UNITED STATES
CONSUMER PRODUCT SAFETY COMMISSION
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This document has been electronically approved and signed.

Memorandum

Date: October 28, 2014

TO : The Commission
Todd Stevenson, Secretary

THROUGH : Stephanie Tsacoumis, General Counsel
DeWane Ray, Deputy Executive Director

FROM : George A. Borlase, Ph.D., P.E., Assistant Executive Director
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SUBJECT : Staff Responses to Questions for the Record about the Notice of Proposed Rulemaking (NPR) for Recreational Off-Highway Vehicles (ROVs)

This memorandum provides staff responses to questions for the record from Commissioner Mohorovic and Commissioner Buerkle about the NPR for ROVs. Please note that legal questions have been addressed separately.

Questions from Commissioner Mohorovic:

1. *Is there anything to suggest we should delay proposing the rule because the standard the staff—including the legal and economic staff—compared against the rule is now no longer the relevant standard under the CPSA?*

Staff sees no need for the Commission to delay evaluating the NPR because of the recent approval of the 2014 ANSI/ROHVA standard because the staff's briefing package and the draft NPR discussed the provisions of the 2014 ANSI/ROHVA standard. As the staff explains in the supplemental memorandum transmitted to the Commission on October 17, 2014, the ANSI/ROHVA proposed standard (called the "canvass draft" in the staff' briefing package and draft NPR) is identical to the finalized ANSI/ROHVA 1-2014 voluntary standard. Because key protections for dynamic stability, hang tag, vehicle handling, and occupant protection are missing in the ANSI/ROHVA 1-2014 standards, the analysis (including economic components) stands. Additionally, we note that if the Commission approves the draft NPR, staff would evaluate during the comment period any further changes that might then be made to the relevant voluntary standards, along with any additional input from voluntary standards bodies, industry and other stakeholders.

2. *Have other voluntary standard bodies issued standards during the pendency of a rulemaking process? How has CPSC responded?*

Because publication of an ANPR or NPR does not always result in expeditious adoption of a final rule, voluntary standards bodies continue their work even after issuance of an ANPR or NPR. As a result, voluntary standards often are updated during the pendency of rulemaking.

For instance, ASTM issued revised versions of voluntary standards as the Commission considered rulemakings both under Section 7 and 9 of the Consumer Product Safety Act and under Section 104 of the Consumer Product Safety Improvement Act of 2008 (CPSIA). For example, the Commission voted to publish an ANPR on table saws on October 5, 2011, and UL published a revised 8th edition of their standard on table saws, UL 987, "Standard for Stationary and Fixed Electric Tools," on October 19, 2011. UL is actively working to again revise UL 987. Regarding the Section 104 rulemakings:

- ASTM issued a revised standard after the Commission issued an NPR, but before the Commission issued a final rule; and
- for the section 104 rules, the Commission incorporates by reference a particular version of the voluntary standard, and the CPSIA has a process for updating the CPSC standard when ASTM revises the related ASTM standard.

3. *Staff seemingly based its safety and economic analyses on the assumption that, because all vehicles tested had been sold under (and were presumably compliant with) the prior voluntary standard, deferring to that standard (instead of issuing a mandatory rule) would have no safety benefit. Since that standard is no longer relevant, can these analyses be considered reliable? Would they survive judicial review?*

Staff believes our analyses are still reliable and relevant because, as explained in the staff's supplemental memorandum, staff did analyze the substance of ANSI/ROHVA 1-2014 when staff reviewed the canvass draft and explained why that draft (which is identical to ANSI/ROHVA 1-2014) while addressing some risk, is not likely to adequately reduce the risk of injury presented by ROVs. As staff explained in the NPR package and in the briefing, neither ANSI/ROHVA 1-2011, nor ANSI/ROHVA 1-2014 adequately reduce the risk of injuries and deaths from ROV-related incidents because:

1) The lateral stability requirements are a proof test and do not measure the full range of stability of an ROV; therefore, the requirements will not effectively improve the lateral stability of ROVs to reduce the occurrence of rollovers.
2) The standard does not have vehicle handling requirements; therefore, the standard will not eliminate oversteer, which causes the dynamic instability that contributes to rollovers.
3) The occupant protection requirement requires either a visual and audible alarm or a seat belt speed limiting system only for the driver; therefore, the requirements will not effectively reduce the severity of fatal and nonfatal injuries in rollover events.

