U.S. Consumer Product Safety Commission
LOG OF MEETING

SUBJECT: Meeting with Chairman Tenenbaum, Commissioner Adler and the
Recreational Off-Highway Vehicle Association

DATE OF MEETING: 7/21/2010

LOG ENTRY SOURCE: Janell Mayo Duncan

DATE OF LOG ENTRY: August 5, 2010

LOCATION: Room 714, CPSC Headquarters

CPSC ATTENDEE(S): Chairman Tenenbaum, Commissioner Adler, Matthew
Howsare, Janell Duncan, Jason Levine, Robert (Jay)
Howell, Marc Schoem, Scott Wolfson, and DeWane Ray.

NON-CPSC ATTENDEE(S): Paul Vitrano and representatives from the Recreational
Off-Highway Vehicle Association (ROHVA), Stacy Bogart – Polaris, Annamarie Daley -
outside counsel to Arctic Cat, Ken d’Entremont – Polaris, Jeff Eyres – Polaris, Brett
Gass – Polaris, David Murray - outside counsel to Yamaha, Jan Rintamaki – Polaris,
Yves St. Arnaud – BRP, Kathy Van Kleeck – ROHVA, Michael Gidding, Mike Wiegand
and Sean Oberle – Product Safety Letter.

SUMMARY OF MEETING: ROHVA representatives presented a status briefing on the
types and typical characteristics of recreational off-highway vehicles (ROVs).
Representatives gave an overview of injuries and deaths related to ROVs, and
industry and CPSC actions, including vehicle testing, designed to improve safety.
ROHVA representatives reviewed the safety elements addressed in the CPSC draft
proposed rule, the pilot study conducted by the association, incident data, and
voluntary standard activities.
ROHVA Update:
Standards Development and Safety Programs

Presented to
U.S. Consumer Product Safety Commission
July 20, 2010
84% of ROVs Represented by ROHVA

Yamaha
Polaris
ARCTIC CAT
BRP

ROHVA Members

Passenger Hours
- 285 Million Annual Driver Hours
- 525,000 Total ROVs in Use

Outdoor Off-Highway Vehicles

Recreational Off-Highway Industry
# ROHVA’s Comprehensive Safety Action Plan

## ROHVA’s Comprehensive Safety Action Plan

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<tr>
<th>1. Mandatory Static and Dynamic</th>
<th>2. Stability Standards</th>
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**Continue To Positively Affect Safety**

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Chairman, ROHVA Board of Directors
Polaris Industries Inc.

Jan Rintamaki
ROHVA Action: Static and Dynamic Stability Testing

- Studying Issue
  - Not Oversteer / Understeer characteristics
  - Focus: Rollover / Two-Wheel Lift
  - Speed Rollover Propensity
  - Developing Dynamic Stability Test for Low

ROHVA Comment: Proposed 12R6

- Staff Comment: "Vehicle system controlability". Important role in rollover performance as well as steering characteristics can play an

Canvass / ANSI/ROHVA 1-2010

Steering / Handling
1266 Test IS NOT REPEATABLE

Car Testing

SEA, Ltd. Testing

From Testing Vehicle "A" on Asphalt

Comparison of "1266 "Like" Tests: SEA, Car, and Polairs Data

Oversteer / Understeer Testing
Lack of repeatability comes from the fact that these types of vehicles (including their tires) were not designed for operation on on-highway surfaces.

Understeer to oversteer, and the Polaris data is 22% different including a change in slope from understeer to oversteer.

In the 0.3 to 0.5g range relative to the SEA data, the Car data is 129% different including a change in slope from...
Source of Variability

Off-Highway Tire in On-Highway Usage is Significant

Off-Highway Tire Before Test

Off-Highway Tire After Test

Driver Input, Surface Variability and Temperature

Drive Line Variability, Age and Setup

Off-Highway Tire Dynamics in On-Highway Use

J266 Test Variability Factors
1266 Test IS NOT A Predictor Of Off-Highway Behavior

On-Highway Asphalt

Off-Highway Dirt

Off-Highway Grass

Oversteer / Understeer Testing

Polars Data From "1266 Like" Tests Of Vehicle "B" On Multiple Surfaces
1266 Test is not a predictor of off-highway behavior.

