



877 W. Main  
Suite 607  
Boise, ID 83702  
www.ox-gen.us

P.O. Box 5867  
Boise, ID 83705  
Phone (208) 336-0773  
Fax (208) 336-0775

March 20<sup>th</sup>, 2006

Received 3/20/06 MSHA/OSRV
-------------------------------

David G. Dye  
*Acting Assistant Secretary for Mine Safety and Health*  
Office of Standards, Regulations, and Variances  
MSHA  
1100 Wilson Boulevard, Room 2313  
Arlington, VA 22209-3939

**RE: MSHA RIN 1219-AB44**

Dear Mr. David G. Dye:

Our company, OX-GEN, Inc., has developed an FDA-approved, Over-The-Counter oxygen generation unit that we believe could become a very effective tool in helping to save lives during a mine emergency. Below please find a description of our product as well as our answers to certain questions as referenced from MSHA RIN 1219-AB44:

**III. Key Issues on Which Comment Is Requested**

**C. Self-Contained Self-Rescuers (SCSR)**

1. Is there more effective technology to protect miners than the SCSRs currently available? If so, please describe.

Our company, OX-GEN, Inc., has developed a product called the OX-GEN Rigid O2 Generation System Model 5-OX-03 which generates oxygen for emergency use. This Generator is non-pressurized, non-explosive, and non-combustible. This product was approved by the U.S. Department of Health and Human Service, Food and Drug Administration ("FDA") in August 2005 to be sold and marketed as a Non-Prescription, Over-The-Counter product.

This Generator was developed by OX-GEN, Inc. for the simple fact that emergency oxygen is not available to persons without a prescription. Further, since this Generator is non-pressurized, it eliminates the inherent risk involved with oxygen stored in a pressurized cylinder.

The OX-GEN Generator is a multi-chambered unit that utilizes several non-toxic chemicals to generate oxygen when the device is activated (i.e., the chemicals are allowed to mix together).

AB44-COMM-51
--------------

Upon activation, the Generator starts producing oxygen immediately. The oxygen is 99.97% pure and is produced at a minimum flow rate of 6 liters per minute, maintained for at least 15 minutes.

The Generator actually operates for a total of approximately 27 to 29 minutes. All of this time is not at the required "minimum flow rate of 6 liters per minute, maintained for at least 15 minutes" per FDA requirements. As the reaction starts or nears completion, the flow rate ramps up/down from/or to zero and therefore cannot be counted as part of the required time.

OX-GEN, Inc. believes that by manipulating the flow rate of this Generator by means of altering the chemical amounts, the duration for oxygen production could exceed 1 hour from this Generator.

OX-GEN, Inc. believes that SCSR re-breather technology will continue well into the future. However, we also believe that there is room for other types of emergency oxygen products, specifically the OX-GEN Generator which can provide safety through its non-pressurized technology, oxygen that is 99.97% pure, and life-saving capabilities through deployment into underground mines throughout the United States, as well as the world.

2. Should an SCSR be developed that provides more than one hour duration of oxygen? What duration is feasible considering that miners must carry the SCSR? Would it be desirable to require smaller and lighter SCSRs with less oxygen capacity to be worn on miner's belts while at the same time requiring longer duration SCSRs to be stored in caches?

An SCSR should be developed that provides more than one hour duration of oxygen; however, considering the limitations in size and cost, technology may prove to make it unfeasible at this time.

Our company believes that it would be more desirable to require a small and lighter SCSR to be worn by a miner, while at the same time requiring SCSR cache storage systems to be placed every 50 feet in an underground mine.

Our company's FDA-Approved, Over-The-Counter product, the Rigid O<sub>2</sub> Generation System Model # 5-OX-03, is able to produce 99.97% pure oxygen for approximately 30 minutes. During those 30 minutes, the unit provides in excess of 6 liters per minute of 99.97% pure oxygen for at least 15 minutes, per FDA requirements. Further, our company has developed a cache storage system for this unit which holds 48 units in a stackable pallet system; thereby making available to miners a full 24 hours of 99.97% pure oxygen from each cache storage system.