The preliminary regulatory analysis reflects the market for ROVs and the voluntary standard that was in place at the time the analysis was conducted. Should the regulatory process result in a proposed final rule, the staff would present a final regulatory analysis in that context. That analysis would reflect the market and voluntary standard in place when the final regulatory analysis is conducted. Consequently, if (as reported) a major manufacturer introduces seat-belt speed-limiting systems into its ROV models before promulgation of a mandatory standard, that introduction will be reflected in the discussion of benefits and costs of the rule.

As in question #1 above, the staff evaluated both 2011 and 2014 standards and found the standards to be lacking key protections for which benefits and costs were assessed. As such, staff confirms the functional and quantified/monetized benefits assessed in the preliminary regulatory assessment.

Finally, the question of judicial review is addressed in a separate legal memorandum.

4. *To what degree or percentage does the ANSI/ROHVA 1-2014 voluntary standard reduce the risk of deaths and injuries with ROV use? And the same question for the CPSC proposed mandatory standard?*

Staff cannot calculate a degree or percentage of risk reduction from the ANSI/ROHVA 1-2014 standard because staff does not have sufficient detail from the reported incidents to determine whether a vehicle meeting the ANSI/ROHVA stability proof test would have stayed upright instead of overturning. However, staff believes that the stability proof test will not effectively increase the stability of ROVs to reduce rollover events; the lack of vehicle handling requirements that prevent rapid lateral accelerations will not reduce rollovers; and the auditory and visual seat belt reminder or vehicle speed limitation system for the driver will not effectively increase seat belt use, and therefore, effectively reduce deaths and injuries.

In contrast, staff believes that the recommended lateral stability and vehicle handling requirements will reduce rollover events by increasing the stability of ROVs and eliminating oversteer handling, respectively. In addition, staff's recommended occupant protection requirements increase seat belt use limiting vehicle speed to 15 mph if any occupied front seat belts are not buckled.

Staff's preliminary regulatory analysis estimated that the seatbelt requirements of the staff's draft proposed rule would reduce the risk of death by about 45 percent. This estimate was based on a NHTSA study, described at pages 152−153 of the preliminary regulatory analysis and was applied to deaths of unbelted victims who were reportedly in ROVs traveling at speeds in excess of 15 miles per hour. The preliminary regulatory analysis also estimated that societal costs in nonfatal injuries would be reduced by about 20 percent. This estimated reduction was also described at pages 152−153 of the preliminary regulatory analysis and again applied to unbelted victims in ROVs that were reportedly traveling at speeds in excess of 15 miles per hour. Net benefits from the lateral stability and vehicle handling requirements would be realized if only one in 500 lateral rollovers were prevented.

5. *Would a new staff analysis focused on the new standard make an eventual rule more likely to survive judicial review?*

   The question of judicial review is addressed in a separate legal memorandum.

6. *If, in its review of the new standard for an eventual final rule vote, staff were to conclude the new standard would provide adequate protection—and thus CPSC could not issue a mandatory rule and was forced to withdraw the proposal—would there be costs (financial, institutional, or otherwise) that could be avoided by conducting that review prior to issuing the NPR?*

The costs associated with reviewing the revised ANSI/ROHVA standard before issuing the NPR have already been incurred. The costs of evaluating the standard in both the NPR briefing package and in the supplemental memorandum were FTE salary costs for CPSC staff.

