



May 29, 1996

Ms. Diane Manning
Education and Information Division, NIOSH
4676 Columbia Parkway, Mail Stop C-34
Cincinnati, OH 45226-1998

Subject: NIOSH Proposed Criteria For A Recommended Standard:
Occupational Exposures to Metalworking Fluid

Dear Ms. Manning:

The Occupational Health and Environmental Safety Division of 3M Company would like to offer comments on the subject NIOSH proposed criteria document. As manufacturers of respiratory protection equipment, our expertise is in this area. We are, therefore, limiting our comments to the Respiratory Protection section of the document (§10.5.2).

In the fifth paragraph of §10.5.2, the references to the NIOSH Respirator Decision Logic (1987) and the NIOSH Guide to Industrial Respiratory Protection (1987) are redundant and somewhat out-of-date. All of the elements of a respirator program, including selection, discussed in this section are covered by the reference to OSHA 29 CFR 1910.134. For additional information on a good respiratory protection, a reference to ANSI Z88.2-1992 would be more relevant.

**Table 10.5.2-1 NIOSH Recommended Respiratory Protection for Workers
Exposed to MWFs**

This table contains a number of errors, inconsistencies, or areas needing clarification:

1. In the second section, for exposures up to 10 X REL, a half-mask air-purifying respirator with high efficiency or dust, fume, and mist filters is recommended. However, these filter types are followed by the

R E C E I V E D

MAY 30 1996

NIOSH DOCKET OFFICE

Ms. Diane Manning
Page Two
May 29, 1996

parenthetical abbreviations (HEPASS) and (DFMSS). These are not clear, nor explained. We do not recognize the significance of the SS designation.

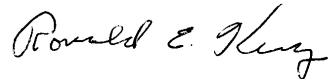
2. In the same section, the reference to disposable respirators is followed by three asterisks (***) . The accompanying footnote states, "An APF of 10 is assigned to disposable particulate respirators if they have been properly fitted using a qualitative fit test." This statement is somewhat confusing. As required by OSHA 29 CFR 1910.134, all negative pressure respirators must be fit tested. Therefore, the NIOSH statement is redundant unless NIOSH is trying to state that only disposable respirators must be fit tested, implying that nondisposables need not be fit tested for this application. We believe the note should be eliminated. The next two statements in the footnote are not complete sentences so it is difficult to comment on their value. The note also refers to DFM respirators as "CFM", probably a typographical error.
3. The recommendation to use a high efficiency filter (HEPA) as the first option seems overly conservative. In §9.3, NIOSH states that the typical particle size of MWFs is 2.0 to 8.0 µm MMAD. This relatively large particle size should not require a HEPA filter.
4. The reference in the same section to a dust, fume, and mist (DFM) respirator is somewhat unclear. Is NIOSH recommending a respirator, or filter, from the dust, fume and mist class of respirators, or that the respirator or filter be specifically approved for dusts, fumes and mists? Again, based on the particle size stated, a fume approval should not be required unless fume particles are present from some other source. A dust/mist filter should be perfectly adequate for this application as they are approved under 30 CFR 11 for materials with a PEL not less than 0.05 mg/m³.
5. The major error is in the last two sentences of §10.5.2. NIOSH states "The appropriate 42 CFR 84 Filters are R90, R95, R100, P90, P95, or P100 filters". The filter efficiencies stated in 42 CFR 84 are 95, 99, and 100. The stated efficiencies must have come from an earlier draft of the standard.

Ms. Diane Manning
Page Two
May 29, 1996

6. The last area of concern is in the section of the Table for concentrations up to 25 X REL. By using the somewhat outdated NIOSH RDL, NIOSH has assumed an APF of 25 for PAPRs with hood or helmet. The data supporting this APF came primarily from workplace studies of PAPRs with loose-fitting facepieces, not hoods and helmet. More recent studies have shown a distinct difference in performance in these devices. ANSI has recognized this difference and Z88.2-1992 assigns an APF of 25 to loose-fitting facepiece devices and 1000 to devices using a hood or helmet. We believe NIOSH should adopt the more recent ANSI standard, rather than relying on their own outdated RDL.

We appreciate the opportunity to comment on the proposed Criteria Document and look forward to the final version.

Sincerely,



Ronald E. King
Regulatory Affairs Manager
3M Occupational Health & Environmental Safety Division

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