Incorporated
1911

ORIGINAL SIXTEEN to ONE MINE, Inc.

"100 Years of Gold"

Post Office Box 909 • Alleghany, California 95910
(530) 287-3223 • www.origsix.com

Occupational Safety & Health Standards Board
Christina Shupe Executive Officer
1017 L Street, PMB #254
Sacramento, CA 95814-3805

RECEIVED

JAN 0 5 2021

OCCUPATIONAL SAFETY AND HEALTH
STANDARDS BOARD

RG: Petition to update pressure vessel standard

Dear Christina Shupe,

Fortunately, California benefits from improved technologies and products that satisfy both practical business operations with health and safety concerns for workers. This is why this petition addresses your Board. I sought this action years ago but confused the variance process and petition process. Mr. Marv Morey of CAL/OSHA advised me how go forward. Mr. Steve Hart, retired director of California tunneling and mining in the Sacramento office is assisting me to bring a very old pressure vessel standard into the 21st century. I am also committed to assist in rewriting the standard. Following the old (perhaps 50 years) language increase the dangers to our miners and compromises their health and safety.

My opinion is a strong belief from over forty years running underground gold mines in Alleghany, California. I started mining in 1975, progressing from using iron pipe to Victaulic to polyethylene pipe. Poly pipe is used throughout the United States and the world in mining operations. According to discussions with Mine Safety Health Administration (MSHA) headquartered in Vacaville, no injuries have occurred related to an explosion in poly pipe.

Our mine, the Sixteen to One along with other mines in California, have been using poly pipe for compressed air services for thirty years. A problem occurred three years ago when Tunneling & Mining read the 1970's standard and wrote a citation, which was appealed. Even though everyone I spoke with realized the insanity of this, the paper was written. The issue is the poly pipe is stamped for 200psi water not including 200psi for air.

I contacted poly pipe manufacturers who took no interest in re-stamping its product. (Note: this pipe has long use in Nevada, Arizona and other natural resource states.) MSHA is a federal agency). Our mine, perhaps all mines operate with compressed air between 120 and 150psi, well below the pressure marked on the pipe in use.

The perceived danger to humans was from plastic that shatters (pvc), blowing shards. I agree. Poly pipe does not shatter. One can drive over it, poke it with a drill and it won't shatter. It is very safe to install. If our miners were forced to go back to any iron pipe, danger and injury in its installation is a fact. I can attest to this from personal experience.

While revising the standard is a small component of operating in a safe and healthy fashion, I seek your Board's interest in bringing the outdated standard in compliance with the times. Mineral production is a vital industry for America. Unlike many companies that can move to Texas or elsewhere, gold miners in California cannot move out of state. Original Sixteen to One Mine, Inc. incorporated in San Francisco, California on October 8, 1911. Its only operation is here. It is the longest, continuing, active underground gold mine in North America.

My final encouragement for you to enlist the Board's involvement is based upon what California really has regarding it gold wealth; but first, underground gold mining is unique in California vs past methods. The ore is exceeding high grade, which is friendly to the environment. California has a 200 mile proven gold deposit. Its wealth fueled the development of our state and secured our national evolution of one country. Our underground gold mines are poised for future growth. Let's make it safe for the men and women who will become miners.

I have researched and read much about poly pipe and the process I now ask of you. I remain dedicated to support this petition for our miners and the future miners working in our great state.

Sincerely,

Michael Meister Miller
President and Director
December 15, 2020

Please Note The Following

1. Second registered mailing on December 31, 2020
2. First registered mailing was on December 15, 2020 and received on December 19, 2020
3. You have nine (9) pages in this mailing.
4. Move this along to others when required.

Thank you.
MMM

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Occupational Safety and Health Standards Board

Executive Officer Marley Hart

2520 Venture Oaks Way, Suite 350

Sacramento, California 95833

Dear Board,

Original Sixteen to One Mine Inc. (Company) owns and operates the Sixteen to One mine (mine) in Alleghany California. The mine was located in 1896. The Company was incorporated in California in 1911. It is the oldest Company and longest operating gold mine in the United States. It has been regularly inspected for safety by federal and state entities for many decades.