7. *What is the total budget resources (staff, contracts, vehicles purchased and etc.) spent on this rulemaking in FY2014? Does that include the contract and 5 vehicles for purchase approved at the end of the fiscal year?*

The budget resources spent on this rulemaking in FY 2014 were approximately 20 staff months and $727,760, which includes the contract and five vehicles.

8. *Is there a difference between the type and specifications for the seat belts between the CPSC mandated standard and the new ANSI/ROHVA voluntary standard?*

No, there is no difference in the type or specification for the seat belts.

9. *On page three of the supplemental information on ROVs distributed on October 17, 2014; it states "that steering wheel angle describes less than half of the variability in Ay." What does that mean?*

To assess whether steering wheel angle is a comparable performance measure for lateral acceleration (Ay), steering wheel angle and lateral acceleration measurements from 10 vehicles were statistically modeled. The purpose of the model is to estimate how a change in steering wheel angle (the predictor variable) affects the change in lateral stability (the dependent variable).

A diagnostic measure of how well the estimated regression line fits the data is the coefficient of determination (referred to as R^2). The closer the R^2 is to 1 (*i.e.*, 100%), the more likely steering wheel angle can be used to describe and/or predict what the value of lateral acceleration (Ay) will be. In this case, the R^2 is 0.42. Thus, 42 percent of the variation of Ay is being explained by steering wheel angle. From a statistical standpoint, this is considered a poor-fitting model, indicating that steering angle is not a surrogate for the Ay value.

10. On page four of the supplemental document, it states that rollover resistance as measured by the lateral acceleration at two-wheel lift indicates when the ROV will roll over in any turning maneuver, irrespective of steering wheel input angle or how lateral acceleration was generated. Did any of the ROVs tested in the CPSC J-turn test complete a full circle before reaching two-wheel lift

None of the ROVs tested by staff in a J-turn at 30 mph test completed a full circle before reaching two-wheel lift.

11. In Table 1 of the supplemental document on page five, Vehicle D has an asterisk (*) that the value was "updated to the steering angle measured with new tires on the ROV. Was that the test runs with the new tires on Vehicle D conducted for the SEA Repeatability of J-Turn Testing report from September 2013? Would Vehicle E from that table have passed the ANSI/ROHVA Test with new tires?

Yes, the test runs with the new tires on Vehicle D were conducted for the SEA Repeatability of J-Turn Testing report from September 2013.

Yes, Vehicle E passes the ANSI/ROHVA test.

12. On page six of the supplemental document, Table 2: What caused the 9% difference in steering wheel angle between the SEA 2011 Report and the SEA 2013 Report in Vehicle E?

Staff believes that the difference is due to the lack of repeatability of the ANSI/ROHVA test. ROHVA did not provide a repeatability test report for their J-turn test.

13. Is Vehicle I from Table 1 on page five of the supplemental document the four-passenger ROV? Is it the Polaris Razer 4?

Yes. Vehicle I is a MY 2011 Polaris RZR 4 seat vehicle.

14. Regarding the four-passenger ROV, Vehicle I, How many seconds after the CPSC J turn was started did it take vehicle I to reach 2-wheel lift? How far did it travel?

Staff reviewed video footage of J-turn tests for Vehicle I and made the following estimates:

- 1.29 seconds until two-wheel lift (right turn) and traveled 22.8 feet
- 1.22 second until two-wheel lift (left turn) and traveled 21.6 feet

15. From page 10 of the supplemental document: Please explain how a ROV's rollover resistance cannot exceed its SSF value? Would Vehicle I be an example of this? If not, why?

The static stability factor (SSF) is a theoretical maximum stability value based on the vehicle's center of gravity height (H) and track width measurement (T). The equation is SSF = T/2H. The SSF value is theoretical because it assumes the vehicle is a solid piece. The actual rollover resistance of a vehicle is lower than the SSF, due to compliance in the tires and suspension.

Vehicle I is an example of a vehicle whose actual rollover resistance is lower than its SSF value.

