamp, Light Fixture	70	40	30	70	60	50	60	30	60
Other	10	20	20	20	10	20	30	*	10
Total Appliances (Except Above)	100	90	80	90	80	120	140	100	110
TV, Radio, Phono	40	40	30	30	10	50	30	20	30
Dryer	20	10	10	10	10	10	20	30	20
Washing Machine	*	*	*	*	*	*	*	*	*
Heat Producing Appliance	30	20	10	30	40	40	70	30	30
Non-Heat Producing Appliance	10	20	*	20	10	*	*	*	10
Other	10	10	30	10	20	20	30	20	30
Total Cooling, Air Conditioning	10	20	10	10	60	10	*	*	10

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 3. ESTIMATED RESIDENTIAL STRUCTURE FIRE INJURIES, 1980 - 1998 SELECTED EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Residential	18,350	17,830	18,600	19,040	17,280	17,650	16,850	18,230	20,070	18,400
Total Heating Equipment	3,110	2,800	3,070	3,280	2,490	2,860	2,350	2,410	2,920	2,510
Fixed Heater	750	510	710	840	560	670	590	500	670	590
Portable Heater	310	470	610	720	570	730	560	630	750	780
Central Heating	440	560	440	400	290	400	250	260	370	310
Fireplace	440	320	360	280	220	220	180	160	290	150
Chimney or Connector	170	150	140	150	140	90	100	140	140	120
Water Heater	940	750	770	850	680	680	610	670	640	500
Other	60	40	30	40	20	70	50	50	60	60
Total Cooking Equipment	4,520	4,720	5,080	5,020	4,350	4,350	4,440	4,830	5,150	4,760
Range/Oven	4,010	4,210	4,560	4,520	3,910	3,920	4,010	4,400	4,640	4,340
Gas	1,160	1,390	1,470	1,400	1,230	1,210	1,090	1,210	1,310	1,200
Electric	2,160	2,390	2,560	2,600	2,250	2,220	2,450	2,740	2,860	2,690
Other	690	440	530	510	440	500	480	450	470	450
All Other Cooking	510	500	520	500	440	430	440	430	510	420
Gas	30	70	50	80	50	50	80	90	60	60
Electric	220	260	310	230	250	240	230	230	230	250
Other	260	180	160	190	140	140	120	110	220	120
Total Electric Distribution	1,560	1,430	1,690	1,440	1,430	1,300	1,270	1,400	1,550	1,340
Installed Wiring	420	430	520	420	420	350	290	430	400	350
Cord, Plug	490	420	650	440	530	430	520	460	570	530
Switch, Outlet	120	170	130	150	110	130	110	160	170	100
Lamp, Light Fixture	400	320	330	290	230	250	210	240	290	250
Other	120	100	70	150	140	120	130	110	120	110
Total Appliances (Except Above)	1,050	1,120	990	1,190	950	970	960	900	900	950
TV, Radio, Phono	300	390	270	390	240	220	220	190	150	170
Dryer	230	210	240	180	240	220	190	190	190	200
Washing Machine	40	30	40	40	20	10	40	30	30	40
Heat Producing Appliance	220	270	210	320	280	230	260	270	250	300
Non-Heat Producing Appliance	150	90	100	90	80	110	80	50	90	60
Other	100	130	140	170	100	180	170	170	190	180
Total Cooling, Air Conditioning	140	180	90	160	110	110	140	170	140	200

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 3 (con't) ESTIMATED RESIDENTIAL STRUCTURE FIRE INJURIES, 1980 - 1998 SELECTED EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Residential	18,180	19,170	18,980	20,190	17,540	17,010	17,030	16,080	15,260
Total Heating Equipment	2,110	2,160	2,160	2,470	1,940	1,840	1,790	1,380	1,460
Fixed Heater	510	440	530	580	380	380	390	260	350
Portable Heater	550	530	530	790	580	500	490	420	340
Central Heating	260	290	300	280	280	280	260	240	230
Fireplace	130	150	160	160	140	130	130	80	90
Chimney or Connector	100	140	100	110	60	80	70	80	40
Water Heater	530	550	490	510	430	420	400	260	390
Other	30	70	40	50	70	50	50	40	20
Total Cooking Equipment	5,230	5,250	5,260	5,770	4,820	4,670	4,780	5,020	4,640
Range/Oven	4,750	4,790	4,740	5,280	4,340	4,150	4,320	4,510	4,170
Gas	1,300	1,340	1,240	1,250	1,010	900	1,030	970	890
Electric	3,010	3,010	3,040	3,480	2,980	2,860	2,830	3,130	2,980
Other	440	440	470	550	350	390	450	410	310
All Other Cooking	480	460	510	490	480	510	460	520	470
Gas	110	60	90	100	90	90	90	70	60
Electric	240	250	300	310	240	300	270	310	280
Other	130	150	120	70	150	130	100	130	130
Total Electric Distribution	1,370	1,690	1,580	1,700	1,440	1,510	1,420	1,390	1,230
Installed Wiring	340	370	420	450	390	420	360	420	320
Cord, Plug	540	700	550	630	480	500	480	370	420
Switch, Outlet	130	210	190	160	130	170	140	140	150
Lamp, Light Fixture	250	270	280	340	310	310	330	340	250
Other	110	140	140	120	120	110	100	110	100
Total Appliances (Except Above)	1,040	1,070	1,050	1,100	1,010	780	950	950	980
TV, Radio, Phono	180	160	190	180	150	70	170	120	140
Dryer	240	300	350	370	340	280	330	420	370
Washing Machine	40	20	20	30	20	20	20	30	30
Heat Producing Appliance	290	280	250	250	260	170	200	190	150
Non-Heat Producing Appliance	70	90	60	120	70	60	40	50	90
Other	210	210	180	170	170	180	200	140	200
Total Cooling, Air Conditioning	120	180	130	140	150	140	90	130	150

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 4. ESTIMATED RESIDENTIAL STRUCTURE FIRE PROPERTY LOSSES (in millions), 1980 - 1998 SELECTED EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Residential	\$2,337.9	\$2,427.1	\$2,534.6	\$2,557.4	\$2,656.5	\$2,973.0	\$2,701.4	\$2,876.0	\$3,176.1	\$3,142.5
Total Heating Equipment	\$629.7	\$616.3	\$709.8	\$684.4	\$652.3	\$739.9	\$557.7	\$520.0	\$659.4	\$671.6
Fixed Heater	\$156.0	\$144.2	\$232.4	\$191.3	\$184.3	\$180.8	\$143.3	\$141.3	\$168.2	\$182.8
Portable Heater	\$45.5	\$54.6	\$69.0	\$74.6	\$76.1	\$131.1	\$76.9	\$66.9	\$89.9	\$102.6
Central Heating	\$103.2	\$79.0	\$97.4	\$93.3	\$85.5	\$100.0	\$72.5	\$80.9	\$93.1	\$100.1
Fireplace	\$118.4	\$125.7	\$94.8	\$110.9	\$103.7	\$95.7	\$82.9	\$70.1	\$90.5	\$80.3
Chimney or Connector	\$118.5	\$127.0	\$132.1	\$118.0	\$109.9	\$124.1	\$87.4	\$79.3	\$103.6	\$114.2
Water Heater	\$73.5	\$75.2	\$72.1	\$82.2	\$79.9	\$91.9	\$78.3	\$65.0	\$84.4	\$69.9
Other	\$14.6	\$10.6	\$12.0	\$14.0	\$12.8	\$16.4	\$16.3	\$16.5	\$29.7	\$21.6
Total Cooking Equipment	\$204.1	\$245.6	\$352.7	\$287.9	\$313.3	\$290.4	\$311.9	\$307.9	\$379.5	\$367.4
Range/Oven	\$155.5	\$190.4	\$192.6	\$236.1	\$257.2	\$234.4	\$255.1	\$252.5	\$290.0	\$292.5
Gas	\$44.1	\$56.6	\$66.7	\$75.4	\$68.4	\$62.8	\$62.9	\$69.1	\$89.1	\$72.8
Electric	\$90.3	\$115.5	\$105.0	\$134.1	\$165.0	\$145.1	\$171.5	\$154.0	\$168.2	\$191.5
Other	\$21.1	\$18.3	\$20.9	\$26.6	\$23.8	\$26.5	\$20.7	\$29.4	\$32.7	\$28.2
All Other Cooking	\$48.6	\$55.2	\$160.1	\$51.8	\$56.2	\$56.0	\$56.8	\$55.4	\$89.5	\$74.9
Gas	\$3.7	\$3.8	\$112.6	\$7.7	\$5.8	\$5.8	\$5.8	\$6.7	\$13.5	\$7.7
Electric	\$30.7	\$38.0	\$29.4	\$30.8	\$31.1	\$31.8	\$32.5	\$29.3	\$39.7	
Other	\$14.2	\$13.5	\$18.1	\$13.2	\$19.2	\$18.5	\$18.5	\$19.4	\$36.3	\$19.3
Total Electric Distribution	\$425.4	\$476.7	\$445.3	\$474.9	\$461.2	\$616.0	\$489.9	\$429.9	\$587.7	\$532.9
Installed Wiring	\$198.2	\$216.3	\$217.0	\$206.6	\$220.7	\$250.4	\$231.2	\$183.5	\$285.4	\$249.3
Cord, Plug	\$83.1	\$114.8	\$93.7	\$95.8	\$88.5	\$192.3	\$99.3	\$88.1	\$121.1	\$101.5
Switch, Outlet	\$31.0		\$32.2	\$41.0	\$37.1	\$46.2	\$41.4	\$34.2	\$45.7	
Lamp, Light Fixture	\$55.7	\$71.5	\$64.4	\$74.2	\$64.6	\$83.3	\$64.8	\$55.5	\$74.9	\$71.8
Other	\$57.3	\$36.5	\$38.0	\$57.3	\$50.3	\$43.8	\$53.2	\$68.6		
Total Appliances (Except Above)	\$169.9	\$181.4	\$151.5	\$180.9	\$194.2	\$188.4	\$232.3	\$155.5	\$197.5	
TV, Radio, Phono	\$57.0	\$65.5	\$45.1	\$54.0	\$49.3	\$49.4	\$97.0	\$25.7	\$37.1	\$33.5
Dryer	\$29.5	\$29.7	\$33.8	\$37.6	\$47.4	\$47.6	\$43.3	\$41.1	\$57.6	
Washing Machine	\$2.8	\$2.1	\$1.5	\$4.3	\$4.7	\$2.4	\$4.2	\$4.0	\$3.9	\$5.2
Heat Producing Appliance	\$45.6	\$44.5	\$35.0	\$44.8	\$43.6	\$45.9	\$43.8	\$46.2	\$51.6	\$56.1
Non-Heat Producing Appliance	\$11.6	\$7.0	\$13.3	\$11.2	\$12.3	\$9.6	\$10.4	\$6.9	\$12.5	
Other	\$23.4	\$32.7	\$22.9	\$28.9	\$36.8	\$33.4	\$33.7	\$31.5	\$34.9	\$35.9
Total Cooling, Air Conditioning	\$24.7	\$25.5	\$27.4	\$53.0	\$32.4	\$34.2	\$35.6	\$33.9	\$40.2	\$82.9

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million. Property loss values not adjusted for inflatic Estimates less than 10 are denoted by an asterisk (*). Selected product categories presented; subtotals do not add up to heading totals.

Table 4. (con't) ESTIMATED RESIDENTIAL STRUCTURE FIRE PROPERTY LOSSES (in millions), 1980 - 1998 SELECTED EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Residential	\$3,289.0	\$4,334.1	\$3,054.8	\$3,978.8	\$3,410.5	\$3,480.2	\$3,984.8	\$3,748.2	\$3,562.5
Total Heating Equipment	\$591.5	\$832.8	\$562.6	\$585.1	\$605.5	\$581.5	\$714.3	\$581.8	\$498.8
Fixed Heater	\$143.0	\$206.1	\$134.0	\$143.8	\$161.9	\$140.1	\$208.3	\$109.3	\$104.5
Portable Heater	\$78.6	\$98.8	\$109.2	\$97.3	\$94.2	\$87.0	\$110.5	\$94.3	\$69.6
Central Heating	\$85.3	\$128.7	\$80.8	\$82.4	\$87.6	\$78.0	\$88.3	\$87.7	\$70.9
Fireplace	\$86.1	\$124.0	\$80.3	\$77.1	\$76.5	\$84.7	\$99.0	\$81.9	\$73.6
Chimney or Connector	\$94.9	\$121.8	\$76.7	\$96.6	\$89.7	\$92.5	\$91.9	\$94.2	\$73.3
Water Heater	\$87.3	\$129.5	\$58.0	\$69.7	\$76.7	\$72.5	\$94.5	\$84.3	\$80.4
Other	\$16.3	\$24.0	\$23.6	\$18.3	\$18.9	\$26.7	\$21.8	\$30.0	\$26.5
Total Cooking Equipment	\$381.9	\$501.1	\$355.9	\$449.9	\$350.7	\$351.6	\$411.1	\$440.4	\$409.4
Range/Oven	\$298.5	\$399.5	\$285.2	\$370.9	\$278.7	\$271.3	\$327.0	\$332.3	\$315.2
Gas	\$76.1	\$102.4	\$77.2	\$77.2	\$59.4	\$54.1	\$80.0	\$70.7	\$60.5
Electric	\$193.6	\$237.3	\$169.4	\$260.7	\$194.3	\$187.2	\$207.0	\$227.5	\$212.3
Other	\$28.8	\$59.7	\$38.5	\$32.9	\$25.0	\$30.0	\$40.1	\$34.1	\$42.3
All Other Cooking	\$83.5	\$101.6	\$70.8	\$79.0	\$72.0	\$80.3	\$84.1	\$108.1	\$94.2
Gas	\$12.1	\$20.1	\$18.9	\$14.0	\$10.1	\$11.5	\$16.9	\$12.7	\$16.9
Electric	\$49.0	\$52.2	\$28.5	\$48.2	\$37.2	\$42.1	\$44.4	\$54.5	\$39.4
Other	\$22.3	\$29.4	\$23.4	\$16.7	\$24.6	\$26.7	\$22.8	\$40.9	\$37.9
Total Electric Distribution	\$559.8	\$788.7	\$509.0	\$678.9	\$604.1	\$635.1	\$671.6	\$685.9	\$680.0
Installed Wiring	\$243.3	\$353.8	\$220.0	\$247.3	\$258.5	\$266.4	\$289.2	\$290.8	\$286.5
Cord, Plug	\$116.1	\$172.1	\$115.9	\$127.7	\$124.4	\$115.6	\$135.7	\$115.5	\$142.5
Switch, Outlet	\$43.3	\$72.2	\$53.4	\$57.6	\$58.1	\$67.7	\$71.0	\$59.5	\$65.6
Lamp, Light Fixture	\$106.7	\$112.7	\$71.8	\$89.2	\$105.2	\$120.3	\$103.2	\$142.8	\$102.5
Other	\$50.4	\$78.0	\$48.0	\$157.1	\$58.0	\$65.1	\$72.5	\$77.2	\$82.9
Total Appliances (Except Above)	\$204.7	\$294.1	\$182.5	\$231.9	\$229.8	\$212.1	\$258.7	\$256.6	\$213.9
TV, Radio, Phono	\$29.7	\$44.2	\$35.4	\$41.3	\$34.7	\$25.9	\$39.9	\$31.3	\$28.6
Dryer	\$68.4	\$73.8	\$57.3	\$70.3	\$74.7	\$78.8	\$89.0	\$94.9	\$75.4
Washing Machine	\$2.4	\$3.8	\$7.4	\$2.6	\$3.1	\$6.1	\$3.0	\$5.2	\$5.4
Heat Producing Appliance	\$55.5	\$70.3	\$37.4	\$67.2	\$50.8	\$49.3	\$58.1	\$53.6	\$34.2
Non-Heat Producing Appliance	\$9.0	\$17.2	\$8.7	\$9.8	\$13.3	\$13.4	\$8.8	\$17.7	\$13.0
Other	\$39.8	\$84.8	\$36.2	\$40.6	\$53.3	\$38.6	\$59.8	\$53.9	\$57.2
Total Cooling, Air Conditioning	\$43.4	\$56.3	\$34.4	\$41.8	\$37.8	\$39.5	\$51.6	\$38.8	\$57.9

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million. Property loss values not adjusted for inflation.

