



September 7, 2022

Mr. Greg Knott
Director, Industry Affairs
Outdoor Power Equipment Institute (OPEI)
1605 King Street
Alexandria, VA 22314

Subject: CPSC Staff¹ Comments on the American National Standard for Multipurpose Off-Highway Utility Vehicles (MOHUVs) (ANSI/OPEI B71.9-202x) Draft Performance Requirements for Fire and Debris Penetration Hazards

Dear Mr. Knott:

This letter is in response to your email of August 3, 2022, in which you included a copy of the ANSI/OPEI B71.9-202x draft performance requirements to address fire and debris penetration hazards associated with recreational off-highway vehicles (ROVs) and utility task/terrain vehicles (UTVs) and a canvass ballot vote sheet.

Enclosed with this letter are:

- General Comments on the Proposed Requirements
- CPSC Staff's Canvass Ballot Vote Sheet
- First Canvass Response Form that includes CPSC Staff Comments on the Draft Performance Requirements

CPSC staff appreciates OPEI's efforts in developing these proposed requirements. CPSC staff has general comments in Enclosure (1), including discussions of the test data from debris penetration sled testing recently conducted by our contractor, SEA, as well as detailed comments in the first canvass response form (Enclosure (3)). Although we are abstaining in this canvass ballot, CPSC staff views the proposed drop test as insufficient, because it does not prevent penetration of a

¹ These comments are those of the CPSC staff, and have not been reviewed or approved by, and may not necessarily reflect the views of, the Commission.

2-inch wooden dowel subject to reasonably foreseeable speed and energy such as when tested to the method described in CPSC's notice of proposed rulemaking. CPSC staff considers the proposed drop test inadequate to protect against debris penetration hazards because it uses an energy level that does not reflect the speeds and energies that can occur in real life scenarios.

If you have any questions or comments regarding the enclosures, please do not hesitate to contact me. Although CPSC staff views the proposed requirements as insufficient to protect consumers against the penetration hazard, we look forward to collaborating with you and your members as we continue to make progress in developing standard performance requirements that will reduce ROV and UTV fire and debris penetration hazards.

Sincerely,

Han Lim,
Program Manager, Mechanical Hazards
Division of Mechanical and Combustion Engineering
Directorate for Engineering Sciences

cc: Jacqueline Campbell, CPSC Voluntary Standards Coordinator

Enclosure(s):

- (1) General Comments on the Draft Performance Requirements for ANSI/OPEI B71.9-202x
- (2) CPSC Staff's Canvass Ballot Vote Sheet
- (3) First Canvass Response Form which includes CPSC Staff Comments on the Draft Performance Requirements

ENCLOSURE 1:

General Comments on the Draft Performance Requirements for ANSI/OPEI B71.9-202x

1. Test Results from Sled Testing by CPSC contractor SEA

SEA staff conducted off-highway vehicle (OHV) sled tests in accordance with CPSC staff's notice proposed rulemaking² (NPR) for debris penetration (in which a simulated test vehicle is propelled in a straight-line path towards a 2-inch diameter wooden dowel) at various impact energies. The simulated test vehicle was equipped with model year 2022 floorboards that OPEI members stated were capable of resisting debris penetrations at the 355 J energy level associated with the proposed drop test method in ANSI/OPEI B71.9-202x. At the 355 J energy level, CPSC staff observed an indentation on the floorboard surface and no debris penetration into the occupant area. In comparison, when SEA conducted the sled test as described in the NPR test condition of a fully loaded vehicle traveling at 10 mph (equivalent to 10,000 J of energy at impact), debris penetration did occur. The NPR requirements were designed to prevent debris penetration at a minimum speed of 10 mph to address a serious hazard pattern that has resulted in fatalities and serious injuries.

Based on these SEA test results, CPSC staff concludes the proposed 355 J energy drop test method draft requirement does not adequately prevent debris penetration at 10 mph.

2. Lack of Requirements to Address Fire Hazards from Electrical Components

CPSC staff recommends the OPEI committee consider including Sections 5.3.1 to 5.3.5 of the BS EN 16990-2020 *British Standard for Light Motorized Vehicles For The Transportation Of Persons And Goods And Related Facilities And Not Subject To Type-Approval For On-Road Use - Side By Side Vehicles - Safety Requirements And Test Methods*. These sections cover requirements for wiring harnesses, grounding, over-current protection, battery safety requirements, etc. for side-by-side vehicles (ROVs/UTVs). These sections offer best practices to reduce fire and/or electric shock risks that are applicable to ROVs and UTVs. These requirements are not in the most current version (2016 edition) of the ANSI/OPEI B71.9 standard.