16. *What is the goal of the staff analysis on page 20 of supplemental document?*

Staff's goal on page 20 of the supplemental memorandum (Appendix A) was to correct statements made by ROHVA regarding CPSC/SEA's test data and staff's briefing package.

Is the staff conclusions regarding Vehicle D debatable depending on what study is used?

Vehicle D is an over-steering vehicle that passed the ANSI/ROHVA J-turn test when tested with new tires in 2013. Vehicle D failed the ANSI/ROHVA J-turn test when tested in 2011. One conclusion was that the ANSI/ROHVA standard is not repeatable. Staff does not believe this is debatable.

Staff also concluded that ANSI/ROHVA's claim that the 110 deg-J-turn test is more demanding for oversteering vehicles has no basis. This conclusion was based on the test results for Vehicles D, I, and J that exhibit oversteer and pass the ANSI/ROHVA J-turn test. Staff considered all of the test data available for vehicle D to arrive at this conclusion. There is no debate that Vehicle D passed the ANSI/ROHVA test in 2013.

Does Vehicle J pass the ANSI/ROHVA J-turn test the same way that Vehicle E passes the CPSC J-turn test? Both of them are borderline.

Yes, Vehicle J and Vehicle E are borderline pass/fail depending on the J-turn test. Vehicle J (two-wheel lift at 110 deg steering) is on the borderline of pass/fail value for the ANSI/ROHVA J-turn test. Vehicle E (Ay = .70) is on the borderline of pass/fail value for the CPSC J-turn test.

Explain the differences between Vehicle B with two occupants and no occupants?

The center of gravity (CG) height for Vehicle B with two occupants is much higher than the CG height of Vehicle B with no occupants. As noted above, the SSF value of a vehicle is based on the CG height of a vehicle and the track width. A higher CG height equates to a lower SSF value.

ROHVA states that Vehicle B fails the ANSI/ROHVA 1-2014 lateral stability requirement that vehicles with no occupants have a K_{st} value equal to 1.0 or higher. K_{st} is essentially the SSF value of a vehicle. However, ROHVA based their statement on CPSC staff's test data for the SSF value of Vehicle B (SSF = .932) with two occupants. ROHVA's use of CPSC staff's test data is incorrect.

17. Please provide a list of the brand, model and year of the 10 ROVs tested.

This Table has been provided to the Commission.

18. *Please provide a copy of the "Recreational Off-Highway (ROV) Handling and Control" cited on page 15 of the supplemental document.*

This study has been provided to the Commission.

19. *Please provide a copy of the automobile study showing that seat belt reminders that hinder vehicle functions after a threshold speed, if seat belts are not buckled motivates participants to buckle up to a 100% use rate referenced in page 18 of the supplemental document.*

This study has been provided to the Commission.

20. *What is the driver's alcohol status in fatal incidents?(Question asked during Commission Briefing on October 22, 2014)*

This information can be found on page 192 (Tab D) of the briefing package.

"In 159 incidents involving a fatality (71 percent), the driver was known to be 16 years of age or older. In 73 of these incidents (46 percent), the driver was known to have had at least one alcoholic beverage just before driving the vehicle; 45 incidents (28 percent) did not involve the driver consuming alcoholic beverages before the incidents and in 41 incidents(26 percent), the driver's alcohol status is unknown."

21. *What is the comparison of hazard patterns for fatalities where the seatbelt was in use versus when a seatbelt was not in use?(Question asked during the Commission Briefing on October 22, 2014)*

Three variables are used in the tables below to show the hazard patterns for each seatbelt status for fatalities for the 225 fatal victims (in or on the ROV) in the 224 reported, staff reviewed fatal incidents: overturning event, initiating event, and terrain surface. The frequency of each cross tabulation is provided with the column percent for each to aid in comparisons.

These tables, along with the results of the seat belt use and ejection patterns in the briefing package (Tab D, Table 14, page 196), can be used together to have an understanding of belted versus unbelted hazard patterns.

