

From: Wallace Binder <wbbinder@comcast.net>
To: "mike.lau@wicor.com" <mike.lau@wicor.com>
Cc: William Bartley <wbartley@ieee.org>, Erin Spiewak <e.spiewak@ieee.org>, Kipp Yule <kjyule@bechtel.com>, Jane A Verner/EP/PEP <javerner@pepco.com>, Thomas Melle <trmelle@ncsu.edu>, "John_roach@hsb.com" <John_roach@hsb.com>
Date: 05/18/2015 05:40 PM
Subject: Safety Warning in C57.93

Mike,

We are in the process of resolving comments on the initial IEEE-SA ballot of C57.125. We have received comments about the confined space Warning Box which we took from C57.152. C57.152, in turn, copied the clause from C57.93-2007. As your WG originated the Warning, I want to make you aware of some of these issues. You may need or want to take them into account as you revise C57.93.

The attached shows the approved Warning for C57.93-2007 and the approved warning for C57.152 and the IEEE-SA legal risk review approved language for C57.125d6.0 All of them are similar but different.

Here is the comment giving us the most problem to resolve:

- What is the 20% in relation to? Carbon monoxide? Per the online engineering toolbox the flammable/explosive value of CO is 12%.
- The online engineering toolbox is not a consensus standard (even if it is correct).
- We are not aware of another standard which could be referenced to confirm the correct levels.

We have considered an interpretation by OSHA of their own regulations which reads as follows:

- OSHA (not an internationally accepted rule) says: "Section 1915.12(b)(3) *Flammable atmospheres. Atmospheres with a concentration of flammable vapors at or above 10 percent of the lower explosive limit (LEL) are considered hazardous when located in confined spaces. However, atmospheres with flammable vapors below 10 percent of the LEL are not necessarily safe. Such atmospheres are too lean to burn. Nevertheless, when a space contains or produces measurable flammable vapors below the 10 percent LEL, it might indicate that flammable vapors are being released or introduced into the space and could present a hazard in time. Therefore, the cause of the vapors should be investigated and, if possible, eliminated prior to entry.*"
 - We are talking about a % of a % value for LEL
 - We ARE talking about CO which might not be a flammability issue but a poisonous level which is a different issue entirely.
- OSHA further interprets their own regulations by stating: *Section 1915.12(a)(3). "After a tank has been properly washed and ventilated, the tank should contain 20.8 percent oxygen by volume. This is the same amount found in our normal atmosphere at sea level. However, it is possible that the oxygen content will be lower. When this is the case, the reasons for this deficiency should be determined and corrective action taken. An oxygen content of 19.5 percent can support life and is adequate for entry. However, any oxygen level greater than 20.8 percent by volume should alert the competent person to look for the cause of the oxygen-enriched atmosphere and correct it prior to entry. In addition, any oxygen level lower than 19.5 percent level should also alert the competent person to look for the cause of the oxygen-deficiency and correct it prior to entry."*

I would appreciate an opportunity to discuss this at a future C57.93 WG meeting; and by cc to members of my WG, ask them to contribute if they can to the discussion.

Regards,

Wallace Binder
Principal, WBBinder Consultant
Regional Market Manager - US, Transformers Magazine
wbbinder@ieee.
(724) 654-3839 (office)
(724) 657-4582 (cell)[attachment]