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NFPA 2001 Standard on Clean Agent Fire Extinguishing Systems Enclosure Integrity Testing Procedure 2004, 2008, 2012 Editions A Summary

NFPA 2001 2004 Enclosure Integrity Testing Procedure

The procedure and calculations as presented in NFPA 2001 2004 edition were virtually unchanged from the previous editions and were the same calculations as were published in the NFPA 12A Halon 1301 Fire Extinguishing Systems 1989, 1993 editions. The NFPA 2001 procedure added the constants for the new clean agents which were used in place of the Halon 1301 constant. This was a single point test for both pressurizing and depressurizing the protected zone.

NFPA 2001 2008 Enclosure Integrity Testing Procedure

The revised procedure as presented in the NFPA 2001 2008 edition incorporated a multipoint test procedure. This test would have required 5 test points for both pressurization and depressurization of the protected zone. This is similar to the ISO 14520 and the EN 15004 test procedure. The purpose of the change was to make the procedure less conservative, in other words to increase the predicted hold time for a given zone. Unfortunately, the calculations as published were erroneous and did not calculate and there were no published revisions of the calculations.(1) Therefore the NFPA 2001 2008 procedure was not and could not be adopted by local authorities.

NFPA 2001 2012 Enclosure Integrity Testing Procedure

The NFPA 2001 2012 procedure incorporates a 2 point test procedure for both the pressurization and depressurization tests of the zone. Again the purpose of the change is to make the procedure less conservative. This procedure was finally published in late 2012. I know of no local authorities in this country that have at this time adopted the 2012 standard.

NFPA 2001 2004 vs. NFPA 2001 2012 Enclosure Integrity Testing Procedure

When a zone is tested using both the NFPA 2001 2004 and the NFPA 2001 2012 procedure the NFPA 2001 2004 predicted hold time will be shorter than the predicted hold time calculated by the NFPA 2001 2012 procedure. In other words the NFPA 2001 2004 is the most conservative procedure and offers the greatest margin of protection for the zone and the protected equipment.

(1).Colin Genge, President of Retrotec has for many years been a contributor to the NFPA 2001 committee and has helped develop the calculations and procedures including the ones published in NFPA 2001/2008 version. He recently (2/25/2013) wrote “The 2012 test procedure was required by the 2008 version but it had so many typos that it was unusable.”

The problems with the 2008 version were earlier confirmed in a direct conversation with Jeffery L. Harrington Chairman of the NFPA 2001 committee and Barry D. Chase the NFPA Staff Liaison.