

Manganese PEL Advisory Committee

Subcommittee focused on welding in confined spaces

Meeting Minutes

May 31, 2018

Location: Oregon OSHA Portland Metro (Tigard) Field Office

Meeting Started: 12:00 PM

Present:

Natasha Allen (Rightline Equipment, Inc.)
Braden Bicknell (Honeywell)
Waylon Buchan (Ore.Trucking Assoc.)
Andrea Cansler (Quality Tank & Construction, Inc.)
Heather Case (Oregon OSHA)
Jenny Dresler (Public Affairs Council)
Gina Facca (Vigor Industrial/ Cascade General Inc.)
Jeff Jackson (Oregon OSHA)
David Johnson (SAIFCorp.)
Matt Kaiser (Oregon OSHA)
Natalie Laughton (Wabash National Portland)

Kathleen Kincade (Ore.OSHA)
Tyson Lindekugel (Ore.DOT)
Dave McLaughlin (Ore.OSHA)
Les Nelson ([ESAB Welding/Cutting Products](#))
Doug Pettyjohn (Assoc.ofGeneral Contractors)
Russ Reasoner (Ore.OSHA)
Kevin Rohrer (Gunderson, LLC)
Renée Stapleton (Ore.OSHA)
Matt Svaglic (Gunderson, LLC)
Ed Vawter (Ore.DCBS)
Trena VanDeHey (Ore.OSHA)

By Teleconference:

Steve Eversmeyer (NW Natural Gas)
Jeff Green (Ore.OSHA)
Eileen Tanner (Covanta)

Welcome and Introductions

Group members present and on teleconference introduced themselves. Kathleen Kincade provided background information about the Manganese advisory committee's discussion of reducing the permissible exposure limit (PEL) for Manganese in workplaces and about the sections of the Subdivision 2/Q welding standard related to confined spaces. The purpose of this meeting is to focus on confined space issues specific to welding. In order to highlight the differences between the Subdivision 2/J confined space rules for general industry and construction and those in the 2/Q welding rules, Kathleen provided copies of Oregon OSHA's publication titled "*Confined spaces and permit spaces*" and a handout that included all references to "confined spaces" in Subdivision 2/Q.

Dave McLaughlin explained the "welding exception" in Oregon OSHA's Subdivision 2/J confined space rules: if the only confined-space-related hazards are due to "welding processes," the rules that apply are in 2/Q – not in 2/J.

General Discussion:

Renée Stapleton explained that the original, simple idea for this rulemaking -- about changing the PEL number for Manganese -- has grown beyond what was first anticipated. However, a change to the Manganese PEL will likely have a greater impact on welding in confined spaces, so it is important to consider stakeholder input.

Oregon OSHA representatives asked the group to consider if the confined space rules in 2/Q adequately protect welders in confined spaces? If not, how can Oregon OSHA improve the rules to be at least as protective as those in 2/J?

One of the primary differences between the 2/J rules and the 2/Q rules is that air monitoring is mandatory in the 2/J permit required confined space rules, but 2/Q has no specific requirements for atmospheric monitoring. This was concerning to some members in the group. Another difference is that 2/Q does not consider the hazards of using shield gases in confined spaces – a common practice in welding.

The group discussed the extensive industry interest in confined space welding, which serves many functions on a jobsite during construction, fabrication, and maintenance. Contractors who perform maintenance on other employers' equipment -- at multiple job sites with different standards -- said that it isn't practical to monitor at every site. They typically rely on more robust respiratory protection.

The group discussed fatalities related to confined space welding. Some industry representatives stated that they commonly do air monitoring during welding jobs in confined spaces on their own, going beyond the requirements of the rules in 2/Q. It was clarified that requiring permits was not an issue in 2/Q, because situations requiring a permit requirement would send the employer to 2/J.

The group also discussed common "4 gas meters" and other types of monitoring equipment. While single gas monitoring is possible, the group suggested that requirements for monitoring should be more general and less prescriptive.

There was a discussion of ship repair and permit required confined spaces. Oregon OSHA representatives reminded the group that maritime work would not be covered by our state rules because that activity is under federal jurisdiction. There was a brief discussion of what shipyard tasks may fall under state jurisdiction.

Industry representatives talked about typical practices when welding in confined spaces. Some said they use argon as a shield gas, and test with four gas meters before sending the worker in the confined space. Oxygen monitoring is on-going while the welder is working in the space. Some suggested that requiring general monitoring in 2/Q was more feasible than personal monitoring, because the equipment does not have to be worn on the employee. Some echoed that monitoring seems to be an industry standard even though not required in 2/Q. Some said that monitoring would not be difficult for them.