Table 5. ESTIMATED RESIDENTIAL STRUCTURE FIRES, 1980 - 1998
SELECTED PRODUCTS, Non-Incendiary and Non-Suspicious Only

Product	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Residential	655,000	636,500	596,200	569,200	551,900	549,500	507,600	482,000	482,200	448,000
			By Form of	of Heat of Ig	nition					
Cigarette, Other Tobacco Prod.	75,700	67,500	53,700	46,700	47,100	46,000	43,200	40,300	39,400	34,500
Match	27,200	22,500	18,700	17,800	17,700	16,600	15,700	15,100	14,800	13,600
Child Play	23,100	18,400	14,700	13,900	13,400	12,300	11,800	11,300	11,200	10,200
Other	4,100	4,100	4,000	3,900	4,300	4,300	3,900	3,700	3,600	3,400
Lighter	9,300	8,400	8,100	7,900	8,400	8,200	8,500	8,500	8,200	8,200
Child Play	8,600	7,900	7,500	7,300	7,600	7,500	7,900	7,900	7,600	7,600
Other	700	500	600	600	700	600	600	600	600	600
Candle	8,500	7,700	7,300	6,800	6,900	6,900	6,500	6,500	6,600	6,400
			By Form of N							
Upholstered Furniture	33,100	29,900	24,400	21,600	21,300	20,200	19,200	17,800	17,400	15,700
Smoking Material Ignition	23,200	21,100	16,600	13,800	13,600	12,500	12,000	10,900	10,500	9,100
Open Flame Ignition	3,300	3,000	2,700	2,700	2,700	2,600	2,500	2,400	2,300	2,200
Other	6,600	5,900	5,100	5,100	5,000	5,100	4,800	4,400	4,500	4,400
Mattress, Bedding	60,100	52,200	45,200	42,300	40,400	39,900	37,800	34,900	34,000	31,300
Smoking Material Ignition	28,900	25,100	20,000	18,100	17,400	17,200	16,100	14,600	13,800	12,300
Open Flame Ignition	13,000	11,300	10,500	10,300	10,000	10,000	9,700	9,100	9,000	8,600
Other	18,200	15,900	14,700	13,900	12,900	12,700	12,000	11,200	11,100	10,400
Other Materials										
Electric Cable Insulation	46,600	47,400	45,300	44,200	42,300	41,100	38,800	37,600	37,900	34,200
Interior Wall Covering	31,900	27,200	27,600	26,200	23,700	25,000	22,200	20,200	21,000	19,700
Wearing Apparel-Worn	1,100	1,100	1,000	1,000	800	900	800	800	800	800
Wearing Apparel-Not Worn	17,800	16,000	15,000	14,300	13,300	13,000	13,300	12,700	13,200	13,000
Floor Covering	13,600	12,000	12,000	11,100	10,300	10,200	9,500	9,300	9,700	8,900
Curtains, Drapes	7,700	6,400	6,300	6,100	5,600	5,300	5,100	4,700	5,000	4,300
Magazine, Newspaper	5,800	5,100	5,100	4,300	4,400	4,300	4,100	4,000	4,000	3,700
Thermal Insulation	9,200	7,700	8,500	7,900	7,200	6,900	6,200	5,800	6,200	5,900
Cabinet, Desk	8,400	7,900	7,700	7,200	7,000	7,300	7,200	7,000	7,500	7,200
Trash, Rubbish	35,800	48,800	67,200	82,500	86,700	90,600	84,000	76,300	72,500	64,900
Toy, Game	1,200	1,100	900	900	900	700	800	900	700	800

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 5. (con't) ESTIMATED RESIDENTIAL STRUCTURE FIRES, 1980 - 1998
SELECTED PRODUCTS, Non-Incendiary and Non-Suspicious Only

Product	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Residential	402,600	413,400	408,300	411,000	392,300	369,200	371,200	357,700	332,300
		By F	orm of Heat	of Ignition					
Cigarette, Other Tobacco Prod.	30,900	29,700	27,900	26,600	25,200	24,600	24,300	22,600	22,200
Match	11,500	11,000	11,700	10,600	10,600	9,100	8,700	7,000	6,500
Child Play	8,700	8,400	9,000	8,200	8,300	6,900	6,500	5,300	5,000
Other	2,800	2,600	2,700	2,400	2,300	2,200	2,200	1,700	1,500
Lighter	7,700	8,700	9,600	10,400	11,100	8,500	7,400	6,600	6,000
Child Play	7,100	8,100	9,000	9,700	10,400	7,800	6,800	6,100	5,500
Other	600	600	700	700	700	700	600	500	500
Candle	5,400	5,900	6,000	6,400	7,100	8,400	10,100	12,000	12,800
		By Forr		I First Ignite	ed				
Upholstered Furniture	13,800	13,800	12,900	12,300	11,800	11,400	11,000	10,200	10,200
Smoking Material Ignition	8,100	7,700	6,900	6,600	6,000	6,000	5,500	5,100	4,900
Open Flame Ignition	1,700	1,800	2,100	1,900	2,100	2,000	1,900	2,000	1,900
Other	4,000	4,300	3,900	3,800	3,700	3,400	3,600	3,200	3,300
Mattress, Bedding	26,800	27,600	26,900	26,300	25,500	22,200	21,700	20,000	18,900
Smoking Material Ignition	10,300	9,800	9,200		7,800	6,900	6,700	5,700	5,800
Open Flame Ignition	7,300	8,100	8,700		9,100	7,200	6,900	6,200	6,000
Other	9,300	9,700	9,000	9,100	8,600	8,200	8,100	8,100	7,100
Other Materials									
Electric Cable Insulation	34,100	36,900	34,800	36,100	34,500	33,900	32,400	30,600	28,800
Interior Wall Covering	16,300	16,600	16,300	16,800	15,700	15,200	15,100	14,900	14,700
Wearing Apparel-Worn	700	700	800	700	800	700	800	800	500
Wearing Apparel-Not Worn	12,500	13,800	13,800	14,100	13,700	13,400	14,100	13,800	13,200
Floor Covering	7,600	8,300	7,900	7,800	7,600	7,400	8,100	7,500	6,900
Curtains, Drapes	3,900	3,800	3,500	3,700	3,300	3,200	3,500	3,500	3,400
Magazine, Newspaper	3,700	4,000	4,100	4,100	3,800	3,800	4,000	3,900	3,400
Thermal Insulation	5,200	5,100	4,800	5,000	5,200	4,700	4,800	4,700	4,500
Cabinet, Desk	6,800	6,800	6,200	6,600	6,300	6,100	7,000	7,000	6,800
Trash, Rubbish	48,200	46,100	44,300	44,700	37,000	32,300	27,800	26,500	21,400
Toy, Game	600	800	800	800	800	700	700	800	600

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 6. ESTIMATED RESIDENTIAL STRUCTURE FIRE DEATHS, 1980 - 1998 SELECTED PRODUCTS, Non-Incendiary and Non-Suspicious Only

Products	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Residential	4,560	4,770	4,070	4,050	3,650	4,360	4,040	3,980	4,240	3,630
			By Form	of Heat of Ig	nition					
Cigarette, Other Tobacco Prod.	1,940	2,110	1,660	1,550	1,400	1,600	1,390	1,360	1,540	1,180
Match	220	250	210	220	250	290	190	260	300	230
Child Play	190	200	150	160	180	220	170	210	260	180
Other	30	50	60	70	70	60	30	50	50	50
Lighter	270	90	100	160	80	150	180	200	230	140
Child Play	240	80	80	130	70	130	170	180	200	120
Other	30	10	20	30	10	20	10	20	30	10
Candle	20	90	100	110	120	80	120	100	80	100
	-	Ē	By Form of	Material Fir	st Ignited	-	-	•		
Upholstered Furniture	1,350	1,460	1,150	1,100	1,040	940	1,130	1,020	1,000	890
Smoking Material Ignition	1,180	1,190	950	860	830	740	870	700	770	680
Open Flame Ignition	130	100	120	180	120	100	110	130	120	110
Other	40	170	80	60	90	100	150	190	100	90
Mattress, Bedding	850	870	700	690	660	920	710	730	870	540
Smoking Material Ignition	500	610	500	460	380	550	360	440	490	320
Open Flame Ignition	130	120	100	80	110	220	120	190	210	100
Other	210	140	100	150	170	150	220	100	170	120
Other Materials										
Electric Cable Insulation	160	120	120	160	120	190	210	180	190	110
Interior Wall Covering	530	310	280	370	280	280	310	350	260	310
Wearing Apparel-Worn	140	210	140	120	120	160	110	140	160	70
Wearing Apparel-Not Worn	100	160	90	120	90	100	110	80	150	130
Floor Covering	140	140	240	90	190	150	100	150	190	110
Curtains, Drapes	20	30	70	60	40	30	40	40	30	40
Magazine, Newspaper	70	90	50	60	80	60	50	40	40	80
Thermal Insulation	10	10	10	30	*	20	*	20	10	*
Cabinet, Desk	70	70	40	70	20	60	60	40	40	60
Trash, Rubbish	100	170	90	140	70	130	80	130	140	130
Toy, Game	*	10	*	*	10	*	*	10	10	10

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 6. (con't) ESTIMATED RESIDENTIAL STRUCTURE FIRE DEATHS,1980 - 1998 SELECTED PRODUCTS, Non-Incendiary and Non-Suspicious Only

Products	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Residential	3,370	2,930	3,110	3,090	2,980	3,010	3,440	2,760	2,660
		By Fo	orm of Heat	of Ignition					
Cigarette, Other Tobacco Prod.	1,120	890	1,040	950	860	1,020	1,100	860	800
Match	160	190	150	180	140	110	100	100	90
Child Play	120	130	120	160	130	90	70	90	80
Other	50	50	30	30	10	20	20	10	10
Lighter	160	280	220	190	260	200	150	160	140
Child Play	140	270	210	180	230	190	130	160	130
Other	20	10	10	20	30	10	20	10	10
Candle	90	60	110	90	80	80	130	160	170
		By Forn	n of Materia	l First Ignite	ed			-	
Upholstered Furniture	840	700	670	640	680	670	650	640	520
Smoking Material Ignition	610	470	530	460	440	520	510	470	370
Open Flame Ignition	90	160	90	80	140	80	50	50	100
Other	140	60	50	100	110	80	80	120	40
Mattress, Bedding	570	610	580	580	470	480	660	460	410
Smoking Material Ignition	300	280	310	350	230	270	330	230	250
Open Flame Ignition	160	190	160	150			100	100	80
Other	100	140	110	80	90	120	230	130	80
Other Materials									
Electric Cable Insulation	140	120	110	180	170	140	160	80	130
Interior Wall Covering	290	230	240	250	170	240	200	210	190
Wearing Apparel-Worn	110	120	130	100	120	150	120	130	110
Wearing Apparel-Not Worn	110	100	80	90	110	90	120	80	80
Floor Covering	60	100	130	100	90	70	90	120	70
Curtains, Drapes	40	10	20	30	60	20	20	30	20
Magazine, Newspaper	40	60	50	60	60	30	50	70	10
Thermal Insulation	*	*	30	*	10	10	*	10	*
Cabinet, Desk	40	40	30	60	60	50	80	90	60
Trash, Rubbish	80	80	70	60	40	60	80	30	60
Toy, Game	*	*	*	*	*	*	20	10	*

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 7. ESTIMATED RESIDENTIAL STRUCTURE FIRE INJURIES, 1980 - 1998 SELECTED PRODUCTS, Non-Incendiary and Non-Suspicious Only

Products	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Residential	18,350	17,830	18,600	19,040	17,280	17,650	16,850	18,230	20,070	18,400
		By For	m of Hea	t of Ignition	on					
Cigarette, Other Tobacco Prod.	4,420	4,290	3,860	3,940	3,510	3,380	3,060	3,290	3,590	3,080
Match	1,130	1,270	1,310	1,240	1,290	1,200	1,080	1,250	1,270	1,220
Child Play	810	900	910	810	940	800	750	930	910	940
Other	330	380	410	420	350	410	330	330	360	270
Lighter	960	650	840	880	920	960	1,020	1,090	1,220	1,130
Child Play	800	560	740	760	780	880	920	1,000	1,070	1,050
Other	160	90	90	120	140	80	100	90	150	80
Candle	510	480	480	510	590	600	580	590	710	700
		By Form	of Materia	al First Ig	nited					
Upholstered Furniture	2,950	2,680	2,570	2,550	2,250	2,180	2,160	2,100	2,120	2,020
Smoking Material Ignition	2,040	2,020	1,750	1,730	1,440	1,470	1,350	1,310	1,380	1,160
Open Flame Ignition	540	390	410	410	470	360	480	370	360	360
Other	380	270	410	410	350	350	320	410	380	500
Mattress, Bedding	3,090	2,840	3,030	3,100	2,950	2,880	2,740	3,170	3,150	3,040
Smoking Material Ignition	1,530	1,550	1,400	1,570	1,340	1,240	1,170	1,340	1,410	1,110
Open Flame Ignition	770	660	910	810	930	920	840	1,040	1,110	1,010
Other	790	630	720	720	680	720	730	780	640	920
Other Materials										
Electric Cable Insulation	580	690	640	710	710	630	580	690	820	660
Interior Wall Covering	830	860	810	870	700	730	660	720	990	850
Wearing Apparel-Worn	290	250	240	280	190	220	150	180	190	200
Wearing Apparel-Not Worn	450	550	550	670	530	540	550	540	770	620
Floor Covering	380	470	490	380	390	490	340	360	560	440
Curtains, Drapes	320	300	340	310	360	320	330	300	290	330
Magazine, Newspaper	160	220	210	160	180	220	190	190	270	250
Thermal Insulation	100	60	110	80	70	120	80	110	80	60
Cabinet, Desk	310	270	290	310	310	310	270	330	400	390
Trash, Rubbish	590	510	510	420	470	440	560	520	650	510
Toy, Game	40	50	60	40	30	40	40	50	60	40