² Notice of Proposed Rulemaking for Safety Standard for Debris Penetration Hazards, Federal Register Volume 87, Number 139, Thursday, July 21, 2022.

ENCLOSURE 2:

CPSC Staff's Canvass Ballot Vote Sheet

Ballot for OPEI B71.9-201X (Revision)
Standard for Multipurpose Off-Highway Utility Vehicles
Please return to OPEI by Friday September 9, 2022

Letter ballot for 30-day review of draft standard OPEI B71.9-201X (Revision), Standard for Multipurpose Off-Highway Utility Vehicles. Please check the appropriate box:

- Affirmative
- Affirmative with comment(s) (Please use the supplied response form to submit your comment(s).)
- Negative with reason(s) (The reason for the negative vote shall be given and, if possible, should include specific wording or actions that would resolve the objection. Please use the supplied response form to submit your negative reason(s).)
- Abstain with reason(s)

Reason for Abstaining:

CPSC staff has chosen to abstain with written comments (please see the attached letter).

Signed:  _____

Name (print legibly please): _____ Han Lim _____

Title: ___ Program Manager, Mechanical Hazards _____

Company Name: ___ U.S. Consumer Product Safety Commission _____

Address: _____ 5 Research Place _____

Address: ___ Rockville, Maryland 20850 _____

Tel: _____ 301-987-2327 _____ Fax: _____ N/A _____

Email: _____ hlim@cpsc.gov _____

Please return to OPEI by Friday September 9, 2022 (email, fax, or regular mail) to:

Greg Knott
Vice President, Standards & Regulatory Affairs
Outdoor Power Equipment Institute (OPEI)
1605 King Street, 3rd Floor
Alexandria, VA 22314
gknott@opei.org
Fax: 703-549-7604

ENCLOSURE 3:

First Canvass Response Form which includes CPSC
Staff Comments on the Draft Performance
Requirements

OPEI B71.9-202X Response Form

The first comment below is an example of how the form should be completed.

Name: _____ Han Lim, CPSC Staff _____

Date: _____ September 7, 2022 _____

Standard for Multipurpose Off-Highway Utility Vehicles	Document: OPEI B71.9-202X 1st Canvass Response Form 220803.xls
---	--

1	2	(3)	4	5	(6)	(7)
CN ¹	Clause No./ Subclause No./ Annex (e.g. 3.1)	Paragraph/ Figure/Table/ Note (e.g. Table 1)	Type of comment ²	Language as Written	Suggested Revised Language	Rationale (justification for addition, deletion, objection, or revision)
Han Lim	8 Vehicle Tests, Procedures, and Performance Requirements	8.12.5.1. Option 1: Testing on a Test Track	ed	If temperature measurements are to be recorded with thermocouples, instrument the vehicle with thermocouples to capture continuous, intermittent and incidental touch point temperature profiles. Sound engineering judgement shall be exercised to assure thermocouples are spaced such that touch points profiles represent the worst-case surface temperatures.	If temperature measurements are to be recorded with thermocouples, instrument the vehicle with thermocouples to capture continuous, intermittent and incidental touch point temperature profiles (as defined in Sections 3.3.36.1 through 3.3.36.4) . Sound engineering judgement shall be exercised to assure thermocouples are spaced such that touch points profiles represent the worst-case surface temperatures.	CPSC staff recommends adding references to the definition sections 3.3.36.1 through 3.3.36.4.
Han Lim	8 Vehicle Tests, Procedures, and Performance Requirements	8.12.5.1 (b) Option 1: Testing on a Test Track	te	Following warm-up, operate the vehicle continuously in circular / down and back manner maintaining a vehicle speed of 20mph +2 / -0 mph (32.2 kph +3.2 / -0 kph) or 50% of the maximum velocity +2 / -0 mph as determined by Clause 8.1, whichever is lower, for 30 minutes. Place the vehicle in "HIGH" gear for CVT drivetrains. Use good engineering judgement to determine the appropriate gear for non-CVT drivetrains.	Following warm-up, operate the vehicle continuously in circular / down and back manner maintaining a vehicle speed of 20mph +2 / -0 mph (32.2 kph +3.2 / -0 kph) or 50% of the maximum velocity +2 / -0 mph as determined by Clause 8.1, whichever is lower more stringent , for 30 minutes. Place the vehicle in "HIGH" gear for CVT drivetrains. Use good engineering judgement to determine the appropriate gear for non-CVT drivetrains.	The testing laboratory should run the test track or chassis dynamometer tests at the most stringent conditions to obtain the maximum surface temperatures.
Han Lim	8 Vehicle Tests, Procedures, and Performance Requirements	All sections of 8.13	ge	N/A	N/A	Detailed comments regarding the drop test method are included in the attached Voluntary Standards Letter
Han Lim	9. Fuel System Requirements	9.7 Fuel Tank Structural Integrity Test and 9.8 Fuel Tank System	te	All subsections for 9.7 and 9.8	N/A	There are multiple subsections in 9.7 and 9.8 that allow for options to address rollover containment and fuel tank structural integrity. CPSC staff recommends rewriting these