Overall, staff notes that there are only 28 belted fatalities versus 150 unbelted fatalities (with the remainder in an unknown belted category). When breaking down 28 victims into several categories, any results should be interpreted with extreme caution. For overturning events, there is slightly larger "unknown" overturning status for belted fatalities; but otherwise, the pattern of overturning events is similar for belted versus unbelted fatalities. For the initiating event of the incident, the majority of incidents for both belted and unbelted fatalities fall into the categories of turn, grade/slope, and vertical impact. For the terrain surface, again, the distributions are similar for belted and unbelted fatalities, but with a slightly larger percentage of belted victims on sand as compared to the percentage of unbelted fatalities.

Staff also notes that each table represents the number of fatalities, not the number of incidents. When there is more than one fatality in an incident, the incident events are counted uniquely for each victim. For example: if two people died in an rollover event while making a turn, then the numbers in the table reflect that rollover event for both victims, even though it is the same incident. This is the result of comparing a victim-related characteristic (seatbelt use) against an incident-related characteristic (overturning event, initiating event, and terrain surface).

Overturning Event	Seatbelt Use: unknown Freq	unknown Column %	no Freq	no Column %	yes Freq	yes Column %	Total Freq	Total Column %
unknown	4	9%	3	2%	4	14%	**11**	**5%**
flipped forward	0	0%	3	2%	0	0%	**3**	**1%**
flipped backward	0	0%	8	5%	1	4%	**9**	**4%**
rolled sideways/making a turn	15	32%	74	49%	9	32%	**98**	**44%**
rolled sideways/not making a turn	5	11%	23	15%	4	14%	**32**	**14%**
rolled sideways/unknown details	9	19%	8	5%	2	7%	**19**	**8%**
overturned in an unknown direction	11	23%	22	15%	5	18%	**38**	**17%**
NA/did not overturn	3	6%	9	6%	3	11%	**15**	**7%**
Total	**47**	**100%**	**150**	**100%**	**28**	**100%**	**225**	**100%**

Initiating Event of the Incident	Seatbelt Use: unknown Freq	unknown Column %	no Freq	no Column %	yes Freq	yes Column %	Total Freq	Total Column %
unknown	15	32%	11	7%	1	4%	**27**	**12%**
collision with tree/pole/etc.	2	4%	2	1%	3	11%	**7**	**3%**
ROV hit other vehicle	1	2%	1	1%	0	0%	**2**	**1%**
vehicle hit ROV	0	0%	8	5%	3	11%	**11**	**5%**
failed to turn	0	0%	2	1%	0	0%	**2**	**1%**
grade/slope	3	6%	29	19%	8	29%	**40**	**18%**
turn	17	36%	74	49%	8	29%	**99**	**44%**
vertical impact	6	13%	15	10%	4	14%	**25**	**11%**
other	3	6%	8	5%	1	4%	**12**	**5%**
Total	**47**	**100%**	**150**	**100%**	**28**	**100%**	**225**	**100%**

Terrain Surface	Seatbelt Use: unknown Freq	unknown Column %	no Freq	no Column %	yes Freq	yes Column %	Total Freq	Total Column %
unknown	21	45%	16	11%	2	7%	**39**	**17%**
dirt	5	11%	42	28%	9	32%	**56**	**25%**
grass	3	6%	23	15%	3	11%	**29**	**13%**
gravel	7	15%	19	13%	2	7%	**28**	**12%**
mud	1	2%	6	4%	1	4%	**8**	**4%**
pavement	7	15%	31	21%	4	14%	**42**	**19%**
sand	0	0%	7	5%	5	18%	**12**	**5%**
other	3	6%	6	4%	2	7%	**11**	**5%**
Total	**47**	**100%**	**150**	**100%**	**28**	**100%**	**225**	**100%**

22. What are the annual benefits and costs under the assumption that 60% of the market incorporates a driver seat belt speed limitation system?(Question asked during the Commission Briefing on October 22, 2014)

In the preliminary regulatory analysis, we provided an estimate of the benefits and costs of the rule on an annual basis (in 2012 dollars) by multiplying the per unit estimates of the quantifiable benefits ($2,199 per ROV) and costs ($61 to $94 per ROV), by an estimate of the annual sales of ROVs. In 2013, we estimated the annual sales of ROVs to be about 234,000. Therefore, the present value of the benefits of the rule over the expected product life of one year's sales would have been about $515 million ($2,199 X 235,000 ROVs) and the costs would have been between $14.3 million and $22 million ($61 to $94 x 234,000 ROVs).