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 7. (con't) ESTIMATED RESIDENTIAL STRUCTURE FIRE INJURIES, 1980 - 1998 SELECTED PRODUCTS, Non-Incendiary and Non-Suspicious Only

Products	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Residential	18,180	19,170	18,980	20,190	17,540	17,010	17,030	16,080	15,260
	В	y Form of	Heat of I	gnition					
Cigarette, Other Tobacco Prod.	2,970	2,760	2,720	2,910	2,460	2,300	2,490	1,980	1,990
Match	1,030	1,080	1,120	1,090	910	890	770	890	610
Child Play	790	790	800	790	690	640	600	730	470
Other	240	290	320	310	220	250	170	160	140
Lighter	1,180	1,510	1,670	1,760	1,760	1,440	1,190	890	920
Child Play	1,080	1,430	1,570	1,650	1,610	1,300	1,110	810	820
Other	90	80	90	110	160	140	90	80	100
Candle	560	690	630	670	850	1,010	1,200	1,290	1,200
	By F	orm of Ma	aterial Fir	st Ignited					
Upholstered Furniture	1,880	1,890	1,550	1,870	1,580	1,630	1,600	1,420	1,420
Smoking Material Ignition	1,190	1,080	920	1,070	870	910	980	750	760
Open Flame Ignition	400	460	370	380	430	430	360	450	410
Other	290	350	250	420	280	300	260	220	250
Mattress, Bedding	2,790	3,040	3,280	3,220	2,820	2,490	2,400	2,210	2,260
Smoking Material Ignition	1,120	1,020	1,090	1,070	870	750	750	720	690
Open Flame Ignition	1,040	1,150	1,350	1,320	1,300	1,130	1,030	910	980
Other	630	860	840	830	660	610	630	580	600
Other Materials									
Electric Cable Insulation	720	840	740	950	780	850	740	670	690
Interior Wall Covering	740	740	640	750	500	570	530	520	780
Wearing Apparel-Worn	160	190	230	190	190	190	200	190	160
Wearing Apparel-Not Worn	660	830	790	830	820	630	770	720	610
	450	470	390	460	330	480	410	410	320
Floor Covering	450	470	370		000				
Floor Covering Curtains, Drapes	310	330	260	340	290	220	390	350	270
						220 280	390 260	350 230	270 140
Curtains, Drapes	310	330	260	340	290				
Curtains, Drapes Magazine, Newspaper	310 210	330 230	260 270	340 310	290 170	280	260	230	140
Curtains, Drapes Magazine, Newspaper Thermal Insulation	310 210 70	330 230 60	260 270 80	340 310 70	290 170 110	280 120	260 70	230 80	140 50

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 8. ESTIMATED RESIDENTIAL STRUCTURE FIRE PROPERTY LOSSES (in millions) 1980 - 1998 SELECTED PRODUCTS, Non-Incendiary and Non-Suspicious Only

Product	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Residential	\$2,337.9	\$2,427.1	\$2,534.6	\$2,557.4	\$2,656.5	\$2,973.0	\$2,701.4	\$2,876.0	\$3,176.1	\$3,142.5
			By Forn	n of Heat of	Ignition					
Cigarette, Other Tobacco Prod.	\$323.4	\$363.8	\$329.1	\$259.5	\$303.6	\$302.3	\$293.4	\$286.4	\$292.6	\$270.9
Match	\$70.1	\$84.7	\$120.6	\$74.3	\$82.8	\$90.4	\$80.6	\$180.6	\$97.7	\$83.4
Child Play	\$63.4	\$76.1	\$64.2	\$64.2	\$68.7	\$79.5	\$70.9	\$130.5	\$84.2	\$72.2
Other	\$6.7	\$8.5	\$56.5	\$10.1	\$14.1	\$11.0	\$9.8	\$50.2	\$13.6	\$11.2
Lighter	\$38.0	\$40.7	\$40.3	\$48.2	\$49.3	\$61.5	\$68.0	\$62.8	\$71.1	\$83.2
Child Play	\$36.1	\$39.3	\$37.8	\$45.8	\$45.5	\$58.6	\$64.8	\$55.7	\$68.1	\$79.8
Other	\$1.8	\$1.4	\$2.5	\$2.3	\$3.7	\$2.9	\$3.2	\$7.1	\$3.0	\$3.4
Candle	\$36.1	\$39.4	\$39.3	\$41.6	\$48.6	\$54.0	\$67.2	\$50.5	\$58.3	\$61.6
			By Form o	f Material Fi	irst Ignited					
Upholstered Furniture	\$194.1	\$220.8	\$245.1	\$172.9	\$188.2		\$198.2	\$163.2	\$189.4	\$192.5
Smoking Material Ignition	\$129.7	\$158.2	\$185.3	\$108.0	\$123.1	\$120.2	\$118.3	\$98.0	\$107.2	\$101.5
Open Flame Ignition	\$12.0	\$16.3	\$15.7	\$17.4	\$19.2		\$22.1	\$29.3	\$22.5	\$20.4
Other	\$52.4	\$46.3	\$44.1	\$47.4	\$45.8	\$55.1	\$57.7	\$35.8	\$59.8	\$70.6
Mattress, Bedding	\$206.0	\$217.8	\$190.0	\$212.3	\$210.6		\$227.9	\$208.7	\$262.3	\$268.7
Smoking Material Ignition	\$93.8	\$107.8	\$80.3	\$83.6	\$90.3		\$92.8	\$73.1	\$96.0	\$95.7
Open Flame Ignition	\$35.3	\$37.1	\$40.2	\$42.9	\$44.3		\$52.6	\$79.8	\$64.0	\$73.2
Other	\$76.9	\$72.9	\$69.5	\$85.8	\$76.0	\$93.7	\$82.6	\$55.8	\$102.3	\$99.8
Other Materials										
Electric Cable Insulation	\$134.3	\$211.0	\$163.0	\$206.8	\$203.5	\$190.0	\$190.5	\$163.1	\$228.2	\$199.0
Interior Wall Covering	\$244.6	\$229.0	\$265.9	\$276.8	\$267.7		\$255.4	\$202.5	\$268.0	\$244.8
Wearing Apparel-Worn	\$2.8	\$2.6	\$4.6	\$4.0	\$2.6	\$3.9	\$5.4	\$3.9	\$6.1	\$3.1
Wearing Apparel-Not Worn	\$80.7	\$69.0	\$60.0	\$65.3	\$89.2		\$78.4	\$72.0	\$99.6	\$85.7
Floor Covering	\$76.2	\$75.0	\$95.9	\$90.9	\$80.1	\$84.0	\$71.8	\$72.6	\$93.4	\$83.4
Curtains, Drapes	\$30.0	\$24.0	\$32.4	\$34.9	\$31.6	\$32.2	\$39.9	\$28.0	\$59.1	\$36.5
Magazine, Newspaper	\$33.2	\$28.6	\$24.4	\$25.6	\$22.8	\$29.3	\$29.1	\$29.1	\$39.6	\$35.1
Thermal Insulation	\$29.8	\$28.0	\$31.4	\$47.1	\$35.6	\$38.3	\$37.7	\$37.1	\$41.2	\$41.9
Cabinet, Desk	\$54.2	\$49.4	\$46.5	\$48.4	\$54.9	\$51.6	\$65.9	\$66.3	\$63.9	\$82.9
Trash, Rubbish	\$59.7	\$79.3	\$64.4	\$75.6	\$86.8		\$87.7	\$97.4	\$150.5	\$147.4
Toy, Game	\$1.9	\$3.1	\$3.1	\$2.6	\$2.5	\$2.3	\$2.2	\$2.6	\$5.1	\$4.6

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million. Property loss values not adjusted for inflation.

Table 8. (con't) ESTIMATED RESIDENTIAL STRUCTURE FIRE PROPERTY LOSSES (in millions), 1980 - 1998 SELECTED PRODUCTS, Non-Incendiary and Non-Suspicious Only

Product	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Residential	\$3,289.0	\$4,334.1	\$3,054.8	\$3,978.8	\$3,410.5	\$3,480.2	\$3,984.8	\$3,748.2	\$3,562.5
		By I	Form of Hea	t of Ignition					
Cigarette, Other Tobacco Prod.	\$308.7	\$385.1	\$217.7	\$288.5	\$281.0	\$278.7	\$276.7	\$298.8	\$284.6
Match	\$79.6	\$111.2	\$78.1	\$86.5	\$98.4	\$92.7	\$96.0	\$94.3	\$72.3
Child Play	\$69.3	\$97.8	\$65.0	\$78.9	\$87.8	\$82.2	\$82.1	\$83.5	\$62.1
Other	\$10.3	\$13.3	\$13.1	\$7.6	\$10.6	\$10.4	\$14.0	\$10.8	\$10.2
Lighter	\$87.4	\$131.5	\$112.1	\$145.2	\$149.2	\$113.0	\$136.4	\$114.8	\$98.8
Child Play	\$84.5	\$123.4	\$105.1	\$140.4	\$143.1	\$106.7	\$115.0	\$107.7	\$92.0
Other	\$3.0	\$8.1	\$7.0	\$4.7	\$6.1	\$6.3	\$21.4	\$7.1	\$6.8
Candle	\$61.2	\$77.3	\$57.3	\$83.3	\$91.2	\$114.6	\$169.2	\$176.3	\$174.6
		By For	m of Materia	al First Ignite	ed				
Upholstered Furniture	\$221.3	\$253.2	\$165.7	\$192.5	\$201.4	\$216.6	\$200.2	\$201.6	\$207.1
Smoking Material Ignition	\$138.5	\$130.4	\$73.1	\$97.9	\$102.2	\$107.2	\$90.5	\$95.8	\$91.1
Open Flame Ignition	\$23.4	\$34.0	\$27.2	\$31.7	\$37.1	\$37.6	\$41.4	\$49.4	\$40.7
Other	\$59.3	\$88.9	\$65.4	\$62.9	\$62.1	\$71.8	\$68.3	\$56.4	\$75.2
Mattress, Bedding	\$250.3	\$347.1	\$236.9	\$335.0	\$284.7	\$287.3	\$286.9	\$298.9	\$255.4
Smoking Material Ignition	\$79.2	\$105.5	\$71.8	\$93.6	\$70.3	\$75.2	\$72.7	\$73.4	\$69.8
Open Flame Ignition	\$65.2	\$99.7	\$78.2	\$102.2	\$105.3	\$104.9	\$108.9	\$97.1	\$89.0
Other	\$105.9	\$141.8	\$86.9	\$139.2	\$109.0	\$107.2	\$105.2	\$128.3	\$96.6
Other Materials									
Electric Cable Insulation	\$228.3	\$324.0	\$201.5	\$290.3	\$263.2	\$271.8	\$323.0	\$276.5	\$275.0
Interior Wall Covering	\$245.5	\$307.4	\$238.4	\$258.7	\$269.1	\$256.5	\$291.8	\$305.7	\$278.4
Wearing Apparel-Worn	\$4.2	\$5.0	\$5.3	\$5.4	\$13.3	\$4.8	\$4.2	\$6.8	\$4.6
Wearing Apparel-Not Worn	\$103.6	\$149.0	\$93.6	\$163.2	\$116.7	\$119.4	\$133.5	\$139.1	\$124.1
Floor Covering	\$90.7	\$115.1	\$69.2	\$97.1	\$111.8	\$91.2	\$113.4	\$116.6	\$100.9
Curtains, Drapes	\$36.7	\$39.6	\$29.4	\$31.1	\$37.7	\$30.7	\$45.3	\$45.4	\$37.0
Magazine, Newspaper	\$33.3	\$50.3	\$43.3	\$44.6	\$43.3	\$45.8	\$47.0	\$41.9	\$36.6
Thermal Insulation	\$37.6	\$43.0	\$25.1	\$39.1	\$44.0	\$48.6	\$50.3	\$36.9	\$37.6
Cabinet, Desk	\$65.6	\$107.6	\$65.2	\$86.0	\$67.6	\$64.2	\$91.3	\$94.9	\$90.9
Trash, Rubbish	\$112.0	\$184.3	\$97.4	\$106.2	\$94.1	\$90.8	\$100.3	\$106.6	\$85.3
Toy, Game	\$2.7	\$4.8	\$2.7	\$2.9	\$5.3	\$3.1	\$5.8	\$6.5	\$4.8

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million. Property loss values not adjusted for inflation.

Table 9. ESTIMATED RESIDENTIAL STRUCTURE FIRES, 1980 - 1998 HEATING EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Residential	655,000	636,500	596,200	569,200	551,900	549,500	507,600	482,000	482,200	448,000
Total Heating Equipment	208,800	212,500	215,000	210,800	190,700	181,500	148,400	129,800	121,400	111,500
Solid Fuel	116,600	134,100	143,900	144,500	129,900	116,000	90,700	75,800	68,900	60,900
Fixed Heater	24,400	41,000	48,900	53,800	53,100	50,900	38,400	33,400	29,700	27,800
Portable Heater	1,400	2,100	1,000	1,000	900	1,300	800	500	400	300
Fireplace	29,600	32,100	33,900	32,000	26,800	22,300	17,800	14,900	13,200	10,500
Central Furnace	2,400	3,100	2,800	3,000	2,900	2,800	2,000	1,600	1,400	1,300
Chimney	48,800	46,700	49,300	47,100	39,500	31,000	26,400	21,100	20,400	17,200
Chimney Connector	9,300	8,400	7,400	7,000	5,800	6,700	4,700	3,700	3,300	3,300
Other	700	700	600	800	900	1,000	700	700	500	500
Gas-Fired	28,500	24,300	25,200	22,600	20,500	21,000	19,000	17,400	17,500	16,000
Fixed Heater	6,700	5,100	5,600	5,100	4,200	4,200	3,700	3,600	3,700	3,400
Portable Heater	700	800	1,200	1,300	1,100	1,300	1,100	900	1,000	1,200
Water Heater	12,200	10,500	10,200	9,700	9,000	9,500	8,700	7,700	7,800	6,500
Central Furnace	7,400	6,200	6,400	5,300	5,100	5,000	4,500	4,100	4,200	3,800
Other	1,600	1,700	1,800	1,200	1,100	1,100	1,000	1,100	800	1,100
Electric	16,400	15,800	15,600	15,100	14,000	14,800	12,700	12,900	12,800	12,900
Fixed Heater	5,000	4,500	4,400	3,800	3,400	3,600	3,200	3,400	3,300	3,300
Portable Heater	3,200	3,500	3,500	3,500	3,300	4,000	2,900	3,000	3,100	3,000
Water Heater	1,300	1,200	1,600	1,500	1,400	1,400	1,500	1,400	1,300	1,500
Central Furnace	5,700	5,600	5,100	5,200	4,900	4,800	4,200	4,200	4,100	4,000
Other	1,300	1,000	1,100	1,100	1,000	1,000	900	1,000	1,000	1,000
Liquid Fuel	9,800	9,000	8,800	10,000	9,800	10,100	9,000	8,500	8,100	8,500
Fixed Heater	1,700	1,700	1,500	1,600	1,400	1,300	1,000	1,100	1,200	1,200
Portable Heater	700	900	1,700	2,100	2,000	2,800	2,400	1,900	2,100	2,000
Water Heater	1,000	800	700	1,000	700	800	700	600	700	600
Central Furnace	5,200	4,400	3,700	4,300	4,900	4,600	4,300	4,300	3,700	4,200
Chimney or Connector	900	900	800	700	600	400	400	400	300	300
Other	300	300	300	300	200	200	200	200	200	200
All Other Fuel	37,500	29,200	21,500	18,600	16,600	19,600	17,000	15,100	14,100	13,300
Fixed Heater	4,600	4,000	3,400	2,900	2,900	3,200	3,000	2,400	2,400	2,100
Portable Heater	700	700	900	900	700	1,000	900	800	800	900
Fireplace	9,700	7,000	7,200	6,100	5,300	5,600	4,500	4,400	3,700	3,100
Water Heater	1,000	800	1,000	1,000	1,100	900	1,000	800	700	700
Central Furnace	2,200	1,800	1,700	1,600	1,300	1,500	1,400	1,300	1,400	1,500
Chimney	16,400	12,200	4,900	4,100	3,400	5,200	4,500	3,900	4,000	3,800
Chimney Connector	2,400	1,900	1,800	1,500	1,300	1,500	1,100	1,000	800	800
Other	500	700	600	600	700	700	600	500	400	400

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Estimates less than 10 are denoted by an asterisk (*). Selected product categories presented; subtotals do not add up to heading totals.

