

# **Subcommittee on Wheelchairs and Transportation**

## **Report to RESNA Technical Standards Board**

Lawrence W. Schneider, Chair

July 1, 2000 through June 30, 2001

The RESNA Subcommittee on Wheelchairs and Transportation met twice during the past year. A full-day meeting was held in Pittsburgh, Pennsylvania on October 22, 2000, and a half-day meeting was held in Pray Montana following two days of ISO Working Group 6 meetings. At the latter meeting, two voting members were added to the Subcommittee, including Hale Zukas, a wheelchair user, and Doug Cross, representing transit providers. In addition, Bob Joseph's of Sure-Lok, Inc. replaced Joe Takacs of Kinedyne, Inc. as a voting member.

The Subcommittee has agreed to include future standard development of wheelchair tiedown and occupant restraint systems (WTORS) in its agenda, and will be updating and moving SAE Recommended Practice J2249: *Wheelchair Tiedowns and Occupant Restraint Systems for Use in Motor Vehicles* into the ANSI/RESNA wheelchair standards. Details of this move are being worked out with SAE staff. The new version of this WTORS standard will be included in Volume 4 of wheelchair standards, along with the new transit wheelchair standard (currently Section 19 of Volume 1, hereafter referred to as WC/19), and other standards and information reports related to transportation safety of wheelchair-seated occupants.

At the present time, the Subcommittee has a number of items on its agenda, including:

Test procedure and standard for crash testing of wheelchair seating systems. This standard, or addition to WC/19, is being developed in conjunction with ISO 16840-4 *Wheelchair seating -- Part 4: Seating devices for use in motor vehicles*, which is currently out for CD vote. The ISO document is expected to be transferred into the ANSI/RESNA standard by the next meeting later this fall.

Wheelchair Crashworthiness for Docking Securement. Test procedures and labeling requirements for wheelchairs designed for securement using a docking-type securement system are under development and a draft standard is anticipated by the next SOWHAT meeting. In addition, specifications for universal docking interface geometry (UDIG) on the wheelchair are being developed and evaluated simultaneously in both ISO and SOWHAT. It is expected that a proposed geometry will be included in the draft of the ANSI/RESNA docking-system standard.

Guidelines to WC/19. A guideline document to WC/19 has been under development and a draft is targeted for completion in early 2002. It is proposed that this document be included in Volume 4 of the ANSI/RESNA standards. The document will include a section with answers to frequently asked questions (FAQs) which are also being disseminated separately.

Occupant Restraints for Smaller Children. Criteria for wheelchair-integrated restraint systems for use by smaller children are being developed based on federal requirements for child occupant restraint systems documented in FMVSS 213. These requirements will be included in an addendum to WC/19. A draft of these requirements is being prepared for review at the next SOWHAT meeting.

Updating of Surrogate Wheelchair and Tiedown Specifications. Design and performance specifications and engineering drawings for the surrogate wheelchair used in WTORS crash testing to SAE J2249 and the surrogate WTORS used in wheelchair crash testing to WC/19 have been updated. These specifications are being documented in an updated version of SAE J2252 and a new document for the surrogate WTORS. It is planned to include these new documents in Volume 4 of the ANSI/RESNA wheelchair standards.

Organization of WC/19 Plans for the organization of ANSI/RESNA Wheelchair Standards Volume 4 are currently underway in preparation for moving all standards and documents dealing with motor-vehicle transportation safety into this volume.

The Subcommittee's efforts to develop new standards related to transportation safety of wheelchair-seated occupants are expected to receive significant support in years 2002 through 2007 by the announced funding by NIDRR of a new RERC on Wheelchair Transportation Safety.