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

MEMORANDUM

DATE: JUL 10 1997

TO : The Commission
Sadye E. Dunn, Secretary

Through : Jeffrey Bromme, General Counsel
Pamela Gilbert, Executive Director

FROM : Ronald L. Medford, Assistant Executive Director
Hazard Identification and Reduction
Arthur K. McDonald, Acting 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 March 31, 1997.

Attachment

NOTE: This document has not been reviewed or accepted by the Commission.
Initial rh Date 7/10/97

CPSA 6 (b)(1) Cleared
No Mfrs/PrvtLblrs or Products Identified
Excepted by

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

MEMORANDUM

DATE: June 17, 1997

TO : Arthur K. McDonald, Acting Director, EHHA

FROM : Jo-Annette David, EHHA

SUBJECT : Update of ATV Deaths and Injuries

Deaths Reported to the Commission

On March 31, 1997, the Commission had reports of 2,960 ATV-related deaths that occurred since 1982 (Table 1). The reported deaths increased by 45 since the December 31, 1996 tabulation for the last update memorandum dated June 3, 1997.

Table I
Reported ATV-Related Deaths by Year
(January 1982 - March 1997)

Year	Number of Deaths	Difference Since Last Update (12/31/96)
Total	2,960	+45
1997	03	+03
1996	168	+32
1995	169	+10
1994	187	0
1993	184	0
1992	221	0
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)

Table 2 is a listing of ATV-related deaths by state. The highest numbers of incidents were reported for California (204), Pennsylvania (174), Michigan (152), New York (151), and Texas (138).

Table 2

DEATHS ASSOCIATED WITH 3 AND 4-WHEEL ALL TERRAIN VEHICLES
REPORTED FOR THE PERIOD JAN 1, 1982 THROUGH MARCH 31, 1997

STATE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
CALIFORNIA	204	6.9	204	6.9
PENNSYLVANIA	174	5.9	378	12.8
MICHIGAN	152	5.1	530	17.9
NEW YORK	151	5.1	681	23.0
TEXAS	138	4.7	819	27.7
FLORIDA	106	3.6	925	31.3
WISCONSIN	102	3.4	1027	34.7
TENNESSEE	98	3.3	1125	38.0
ARKANSAS	94	3.2	1219	41.2
WEST VIRGINIA	90	3.0	1309	44.2
KENTUCKY	86	2.9	1395	47.1
MISSISSIPPI	85	2.9	1480	50.0
NORTH CAROLINA	85	2.9	1565	52.9
MINNESOTA	84	2.8	1649	55.7
MISSOURI	77	2.6	1726	58.3
ARIZONA	76	2.6	1802	60.9
OHIO	74	2.5	1876	63.4
ALASKA	71	2.4	1947	65.8
ALABAMA	70	2.4	2017	68.1
LOUISIANA	66	2.2	2083	70.4
GEORGIA	65	2.2	2148	72.6
UTAH	56	1.9	2204	74.5
ILLINOIS	55	1.9	2259	76.3
VIRGINIA	53	1.8	2312	78.1
INDIANA	49	1.7	2361	79.8
OREGON	49	1.7	2410	81.4
MAINE	48	1.6	2458	83.0
IOWA	41	1.4	2499	84.4
KANSAS	39	1.3	2538	85.7
IDAHO	35	1.2	2573	86.9
NEBRASKA	32	1.1	2605	88.0
OKLAHOMA	32	1.1	2637	89.1
NEW MEXICO	31	1.0	2668	90.1
WASHINGTON	31	1.0	2699	91.2
MASSACHUSETTS	30	1.0	2729	92.2
COLORADO	28	0.9	2757	93.1
NEW HAMPSHIRE	28	0.9	2785	94.1
NEVADA	26	0.9	2811	95.0
NORTH DAKOTA	22	0.7	2833	95.7
VERMONT	22	0.7	2855	96.5
NEW JERSEY	20	0.7	2875	97.1
MONTANA	18	0.6	2893	97.7
SOUTH DAKOTA	17	0.6	2910	98.3
MARYLAND	13	0.4	2923	98.8
SOUTH CAROLINA	11	0.4	2934	99.1
CONNECTICUT	10	0.3	2944	99.5
WYOMING	6	0.2	2950	99.7
DELAWARE	3	0.1	2953	99.8
DISTRICT OF COLU	2	0.1	2955	99.8
HAWAII	2	0.1	2957	99.9
RHODE ISLAND	2	0.1	2959	100.0
PUERTO RICO	1	0.0	2960	100.0

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

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

Characteristics of ATVs and Fatalities

A review of the fatalities indicated that 1,072 victims (36% of the 2,960 total) were under 16 years of age and 461 victims (16% of the total) were under 12 years of age.

Four-wheel ATVs were involved in about 80 percent of the fatalities reported for 1996 and 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 March 31, 1997)

	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	234	163	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 March 31, 1997. Children under age 16 years accounted for about 40 percent of the total of estimated injuries from January 1, 1985 through March 31, 1997.

Table 4
Annual Estimates of ATV Hospital Emergency Room-Treated Injuries
All Ages and Ages Less Than 16 years
(January 1982-March 1997)

	Adjusted Annual Injury Estimates[1/]	
Year	All Ages	Age <16 Years
1997 (Through 3/31/97)	9,500	3,800
1996[2/]	63,600	23,900
1995[2/]	61,600	22,800
1994[2/]	59,000	24,900
1993[2/]	56,700	20,400
1992[2/]	65,200	24,700
1991[2/]	64,000	24,800
1990[2/]	64,500	24,300
1989[3/]	74,900	27,400
1988[2/]	78,200	29,900
1987[2/]	96,600	39,800
1986[2/]	107,700	48,400
1985[2/4/]	105,700	42,700
1984[4/]	77,900	[5/]
1983[4/]	32,100	[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.

Table 5 shows four-wheel ATV-related injury and risk of injury estimates for January 1, 1985 through December 31, 1995.

Table 5
Annual Injury and Risk of Injury Estimates
Associated With 4-Wheel ATVs
January 1985-December 1995

Year	Injury Estimate[1/2/]	Risk Estimate[3/]
1995	42,900	204.0
1994	38,700	192.6
1993	36,500	188.1
1992	37,000	196.2
1991	37,900	207.2
1990	33,400	189.8
1989[4/]	38,000	224.5
1988	41,300	289.1
1987	34,900	315.0
1986	23,800	324.2
1985	14,700	391.1

Source: U.S. Consumer Product Safety Commission (CPSC), Directorate for Epidemiology and Health Sciences, Division of Hazard Analysis (EHHA), National Electronic Injury Surveillance System (NEISS), and the Directorate for Economic Analysis (EC), Washington, DC (January 1, 1985 through December 31, 1995).

[1/]Annual Estimates are adjusted by factors to account for out of scope cases. Adjustment factors are .93 for 1985 through 1988, and .95 from 1990 on.
[2/]Occupation-related cases are not included.
[3/]Risk calculations are per 10,000 ATVs in use. Calculations are based on January 1997 ATV use tables developed by CPSC's Directorate for Economic Analysis, from sales and operability rates data provided by industry. Because reliable operability rates data are not available for three-wheel ATVs, risk of injury is given for four-wheel ATVs only.
[4/]Estimates for 1989 are based on the 1989 CPSC Injury Survey.