Table 9. (con't) ESTIMATED RESIDENTIAL STRUCTURE FIRES, 1980 - 1998 HEATING EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Residential	402,600	413,400	408,300	411,000	392,300	369,200	371,200	357,700	332,300
Total Heating Equipment	84,300	85,100	83,100	84,300	73,900	68,300	63,000	60,000	48,800
Solid Fuel	43,900	43,500	41,700	42,100	34,600	31,100	25,500	24,200	19,100
Fixed Heater	19,700	18,800	18,400	18,100	14,400	12,000	8,800	8,400	5,900
Portable Heater	300	200	200	200	100	200	100	100	100
Fireplace	8,700	9,000	8,400	7,900	6,900	7,000	5,700	5,100	4,100
Central Furnace	900	700	600	600	500	400	400	400	300
Chimney	11,700	11,900	11,000	11,900	9,900	9,000	8,000	7,800	6,700
Chimney Connector	2,400	2,700	2,600	3,000	2,400	2,200	2,000	2,000	1,600
Other	300	400	400	400	400	300	400	300	300
Gas-Fired	14,600	14,900	14,200	14,300	13,500	12,600	12,800	11,700	9,900
Fixed Heater	3,100	3,300	3,200	3,100	2,800	2,700	2,600	2,300	1,800
Portable Heater	900	800	700	900	800	900	900	900	600
Water Heater	6,100	6,100	5,800	5,500	5,300	5,000	5,200	4,600	4,300
Central Furnace	3,500	3,600	3,300	3,600	3,500	3,000	3,100	2,900	2,400
Other	900	1,100	1,100	1,100	1,000	1,000	900	1,000	800
Electric	10,900	11,500	11,800	12,500	12,000	11,800	12,000	11,400	9,400
Fixed Heater	2,800	2,900	3,000	3,100	3,000	2,800	2,500	2,100	1,800
Portable Heater	2,500	2,700	2,700	2,700	2,700	2,600	2,800	2,700	2,000
Water Heater	1,400	1,600	1,600	1,900	1,800	1,800	2,100	2,100	2,000
Central Furnace	3,400	3,400	3,700	4,000	3,400	3,500	3,600	3,600	2,900
Other	900	900	900	900	1,100	1,000	1,100	900	700
Liquid Fuel	5,700	5,500	5,800	5,700	5,300	4,900	4,900	4,700	3,500
Fixed Heater	800	800	800	800	700	700	600	600	500
Portable Heater	1,200	1,200	1,200	1,300	1,300	1,100	1,200	900	700
Water Heater	500	400	400	400	300	400	400	300	300
Central Furnace	2,800	2,800	3,000	2,800	2,600	2,400	2,400	2,700	1,900
Chimney or Connector	300	200	200	200	200	200	100	100	100
Other	200	200	100	200	100	100	100	100	100
All Other Fuel	9,200	9,600	9,700	9,700	8,500	8,000	7,800	8,000	6,900
Fixed Heater	1,500	1,500	1,700	1,500	1,400	1,200	1,300	1,200	1,000
Portable Heater	500	600	500	600	600		600	600	500
Fireplace	2,500	2,500	2,300	2,200	1,800	1,600	1,700	1,800	1,600
Water Heater	600	700	600	800	700	700	800	700	800
Central Furnace	1,000	1,000	1,000	900	900	900	900	1,000	800
Chimney	2,100	2,300	2,400	2,600	2,200	1,800	1,700	1,600	1,300
Chimney Connector	700	700	800	800	700	700	600	700	600
Other Source: U.S. Consumer Product Safety Commission/F	300	400	300	400	400	400	300	300	300

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100. Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 10. ESTIMATED RESIDENTIAL STRUCTURE FIRE DEATHS, 1980 - 1998 HEATING EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Residential	4,560	4,770	4,070	4,050	3,650	4,360	4,040	3,980	4,240	3,630
Total Heating Equipment	800	830	950	920	690	1,010	590	680	710	610
Solid Fuel	350	290	270	290	140	240	80	170	170	140
Fixed Heater	150	70	100	170	90	140	30	70	80	70
Portable Heater	10	*	*	10	*	20	*	10	10	*
Fireplace	80	100	60	40	30	30	10	10	20	30
Central Furnace	30	*	30	10	*	20	10	10	*	*
Chimney	50	80	50	60	10	20	20	10	10	10
Chimney Connector	30	40	10	10	10	20	*	20	50	10
Other	*	*	*	*	*	10	*	30	*	20
Gas-Fired	140	140	290	220	230	200	110	180	140	150
Fixed Heater	20	80	100	40	60	60	20	70	80	60
Portable Heater	10	10	20	90	60	30	10	90	10	40
Water Heater	80	20	130	50	60	40	50	10	20	20
Central Furnace	30	40	40	40	40	60	20	*	30	20
Other	*	*	*	*	10	*	*	*	*	*
Electric	70	190	250	150	150	260	200	150	170	140
Fixed Heater	20	40	60	60	20	30	40	10	*	10
Portable Heater	60	150	140	70	100	190	150	100	160	120
Water Heater	*	*	50	*	*	10	*	10	*	*
Central Furnace	*	*	*	*	10	30	10	30	10	10
Other	*	*	*	20	20	*	*	*	*	*
Liquid Fuel	140	140	80	140	100	190	130	80	140	130
Fixed Heater	100	20	20	20	20	10	20	10	20	30
Portable Heater	10	20	40	110	60	150	100	60	110	80
Water Heater	*	10	*	10	*	*	*	*	*	*
Central Furnace	30	70	10	10	20	20	10	10	10	20
Chimney or Connector	*	10	*	*	*	*	*	*	*	*
Other	*	10	*	*	*	*	*	*	*	*
All Other Fuel	90	70	70	100	80	120	60	100	90	50
Fixed Heater	30	30	40	10	20	20	10	50	40	10
Portable Heater	*	10	10	60	30	60	20	20	10	30
Fireplace	20	*	*	10	10	20	*	20	*	*
Water Heater	10	*	*	*	*	10	*	*	*	*
Central Furnace	*	20	10	20	*	*	10	*	10	*
Chimney	30	*	*	*	*	10	*	*	10	*
Chimney Connector	*	*	*	*	*	*	*	*	*	*
Other	10	10	10	*	10	*	20	20	20	*

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Estimates less than 10 are denoted by an asterisk (*). Selected product categories presented; subtotals do not add up to heading totals.

Table 10. (con't) ESTIMATED RESIDENTIAL STRUCTURE FIRE DEATHS, 1980 - 1998 (cont'd) HEATING EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Residential	3,370	2,930	3,110	3,090	2,980	3,010	3,440	2,760	2,660
Total Heating Equipment	560	480	470	530	480	440	620	380	290
Solid Fuel	110	100	110	190	80	130	150	70	50
Fixed Heater	40	40	70	160	50	70	60	50	20
Portable Heater	*	*	10	10	10	*	10	*	*
Fireplace	10	40	10	10	10	10	50	10	10
Central Furnace	10	*	*	*	10	10	*	*	*
Chimney	20	10	10	10	10	10	20	10	10
Chimney Connector	20	10	*	*	*	*	20	*	*
Other	*	*	10	*	*	20	*	*	*
Gas-Fired	170	180	120	100	190	110	200	140	70
Fixed Heater	50	50	20	30	70	30	40	80	40
Portable Heater	50	60	30	20	30	20	60	20	10
Water Heater	40	40	40	20	30	10	50	20	10
Central Furnace	20	30	20	30	60	50	20	20	10
Other	10	*	10	10	*	*	30	10	*
Electric	120	120	120	130	130	110	150	90	50
Fixed Heater	20	10	20	20	40	20	10	10	10
Portable Heater	110	110	80	90	90	100	140	60	30
Water Heater	*	*	*	*	*	*	*	*	*
Central Furnace	*	*	10	20	*	*	*	*	10
Other	*	*	10	*	10	*	*	20	*
Liquid Fuel	80	30	60	50	50	50	90	20	80
Fixed Heater	10	20	10	10	*	10	20	*	30
Portable Heater	60	20	30	40	40	30	50	20	30
Water Heater	10	*	*	*	*	*	*	*	10
Central Furnace	*	*	10	*	10	10	10	*	10
Chimney or Connector	*	*	10	*	*	*	*	*	*
Other	*	*	*	*	*	*	*	*	*
All Other Fuel	70	50	60	50	30	40	30	40	50
Fixed Heater	30	20	10	20	10	20	*	30	*
Portable Heater	20	10	20	20	10	10	20	*	40
Fireplace	*	*	20	*	*	*	*	*	*
Water Heater	10	*	10	10	*	10	*	*	*
Central Furnace	*	10	*	*	*	10	*	10	*
Chimney	*	*	*	*	*	*	*	*	*
Chimney Connector	10	*	*	*	*	*	*	*	*
Other	*	10	10	10	10	*	*	*	*

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100. Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 11. ESTIMATED RESIDENTIAL STRUCTURE FIRE INJURIES, 1980 - 1998 HEATING EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Residential	18,350	17,830	18,600	19,040	17,280	17,650	16,850	18,230	20,070	18,400
Total Heating Equipment	3,110	2,800	3,070	3,280	2,490	2,860	2,350	2,410	2,920	2,510
Solid Fuel	660	600	690	640	500	490	420	340	460	380
Fixed Heater	190	160	210	290	170	240	190	130	150	180
Portable Heater	10	10	60	20	20	20	*	*	10	10
Fireplace	290	280	280	200	130	130	140	100	170	90
Central Furnace	50	20	10	10	30	20	10	20	10	20
Chimney	70	60	90	60	80	30	50	60	80	40
Chimney Connector	60	40	30	30	50	30	20	20	20	30
Other	*	30	*	20	*	*	10	10	20	10
Gas-Fired	1,390	1,060	1,140	1,200	930	1,060	910	900	1,070	840
Fixed Heater	210	90	150	200	150	190	180	140	200	130
Portable Heater	20	80	80	130	70	90	100	70	80	110
Water Heater	850	630	620	650	550	570	480	570	530	410
Central Furnace	220	260	240	210	140	180	150	110	240	160
Other	90	*	50	*	10	30	10	10	20	40
Electric	550	450	510	470	410	450	310	490	560	520
Fixed Heater	240	150	200	180	110	120	120	120	180	160
Portable Heater	220	240	230	210	250	270	130	280	290	250
Water Heater	30	20	40	20	10	20	20	10	10	30
Central Furnace	40	40	30	40	30	40	30	60	40	50
Other	20	*	*	20	10	*	20	20	30	30
Liquid Fuel	150	390	350	530	310	450	430	370	400	490
Fixed Heater	50	50	60	70	30	20	60	50	60	50
Portable Heater	20	120	170	290	190	290	270	200	250	340
Water Heater	10	50	50	80	50	30	70	30	50	20
Central Furnace	40	140	70	80	40	90	30	50	20	60
Chimney or Connector	20	20	*	*	*	*	10	20	10	10
Other	*	10	*	*	*	10	*	20	10	10
All Other Fuel	350	310	390	430	350	420	280	300	430	280
Fixed Heater	50	60	100	100	100	90	50	50	80	70
Portable Heater	40	30	70	50	40	60	60	80	110	70
Fireplace	70	50	60	60	80	90	40	40	100	50
Water Heater	40	30	70	90	70	60	50	60	50	30
Central Furnace	90	110	80	70	50	60	40	30	40	30
Chimney	*	20	*	30	10	10	20	30	20	30
Chimney Connector	10	*	*	20	*	*	*	*	*	*
Other Source: U.S. Consumer Product Safety Commission/EPHA	40	10	10	10	10	50	20	10	20	10

Source: U.S. Consumer Product Safety Commission/EPHA, from data obtained from the U.S. Fire Administration and NFPA. Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 11. (con't) ESTIMATED RESIDENTIAL STRUCTURE FIRE INJURIES, 1980 - 1998 HEATING EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Residential	18,180	19,170	18,980	20,190	17,540	17,010	17,030	16,080	15,260
Total Heating Equipment	2,110	2,160	2,160	2,470	1,940	1,840	1,790	1,380	1,460
Solid Fuel	340	310	290	350	240	300	230	140	170
Fixed Heater	140	120	140	160	80	110	80	40	80
Portable Heater	10	10	10	*	10	*	*	10	*
Fireplace	90	80	70	110	90	90	90	40	50
Central Furnace	10	10	20	*	10	20	*	10	*
Chimney	50	80	40	60	20	60	30	30	20
Chimney Connector	20	20	10	20	10	20	20	10	10
Other	20	10	*	*	30	10	10	*	*
Gas-Fired	770	900	890	860	740	720	660	530	600
Fixed Heater	130	150	190	210	120	140	140	110	110
Portable Heater	60	90	110	80	90	80	80	60	60
Water Heater	440	480	440	380	350	370	300	210	320
Central Furnace	110	160	130	180	160	120	130	120	100
Other	30	30	20	20	20	20	20	30	20
Electric	480	410	410	650	440	460	490	350	330
Fixed Heater	150	70	120	140	130	80	120	60	110
Portable Heater	240	250	200	440	230	280	240	210	180
Water Heater	40	10	20	40	30	20	40	10	10
Central Furnace	30	50	50	20	30	60	60	40	20
Other	10	30	20	10	20	20	40	30	*
Liquid Fuel	290	240	290	330	280	160	210	170	190
Fixed Heater	30	50	30	30	30	10	20	20	30
Portable Heater	180	100	160	190	180	90	130	100	50
Water Heater	20	20	10	40	10	10	20	20	20
Central Furnace	60	50	70	60	40	50	40	40	70
Chimney or Connector	*	*	10	10	10	*	*	*	*
Other	*	20	10	*	10	*	*	*	10
All Other Fuel	220	280	280	270	240	200	190	180	170
Fixed Heater	60	50	60	50	20	40	30	30	30
Portable Heater	60	80	50	80	70	50	40	40	40
Fireplace	20	50	60	40	50	40	20	30	30
Water Heater	30	50	30	50	40	30	50	20	40
Central Furnace	40	20	30	10	30	30	30	30	30
Chimney	*	20	30	10	20	*	*	20	10
Chimney Connector	*	10	*	10	*	*	10	10	*
Other	*	20	20	20	20	10	10	10	*