Compressed air has been the life force of underground mining since the 1800's. The mine has at least fifteen miles of Polypropylene (HDPE) air lines operable underground. Galvanized pipe was the first pipe used to move compressed air. Victaulic pipe reduced the tedious and dangerous work of installation and replaced galvanize pipe. (NOTE: Polyvinyl chloride (PVC) pipe was modestly used in the early 1970's as the gold mining industry regained interest. Its brittleness created the potential for small pieces, like shrapnel, to injure anyone in close proximity to the pipe.)

My purpose of writing today asks the Standards Board to grant a permanent variance from occupational safety and health regulation T8CCR462. Enclosed is a copy of Citation and Notification of Penalty from Department of Industrial Relations, Division of Occupational Safety and Health, Sacramento Mining & Tunneling District Office. The discovery of a violation of a standard with the use of HDPE was a surprise to all involved. HDPE has a long history of use.

The Standard cited in Subchapter 1 Unfired Pressure Vessel Safety Orders is for Air Tanks (Article3.) The operator has no unfired (or fired) air tanks underground. Even though, we seek this variance whether it is deemed required or not at our operation. In order to forward look, it may be advisable for the Board to review this standard in light of the changes within the "plastics" industry since the 1970's, when the standard was written.

(the need for a standard is demonstrated by substantial evidence), authority, clarity, consistency, reference, and non-duplication. Therefore, petitioners should also consider these standards when petitioning for changes in standards.

Significant technological changes have occurred with the generic term, "plastics". Polyethylene pipe was invented, improved and became the workhorse for transporting compressed air in many industries throughout the United States. It make a big impact in the mining industry and especially in the historic Californian underground gold mines. It is the safest pipe to install and transport compressed air. It does not oxidize, will not shatter on impact and is simple to install. During installation miners' exposure to safety hazards is less than exposure during the installation of all previously used pipes. The Company has used this pipe for compressed air for thirty three years. There has never been an injury during this period caused by of influenced by the compressed polyethylene pipe.

Polyethylene pipe is widely used in the mining industry in Nevada, Idaho and Montana.

Following is information from a citation and notification of penalty citing T8CCR 462: Type of Violation: General

(m)(1) Air piping shall be in accordance with ANSI B31.1 or B31.3. (3) Plastic piping systems may be used for compressed air conveyance above and below ground, when meeting all of the following requirements.

(A) Only ductile plastic materials shall be used. Standard Met-In Compliance

(B) Only plastic pipe, valves and fittings recommended for use by the manufacturer to convey compressed air shall be used. Standard Met-In Compliance.

(C) Plastic pipe, valves and fittings shall not be used for compressed air systems over 150 psi or temperatures over 140°F. Standard Met-In Compliance.

(D) Plastic piping systems shall be designed, installed, maintained, and operated in full accordance with the manufacturer's specifications and instructions. Standard Met-In Compliance.

(E) All plastic pipe shall be permanently marked continuously, but not to exceed 5-foot intervals, with the following information: 1. Size; 2. Manufacturer's name; 3. Pressure rating at 73°F and 140°F; 4. Material name, specification, ASTM cell classification, batch number, and the date of manufacture; 5. The words "For Compressed Air"; and 6. Either Schedule, "Sch. Number:, or Standard Dimension Ratio, "SDR Number".

(I) The employer shall use pipe that meets or exceeds the test requirements listed in Appendix C, and upon request, supply the Division written laboratory certification from the manufacturer that the pipe meets or exceeds all test requirements listed in Appendix C of these orders.

Prior to and during the course of the inspection, the employer had been using pipe in the underground mine as a compressed air conveyance, and upon request was not able to supply the inspector written laboratory certification from the manufacturer that the pipe met or exceeded all test requirements listed in Appendix C of these orders. In fact the supplier and manufacturer raise questions about the request as it was something not experienced before in California or other states.

