

Why safety and Human Factors/Ergonomics standards are so difficult to establish

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Abstract

This paper summarises lessons from experience in developing international and national vehicle safety and human factors/ergonomics standards. Based on this experience, problems of (1) meeting organisation (failure to follow Robert's Rules of Order, lack of numbered documents, etc.), (2) committee structure (lack of member expertise, too many members), and (3) inadequate committee support (lack of secretarial support and consultants to prepare materials) are often more important than the technical contributions of members. This paper offers specific suggestions to overcome these problems. Some of these problems occur because safety and human factors/ergonomics expertise and contributions to design can be undervalued.

Further, when standards-development organisations lack policies that establish the desired level of safety, technical committees may not be able to agree on the performance requirements and validation procedures for safety and usability standards. Key elements of such policies are the standard of care (the level of protection required, e.g., do no harm) and burden of proof (confidence in the outcome, e.g., safe beyond a reasonable doubt).

Introduction

This paper is based upon the author's experience in developing standards through the Society of Automotive Engineers Intelligent Transportation Systems Division (SAE ITS) and the International Standards Organization (ISO), and related work as a member of the U.S. National Academy of Sciences Committee on Motor Vehicle Rollover. The ISO efforts have been with Working Groups 5 (Symbols) and 8 (TICS (Traffic and Information Control Systems) on Board – MMI (Man Machine Interface)) of Technical Committee 22, Subcommittee 13 (ISO TC 22/SC 13, Ergonomics Applicable to Road Vehicles). The SAE work has been with the ITS Safety and Human Factors Committee and its Navigation Subcommittee. The symbols work began in 1975. The predominant recent SAE activity has been the development of two SAE Recommended Practices, J2364 and J2365. SAE J2364 ("The 15-Second Rule") describes the limits of driver use of navigation systems in motor vehicles (Green, 1999c; Society of Automotive Engineers, 1999). SAE J2365

In D. de Waard, K.A. Brookhuis, J. Moraal, and A. Toffetti (2002), *Human Factors in Transportation, Communication, Health, and the Workplace* (pp. 9 - 26). Maastricht, the Netherlands: Shaker.