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100. Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 12. ESTIMATED RESIDENTIAL STRUCTURE FIRE PROPERTY LOSSES (in millions), 1980 - 1998 HEATING EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Residential	\$2,337.9	\$2,427.1	\$2,534.6	\$2,557.4	\$2,656.5	\$2,973.0	\$2,701.4	\$2,876.0	\$3,176.1	\$3,142.5
Total Heating Equipment	\$629.7	\$616.3	\$709.8	\$684.4	\$652.3	\$739.9	\$557.7	\$520.0	\$659.4	\$671.6
Solid Fuel	\$279.2	\$291.0	\$285.4	\$299.9	\$278.2	\$286.2	\$201.0	\$194.8	\$241.0	\$269.7
Fixed Heater	\$67.7	\$64.1	\$93.5	\$102.6	\$96.8	\$93.7	\$69.1	\$82.0	\$86.0	\$106.2
Portable Heater	\$3.7	\$5.1	\$2.1	\$2.6	\$2.7	\$5.0	\$2.4	\$2.2	\$2.7	\$1.1
Fireplace	\$94.7	\$101.4	\$73.6	\$88.8	\$76.6	\$71.5	\$51.1	\$43.7	\$66.2	\$59.1
Central Furnace	\$12.5	\$11.0	\$9.2	\$5.4	\$9.0	\$11.2	\$4.9	\$4.6	\$6.1	\$8.7
Chimney	\$56.8	\$76.0	\$69.4	\$71.0	\$67.7	\$67.2	\$49.5	\$44.7	\$61.7	\$68.7
Chimney Connector	\$39.1	\$30.6	\$34.6	\$25.0	\$21.6	\$30.7	\$17.4	\$14.2	\$13.5	\$20.6
Other	\$4.6	\$2.6	\$2.9	\$4.5	\$3.9	\$6.9	\$6.6	\$3.4	\$4.9	\$5.2
Gas-Fired	\$153.3	\$142.7	\$158.2	\$160.0	\$160.5	\$180.8	\$161.8	\$121.4	\$172.9	\$151.2
Fixed Heater	\$29.5	\$30.4	\$32.6	\$31.8	\$40.7	\$31.7	\$35.2	\$23.8	\$40.9	\$30.0
Portable Heater	\$3.4	\$6.3	\$7.0	\$9.6	\$9.6	\$29.4	\$9.9	\$8.5	\$10.1	\$14.4
Water Heater	\$65.7	\$59.8	\$53.5	\$59.3	\$65.0	\$72.3	\$60.6	\$51.4	\$63.6	\$54.6
Central Furnace	\$47.4	\$38.9	\$49.2	\$51.7	\$38.6	\$41.0	\$32.7	\$29.8	\$40.9	\$42.2
Other	\$7.3	\$7.3	\$16.0	\$7.6	\$6.5	\$6.3	\$23.4	\$8.0	\$17.5	\$9.9
Electric	\$89.7	\$83.6	\$100.4	\$104.3	\$88.4	\$127.9	\$89.2	\$80.5	\$104.2	\$110.7
Fixed Heater	\$39.7	\$29.6	\$32.8	\$34.7	\$26.0	\$36.6	\$25.9	\$19.7	\$22.1	\$27.6
Portable Heater	\$31.4	\$31.5	\$40.4	\$37.0	\$39.7	\$57.4	\$35.6	\$31.5	\$46.1	\$50.3
Water Heater	\$2.9	\$6.0	\$9.1	\$11.4	\$6.6	\$9.9	\$8.1	\$6.6	\$9.4	\$5.7
Central Furnace	\$8.7	\$11.4	\$13.1	\$14.9	\$12.8	\$18.8	\$14.9	\$14.6	\$14.9	\$18.0
Other	\$7.0	\$5.1	\$5.1	\$6.3	\$3.4	\$5.1	\$4.7	\$8.0	\$11.7	\$9.1
Liquid Fuel	\$41.5	\$37.5	\$48.0	\$52.2	\$55.1	\$60.5	\$51.2	\$57.5	\$65.5	\$64.4
Fixed Heater	\$5.6	\$6.4	\$6.0	\$8.6	\$7.9	\$5.8	\$4.5	\$4.7	\$8.1	\$6.0
Portable Heater	\$5.0	\$6.6	\$14.0	\$19.6	\$19.9	\$27.8	\$24.7	\$19.1	\$24.8	\$27.9
Water Heater	\$3.2	\$6.1	\$3.5	\$6.0	\$3.3	\$5.0	\$4.2	\$2.8	\$5.5	\$4.7
Central Furnace	\$26.0	\$14.9	\$18.1	\$14.4	\$18.6	\$19.2	\$15.0	\$27.5	\$21.8	\$21.0
Chimney or Connector	\$1.3	\$2.8	\$4.0	\$2.2	\$3.7	\$2.2	\$1.8	\$2.6	\$2.4	\$3.2
Other	\$0.4	\$0.7	\$2.4	\$1.5	\$1.7	\$0.6	\$1.0	\$0.8	\$2.7	\$1.7
All Other Fuel	\$65.8	\$61.5	\$117.8	\$67.9	\$70.1	\$84.6	\$54.4	\$65.7	\$75.8	\$75.6
Fixed Heater	\$13.6	\$13.7	\$67.5	\$13.6	\$13.0	\$12.9	\$8.6	\$11.1	\$11.1	\$13.1
Portable Heater	\$2.0	\$5.0	\$5.5	\$5.8	\$4.3	\$11.5	\$4.4	\$5.5	\$6.2	\$8.9
Fireplace	\$21.8	\$21.6	\$17.5	\$19.0	\$23.3	\$23.0	\$14.4	\$24.8	\$19.7	\$18.2
Water Heater	\$1.3	\$3.2	\$5.1	\$4.7	\$4.6	\$4.6	\$4.6	\$4.0	\$5.7	\$4.3
Central Furnace	\$8.5	\$2.8	\$7.9	\$7.0	\$6.5	\$9.8	\$5.1	\$4.3	\$9.4	\$10.2
Chimney	\$11.4	\$8.6	\$7.5	\$7.8	\$9.5	\$13.8	\$9.9	\$7.6	\$16.1	\$12.2
Chimney Connector	\$5.1	\$3.9	\$4.8	\$7.4	\$4.1	\$5.9	\$2.8	\$4.5	\$4.3	\$4.0
Other Source: U.S. Consumer Product Safety C	\$2.2	\$2.8	\$2.0	\$2.5	\$4.9	\$3.3	\$4.8	\$3.9	\$3.2	\$4.7

Source: U.S. Consumer Product Safety Commission/EPHA, from data obtained from the U.S. Fire Administration and NFPA. Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million. Property loss values not adjusted for inflation.

Table 12. (con't) ESTIMATED RESIDENTIAL STRUCTURE FIRE PROPERTY LOSSES (in millions), 1980 - 1998 HEATING EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Residential	\$3,289.0	\$4,334.1	\$3,054.8	\$3,978.8	\$3,410.5	\$3,480.2	\$3,984.8	\$3,748.2	\$3,562.5
Total Heating Equipment	\$591.5	\$832.8	\$562.6	\$585.1	\$605.5	\$581.5	\$714.3	\$581.8	\$498.8
Solid Fuel	\$214.6	\$284.5	\$222.9	\$209.3	\$197.7	\$219.6	\$206.2	\$180.4	\$165.9
Fixed Heater	\$72.1	\$98.0	\$62.5	\$69.1	\$65.5	\$71.8	\$55.4	\$43.8	\$47.1
Portable Heater	\$1.4	\$2.1	\$40.0	\$1.3	\$1.3	\$1.1	\$2.1	\$0.9	\$1.9
Fireplace	\$64.1	\$81.5	\$57.6	\$59.8	\$59.1	\$71.7	\$73.7	\$61.6	\$54.9
Central Furnace	\$3.5	\$6.7	\$4.8	\$1.8	\$4.5	\$4.5	\$5.6	\$1.8	\$1.1
Chimney	\$53.2	\$64.2	\$38.3	\$51.4	\$44.9	\$50.7	\$44.5	\$39.3	\$39.1
Chimney Connector	\$17.6	\$27.2	\$16.5	\$23.1	\$18.4	\$15.7	\$20.8	\$26.4	\$17.1
Other	\$2.6	\$4.8	\$3.2	\$2.9	\$4.1	\$4.1	\$4.1	\$6.7	\$4.7
Gas-Fired	\$153.9	\$214.9	\$123.4	\$150.0	\$151.2	\$127.5	\$169.6	\$158.4	\$142.2
Fixed Heater	\$35.4	\$39.1	\$25.8	\$33.0	\$30.7	\$24.2	\$35.0	\$26.7	\$27.0
Portable Heater	\$8.5	\$12.2	\$9.0	\$15.5	\$12.1	\$13.3	\$15.6	\$15.5	\$11.4
Water Heater	\$68.8	\$101.8	\$45.6	\$49.0	\$52.6	\$48.6	\$68.9	\$59.3	\$55.9
Central Furnace	\$32.8	\$50.6	\$32.0	\$43.9		\$32.2	\$37.8	\$36.3	\$33.7
Other	\$8.4	\$11.2	\$10.9	\$8.5	\$11.6	\$9.3	\$12.2	\$20.6	\$14.2
Electric	\$86.9	\$130.3	\$100.9	\$111.0	\$138.7	\$117.8	\$127.5	\$129.6	\$102.9
Fixed Heater	\$20.7	\$38.4	\$31.3	\$26.4	\$49.2	\$29.1	\$26.6	\$25.1	\$19.3
Portable Heater	\$36.7	\$51.5	\$38.2	\$49.4	\$48.0	\$46.6	\$54.2	\$49.6	\$40.5
Water Heater	\$7.8	\$11.7	\$6.4	\$10.2	\$14.4	\$13.7	\$11.8	\$13.8	\$10.5
Central Furnace	\$14.3	\$18.5	\$13.8	\$17.1	\$15.1	\$16.4	\$20.3	\$28.5	\$21.1
Other	\$7.4	\$10.2	\$11.3	\$7.8	\$12.0	\$12.0	\$14.6	\$12.7	\$11.4
Liquid Fuel	\$70.4	\$70.4	\$40.6	\$37.9	\$51.6	\$44.8	\$117.9	\$37.1	\$24.1
Fixed Heater	\$5.1	\$5.4	\$3.9	\$3.2	\$4.5	\$7.9	\$74.9	\$3.8	\$2.0
Portable Heater	\$27.5	\$22.6	\$13.6	\$19.5	\$24.4	\$18.7	\$23.8	\$16.4	\$9.6
Water Heater	\$4.9	\$6.6	\$1.9	\$3.0		\$3.6	\$4.8	\$3.2	\$3.3
Central Furnace	\$27.5	\$34.0	\$18.2	\$10.2	\$15.4	\$12.6	\$11.1	\$12.8	\$7.7
Chimney or Connector	\$4.0	\$1.3	\$1.1	\$1.2	\$3.1	\$1.3	\$1.6	\$0.7	\$0.1
Other	\$1.3	\$0.5	\$1.9	\$0.8	\$0.9	\$0.7	\$1.8	\$0.1	\$1.3
All Other Fuel	\$65.8	\$132.5	\$74.9	\$76.9	\$66.3	\$71.7	\$93.0	\$76.3	\$63.7
Fixed Heater	\$9.7	\$25.2	\$10.5	\$12.1	\$12.0	\$7.2	\$16.4	\$9.9	\$9.1
Portable Heater	\$4.4	\$10.4	\$8.4	\$11.5	\$8.3	\$7.3	\$14.8	\$11.9	\$6.2
Fireplace	\$17.0	\$39.8	\$16.6	\$14.6	\$11.0	\$8.9	\$21.3	\$14.3	\$12.4
Water Heater	\$5.4	\$8.8	\$4.0	\$7.3		\$5.9	\$8.1	\$7.9	\$10.4
Central Furnace	\$7.2	\$18.8	\$12.0	\$9.4	\$8.5	\$12.3	\$13.5	\$8.3	\$7.3
Chimney	\$10.6	\$17.4	\$10.8	\$11.8	\$10.8	\$9.1	\$10.7	\$14.0	\$6.5
Chimney Connector	\$5.1	\$4.4	\$5.1	\$3.7	\$8.0	\$10.8	\$3.9	\$5.8	\$4.9
Other	\$6.4	\$7.7	\$7.6	\$6.5	\$2.4	\$10.3	\$4.4	\$4.2	\$6.8

Source: U.S. Consumer Product Safety Commission/EPHA, from data obtained from the U.S. Fire Administration and NFPA. Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million. Property loss values not adjusted for inflation.

