United States
CONSUMER PRODUCT SAFETY COMMISSION
Washington, D.C. 20207

MEMORANDUM

DATE: FEB 20 1997

TO : The Commission
Sadye E. Dunn, Secretary

Through: Eric A. Rubel, General Counsel
Pamela Gilbert, Executive Director

FROM : Ronald L. Medford, Assistant Executive Director RLM
Hazard Identification and Reduction
Robert E. Frye, Director, Hazard Analysis Division (EHHA)
Directorate for Epidemiology and Health Sciences

SUBJECT: Update of All-Terrain Vehicle Deaths and Injuries.

The Consent Decrees require periodic updates of data on all-terrain vehicle deaths and injuries.

In response to this requirement, attached is the most recent update, using data available as of September 30, 1996.

Attachment

NOTE: This document has not been reviewed or accepted by the Commission.
Initial _____ Date 2/20/97

CPSA 6 (b)(1) Cleared
2/20/97
No Mfrs/PrvtLblrs or Products Identified
___ Exceptions
___ Firms Notified

United States
CONSUMER PRODUCT SAFETY COMMISSION
Washington, D.C. 20207

MEMORANDUM

DATE: November 27, 1996

TO : Robert E. Frye, Director, EHHA

FROM : Jo-Annette David, EHHA

SUBJECT : Update of ATV Deaths and Injuries

Deaths Reported to the Commission

On September 30, 1996, the Commission had reports of 2,868 ATV-related deaths that occurred since 1982 (Table 1). The reported deaths increased by 73 since the June 30, 1996 tabulation for the last update memorandum dated August 28, 1996.

Table I
Reported ATV-Related Deaths by Year
(January 1982 - September 1996)

Year	Number of Deaths	Difference Since Last Update (06/30/96)
Total	2,868	+ 73
1996	91	+ 52
1995	157	+ 21
1994	187	+ 1
1993	184	0
1992	221	- 1
1991	230	0
1990	234	0
1989	230	0
1988	250	0
1987	264	0
1986	299	0
1985	251	0
1984	156	0
1983	85	0
1982	29	0

Source: U.S. Consumer Product Safety Commission (CPSC), Directorate for Epidemiology and Health Sciences, Division of Hazard Analysis (EHHA)

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Table 2 is a listing of ATV-related deaths by state. The highest numbers of incidents were reported for California (202), Pennsylvania (171), New York (150), Michigan (148), and Texas (134).

Table 2

DEATHS ASSOCIATED WITH 3 AND 4-WHEEL ALL TERRAIN VEHICLES
REPORTED THROUGH SEPTEMBER 30, 1996

STATE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
CALIFORNIA	202	7.0	202	7.0
PENNSYLVANIA	171	6.0	373	13.0
NEW YORK	150	5.2	523	18.2
MICHIGAN	148	5.2	671	23.4
TEXAS	134	4.7	805	28.1
FLORIDA	103	3.6	908	31.7
WISCONSIN	100	3.5	1008	35.1
TENNESSEE	95	3.3	1103	38.5
ARKANSAS	89	3.1	1192	41.6
WEST VIRGINIA	86	3.0	1278	44.6
MISSISSIPPI	84	2.9	1362	47.5
KENTUCKY	82	2.9	1444	50.3
MINNESOTA	81	2.8	1525	53.2
NORTH CAROLINA	76	2.6	1601	55.8
MISSOURI	74	2.6	1675	58.4
ARIZONA	73	2.5	1748	60.9
OHIO	72	2.5	1820	63.5
ALASKA	69	2.4	1889	65.9
ALABAMA	68	2.4	1957	68.2
GEORGIA	63	2.2	2020	70.4
LOUISIANA	63	2.2	2083	72.6
UTAH	56	2.0	2139	74.6
ILLINOIS	53	1.8	2192	76.4
INDIANA	49	1.7	2241	78.1
VIRGINIA	49	1.7	2290	79.8
MAINE	46	1.6	2336	81.5
OREGON	45	1.6	2381	83.0
IOWA	39	1.4	2420	84.4
KANSAS	37	1.3	2457	85.7
IDAHO	35	1.2	2492	86.9
OKLAHOMA	32	1.1	2524	88.0
NEW MEXICO	31	1.1	2555	89.1
MASSACHUSETTS	30	1.0	2585	90.1
WASHINGTON	29	1.0	2614	91.1
COLORADO	28	1.0	2642	92.1
NEBRASKA	28	1.0	2670	93.1
NEW HAMPSHIRE	28	1.0	2698	94.1
NEVADA	26	0.9	2724	95.0
NORTH DAKOTA	21	0.7	2745	95.7
VERMONT	21	0.7	2766	96.4
NEW JERSEY	20	0.7	2786	97.1
MONTANA	18	0.6	2804	97.8
SOUTH DAKOTA	14	0.5	2818	98.3
MARYLAND	13	0.5	2831	98.7
SOUTH CAROLINA	11	0.4	2842	99.1
CONNECTICUT	10	0.3	2852	99.4
WYOMING	6	0.2	2858	99.7
DELAWARE	3	0.1	2861	99.8
DISTRICT OF COLU	2	0.1	2863	99.8
HAWAII	2	0.1	2865	99.9
RHODE ISLAND	2	0.1	2867	100.0
Puerto Rico	1	0.0	2868	100.0

Due to rounding, the numbers in the percent column may not add to exactly 100 percent.

