

**ATTACHMENT 4**

**E. Kamon et al., *Steady state respiratory responses to tasks used in Federal testing of self-contained breathing apparatus*, 36 AIHA J 886-896 (1975)**

**COMMENTS TO PROPOSED RULE ON APPROVAL TESTS AND  
STANDARDS FOR CLOSED-CIRCUIT ESCAPE RESPIRATORS**

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### Steady state respiratory responses to tasks used in Federal testing of self-contained breathing apparatus

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*A portion of Title 30, Part II, CFR calls for a Man Test, which is a series of regimens performed with a breathing apparatus. The respiratory responses to the tasks in the Man Test were established on coal miners and students. Based on these responses, the minimal metabolic requirements were derived for the use of breathing apparatuses with a service life of 30 minutes or more.*

## Steady state respiratory responses to tasks used in Federal testing of self-contained breathing apparatus

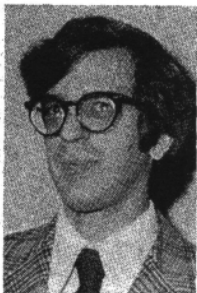
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### Introduction

The Mining Enforcement and Safety Administration (MESA) and the National Institute for Occupational Health and Safety grant certificates of approval for a self-contained breathing apparatus after it has fulfilled specific engineering requirements. In addition, successful apparatus must meet the user's O<sub>2</sub> demand, provide for CO<sub>2</sub> elimination and have a low breath-

ing resistance for selected work tasks during man testing.

The testing procedure, listed in Title 30, Part II, Code of Federal Regulations (CFR),<sup>1</sup> includes a combination of testing by machine and man. The Man Test begins with walking to allow subjects to become familiar with the breathing apparatus. Thereafter, more difficult tasks, such as running, crawling, ladder climb-



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