Table 13. ESTIMATED RESIDENTIAL STRUCTURE FIRES, 1990 - 1998 SELECTED ELECTRICAL EQUIPMENT, Non-Incendiary and Non-Suspicious Only

SELECTED EL				•					
Equipment	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Residential				411,000					
Total Electrical				175,200					
Electrical Heating Equipment	10,900	11,500	11,800	12,500	12,000		12,000	11,400	9,400
Central Heating	3,400	3,400	3,700	4,000	3,400	3,500		3,600	
Fixed Heater	2,800	2,900	3,000	3,100	3,000	2,800	2,500	2,100	
Portable Heater	2,500	2,700	2,700	2,700	2,700	2,600		2,700	
Water Heater	1,400	1,600	1,600	1,900	1,800	1,800	2,100	2,100	
Other	900	900	900	900	1,100	1,000		900	
Electrical Cooking Equipment	61,800	62,600	66,900	66,500	62,900				
Range/Oven	54,900	55,300	59,300	58,900	55,800	54,500	52,300	55,700	
Toaster/Toaster Oven	2,700	2,700	2,800	2,700	2,700	2,200	2,100	2,400	
Microwave Oven	1,000	1,100	1,200	1,300	1,500	1,300	1,800	1,700	
Range/Oven Hood	900	1,000	1,100	1,200	1,000	900	900	1,100	
Coffee Maker, Teapot	800	700	700	700	400	500	400	400	
Deep Fat Fryer	400	400	300	400	300	300		300	
Hot Plate	300	400	400	400	300	300	200	300	
Other	800	900	1,100	1,000	900	1,100	1,100	1,100	
Electrical Distribution	41,600	43,100	40,700	42,900	42,500	41,600	41,100	41,100	38,800
Installed Wiring	15,500	16,700	15,100	15,700	15,700	15,000	14,900	14,500	14,000
Light Fixture	5,100	4,900	4,900	5,300	5,400	5,300	5,500	5,800	
Receptacle	3,900	3,700	3,700	4,100	4,000	4,000		3,500	
Extension Cord	3,800	3,500	3,400	3,500	3,700	3,500	2,900	2,800	
Other Electrical Cord	2,800	2,900	2,700	2,800	2,200	2,300	2,400	2,400	
Lamp, Light Bulb	2,800	2,800	3,000	3,200	3,400	3,500	3,500	3,800	
Circuit Breaker	1,900	1,900	1,900	2,100	2,000	1,800	1,800	1,600	
Switch	600	1,000	900	900	700	800	700	900	
Meter	700	900	900	900	900	900	900	1,000	1,000
Fuse	800	800	900	700	700	900	600	700	900
Transformer	400	500	400	400	500	500	400	400	400
Other	3,200	3,500	3,000	3,400	3,200	3,200		3,700	
Electrical Appliances	22,600	22,900	22,300	22,900	22,700	22,100	21,300	21,900	20,300
Clothes Dryer	8,700	9,100	9,500	10,000	10,300	10,800	10,400	11,200	10,400
Fan	2,300	2,800	2,200	2,100	2,100	1,900	1,800	2,200	2,600
Washing Machine	2,200	2,000	2,100	2,000	1,800	1,700	1,600	1,400	1,400
Heat Tape	1,200	1,100	900	1,000	1,000	900	400	500	100
Television	1,500	1,400	1,500	1,300	1,100	900	1,000	800	900
Iron	500	600	600	400	500	400	300	300	400
Dishwasher	600	800	900	1,100	800	900	800	900	600
Radio, Cassette Player, VCR	900	800	700	700	900	800	800	900	600
Hair Dryer, Curling Iron	800	600	600	600		600	700	600	
Electric Blanket	900	700	600	700	600	600	600	400	400
Other	3,000	3,000		2,900	3,000				
Cooling Equipment	4,800	4,900	4,500		4,100				
Refrigerator, Freezer	1,600	1,600		1,500					
Central Air Conditioning	1,000	1,100							
Fixed Room Air Conditioning	900	900	700	800	700	800		600	
Portable Air Conditioning	700	700		700				700	
Other	600	600	600	500	400	400			
L <u> </u>									

Source: U.S. Consumer Product Safety Commission/EPHA, from data obtained from the U.S. Fire Administration and NFPA.

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Estimates less than 10 are denoted by an asterisk (*). Selected product categories presented; subtotals do not add up to heading totals.

Benchmark estimates are from 1990 because additional NFIRS fields used to produce the electrical estimates were not available in 1980.

Table 14. ESTIMATED RESIDENTIAL STRUCTURE FIRE DEATHS, 1990 - 1998 SELECTED ELECTRICAL EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Residential	3,370	2,930	3,110	3,090	2,980	3,010	3,440	2,760	2,660
Total Electrical	970	800	910	980	920	960	1,060	810	800
Electrical Heating Equipment	120	120	120	130	130	110	150	90	50
Central Heating	*	*	10	20	*	*	*	*	10
Fixed Heater	20	10	20	20	40	20	10	10	10
Portable Heater	110	110	80	90	90	100	140	60	30
Water Heater	*	*	*	*	*	*	*	*	*
Other	*	*	10	*	10	*	*	20	*
Electrical Cooking Equipment	170	120	130	180	100	100	150	120	180
Range/Oven	150	100	130	150	70	60	110	100	150
Toaster/Toaster Oven	10	*	10	10	20	20	20	10	20
Microwave Oven	*	*	*	10	10	*	10	10	*
Range/Oven Hood	*	*	*	*	*	*	*	*	*
Coffee Maker, Teapot	*	*	*	*	*	*	*	*	*
Deep Fat Fryer	*	10	*	*	*	*	*	*	*
Hot Plate	*	*	*	*	*	*	*	*	*
Other	*	*	*	*	*	10	10	*	*
Electrical Distribution	340	280	320	330	370	380	370	260	280
Installed Wiring	80	70	140	80	150	170	120	110	110
Light Fixture	30	30	20	50	40	30	30	10	50
Receptacle	30	20	10	20	40	30	30	10	30
Extension Cord	70	50	50	60	50	40	50	40	20
Other Electrical Cord	50	40	40	50	30	30	40	30	20
Lamp, Light Bulb	40	20	10	20	20	20	30	20	10
Circuit Breaker	*	10	10	10	*	10	10	*	10
Switch	*	10	*	*	10	10	*	*	10
Meter	*	*	*	*	*	*	*	*	*
Fuse	*	*	*	*	*	*	*	*	*
Transformer	*	*	*	*	*	*	10	*	*
Other	40	30	30	40	30	30	40	30	20
Electrical Appliances	90	90	70	70	50	120	110	100	100
Clothes Dryer	10	10	10	*	10	10	*	20	20
Fan	10	20	10	20	*	10	10	10	10
Washing Machine	*	*	*	*	*	*	*	*	*
Heat Tape	10	*	*	*	10	10	10	10	*
Television	20	20	20	20	10	20	10	10	20
Iron	*	*	*	*	*	10	10	*	*
Dishwasher	*	*	10	*	*	*	10	*	*
Radio, Cassette Player, VCR	10	10	10	10	10	20	10	10	10
Hair Dryer, Curling Iron	10	*	*	*	*	10	10	10	10
Electric Blanket	10	*	*	*	10	10	10	*	*
Other	10	10	10	10	10	20	30	20	20
Cooling Equipment	10	20	10	10	40	10	*	*	10
Refrigerator, Freezer	10	20	*	10	10	*	*	*	*
Central Air Conditioning	*	*	*	*	*	*	*	*	*
Fixed Room Air Conditioning	*	10	10	*	20	*	*	*	*
Portable Air Conditioning	*	*	*	*	*	10	*	*	*
Other	*	*	*	*	*	*	*	*	*
Source: U.S. Consumer Product Safety Commission/EPHA	from doto	abtained fu	on the LLC	Tina Adminia	tration and N	IEDA			

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Estimates less than 10 are denoted by an asterisk (*). Selected product categories presented; subtotals do not add up to heading totals.

Benchmark estimates are from 1990 because additional NFIRS fields used to produce the electrical estimates were not available in 1980.

Table 15. ESTIMATED RESIDENTIAL STRUCTURE FIRE INJURIES, 1990 - 1998 SELECTED ELECTRICAL EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Residential	18,180	19,170	18,980	20,190	17,540	17,010	17,030	16,080	15,260
Total Electrical	7,190	7,660	7,430	8,410	7,140	6,840	7,060	6,940	6,810
Electrical Heating Equipment	480	410	410	650	440	460	490	350	330
Central Heating	30	50	50	20	30	60	60	40	20
Fixed Heater	150	70	120	140	130	80	120	60	110
Portable Heater	240	250	200	440	230	280	240	210	180
Water Heater	40	10	20	40	30	20	40	10	10
Other	10	30	20	10	20	20	40	30	*
Electrical Cooking Equipment	3,250	3,260	3,340	3,790	3,210	3,160	3,110	3,440	3,260
Range/Oven	3,010	3,010	3,040	3,480	2,980	2,860	2,830	3,130	2,980
Toaster/Toaster Oven	80	90	100	70	90	80	80	90	90
Microwave Oven	30	40	50	60	50	70	80	80	60
Range/Oven Hood	20	40	40	60	20	30	20	30	30
Coffee Maker, Teapot	20	30	30	30	20	30	20	20	20
Deep Fat Fryer	40	10	30	40	20	30	30	30	20
Hot Plate	10	10	20	10	10	10	10	10	10
Other	30	30	40	40	30	50	50	50	50
Electrical Distribution	1,370	1,690	1,580	1,700	1,440	1,510	1,420	1,390	1,230
Installed Wiring	340	370	420	450	390	420	360	420	320
Light Fixture	100	150	140	120	140	150	140	130	100
Receptacle	110	150	150	130	120	140	130	110	120
Extension Cord	240	290	240	270	230	230	190	150	170
Other Electrical Cord	180	250	190	220	140	150	160	120	140
Lamp, Light Bulb	150	120	130	220	170	160	190	210	150
Circuit Breaker	50	60	60	50	50	40	40	40	40
Switch	20	40	30	30	20	30	20	30	20
Meter	10	10	*	10	10	*	10	10	10
Fuse	20	20	30	20	20	20	10	20	20
Transformer	*	10	10	20	20	10	10	10	*
Other	150	210	160	170	140	150	160	140	140
Electrical Appliances	850	850	770	890	790	600	750	780	730
Clothes Dryer	150	170	170	210	190	180	220	300	240
Fan	110	140	90	130	90	80	80	90	120
Washing Machine	30	20	20	20	20	20	20	30	30
Heat Tape	70	70	50	60	70	40	20	30	10
Television	100	90	120	110	70	30	90	50	70
Iron	30	40	30	30	30	20	20	20	20
Dishwasher	20	30	30	40	30	30	30	30	30
Radio, Cassette Player, VCR	60	50	50	60	60	30	70	50	50
Hair Dryer, Curling Iron	50	40	30	40	40	30	40	30	40
Electric Blanket	60	50	40	50	50	30	30	20	20
Other	150	160	130	160	150	120	130		120
Cooling Equipment	110	170	120	130	130	140	80	120	140
Refrigerator, Freezer	60	70	30	60	60	60	30	70	40
Central Air Conditioning	*	*	10	20	10	20	*	10	10
Fixed Room Air Conditioning	20	60	40	20	40	20	30	10	20
Portable Air Conditioning	20	30	20	30	20	40	20	20	50
Other	*	10	10	*	*	10	10		20

Source: U.S. Consumer Product Safety Commission/EPHA, from data obtained from the U.S. Fire Administration and NFPA.

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Estimates less than 10 are denoted by an asterisk (*). Selected product categories presented; subtotals do not add up to heading totals.

Benchmark estimates are from 1990 because additional NFIRS fields used to produce the electrical estimates were not available in 1980.

Table 16. ESTIMATED RESIDENTIAL STRUCTURE FIRE PROPERTY LOSSES (in millions), 1990 - 1998

SELECTED ELECTRICAL EQUIPMENT, Non-Incendiary and Non-Suspicious Only 1993 Equipment 1990 1991 1992 1994 **Total Residential** \$3,289.0 \$4,334.1 \$3,054.8 \$3,978.8 \$3,410.5 Total Electrical \$1,388.8 \$1,792.3 \$1,350.8 \$1,656.0 \$1,569.6 **Electrical Heating Equipment** \$86.9 \$130.3 \$100.9 \$111.0 \$138.7 Central Heating \$14.3 \$18.5 \$13.8 \$17.1 \$15.1 Fixed Heater \$20.7 \$38.4 \$31.3 \$26.4 \$49.2 Portable Heater \$36.7 \$51.5 \$38.2 \$49.4 \$48.0 Water Heater \$7.8 \$11.7 \$10.2 \$14.4 \$6.4 Other \$7.4 \$10.2 \$11.3 \$7.8 \$12.0 Electrical Cooking Equipment \$309.0 \$231.5 \$242.6 \$289.5 \$197.9 Range/Oven \$193.6 \$237.3 \$169.4 \$260.7 \$194.3 Toaster/Toaster Oven \$19.7 \$18.4 \$9.5 \$14.5 \$12.6 Microwave Oven \$6.6 \$8.7 \$4.9 \$9.4 \$7.0 \$7.0 Range/Oven Hood \$4.6 \$3.4 \$3.8 \$4.4 Coffee Maker, Teapot \$5.1 \$5.6 \$3.0 \$4.8 \$2.1 Deep Fat Fryer \$5.5 \$4.4 \$2.0 \$4.0 \$4.9 Hot Plate \$2.2 \$2.6 \$1.4 \$2.2 \$1.3 \$4.0 Other \$5.2 \$9.2 \$6.3 \$5.0 Electrical Distribution \$509.0 \$559.8 \$788.5 \$678.9 \$604.1 Installed Wiring \$258.5 \$243.3 \$353.8 \$220.0 \$247.3 Light Fixture \$60.3 \$73.8 \$41.8 \$59.3 \$60.3 Receptacle \$35.5 \$51.7 \$41.2 \$46.1 \$47.9 **Extension Cord** \$52.1 \$72.4 \$50.2 \$55.7 \$59.4 Other Electrical Cord \$38.8 \$61.0 \$40.3 \$44.5 \$36.2 \$29.9 Lamp, Light Bulb \$46.5 \$38.9 \$30.0 \$44.9 Circuit Breaker \$22.0 \$32.0 \$18.9 \$74.4 \$24.8 Switch \$5.8 \$13.7 \$9.3 \$10.9 \$7.6 \$6.9 Meter \$5.2 \$4.5 \$5.5 \$8.8 \$9.3 \$24.5 Fuse \$13.1 \$8.8 \$8.5 Transformer \$1.8 \$4.5 \$3.1 \$6.6 \$5.2 \$39.3 \$64.8 \$75.1 \$45.5 Other \$38.6 Electrical Appliances \$229.2 \$146.4 \$176.7 \$168.3 \$191.8 Clothes Dryer \$43.0 \$48.0 \$37.7 \$49.2 \$52.7 \$19.2 \$39.9 \$16.1 \$18.0 \$24.8 Washing Machine \$2.2 \$2.8 \$7.0 \$2.3 \$2.7 Heat Tape \$14.9 \$7.8 \$12.7 \$12.5 \$16.2 Television \$17.3 \$24.9 \$22.6 \$21.9 \$17.5 Iron \$6.3 \$8.4 \$4.8 \$5.6 \$6.6 \$4.9 \$10.9 \$8.8 Dishwasher \$6.5 \$8.6 \$10.1 \$14.6 Radio, Cassette Player, VCR \$10.1 \$11.2 \$14.3 Hair Dryer, Curling Iron \$9.8 \$5.3 \$7.2 \$7.9 \$8.3 Electric Blanket \$11.3 \$11.0 \$5.8 \$9.5 \$8.3 Other \$29.2 \$44.0 \$22.6 \$30.3 \$35.8 Cooling Equipment \$40.2 \$52.3 \$28.1 \$32.3 \$35.2 Refrigerator, Freezer \$16.9 \$22.1 \$14.9 \$15.6 \$14.0 Central Air Conditioning \$4.7 \$11.4 \$3.7 \$4.0 \$7.0 Fixed Room Air Conditioning \$4.4 \$6.6 \$4.0 \$4.8 \$4.1 Portable Air Conditioning \$12.4 \$9.0 \$3.5 \$5.9 \$7.9 Other \$1.8 \$3.2 \$2.1 \$2.1 \$2.3

Source: U.S. Consumer Product Safety Commission/EPHA, from data obtained from the U.S. Fire Administration and NFPA Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million. Property loss values not adjusted for inflation.