According to recent information, industry states that about 60 percent of the market will include an interlock that limits the speed of the vehicle to no more than 15 mph unless the driver's seat belt is fastened. We have been asked to re-estimate the annual benefit, using the assumption that 60 percent of the vehicles on the market already include a driver seat belt interlock.

<u>Scenario: 60 Percent of ROVs Have a Driver Seat Belt Interlock Before a Rule Is Promulgated</u>

Under this scenario, there would be no difference in the per-unit benefit and cost estimates for the 40 percent of the market, or about 93,600 units that would not include the driver side seat belt interlock. Therefore, the seat-belt related benefits associated with these units would be about $206 million (93,600 units x $2,199). The associated costs would be between $5.7 million and $8.8 million (93,600 units x $61 and $94 respectively).

For the 60 percent of the market, or about 140,600 units that have a driver seat belt interlock before the rule is promulgated, there would be no additional benefits or costs associated with the requirement for the driver seat belt interlock. However, there would still be benefits associated with the vehicle handling and stability requirements (which were not quantified) and including the front passenger seats in the seat belt interlock system, which were estimated to be $701 per unit. The benefit would be $98.6 million (140,600 units x $701). The cost of including the front passenger seat belts in the interlock system was estimated to be $26 per unit. Additionally, the costs associated with the vehicle handling and lateral stability requirement were estimated to be $3 to $10 per vehicle. Therefore, the cost would be between $4.1 million and $5.1 million (140,600 units x $29 and $36 respectively).

Combining the benefits and costs associated with both the ROV models that already incorporated the driver interlock and those that did not, the quantifiable benefits of the rule would be $304.6 million. The costs would be between $9.8 million and $13.9 million (See line 2 of the Table). In effect, the benefits and costs attributable to the mandatory standard under this scenario would be reduced because they would instead be attributable to the voluntary actions of manufacturers.

<u>Scenario: 60 Percent of ROVs Have a Driver Seat Belt Interlock Before a Rule Is Promulgated, and 80 Percent of Passengers Fasten Their Seat Belts When the Driver Fastens Their Seat Belts.</u>

The analysis above assumed that whether the driver was required to fasten had no impact on whether the passengers fastened their seat belts. However, if a substantial percentage of front passengers will follow the driver in fastening their seat belts, even if the passenger seat belts are not included in the interlock, the estimate of the annual benefit in the above scenario could be high. If, for example, 80 percent of the passengers automatically fastened their seat belts when the drivers fastens theirs, 80 percent of the estimated $701/unit benefit (attributed, in the first scenario, to the requirement that front passengers be included in the seat belt interlock) would not be attributed to the requirement for the passenger side interlock because 80 percent of the passengers would have used the seat belts even without the specific passenger side interlock requirement.[1] Therefore, only $140/unit (20% of $701) of the benefit would be attributable to the requirement that the passenger seat belt be included in the interlock. Therefore, the annual benefit applicable to the 60 percent of the market assumed already to include the driver side interlock would be $19.7 million ($140 x 140,600) instead of $98.6 million. The estimate of the costs would not be affected. The total quantified annual benefit (including the 40% of the market that did not already include the driver interlock) would be $225.7 million (See line 3 of the Table).