The request by the inspector was one we could not satisfy. It is a request that another party supply us with a written laboratory certification that is not within our power to create. All of our miners will testify that working conditions are safer and with fewer hazards by ithe use of HDPE pipe than all others.

Our Company is the last remaining working hard rock gold mine in the famous gold districs of California. I offer the Standards Board my assistance if sought to assist in correcting a very out dated standard for safety

Sincerely,

Michael Meister Miller, President

October 19, 2016

Additional Information:

A History of Polyethylene Pipe

What we know as C, poly pipe or pvc pipe, would not be what it is today were it not for our obsession with the hula hoop in the 1950s. When Paul Hogan and Robert Banks discovered crystalline polypropylene, and that a similar plastic could be produced using ethylene, a new world of plastic appeared on the horizon. Using the new resin to create products such as polyethylene pipe, however, proved to be much harder than anyone imagined. The production process was unrefined and even after investing millions in the production process, the Phillips Petroleum Company still couldn't convince manufacturers to buy the resin.

Thankfully, by 1959, having finally mastered the production process, polyethylene manufacturers found a receptive market for their new plastic. Polyethylene's ability to handle high temperatures made it a perfect replacement for glass used in baby and liquid detergent bottles. Household product manufacturers were quick to follow, and with the success of the hula hoop, tubing and pipe applications of polyethylene skyrocketed. Always on the look out for cost effective alternative piping materials, the electrical, gas, potable water and mining industries were quick to use polyethylene for everything from insulating electrical cables to transporting waste water and mineral slurries.

What is Polyethylene?
When Hogan and Banks first created a reaction between ethylene and benzaldehyde using two thousand atmospheres of internal pressure, their experiment went askew when all the pressure escaped due to a leak in the testing container. On opening the tube they were stunned to find a white waxy substance that looked a lot like some form of plastic. After repeating the experiment, they discovered that the loss of pressure was not due to a leak at all, but was a result of the polymerization process.

The residue polyethylene (PE) resin was a milky white, translucent substance derived from ethylene ($CH_2=CH_2$). Polyethylene was produced with either a low or high density.

Low-density polyethylene (LDPE) has a density ranging from 0.91 to 0.93 g/cm3 (0.60 to 0.61 oz/cu in). The molecules of LDPE have a carbon backbone with side groups of four to six carbon atoms attached randomly along the main backbone. LDPE is the most widely used of all plastics, because it is inexpensive, flexible, extremely tough, and chemical-resistant. LDPE is molded into bottles, garment bags, frozen food packages, and plastic toys.

High-density polyethylene (HDPE) has a density that ranges from 0.94 to 0.97 g/cm3 (0.62 to 0.64 oz/cu in). Its molecules have an extremely long carbon backbone with no side groups. As a result, these molecules align into more compact arrangements, accounting for the higher density of HDPE. HDPE is stiffer, stronger, and less translucent than low-density polyethylene. HDPE is formed into grocery bags, car fuel tanks, packaging, and, of course, piping.

Polyethylene Time Line

1862 - Parkesine, the first synthetic plastic
1866 - Celluloid by John Wesley Hyatt
1891 - Rayon is used to make Cellophane
1900 - Celluloid is used for Film
1907 - Bakelite, the first thermosetting synthetic resin.
1918 - Polystyrene
1926 - PVC or Vinyl
1927 - Nylon - synthetic silk for stockings in 1939
1933 - Polyethylene
1935 - Low Density Polyethylene
1938 - Teflon
1951 - High Density Polyethylene
1957 - Velcro and Silly Putty

Polyethylene Pipe

The history of the polyethylene (PE) pipe begins with early civilization's attempts to find a suitable transport medium that could move water and other fluids from one place to another. It is no secret that plastic is relatively a new kid on the block as a piping material. Concrete has, in some form or another, been around since the Assyrians, Babylonians and Egyptians, while steel was first patented in 1855. Plastic piping, on the other hand, beginning with polyvinyl chloride or PVC in 1926, dates back to the 1930s, when it was utilized for sanitary drainage. Polyethylene was first developed in 1933 as a flexible, low density coating and insulating material for electrical cables. It played a key role during World War II -- first as an underwater cable coating and then as a critical insulating material for such vital military applications as radar insulation. Because of its light weight, radar equipment was easier to carry on a plane, which allowed the out-numbered Allied aircraft to detect German bombers under difficult conditions such as nightfall and thunderstorms.