Estimates less than 10 are denoted by an asterisk (*). Selected product categories presented; subtotals do not add up to heading totals. Benchmark estimates are from 1990 because additional NFIRS fields used to produce the electrical estimates were not available in 1980.

Table 16 (con't) ESTIMATED RESIDENTIAL STRUCTURE FIRE PROPERTY LOSSES (in millions), 1990 - 1998

SELECTED ELECTRICAL EQUIPMENT, Non-Incendiary and Non-Suspicious Only

SELECTED ELECTRICATE Equipment	1995	1996	1997	1998
Total Residential	\$3,480.2	\$3,984.8	\$3,748.2	\$3,562.5
Total Electrical	\$1,561.8	\$1,781.0	\$1,759.2	\$1,680.2
Electrical Heating Equipment	\$117.8	\$127.5	\$129.6	\$102.9
Central Heating	\$16.4	\$20.3	\$28.5	\$21.1
Fixed Heater	\$29.1	\$26.6	\$25.1	\$19.3
Portable Heater	\$46.6	\$54.2	\$49.6	\$40.5
Water Heater	\$13.7	\$11.8	\$13.8	\$10.5
Other	\$12.0	\$14.6	\$12.7	\$11.4
Electrical Cooking Equipment	\$229.3	\$251.3	\$281.9	\$251.7
Range/Oven	\$187.2	\$207.0	\$227.5	\$212.3
Toaster/Toaster Oven	\$13.9	\$17.6	\$20.5	\$13.3
Microwave Oven	\$7.8	\$10.3	\$10.7	
Range/Oven Hood	\$6.3	\$3.4	\$7.2	\$3.5
Coffee Maker, Teapot	\$3.1	\$2.8	\$2.2	\$2.0
Deep Fat Fryer	\$2.0	\$1.4	\$2.7	\$3.7
Hot Plate	\$2.0	\$1.5	\$2.6	\$1.5
Other	\$6.9	\$7.3	\$8.7	\$6.9
Electrical Distribution	\$635.1	\$671.6	\$685.9	\$680.0
Installed Wiring	\$266.4	\$289.2	\$290.8	\$286.5
Light Fixture	\$74.7	\$56.5	\$82.5	\$61.2
Receptacle	\$54.2	\$59.1	\$44.7	\$52.6
Extension Cord	\$53.9	\$53.4	\$45.4	\$57.5
Other Electrical Cord	\$35.6	\$45.0	\$38.0	\$48.5
Lamp, Light Bulb	\$45.6	\$46.8	\$60.3	\$41.3
Circuit Breaker	\$23.7	\$28.8	\$27.3	\$29.4
Switch	\$10.8	\$9.6	\$11.4	\$10.8
Meter	\$7.9	\$9.4	\$11.9	\$13.3
Fuse	\$12.0	\$9.7	\$11.9	\$16.2
Transformer	\$4.5	\$4.5	\$3.9	\$6.6
Other	\$45.8	\$59.5	\$57.8	\$56.2
Electrical Appliances	\$172.8	\$209.6	\$215.8	\$179.5
Clothes Dryer	\$54.7	\$64.9	\$73.2	\$54.9
Fan	\$19.6	\$23.1	\$31.1	\$35.9
Washing Machine	\$5.9	\$2.9	\$3.1	\$5.2
Heat Tape	\$11.2	\$6.6	\$8.9	\$1.4
Television	\$12.7	\$19.7	\$13.8	\$14.1
Iron	\$5.3	\$4.9	\$5.0	\$4.8
Dishwasher	\$7.8	\$11.3	\$10.4	\$8.4
Radio, Cassette Player, VCR	\$11.1	\$16.6	\$14.3	\$10.2
Hair Dryer, Curling Iron	\$7.2	\$11.2	\$10.0	\$8.8
Electric Blanket	\$7.6	\$8.7	\$6.9	\$4.5
Other	\$29.7	\$39.6	\$39.1	\$31.2
Cooling Equipment	\$37.2	\$49.4	\$37.9	\$51.2
Refrigerator, Freezer	\$12.1	\$14.0	\$14.2	\$14.4
Central Air Conditioning	\$5.8	\$18.0	\$6.2	\$6.9
Fixed Room Air Conditioning	\$6.3	\$4.3	\$6.3	\$8.0
Portable Air Conditioning	\$9.9	\$7.8	\$10.0	\$16.5
Other	\$3.1	\$5.2	\$1.2	\$5.4

Source: U.S. Consumer Product Safety Commission/EPHA, from data obtained from the U.S. Fire Administration and NFPA.

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million. Property loss values not adjusted for inflation. Estimates less than 10 are denoted by an asterisk (*). Selected product categories presented; subtotals do not add up to heading totals.

Benchmark estimates are from 1990 because additional NFIRS fields used to produce the electrical estimates were not available in 1980.

Table 17. ESTIMATED RESIDENTIAL STRUCTURE FIRES, 1980 - 1998 SELECTED GAS-FIRED EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Residential	655,000	636,500	596,200	569,200	551,900	549,500	507,600	482,000	482,200	448,000
Total Gas-Fired Equipment	83,000	80,000	75,200	71,800	69,100	73,700	70,100	66,500	66,100	61,300
Gas Heating Equipment	28,500	24,300	25,200	22,600	20,500	21,000	19,000	17,400	17,500	16,000
Fixed Heater	6,700	5,100	5,600	5,100	4,200	4,200	3,700	3,600	3,700	3,400
Portable Heater	700	800	1,200	1,300	1,100	1,300	1,100	900	1,000	1,200
Central Furnace	7,400	6,200	6,400	5,300	5,100	5,000	4,500	4,100	4,200	3,800
Fireplace	500	500	500	300	200	200	200	300	200	200
Water Heater	12,200	10,500	10,200	9,700	9,000	9,500	8,700	7,700	7,800	6,500
Other	1,100	1,200	1,400	900	900	900	800	800	700	900
Gas Cooking Equipment	43,700	45,300	39,000	34,800	33,800	37,000	35,000	33,300	33,200	30,700
Range/Oven	42,600	43,600	37,600	33,400	32,500	35,700	33,600	31,900	31,900	29,300
Open Gas Grill	200	300	300	300	400	400	400	500	500	600
Portable Cooking	200	300	100	200	200	200	200	200	200	200
Other	800	1,000	1,000	900	800	700	700	700	600	600
Gas Appliances (Except Above)	5,600	5,400	5,000	4,600	4,500	4,300	4,300	4,100	4,200	3,700
Dryer	5,200	5,000	4,700	4,200	4,200	3,900	3,900	3,900	3,900	3,400
Other	300	400	400	300	300	300	300	200	300	300

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 17. (con't) ESTIMATED RESIDENTIAL STRUCTURE FIRES, 1980 - 1998
SELECTED GAS-FIRED EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Residential	402,600	413,400	408,300	411,000	392,300	369,200	371,200	357,700	332,300
Total Gas-Fired Equipment	60,100	60,900	61,800	61,200	56,500	49,600	54,500	51,100	46,500
Gas Heating Equipment	14,600	14,900	14,200	14,300	13,500	12,600	12,800	11,700	9,900
Fixed Heater	3,100	3,300	3,200	3,100	2,800	2,700	2,600	2,300	1,800
Portable Heater	900	800	700	900	800	900	900	900	600
Central Furnace	3,500	3,600	3,300	3,600	3,500	3,000	3,100	2,900	2,400
Fireplace	200	300	400	400	300	300	300	300	300
Water Heater	6,100	6,100	5,800	5,500	5,300	5,000	5,200	4,600	4,300
Other	700	800	700	800	700	600	600	700	500
Gas Cooking Equipment	31,200	31,700	32,500	32,100	28,000	24,400	27,400	26,900	23,800
Range/Oven	29,600	30,300	30,900	30,500	26,400	22,900	25,900	25,400	22,500
Open Gas Grill	700	600	700	600	700	600	600	600	500
Portable Cooking	200	200	300	200	200	200	200	200	200
Other	600	700	700	700	600	600	700	600	500
Gas Appliances (Except Above)	4,100	3,900	3,800	3,800	4,000	3,900	3,900	3,600	3,500
Dryer	3,800	3,700	3,600	3,600	3,700	3,700	3,700	3,300	3,300
Other	200	300	200	200	300	200	200	200	200

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 18. ESTIMATED RESIDENTIAL STRUCTURE FIRE DEATHS, 1980 - 1998 SELECTED GAS-FIRED EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Residential	4,560	4,770	4,070	4,050	3,650	4,360	4,040	3,980	4,240	3,630
Total Gas-Fired Equipment	410	390	490	440	400	360	390	430	370	340
Gas Heating Equipment	140	140	290	220	230	200	110	180	140	150
Fixed Heater	20	80	100	40	60	60	20	70	80	60
Portable Heater	10	10	20	90	60	30	10	90	10	40
Central Furnace	30	40	40	40	40	60	20	*	30	20
Fireplace	*	*	*	*	10	*	*	*	*	*
Water Heater	80	20	130	50	60	40	50	10	20	20
Other	*	*	*	*	10	*	*	*	*	*
Gas Cooking Equipment	210	190	160	200	160	90	100	150	180	110
Range/Oven	200	190	150	200	150	90	90	150	170	110
Open Gas Grill	*	*	*	*	*	10	*	*	*	*
Portable Cooking	10	*	10	*	*	*	*	*	*	*
Other	*	10	*	*	*	*	*	*	*	*
Gas Appliances (Except Above)	*	*	*	*	*	10	10	10	*	*
Dryer	*	*	*	*	*	*	*	10	*	*
Other	*	*	*	*	*	10	10	*	*	*

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 18. (con't) ESTIMATED RESIDENTIAL STRUCTURE FIRE DEATHS, 1980 - 1998 SELECTED GAS-FIRED EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Residential	3,370	2,930	3,110	3,090	2,980	3,010	3,440	2,760	2,660
Total Gas-Fired Equipment	360	360	300	300	380	280	430	330	270
Gas Heating Equipment	170	180	120	100	190	110	200	140	70
Fixed Heater	50	50	20	30	70	30	40	80	40
Portable Heater	50	60	30	20	30	20	60	20	10
Central Furnace	20	30	20	30	60	50	20	20	10
Fireplace	*	*	*	*	*	*	10	*	*
Water Heater	40	40	40	20	30	10	50	20	10
Other	10	*	10	10	*	*	10	10	*
Gas Cooking Equipment	140	100	90	140	130	170	170	130	150
Range/Oven	140	100	90	130	110	170	160	130	150
Open Gas Grill	*	*	*	*	*	*	*	*	*
Portable Cooking	10	*	*	*	*	*	*	*	*
Other	*	*	*	10	10	*	*	*	*
Gas Appliances (Except Above)	10	*	*	10	*	*	20	10	*
Dryer	10	*	*	10	*	*	20	10	*
Other	*	*	*	*	*	*	*	*	*

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 19. ESTIMATED RESIDENTIAL STRUCTURE FIRE INJURIES, 1980 - 1998 SELECTED GAS-FIRED EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Residential	18,350	17,830	18,600	19,040	17,280	17,650	16,850	18,230	20,070	18,400
Total Gas-Fired Equipment	3,190	2,890	3,090	3,110	2,740	2,880	2,630	2,800	3,040	2,680
Gas Heating Equipment	1,390	1,060	1,140	1,200	930	1,060	910	900	1,070	840
Fixed Heater	210	90	150	200	150	190	180	140	200	130
Portable Heater	20	80	80	130	70	90	100	70	80	110
Central Furnace	220	260	240	210	140	180	150	110	240	160
Fireplace	70	*	10	*	10	*	*	*	20	*
Water Heater	850	630	620	650	550	570	480	570	530	410
Other	20	*	40	*	*	20	10	10	10	30
Gas Cooking Equipment	1,190	1,460	1,520	1,470	1,280	1,260	1,170	1,300	1,370	1,260
Range/Oven	1,160	1,390	1,470	1,400	1,230	1,210	1,090	1,210	1,310	1,200
Open Gas Grill	*	30	*	30	30	30	20	20	30	30
Portable Cooking	10	10	*	20	10	20	10	10	10	*
Other	20	30	50	30	20	*	50	60	30	30
Gas Appliances (Except Above)	100	50	100	90	100	100	60	90	50	40
Dryer	80	40	70	80	90	70	40	50	50	30
Other	20	10	30	10	10	20	20	40	*	10

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Table 20. ESTIMATED RESIDENTIAL STRUCTURE FIRE PROPERTY LOSSES (in millions), 1980 - 1998 SELECTED GAS-FIRED EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total Residential	\$2,337.9	\$2,427.1	\$2,534.6	\$2,557.4	\$2,656.5	\$2,973.0	\$2,701.4	\$2,876.0	\$3,176.1	\$3,142.5
Total Gas-Fired Equipment	\$235.8	\$246.5	\$386.8	\$286.3	\$290.9	\$308.9	\$304.2	\$295.7	\$353.5	\$293.5
Gas Heating Equipment	\$153.3	\$142.7	\$158.2	\$160.0	\$160.5	\$180.8	\$161.8	\$121.4	\$172.9	\$151.2
Fixed Heater	\$29.5	\$30.4	\$32.6	\$31.8	\$40.7	\$31.7	\$35.2	\$23.8	\$40.9	\$30.0
Portable Heater	\$3.4	\$6.3	\$7.0	\$9.6	\$9.6	\$29.4	\$9.9	\$8.5	\$10.1	\$14.4
Central Furnace	\$47.4	\$38.9	\$49.2	\$51.7	\$38.6	\$41.0	\$32.7	\$29.8	\$40.9	\$42.2
Fireplace	\$1.6	\$1.7	\$1.6	\$1.7	\$1.8	\$0.8	\$16.5	\$1.1	\$2.3	\$2.1
Water Heater	\$65.7	\$59.8	\$53.5	\$59.3	\$65.0	\$72.3	\$60.6	\$51.4	\$63.6	\$54.6
Other	\$5.8	\$5.6	\$14.3	\$5.9	\$4.7	\$5.5	\$6.9	\$6.9	\$15.3	\$7.8
Gas Cooking Equipment	\$47.8	\$60.4	\$179.3	\$83.2	\$74.3	\$68.6	\$68.7	\$75.8	\$102.6	\$80.6
Range/Oven	\$44.1	\$56.6	\$66.7	\$75.4	\$68.4	\$62.8	\$62.9	\$69.1	\$89.1	\$72.8
Open Gas Grill	\$0.8	\$2.0	\$1.1	\$3.6	\$2.5	\$2.7	\$3.1	\$3.2	\$10.6	\$4.5
Portable Cooking	\$0.7	\$0.3	\$0.2	\$0.6	\$1.0	\$0.7	\$1.1	\$0.6	\$0.7	\$0.4
Other	\$2.2	\$1.5	\$111.3	\$3.5	\$2.4	\$2.4	\$1.5	\$2.9	\$2.3	\$2.8
Gas Appliances (Except Above)	\$7.1	\$8.3	\$9.7	\$10.7	\$14.2	\$12.2	\$13.2	\$17.7	\$18.2	\$11.3
Dryer	\$6.6	\$5.8	\$8.7	\$9.6	\$12.6	\$10.8	\$9.4	\$12.2	\$16.3	\$9.8
Other	\$0.5	\$2.5	\$1.0	\$1.2	\$1.6	\$1.5	\$3.8	\$5.4	\$1.9	\$1.5

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million. Property loss values not adjusted for inflation. Estimates less than 10 are denoted by an asterisk (*). Selected product categories presented; subtotals do not add up to heading totals.