Though our unit may be too large (approximately 10" diameter x 16" tall) to be worn by a miner while working, our company believes that by combining a smaller, lighter SCSR, such as an Ocenco M-20 or a CSE SR-100, for a miner to wear with a cache storage system containing 48 of our Generator units could provide a large safety net for miners in an emergency situation.

3. MSHA standards require each mine operator to make available an approved SCSR device or devices to each miner. Should mines be required to maintain underground caches of SCSRs for miners to use during an emergency, or should each miner have access to more than one SCSR?

Mines should be required to maintain underground caches of SCSRs for miners for the simple reason that many mine emergencies last over several hours, even several days. The requirement for a miner to wear just 1 SCSR on his belt does not give enough of a safety net for that miner if an emergency occurs. That miner's SCSR, depending on the type of unit and the miner's activity during the mine emergency, could last for as long as 6 to 7 hours. That time frame may not be long enough for mine rescue teams to reach that miner or for the miner to escape from the mine emergency on his own.

A cache of SCSRs every 50 feet in an underground mine could widen the miner's safety net during a mine emergency. Once a mine emergency occurred, the miner would don his SCSR in order to stay alive in the harsh environment and attempt to escape from the mine.

If the miner were able to make his way toward the mine exit, he would have access to multiple SCSR caches every 50 feet until he reached the mine exit. These caches would then afford him ample amounts of oxygen in order to escape the mine alive.

If the miner were not able to make his way toward the mine exit, the SCSR caches in his surrounding area would afford him ample amounts of oxygen in order to wait until mine rescue teams were able to reach him through the harsh environment.

Our company's FDA-Approved, Over-The-Counter product, the Rigid O<sub>2</sub> Generation System, Model # 5-OX-03, is able to produce 99.97% pure oxygen for approximately 30 minutes. During those 30 minutes, the unit provides in excess of 6 liters per minute of 99.97% pure oxygen for at least 15 minutes, per FDA requirements. Further, our company has developed a cache storage system for this unit which hold 48 units in a stackable pallet system; thereby making available to miners a full 24 hours of 99.97% pure oxygen from each cache storage system.

Our company believes that by placing 1 cache storage system every 50 feet in an underground mine, a miner's safety net would expand far beyond what may currently be available at this time.

4. SCSRs are currently required to be inspected at designated intervals pursuant to 30 CFR 75.1714.3. Should SCSRs be inspected more frequently than the current requirements?

Our company currently agrees with the SCSR inspection requirements pursuant to 30 CFR 75.1714.3.

5. SCSR service life is determined by MSHA, NIOSH and the device's manufacturer. The service life can range from ten to fifteen years depending on the type of SCSR. Should the service life of SCSRs be reduced to five years or a different time limit?

Our company believes that the service life of SCSRs should be reduced to 3 to 5 years in duration. The time between mine emergencies may be on a random scale; however, if a mine has two major emergencies 8, 9, or even 10 years apart, the miner could then be relying on an SCSR that is reaching its maximum service life and effectively trusting his life to an apparatus that may fail.

The current service life may be due in part to the current technology of SCSRs as well as the pricing of SCSRs currently on the market. Current SCSRs on the market can have a purchase price exceeding \$500.00.

Our company's product has a list price of approximately \$150.00 to \$180.00. Our company believes that with this price point, along with the enhanced safety factor of a shorter service life, a miner can not only put trust into an SCSR unit that he can depend upon, the mine operator can deploy a much larger supply of SCSRs into the mine.

OX-GEN, Inc. hopes that the answers to the above-referenced questions help in making improved regulations for mine safety and health. OX-GEN, Inc. hopes to be able to give further input on these and other matters relating to mine safety and health, and specifically SCSRs, in the near future.

Sincerely,



Mark J. Michaud, Esq.

Director of Business Development/General Counsel