ISO/TC 94/SC 15- Respiratory Protective Devices – A Progress Report

Wolfgang Drews

Draeger Safety
23560 Luebeck, Revalstr. 1
Germany
E-mail: wolfgang.drews@draeger.com

This paper gives an overview about the work progress of the ISO Subcommittee(SC) 15 within ISO/TC 94.

Since March 2002 SC 15, its working groups (WG's) and specifically its project groups (PG's) consequently have followed the scope of SC15 and structured performance requirements for both the standards, filtering devices and supplied breathable gas devices in clear focus on characteristics of human being. Human factors are the foundation of the final requirements. The respiratory interface between the respiratory protective device (RPD) wearer and the device itself will influence the protection level. Anthropometric databases developed by the National Instititue for Occupational Safety and Health (NIOSH) allow us to cluster the 5th to 95th percentile of the RPD wearer population into 5 basic headforms to be used in several test methods. Protective performance will be identified by practical performance testing by test subjects recruited out of these data base.

It is envisioned that the new standards will take into consideration the wearer's task. Wearer work load and respiratory flow rates will also be taken into account. The human breathing characteristic - the flow patterns - will be studied in detail with the goal of testing RPD's performance in laboratories using breathing simulators adjustable to these flow patterns. All this information will be compiled into a Technical Specification which will be circulated as a Committee draft for voting by the P-members. In the new classification scheme, these work rates correspond to maximum continuous wear duration. Further investigations are in progress to prescribe appropriate levels for CO_2 and O_2 as well as breathing resistance.

Historically we have had product orientated standards. The standards of tomorrow will follow the basic respiratory demands of the wearer. Specific applications will be addressed optionally. The new approach of the ISO-RPD standards has to be explained to the users wearers, including a new thought process. Special software programs might be designed for selecting the most appropriate RPD for the individual use. Fiction or reality - the further progress in SC 15 will give the answer.