SOURCE: U.S. Consumer Product Safety Commission (CPSC), Directorate for Epidemiology and Health Sciences, Division of Hazard Analysis (EHHA)

Characteristics of ATVs and Fatalities

A review of the fatalities indicated that 1,044 victims (36% of the 2,868 total) were under 16 years of age and 442 victims (15% of the total) were under 12 years of age.

Four-wheel ATVs were involved in about 75 percent of the fatalities reported for 1996; 80 percent for 1995; 70 percent of those reported for 1994, 1993 and 1992; 60 percent for 1991, 1990, and 1989; 53 percent for 1988; 45 percent for 1987; 28 percent for 1986; 19 percent for 1985; and 7 percent or less for prior years.

Estimated ATV-Related Deaths from 1985 to 1994

The deaths reported to the Commission represent a minimum count of ATV-related deaths. To account for deaths not reported to the Commission, estimates of the annual deaths were calculated for 1985 through 1994 using a statistical approximation method. Table 3 shows the risk of death (per 10,000 4-wheel ATVs in use) by year from 1985 to 1994.

Table 3
Annual Estimates of 3-and 4-Wheel ATV-Related Deaths and Risk of Death for 4-Wheel ATVs
(As of September 30, 1996)

	Number of Deaths			Risk of Death
Year	Total Reported	Total Estimated[1]	Estimates for 4-wheel ATV's[2]	(per 10,000 4-wheel ATVs in use)[3]
1994[4]	187	237	165	0.8
1993	184	214	147	0.8
1992	221	241	158	0.8
1991	230	255	152	0.8
1990	234	250	151	0.9
1989	230	258	153	0.9
1988	250	286	152	1.1
1987	264	282	126	1.1
1986	299	347	95	1.3
1985	251	295	55	1.5

Source: Consumer Product Safety Commission (CPSC), Directorate for Epidemiology and Health Sciences, Division of Hazard Analysis (EHHA)

[1]The procedure for estimating ATV-related deaths has two parts. For public road fatalities, the count was the number of reports received. For incidents occurring on terrain other than public roads, the Capture-Recapture Method was used to estimate deaths by matching and determining the overlap between the CPSC Death Certificate and Injury or Potential Injury Incident Data Bases (reports from newspapers, consumers, lawyers, etc.). The two parts were combined for the annual estimate of deaths. These estimates may change as additional reports are received.

[2]The estimated number of deaths associated with four-wheel ATVs was obtained by first dividing the reported number of deaths for four-wheel ATVs by the combined reported number of deaths for three- and four-wheel ATVs, then multiplying this quotient by the estimated number of deaths for all ATVs (three wheels, four wheels, and unknown number of wheels).

[3]The number of ATVs in use is based on ATV sales and operability rates data provided by industry. Because reliable operability rates data are not available for three-wheel ATVs, risk of death is shown only for four-wheel ATVs.

[4] Reporting may not be complete.

Estimated Hospital Emergency-Room Treated Injuries

Table 4 shows estimates of 3- and 4- wheel ATV-related injuries treated in hospital emergency rooms nationwide between January 1, 1982 and September 30, 1996.

Table 4
Annual Estimates of ATV Hospital Emergency Room-Treated Injuries
All Ages and Ages Less Than 16 years
(January 1982-September 1996)

	Adjusted Annual Injury Estimates[1/]	
Year	All Ages	Age <16 Years
1996[2/] (thru Sept 30)	50,600	19,500
1995[2/]	62,400	23,100
1994[2/]	59,200	24,800
1993[2/]	56,900	20,400
1992[2/]	65,300	24,700
1991[2/]	64,100	24,800
1990[2/]	64,700	24,300
1989[3/]	75,000	27,400
1988[2/]	78,500	29,900
1987[2/]	96,600	39,800
1986[2/]	108,000	48,400
1985[2/4/]	107,400	44,100
1984[4/]	78,300	[5/]
1983[4/]	32,300	[5/]
1982[4/]	10,100	[5/]

Source: U.S. Consumer Product Safety Commission, (CPSC)
Directorate for Epidemiology and Health Sciences, Division of Hazard Analysis (EHHA)

[1/] Estimates for all years reflect the revised 1990 NEISS sample that improves reporting for ATV-related incidents.
[2/] Estimates adjusted by factors to account for out of scope (non-ATV) cases based on injury surveys in 1985 and 1989. The adjustment factors were 0.93 for 1985-1988 and 0.95 for 1990 onward.
[3/] Annual estimate for 1989 is based on the 1989 Injury Survey.
[4/] Estimates adjusted due to revisions in the NEISS Coding Manual in March 1985. Estimates for 1982 through 1985 were adjusted based on a review of NEISS comments to exclude dune buggies and identify ATVs classified as minibikes or trail bikes.
[5/] Adjusted estimates for children under 16 years old were not computed prior to 1985.

Children under age 16 years accounted for about 40 percent of the total of estimated injuries from January 1, 1985 through September 30, 1996.

Trend analysis of the estimates of ATV-related injuries treated in U.S. hospital emergency rooms for the period 1987-1995 showed a significant downward trend through 1990.