Table 20. (con't) ESTIMATED RESIDENTIAL STRUCTURE FIRE PROPERTY LOSSES (in millions), 1980 - 1998 SELECTED GAS-FIRED EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Residential	\$3,289.0	\$4,334.1	\$3,054.8	\$3,978.8	\$3,410.5	\$3,480.2	\$3,984.8	\$3,748.2	\$3,562.5
Total Gas-Fired Equipment	\$334.1	\$418.3	\$287.8	\$338.6	\$335.0	\$293.5	\$361.6	\$338.0	\$313.6
Gas Heating Equipment	\$153.9	\$214.9	\$123.4	\$150.0	\$151.2	\$127.5	\$169.6	\$158.4	\$142.2
Fixed Heater	\$35.4	\$39.1	\$25.8	\$33.0	\$30.7	\$24.2	\$35.0	\$26.7	\$27.0
Portable Heater	\$8.5	\$12.2	\$9.0	\$15.5	\$12.1	\$13.3	\$15.6	\$15.5	\$11.4
Central Furnace	\$32.8	\$50.6	\$32.0	\$43.9	\$44.2	\$32.2	\$37.8	\$36.3	\$33.7
Fireplace	\$2.3	\$2.4	\$4.4	\$2.1	\$3.2	\$2.2	\$2.9	\$3.8	\$5.5
Water Heater	\$68.8	\$101.8	\$45.6	\$49.0	\$52.6	\$48.6	\$68.9	\$59.3	\$55.9
Other	\$6.1	\$8.9	\$6.5	\$6.4	\$8.4	\$7.1	\$9.3	\$16.8	\$8.7
Gas Cooking Equipment	\$88.2	\$122.5	\$96.1	\$91.2	\$69.6	\$65.6	\$96.9	\$83.4	\$77.5
Range/Oven	\$76.1	\$102.4	\$77.2	\$77.2	\$59.4	\$54.1	\$80.0	\$70.7	\$60.5
Open Gas Grill	\$7.5	\$11.8	\$14.5	\$7.6	\$4.7	\$5.7	\$8.3	\$7.1	\$13.0
Portable Cooking	\$2.4	\$4.6	\$2.2	\$2.1	\$2.6	\$1.1	\$3.1	\$2.6	\$0.9
Other	\$2.2	\$3.7	\$2.3	\$4.3	\$2.8	\$4.7	\$5.5	\$3.0	\$3.0
Gas Appliances (Except Above)	\$17.6	\$21.1	\$15.8	\$15.6	\$19.6	\$19.9	\$17.4	\$17.0	\$14.5
Dryer	\$16.0	\$18.2	\$14.5	\$14.1	\$15.9	\$14.5	\$15.9	\$12.5	\$12.8
Other	\$1.6	\$2.9	\$1.3	\$1.5	\$3.7	\$5.4	\$1.5	\$4.5	\$1.7

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million. Property loss values not adjusted for inflation.

Table 19. (con't) ESTIMATED RESIDENTIAL STRUCTURE FIRE INJURIES, 1980 - 1998 SELECTED GAS-FIRED EQUIPMENT, Non-Incendiary and Non-Suspicious Only

Equipment	1990	1991	1992	1993	1994	1995	1996	1997	1998
Total Residential	18,180	19,170	18,980	20,190	17,540	17,010	17,030	16,080	15,260
Total Gas-Fired Equipment	2,820	2,890	2,880	2,840	2,430	2,240	2,240	2,110	2,020
Gas Heating Equipment	770	900	890	860	740	720	660	530	600
Fixed Heater	130	150	190	210	120	140	140	110	110
Portable Heater	60	90	110	80	90	80	80	60	60
Central Furnace	110	160	130	180	160	120	130	120	100
Fireplace	*	*	10	*	10	*	10	10	20
Water Heater	440	480	440	380	350	370	300	210	320
Other	20	20	10	20	10	10	*	20	*
Gas Cooking Equipment	1,410	1,400	1,330	1,350	1,100	990	1,130	1,050	940
Range/Oven	1,300	1,340	1,240	1,250	1,010	900	1,030	970	890
Open Gas Grill	50	30	30	60	30	20	40	30	20
Portable Cooking	30	10	30	10	30	40	10	10	20
Other	30	30	30	40	30	20	40	30	20
Gas Appliances (Except Above)	60	120	140	110	120	90	90	100	80
Dryer	60	100	110	100	110	60	70	80	80
Other	*	20	30	10	10	30	10	20	*

Note: Estimates exclude losses from incendiary and suspicious fires. Fire estimates are rounded to the nearest 100.

Death and injury estimates are rounded to the nearest 10. Property loss is rounded to the nearest tenth of a million.

Appendix

Methodology

This report is based on the National Fire Protection Association's (NFPA) annual survey of fire departments and the U.S. Fire Administration's (USFA) National Fire Incident Reporting System (NFIRS) data. The NFPA survey is a stratified random sample of fire departments in the U.S. The sample is stratified by the size of community protected by the department. The NFPA makes national estimates of fires, deaths, injuries and property loss by weighting sample results according to the proportion of the total U.S. population accounted for by communities of each size. NFPA data do not identify products involved in fire cause.

The NFIRS is a compilation of voluntarily submitted incident reports completed by U.S. fire departments. NFIRS data identify products involved in fires. In 1998, the NFIRS contained reports of 156,661 residential structure fires (including incendiary and suspicious fires) that resulted in 1,229 civilian deaths, 7,379 civilian injuries, and over \$1.8 billion in property loss from 40 states. The NFIRS contains data on roughly 1 out of every 2.4 estimated residential structure fires in the U.S., 1 out of every 2.6 estimated deaths and 1 out of every 2.3 estimated injuries in those fires. It is believed that the distribution of participating fire departments is reasonably representative of all fire departments in the U.S.

These data capture only those fires attended by fire departments. Due to the size of the NFIRS data set and the broad scope of this report, no edits were performed on the data prior to computing the estimates. It should be noted that product-specific death and injury estimates fluctuate year-to-year and that a small increase or decrease in any one year is not sufficient to denote a trend.

Fire Incident Characteristics of Interest

Although the NFIRS captures dozens of characteristics about each fire loss, only the following characteristics were of interest for this report:

<u>Characteristic</u>	Description
Equipment	Equipment that provided the heat that started the fire, e.g., water heater, fixed wiring, etc.
Form of Heat	Form of heat energy igniting the fire, e.g., cigarette, match, spark from electric or fuel-burning equipment, etc.

Form of Material Item first ignited, e.g, upholstered furniture,

newspaper, etc.

Ignition Factor Factor that allowed the heat of ignition and the

material ignited to combine to start the fire. This variable indicates whether the fire was incendiary or suspicious in nature or due to another ignition factor

such as misuse of heat.

Specifically, Equipment and Form of Heat were the characteristics of interest in the Selected Equipment, Heating Equipment, Electrical Equipment and Gas-Fired Equipment tables. The Fuel categories presented in these tables were defined by groups of Form of Heat values. For the Selected Products tables, estimates contained in the top half of the tables had Form of Heat and Ignition Factor as characteristics of interest, while the estimates in the bottom half had Form of Material and Form of Heat as characteristics of interest.

NFIRS Coding Structure

The NFIRS coding conventions used for this report are based on the 1976 version of NFPA's Uniform Coding for Fire Protection. For each fire incident in the NFIRS, each of the above characteristics of interest was assigned a two-digit code by the reporting fire departments. Each two-digit numerical code corresponds to a description appropriate for that characteristic. The codes are organized using a nested structure so that the first digit of a two-digit code indicates the particular category. For example, all Form of Material codes beginning with '2' belong to the *furniture* category. An example of a two-digit code in this category is 21 – *upholstered furniture*. Within each category, the two-digit code ending in '0' is used for cases where enough information is known to assign the category, but not enough information is known to describe the characteristic in detail. An example of this is where the Form of Material first ignited is known to be furniture of some sort, but no further level of detail is known. All Form of Material codes in the furniture category are listed below as an example:

2 - Furniture Category

20 – furniture, not specified

21 – upholstered furniture

22 – nonupholstered furniture

23 – cabinetry

24 – ironing board

25 – appliance housing or casing

29 - furniture, not classified above

In the NFIRS data, if no information was reported or available for a fire loss characteristic, then the fire loss was considered to be a "complete unknown" in that

² Uniform Coding for Fire Protection: NFPA No. 901 - 1976, May 1976, National Fire Protection Association, Boston, MA..

characteristic. In cases where a code ending in '0' was assigned to a characteristic, the fire loss was considered to be a "partial unknown" in that characteristic. Since each fire loss had several characteristics of interest, a fire loss could be known in some characteristics while having a complete unknown or partial unknown in other characteristics.

Estimation Procedures

National estimates were derived by computing a percentage in NFIRS corresponding to the type of fire loss of interest and multiplying this percentage by the NFPA national estimate. For example, to compute the national fire estimate for upholstered furniture fires involving smoking material ignitions, we computed the percentage of fires in the NFIRS where:

- Ignition Factor was not coded as *incendiary* or *suspicious*
- Form of Material was coded as upholstered furniture
- Form of Heat was coded in the smoking material category

Then the percentage was multiplied by the NFPA national fire estimate, resulting in the national estimate for upholstered furniture fires involving smoking material ignitions. This procedure of scaling the NFIRS results to the NFPA national estimates is further explained by Hall and Harwood ³.

Fire losses having complete unknowns in a characteristic of interest were assumed to follow the distribution of fire losses having known values and partial unknowns for that characteristic. Fire losses having partial unknowns in a characteristic were assumed to follow the distribution of losses having known values within the respective category for the characteristic. For example, fire deaths where the Form of Material was coded as *furniture*, *not specified* were assumed to follow the distribution of fire deaths where Form of Material was coded as *upholstered furniture*, *nonupholstered furniture*, *cabinetry*, etc.

In a change from previously used methodologies, an iterative mathematical procedure called "raking" was used in this report to allocate complete unknowns and partial unknowns in the data.⁴ The raking was performed using a SAS macro.⁵ The raking procedure guaranteed that the pre-raking marginal distributions across known values in a characteristic of interest were preserved for all characteristics of interest. In previous methodologies, the marginal distribution of only one characteristic of interest was preserved.

³John R. Hall, Jr. and Beatrice Harwood, "The National Estimates Approach to U.S. Fire Statistics", Fire Technology, May 1989, Volume 25, Number 2, pp. 99-113.

⁴ W.E. Deming and F.F. Stephen, "One Least Squares Adjustment of a Sampled Frequency Table when the Expected Marginal Totals are Known", Annals of Mathematical Statistics II, 1940, pp. 427-444.

⁵ M. Battaglia, D. Hoaglin and D. Izrael, "A SAS Macro for Balancing a Weighted Sample", SAS Users Group International (SUGI) 25th Annual Conference, April 9-12, 2000, Paper #258-25.

The raking procedure was applied to the data in two stages. The first stage allocated fire losses with complete unknowns in any characteristic of interest to the fire losses with known values and partial unknowns. The second stage allocated fire losses with partial unknowns in any characteristic of interest to the fire losses with known, specified values. Partial unknowns were allocated only within their respective categories. The raking procedure was applied separately to the fire, death, injury and property loss data.

Selected Electrical Equipment Estimates

For the most part, the levels at which estimates are presented in this report are defined by the NFIRS codes themselves. For example, the percentage of non-incendiary, non-suspicious electric dryer fire injuries in the NFIRS can be identified by simply subsetting the injury data by Ignition Factor codes (non-incendiary/suspicious), Form of Heat codes (electric) and Equipment code (clothes dryer). However, certain electrical products of interest to CPSC staff, such as microwave ovens and electric blankets, are not completely defined by the NFIRS Equipment codes. Rather, they represent a subgroup of one or more NFIRS Equipment code(s). In order to identify fires that involved these products, we relied on the text fields included with each fire incident.

Estimates for these special products were computed by first identifying NFIRS Equipment codes that were likely to contain the products. The text fields for all fires within the selected Equipment codes were then searched. The set of fire incidents searched depended upon the group in which the electrical product was classified. For example, we searched for Heat Tape only within the Appliance Equipment codes and not within the Electrical Distribution Equipment Codes. If any recognizable product was identified in the text field, the fire incident was considered "identifiable": otherwise, the incident was "unidentifiable". The text fields of the identifiable fires were then searched for mention of each of the special products. The proportion of identifiable fires that each special product represented within each selected NFIRS Equipment code was computed. These proportions were multiplied by the national estimates for the respective Equipment codes, and the results were summed over each special product to arrive at the special product estimates. In this way, the unidentifiable fires in a selected NFIRS Equipment code were assumed to follow the distribution of identifiable fires in the same code. The estimation procedure for deaths, injuries and property loss involving these electrical products assumed that they occurred in the same proportions as fires. An example follows:

Special product: *Microwave Oven*

Selected Equipment Code	National Fire Estimate	% of Identifiable Fires that were Microwaves	Partial Microwave Estimate
23	230	51.15%	118
25	3,015	10.58%	319
29	2,000	51.15%	1,023

Microwave Oven National Fire Estimate (rounded to the nearest 100)= 1,500

Listed below are the special products whose estimates were derived using the above procedure, along with the NFIRS Equipment codes that contributed to the estimates:

Electrical Cooking Products

Toaster/Toaster Oven Microwave Oven Coffee Maker, Teapot Hot Plate

Electrical Distribution Products

Receptacle
Extension Cord
Other Electrical Cord
Circuit Breaker
Switch
Fuse

Electrical Appliance Products

Fan

Heat Tape Television Iron

Dishwasher

Radio, Cassette Player, VCR Hair Dryer, Curling Iron Electric Blanket

Cooking Equipment Codes Searched*

- 23 Stationary food warming appliance
- 25 Portable cooking, warming unit
- 29 Cooking equipment, not elsewhere classified

Elec. Distn. Equipment Codes Searched

- 44 Power switch gear, overcurrent protection devices
- 45 Switch, receptacle, outlet
- 47 Cord, plug
- 49 Electrical distribution equipment, not elsewhere classified

Appliance Equipment Codes Searched*

- 51 Television, radio, phonograph
- 54 Floor care equipment
- 55 Separate motor, generator
- 56 Hand tools
- 57 Portable heat producing appliance
- 58 Portable non-heat producing appliance
- 59 Appliances, not elsewhere classified

^{*}Searched only where Fuel was Electric.

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