

DEPARTMENT OF INDUSTRIAL RELATIONS
DIVISION OF OCCUPATIONAL SAFETY AND HEALTH
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Juliann Sum, Chief

March 12, 2019

Carl Sandstedt
Project Executive
Skanska | Traylor | Shea Joint Venture
5055 Wilshire Blvd., Suite 700
Los Angeles, CA 90036

RE: Self-Rescue Devices on Tunnel Boring

Dear Mr. Sandstedt,

RE: SELF-RESCUE DEVICES REQUIRED BY TITLE 8 SECTIONS 8430(f) AND 8430(g)

I write in response to your letter dated January 11, 2019 on behalf of Skanska | Traylor | Shea Joint Venture (STS). You requested clarification of California Code of Regulations, title 8, sections 8430(f) and 8430(g) regarding self-rescue devices during tunnel excavation with tunnel boring machines (TBMs).

Your letter stated that a TBM is a specialty continuous underground excavator that moves from point A to point B while removing soil and erecting tunnel segments.

According to Mr. Richard McLane of STS, TBMs operated by STS are equipped with OCENCO EBA-6.5 self-rescue devices (rated for 1-hour) placed in readily accessible locations on the TBMs and within 20 feet from most employees. In addition, employees carry OCENCO M-20 self-rescue devices (rated for 10-minutes) on their persons. Both models of self-rescue devices are approved by NIOSH and MSHA under the Code of Federal Regulations, title 42 part 84.

Request #1:

Please confirm that a TBM is mobile equipment and that caching of 1-hour oxygen generating self-rescuers on the TBMs in readily accessible locations is acceptable.

Response:

Section 8430(f) requires self-rescue devices be available for employees in tunnels:

Subchapter 20. Tunnel Safety Orders
Article 10. Emergency Rescue Procedures and Equipment
§8430. Rescue Crew and Breathing Apparatus.
* * * *

(f) A 1-hour self-rescue device approved by MSHA shall be provided and be immediately available for each person underground. Where a person works on or around mobile equipment, self-rescue devices may be placed in a readily accessible location on such equipment.

* * * *

The term “mobile equipment” is not defined in title 8 regulations. When a regulatory definition does not exist for a word, the common definition is used absent a contrary meaning in title 8.¹ The most relevant definition of the word “mobile” in the Meriam-Webster Dictionary is “*capable of moving or being moved : movable.*”

Given this common definition and the absence of any definition of mobile in title 8 or any evidence in title 8 to preclude a TBM from being considered mobile equipment, I concur that a TBM is mobile equipment. I also concur that caching OCENCO EBA-6.5 1-hour self-rescue devices is in compliance with the requirements of section 8430(f), provided that the 1-hour self-rescue devices are readily accessible to all employees.

To be readily accessible², the 1-hour self-rescue devices should

- be within quick reach of every employee (not just most employees), and
- not require employees to climb over obstacles or remove obstacles to get to them, and
- not require use of ladders, chairs, or other elevating devices to reach them.

Please note that 1-hour self-rescue devices must be immediately available to each employee in the tunnel who is not working on or around the TBM or other mobile equipment.

There is no definition of immediate or immediately available in title 8. The most relevant definition of immediate in the Meriam Webster Dictionary is “*occurring, acting, or accomplished without loss or interval of time : instant.*”³. Thus, 1-hour rescue devices should be within instant or near-instant reach of each employee who is not on or around mobile equipment.

Request #2:

Please confirm that section 8430(g) does not specifically call out a 1-hour self-rescuer, but only that a self-rescue device be carried on each person. Further, please confirm that 10-minute oxygen generating self-rescuers meet the intent of this subpart.

¹ “Where no definition of a term is supplied by the safety orders, the Appeals Board has applied the meaning attributed to the term in common usage or common law, in the absence of evidence of contrary meaning.” D. Robert Schwartz dba Alameda Metal Recycling and Alameda Street Metals, Cal/OSHA App. 96-3553, Decision After Reconsideration (Mar. 15, 2001);

“When interpreting words, they should be given the meaning they bear in ordinary use and dictionary definitions are often used to ascertain the ordinary meaning of words.” A. Teichert & Son, Inc., Cal/OSHA App. 04-0851, Decision After Reconsideration (Oct. 6, 2011)

² The term “readily accessible” is defined in title 8 section 2700 of the High Voltage Safety Orders. Although not in the Tunnel Safety Orders, the Occupational Safety and Health Appeals Board has acknowledged that safety orders that are not directly applicable can be considered to determine the meaning of a word or phrase when there is no specific definition in the applicable safety orders (NPS Energy Services, Inc. Cal/OSHA APP. 83-600, Decision After Reconsideration, October 13, 1987).

³ Southern California Edison Co., 12-0499, Decision After Reconsideration (April 9, 2013).

Response:

Section 8430(g) requires additional self-rescue devices be available to employees in gassy and extra hazardous tunnels.

Subchapter 20. Tunnel Safety Orders
Article 10. Emergency Rescue Procedures and Equipment
§8430. Rescue Crew and Breathing Apparatus.

* * * *

(g) In tunnels classified as Gassy or Extrahazardous, self-rescue devices shall be worn or carried by each person underground at all times.

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For work in gassy or extrahazardous tunnels, the employer must comply with both 8430(f) and 8430(g). It must provide self-rescuers with a minimum 1-hour capacity to comply with section 8430(f) and, in addition, provide self-rescuers that are worn or carried by each employee to comply with section 8430(g).

Sections 8430(f) and (g) are separate and independent requirements. The 1-hour capacity required for self-rescuers in section 8430(f) does not apply to the self-rescuers required by subsection 8430(g).

Therefore, I confirm that a 10-minute capacity NIOSH/MSHA approved self-rescuer carried by each employee complies with section 8430(g) provided there are also 1-hour minimum capacity self-rescuers available in accordance with section 8430(f).

Thank you for your interest in occupational safety and health. Please feel free to contact me if you have any further questions.

Sincerely,

Eric Berg

Eric Berg
Deputy Chief, Cal/OSHA Research and Standards

cc: Jim Wittry, Jason Denning, Keummi Park