1 CN: Commenter's name.

2 Type of comment: ge = general te = technical ed = editorial

OPEI B71.9-202X Response Form

The first comment below is an example of how the form should be completed.

Name: _____ Han Lim, CPSC Staff _____

Date: _____ September 7, 2022 _____

Standard for Multipurpose Off-Highway Utility Vehicles	Document: OPEI B71.9-202X 1st Canvass Response Form 220803.xls
---	--

1	2	(3)	4	5	(6)	(7)
CN ¹	Clause No./ Subclause No./ Annex (e.g. 3.1)	Paragraph/ Figure/Table/ Note (e.g. Table 1)	Type of comment ²	Language as Written	Suggested Revised Language	Rationale (justification for addition, deletion, objection, or revision)
		Tip-Over or Roll-Over Protection				sections to clearly separate the rollover containment and fuel tank structural integrity requirements. CPSC staff recommends adding a visual aid such as a diagram or table to show the different options for complying with the fuel tank structural integrity and rollover containment requirements.
Han Lim	9. Fuel System Requirements	9.11.2. Performance Requirement	ed	No cracking or material breakdown is allowed on any component. No active leakage is allowed on any fuel filter or fuel shut-off valve. Exemption: Flouroelastomer ("FKM") fuel system components satisfy the requirements of this standard without testing in accordance with this clause.	No cracking or material breakdown is allowed on any component. No active leakage is allowed on any fuel filter or fuel shut-off valve. Exemption: Flouroelastomer Fluoroelastomer ("FKM") fuel system components satisfy the requirements of this standard without testing in accordance with this clause.	Fluroelastomer was misspelled.
Han Lim	9. Fuel System Requirements	9.12.2. Performance Requirement	ed	No cracking or material breakdown is allowed on any component. Exemption: Flouroelastomer ("FKM") fuel system components satisfy the requirements of this standard without testing in accordance with this clause.	No cracking or material breakdown is allowed on any component. Exemption: Flouroelastomer Fluoroelastomer ("FKM") fuel system components satisfy the requirements of this standard without testing in accordance with this clause.	Fluroelastomer was misspelled.
Han Lim	N/A	N/A	ge		Reference paragraphs 5.3.1 to 5.3.5 (Electrical Requirements) of <i>BS EN 16990-2020 British Standard for Light Motorized Vehicles For The Transportation Of Persons And Goods And Related Facilities And Not Subject To Type-Approval For On-Road Use - Side By Side</i>	The draft standard does not include any requirements to address fires from electrical sources; CPSC staff recommends the committee consider examining the BS

1 CN: Commenter's name.

2 Type of comment: ge = general te = technical ed = editorial

OPEI B71.9-202X Response Form

The first comment below is an example of how the form should be completed.

Name: _____ Han Lim, CPSC Staff _____

Date: _____ September 7, 2022 _____

Standard for Multipurpose Off-Highway Utility Vehicles	Document: OPEI B71.9-202X 1st Canvass Response Form 220803.xls
---	--

1	2	(3)	4	5	(6)	(7)
CN ¹	Clause No./ Subclause No./ Annex (e.g. 3.1)	Paragraph/ Figure/Table/ Note (e.g. Table 1)	Type of comment ²	Language as Written	Suggested Revised Language	Rationale (justification for addition, deletion, objection, or revision)
					<i>Vehicles - Safety Requirements And Test Methods.</i> These paragraphs cover requirements for grounding, over-current protection, wiring harnesses, and batteries.	EN 16990-2020 standard sections 5.3.1 to 5.3.5 to determine their applicability to the U.S. market ROVs/UTVs.
Han Lim	N/A	N/A	ge		Annex B that explains the rationale for the inclusion of Sections 8.12 to 9.16	The draft standard does not have rationale to explain the reasons for including each new section and what hazards they would potentially address.

1 CN: Commenter's name.

2 Type of comment: ge = general te = technical ed = editorial