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<td>90-120°</td>
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This is typical of off-highway vehicles that are used in a constantly changing environment.

Although the vehicle measured different gradient characteristics for various surfaces, the vehicle was controllable and directionally stable on all surfaces.

Oversteer / Understeer Testing
Path Following Far More Important Than Understeer

Testing on multiple surfaces through tens of thousands of miles of path following ability developed environment consequences in an off-highway oversteer can have negative both limit understeer and limit important varied off-highway surfaces is most predictable path following ability on

Path Following VS. Understeer
Dynamic Stability Test

ROHVA Action: Develop A Mandatory

Real Issue: Low Speed Roll-over

Steering / Handling - Conclusions
ROHVA Action: Mandatory Helmet, Mandatory 3-Point Seat Belt

Comment: Add 3.1

ROHVA Comment: Added

ROHVA 07-2010 Response:

- ROHVA A1.7/2009/R07-2010
- ROHVA A1.9/2009/R07-2010

Staff Comment: "CPSC Staff believes that the requirement for a restraint warning system should be revised.

Mandatory and not optional.

Restraint warning system should be part of the existing standard.

Mandatory Helmet use in existing standard.

Mandatory Restraint Warning System in revised standard.

Address #1, #2 Behavioral Safety Issue.

"Optional, but Requirement is System in Response to Original Staff Specifications for Restraint Warning System in ANSI/ROHVA 1.2-2010"

Canvass/ANSI/ROHVA 1.7/2010

Occupant Retention and Protection
ROHYA Members: Occupational Retention & Protection System

- All ROV standards should recommend mandatory helmet use.
- ROHYA Members: Already mandating helmet use and providing side retention.
- Seats / Headrests
- Hand holds
- Hip / Shoulder / Arm Retention
- Seat Belts
- Foot / Leg Retention
- ROPS

Occupant Retention & Protection System includes:
ROHVA Action: Mandatory Side Retention System

Performance standard concept
1-2010: committed to studying
and gear required in ANSI/ROHVA
ROPS, 3-point belts, handholds

ROHVA Comment:

- Roll over: "Roll over remains within a vehicle during
remains that an occupant, as well
ensures that an occupant, as well
retention ... requirement that
recommends ... an occupant
Staff Comment: "CSPC staff

Canvass/ANSI/ROHVA 1-2010

Occupant Retention

Mandatory Occupant Retention Standards:
ROHVA 7-20-10 Response:

1. Feet / Legs - minimal mobility required
2. Shoulder / Hip - minimal mobility required
3. Hand / Arm - steering wheel input required
4. Head - needs unrestricted visibility w/ helmet

Zone Based Passive & Active Requirements:
ROHYA: ROV Hands-On ROV Training

Program

- Developing on-line education is familiar, committed to
- Judgment, vehicle operation quickly address knowledge /

ROHYA Comment: Need to

ROV Hands-On Course now
- ROV-E Course - WWW.ROHYA.org

Program

- Comment: Inquired
- Comment: Inquired

CPSC Staff / ROHYA - 2008-09

ROHYA - 2010 and beyond

CPSC Comment: Inquired

Education and Training
Address Vehicle Familiarity

Hands-On Course In Development To

Received by ROHVA
Development Expense 100%

Hands-On Course
Pre-Requisite To Hands-On
by ROHVA, as stand-alone or
E-Course Expense 100% borne

1. Training directly addresses
E-Course & Hands-On Course

2. Warmed against behaviors

3. E-Course Expense 100% borne

ROY Drive Course
ROHVA Action: Safety Label Standardization

- ANS/ROHVA 1-2010
- Specific content in subject areas, but not development, included label 
  expedite standard ROHVA Comment: To labels
- ROHVA members working on 
  ROHVA - 2010 and beyond
- CPSC Comment: Inquired
  CPSC Staff / ROHVA - 2008-09

Warning Labels
ROHVA Action: Update Standard to Match CPSC ANPR

km/h
Greater than 35 mph (56.3)
Maximum speed capability

ANSI/ROHVA 1-2010:

Hour (mph)
Greater than 30 miles per

APR: "Maximum speed

ROHVA 7-20-10 Response:

ANSI/ROHVA 1-2010

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