High density polyethylene, however, is quite a bit different from the polyethylene used in the 1930s. Low density polyethylene was discovered in 1935 and it wasn't until sixteen years later in 1951 that high density polyethylene appeared on the scene. As a relatively newcomer in the piping industry, polyethylene is constantly making its way into applications normally reserved for the older piping technologies. It was not until after the war, though, that the material became a tremendous hit with consumers and from that point on, its rise in popularity has been almost unprecedented. Since the late 1950s and early 1960s, polyethylene has made its way into every corner of our lives launching a multi-billion dollar industry. It became the first plastic in the United States to sell more than a billion pounds a year and it is currently the largest volume plastic in the world. This is partly due to the fact that there are certain characteristics (or combinations of characteristics) of high density polyethylene that make it an attractive

alternative. Whether it is an issue of installing a new piping system or rehabilitating an existing system, there are certain requirements placed on the piping material: that it be simple to install, that it doesn't leak or cost a lot to maintain, and will last a very long time. As long as polyethylene can satisfy these demands better than any other material, it will continue its gain in popularity.

Contact us today by email or our toll free number:
sales@oxfordplasticsinc.com
1.800.263.0502

Right to Petition

The California Occupational Safety and Health Standards Board (Board) is the only agency in the State authorized to adopt occupational safety and health standards or orders. The Board is required to hold open public meetings at least monthly and to permit any person to address the Board on any matters of occupational safety or health or to propose new or revised standards. Petitions for standard changes will be evaluated by the Division of Occupational Safety and Health. The Board will report its decision no later than six months following receipt of a petition.

Contents of Petitions

There is no specific form or format required to petition the Board for the adoption, amendment, or repeal of an occupational safety and health standard. Such proposals may be made orally or in writing at the Board's Public Meeting or may be submitted in writing to the Board at any time. Persons making oral proposals to the Board will be asked to submit their proposals in writing stating clearly and concisely (1) the substance or nature of the standard, amendment, or repeal requested; and (2) the reason for the request. Supporting documentation such as technical or engineering studies should also be submitted, if available.

Petitioners should be aware that all regulatory changes are subject to specific legal standards and approval by the Office of Administrative Law (OAL). OAL reviews standards to determine whether they meet the standards of necessity (the need for a standard is demonstrated by substantial evidence), authority, clarity, consistency, reference, and non-duplication. Therefore, petitioners should also consider these standards when petitioning for changes in standards.

Where to File Petitions

Petitions may be presented at the Board's public meeting or submitted in writing as follows:

1. At the Board's public meeting

The Board rotates its monthly public meetings between Sacramento, Los Angeles, Oakland/San Francisco, and San Diego. Notices specifying the meeting time and location are published in the California Regulatory Notice Register prepared by the Office of Administrative Law.

2. Submitted in writing:

MAILING ADDRESS during the Statewide Stay at Home Order (per Executive Order N-33-20):

Occupational Safety & Health Standards Board
1017 L Street, PMB #254
Sacramento, CA 95814-3805

Procedure for Granting or Denial of Petition

Upon receipt of a petition, the proposal is assigned a petition file number and referred to the Division of Occupational Safety and Health for evaluation. The Board staff will thereafter develop a proposed decision for consideration by the Board at one of its business meetings. A decision to grant or deny the petition will be made by the Board within six months from the date it was received. Petitions are often granted to the extent that an advisory committee of labor, management and persons knowledgeable in the subject review the petitioner's proposal. Advisory committees provide valuable assistance in developing the proposed standard before it is scheduled for public hearing or an advisory committee may recommend to the Standards Board that a standard not be developed.

Inquiries concerning the proposed action may be directed to the Executive Officer, Christina Shupe, at (916) 274-5721.