Some expressed concerns about the financial impact of requiring monitoring. Some are now using more sophisticated monitors that are \$800/each, however there are satisfactory types available for \$200/each. Sound-based alarm systems rely on the jobsite being quiet enough for someone outside the confined space to hear the alarm.

The group discussed the potential fiscal impact on industries and anticipated that more engineering controls would become available in the future as industry innovates to comply with changed rules.

Roundtable:

The group participated in a “roundtable discussion” giving everyone an opportunity to speak. Kathleen asked each member of the group to share their thoughts about the potential rule changes and about potential changes to Table Q-1 in Subdivision 2/Q. The following points were noted:

- Best practice should be to monitor, but it is not feasible in all situations. The Table Q-1, exposures based on “*welding on*” materials should be changed to include exposures from materials used to weld (wire, shield gas, etc.). For instance, 437-002-0288(1) could simply say “when exposure will occur”.
- Some protective measures in Table Q-1 should apply to all potential exposures. An airline or other supplied air respirator or specific types of ventilation may provide protection without the monitoring.
- Some industry work is unique, but general industry work commonly uses a 4 gas meter for monitoring.
- Everyone in the room is in favor of rules that are actually protective of workers; however, it is important to decide on the scope of changes to be made and get input regarding feasibility before proposing rules.
- The use of historical data for specific tasks may be a potential alternative to monitoring. Some expressed the concern that the data may be too narrowly focused. Additionally, atmospheric hazards and the potential for leaks can change the potential for exposures every time the task is performed. Only real time monitoring can capture these situations.
- Some stated that monitoring would be too difficult to implement.
- Some discussed the use of low manganese wire and the work they have done to lower sources of manganese exposure.
- Some talked about testing before entry and knowing what a worker was “walking in to.” There are many types of potential exposure.
- Many industries do not “live” welding, but do it only occasionally or periodically.
- Wire manufacturers are working towards a lower manganese wire option and a flex core wire.
- Respirator use varies with specific materials and activities. Monitoring is the best way to characterize the hazards and better informs the worker and the employer. Oxygen-deficient environments present unique challenges.
- Some are now giving more thought to engineering controls for their workplaces, to get away from the constant monitoring.
- It was clarified that this focus group was not looking at making changes in 2/J. However, since the manganese advisory committee was likely to open up 2/Q, this was a good time to look at 2/Q as a whole.
- Some reiterated that they do atmospheric monitoring no matter what, so requiring monitoring in 2/Q wouldn’t change their practice but requiring different levels of each substance in each space before entering may be more burdensome.
- An informal question was asked to the group about what they do with the data from their monitors. Responses varied. This also led to a discussion of some sort of requirement for proof of use of the monitor, if the rules were changed to require monitoring, as this would be hard to enforce without any documentation.
- Some confirmed that they do gas monitoring, but not for manganese. Other industry employers are already doing more manganese monitoring.

- Some expressed that requiring an airline respirator might be too much, making it one of several options would be preferable.
- There is concern about latent Manganese exposure, and not just acute in these spaces.

Recommendations/Next Steps:

Oregon OSHA asked the group to make some recommendations or suggest some next steps for the agency to take between this meeting at the next.

Some remarked that the steps to reducing manganese levels in their welding processes may increase exposure to nickel and discussed other measures to bring down manganese levels.

The group recommended that both “welding with” and “welding on” need to be included in future rule changes to accurately address hazards.

It was noted that the use of “air horn exhaust” ventilation systems can increase carbon monoxide levels. The group also discussed some recent innovations in ventilation.

A recommendation was made to revise 2/Q to require monitoring based on the type of shield gas being used by the welder. Also, to require monitoring in general, not only 4 gas meters.

A recommendation was made to remove references to “lifelines” in the rule and instead require a rescue plan.

Finally, the group was reminded to evaluate the hazards of the space they would be working in as a first step to determining what subdivision the work falls under. Subdivisions 2/J and 2/Q are not in conflict, but currently have different requirements. It would be simpler to make the requirements more uniform.

Renée, Trena, and Kathleen thanked the group for their time and contributions to the discussion. They encouraged the group to email Oregon OSHA representatives with specific suggestions for draft rule language.

Action Items:

Oregon OSHA will post the following on the Manganese PEL Advisory Committee Topic page:

- These minutes.
- Handouts that were made available at this meeting.

Oregon OSHA staff will work on putting together a draft of rule language changes to facilitate further committee discussion.

Kathleen will send out a doodle poll to the full manganese advisory committee group to determine the next meeting.

Meeting Adjourned: 1:26PM

Next (full) Advisory Committee Meeting: To be determined.