Table: Comparison of Benefits and Costs Under Various Scenarios

		Annual Quantified Benefits	Annual Costs
1	From Regulatory Analysis	$515.0 million	$14.3 million to $22.0 million
2	Assuming 60 percent of units already have driver seat belt interlock	$304.6 million	$9.8 million to $13.9 million
3	Assuming 60 percent of units already have driver seat belt interlock and 80 percent of the passengers follow the driver in fastening their seat belt	$225.7 million	$9.8 million to $13.9 million

Impact of Consumers Attempting to Defeat the Seat Belt Interlock

If some percentage of consumers can be expected to attempt to defeat a seat belt interlock requirement, the benefits estimated above would be reduced. For example, if 20 percent of the consumers attempt to defeat the requirement, the benefits in the above Table would be $412 million, $243.7 million, and $180.6 million, respectively.

[1] The impact of a correlation in seat belt use between driver and passengers was discussed on page 30 of the regulatory analysis. It must be noted that the use of 80% in this example is not an actual estimate of the number of passengers that would fasten their seat belts in response to the driver being required to fasten his or her seat belt. It is used for illustration purposes only.

Questions from Commissioner Buerkle:

1. *Are there any plans to change NEISS to incorporate an ROV product code?(Question asked during the Commission Briefing on October 22, 2014)*

No, CPSC staff has no plans to add an ROV product code to the NEISS system.

NEISS information is extracted from participating hospitals' medical records. ROVs cannot be identified readily by emergency department staff or the NEISS coders. ROVs have a specific minimum speed (>30mph), along with the other qualifications, to be classified as an ROV. Some UTVs look identical to an ROV but do not attain speeds of more than 30mph. This is a detail that the emergency department staff cannot collect and, in turn, a detail that the NEISS coders cannot record. CPSC staff identifies ROVs through make and model, based on the top speed attainable by that model. NEISS does not collect manufacturer and model information. This is information only obtainable through a special study. Because the make and model of a vehicle are only obtainable through a special study, CPSC staff believes that special studies are the only viable means of producing accurate estimates for ROVs.

2. *Could staff please provide the pro-rata rate of death in relation to the number of vehicles in the marketplace?*

Subject to the limitations explained below, including most significantly the incomplete fatality reports for 2010, 2011 and 2012, the Table below shows the number of reported ROV-related fatalities and the estimated number of ROVs in use by year for the period 2003 through 2012. The estimated number of ROVs in use based on sales data and operability for each year was calculated using the rates borrowed from the 2001 ATV exposure study, as described in Section 2.5 of Tab B of the ROV NPR briefing package. The fatalities per 10,000 ROVs in use are provided in the last column of the Table.

Staff is not able to make any evaluations based on this fatality rate calculation. First, staff is still receiving fatality reports for the period 2010–2012, so the fatality totals for that period will likely increase. Also, staff notes that the number of fatalities represented here are those reported to CPSC staff and identified as ROV-related by staff, and do not represent all ROV-related deaths or a statistical sample of ROV-related deaths. "Unknown" vehicle types (this is, vehicles that are not identified by make and model) are not classified as ROVs, thus CPSC staff may have more reports of ROV-related fatalities, but they cannot be identified as ROV-related absolutely and thus are not reflected in these numbers. The numbers of reported deaths represent a minimum number of ROV-related deaths. Additionally, staff does not have sufficient exposure data to determine actual ROV use per year in terms of hours used by drivers and/or passengers or miles driven and can only estimate the number of ROVs in use.

Year*	Total Reported Fatalities (through 4/5/2013)	Estimated Number of ROVs in Use	Fatality Rate per 10,000 ROVs
2012	*76*	876,000	*0.868*
2011	*46*	705,000	*0.652*
2010	*49*	571,000	*0.858*
2009	44	465,000	0.946
2008	43	356,000	1.208
2007	35	246,000	1.423
2006	18	160,000	1.125
2005	14	98,000	1.429
2004	3	57,000	0.526
2003	0	32,000	0.000

*Italicized years indicate years of ongoing reporting. Reported fatalities, and thus, fatality rates, are expected to increase as further deaths are reported in those years.