



EG&G FLORIDA

OCCUPATIONAL MEDICINE AND ENVIRONMENTAL HEALTH SERVICES

P.O. BOX 21296

KENNEDY SPACE CENTER, FLORIDA 32815

October 22, 1987

520-316

Director, Division of Safety Research
NIOSH, 944
Chestnut Ridge Road
Morgantown, West Virginia 26505

NOTICE OF PROPOSED RULEMAKING, NIOSH PROPOSED
REGULATIONS FOR CERTIFYING RESPIRATORS
(52FR 32402, Aug. 27, 1987)

The Kennedy Space Center Respiratory Protection Panel has reviewed the proposed 42 CFR Part 84, the replacement to 30 CFR Part 11, with interested and knowledgeable personnel throughout the Center. The following comments are submitted for your consideration.

The NFPA (National Fire Protection Association) recently released a new NFPA-1981, "Open-Circuit Self-Contained Breathing Apparatus for Fire Fighters, 1987 Edition," which includes several tests not at this time included in the NIOSH testing. It is suggested that NIOSH consider including these tests in their new rulemaking. This may preclude separate mine rescue and fire-fighting respirator qualifications.

<u>No.</u>	<u>Page</u>	<u>Section/ Paragraph</u>	<u>Comment</u>
1.	580	84.1	There is no mention of firefighting or other respirator use for which these qualifications apply.
2.	580	84.11(g)	Add after respirator "to include materials identification of all materials in contact with the breathing medium." Rationale: KSC has design standards forbidding certain materials from being in contact with breathing air. Also, ASTM-63, "Evaluating Non-Metallic Materials for Oxygen Service" should be used to evaluate materials subject to pressure as KSC equates air service above 250 psi to be equivalent to oxygen service in susceptibility to pneumatic and mechanical ignition.

*Rec'd
10-27-87
DSL*

Director, Division of Safety Research
520-316
Page 2

3. 581 84.21(c) Add a subparagraph (c) to state "Publish these notifications in the GIDEP Alert System." GIDEP (Government Industry Data Exchange Program) is in Corona, California, 91720-5000, Phone (714) 736-4677.

Rationale: To assure thorough promulgation.
4. 583 84.32(b)(2) Change the assigned protection factor for atmosphere supplying, airline, positive pressure, full facepiece to 10,000 instead of 2000.

Rationale: There is no functional difference between SCBA and SCBA with air line
5. 587 84.200 Oxygen deficient atmosphere should be as defined in ANSI Z88.2-1980 definition, "100 millimeters of mercury column or less."

Rationale: This represents an informed consensus standard. While OSHA may specify less than 19.5% O₂, the immediate conversion to 148 mm Hg at sea level may not be appropriate. For example, Denver (at 5000') has a total pressure of approximately 630 mm Hg. Oxygen partial pressure at 19.5% concentration is equivalent to 123 mm Hg. If a minimum oxygen partial pressure must be specified, consider FAA accepted values at 10,000 feet of 110 mm Hg or a 30 minute value at 12,500 feet of 99 mm Hg.
6. 588 84.210(b)(1)(v) Add a subparagraph (v), "Service life for Liquid Breathing Apparatus should be determined after the maximum standby time has expired." Standby time for a liquid breathing apparatus is as defined by the manufacturer as that time after filling and before use.
7. 593 84.244(i)(2) Change to read: "Timers visible to the wearer may be used in lieu of quantity gauges for liquid breathing apparatus."

Director, Division of Safety Research
 520-316
 Page 3

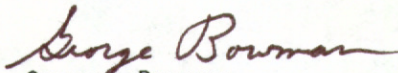
- Rationale: The technology of instrumenting dewars for quantity is not practicable for self contained breathing apparatus. A timer is an appropriate state-of-the-art design equivalent for a liquid breathing apparatus. The proposed wording would exclude those devices having a standby time such that the service time doesn't begin until the supply valve is opened.
8. 593 84.245(a) Change to read: "Elapsed time indicators shall be provided for apparatus with a chemical oxygen source or liquid air breathing apparatus, except:"
- Rationale: So as not to exclude liquid breathing apparatus.
9. 593 84.245(a)(2) Delete in its entirety.
- Rationale: Same as for Comment No. 7.
10. 593 84.245(c) Change to read: "Timers shall be readable by sight and/or by touch during use by the wearer."
- Rationale: Tactile sensitivity degrades with glove thickness and the timer could be inadvertently changed.
11. 593 84.245(f) All reserve time alarms (end of service life indicators) should be adjustable to the users requirements.
- Rationale: Miners would have different reserve time requirements than fire fighters.
12. 594 84.248-2 Change to read: "All self-contained breathing apparatus using compressed gas shall have a 10-30 micron filter downstream of the gas source to effectively remove particles from the gas stream.
- Rationale: The effective filter size should be specified.

Director, Division of Safety Research
520-316
Page 4

13. 613 Appendix A(j)(3) Add: ", or 25% oxygen for liquid breathing air apparatus."

Rationale: This allows for some nitrogen boil off during standby mode.

Your thoughtful consideration of the submitted comments is requested. Please call George Bowman at (305) 867-1657 if further discussion is desired. The KSC engineering community would appreciate notification of the hearings or other on this new rulemaking.



George Bowman
EG&G Florida Department 520
Co-Chairman, KSC Respiratory Protection Panel

GHB:dlh

cc: Bob Thompson, QS (NASA Headquarters)
Gene Proctor, NPG (NASA Headquarters)
Eric Rhodes, RT-SAF-3
Kathleen Harer, RT-SAF-3
Mike Cardinale, MD-MED
Don Doerr, MD-ENG
Ron Long, PS-FRO
Ken Ahmie, DD-MED-41
Tom Seberry, SI-FSD-2
Chief Cross, EGG-430
Carol Weber, EGG-824