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We do not have a problem with electrical hazards or incidents here in Australia or New Zealand with the use of Electro-Medical Devices. The Electro-Medical Devices are designed and manufactured to a high standard and together with our 3000 wiring rules and then supported in patient treatment areas by an additional layer thanks to AS/NZS3003 our patients and medical/nursing staff are fully protected.

AS/NZS3551:2004 was an excellent standard that could be applied without any problems from the tests to be performed or the pass/fail limits contained within it.

To this end, it was anticipated that along with international thinking, the 3551:2004 would be simplified even further. Here is comment on the NFPA 99 released in 2012:

A potentially far-reaching change in NFPA 99 (2012) eliminates the requirement for routine electrical safety testing. Specifically, paragraph 10.5.2.1.2 says that “all patient care-related electrical equipment used in patient care rooms shall be tested in accordance with 10.3.5.4 (which addresses chassis leakage current) or 10.3.6 (which addresses lead leakage current) before being put into service for the first time and after any repair or modification that might have compromised electrical safety.”

According to commentary in the handbook version of the code, “The technical committee has decided that there is now sufficient experience to justify using the approach of performing the tests for touch and leakage current at the time of incoming inspections and following patient care-related equipment repairs or modification. This is considered both a more effective method to ensure patient electrical safety and a more judicious and focused use of technical resources.”

In many health care facilities, a substantial portion of the scheduled inspection and maintenance effort has consisted of electrical safety testing. We now have decades of experience showing that routine electrical safety testing is of little benefit to patient safety, particularly when compared to the cost of such testing. In the absence of a requirement in NFPA 99 (2012) for such testing, it will be hard to justify the continued allocation of scarce resources for this purpose.

NFPA 99 is the USA FIELD TEST STANDARD. EN62353 is the European FIELD TEST STANDARD and one would think that a committee such as HE-003 would draw on documents such as these when revising 3551.

But no, they decided to raid sections of 60601-1 a TYPE TEST STANDARD that contains tests that can only be done in a laboratory!

In October 2012, HE-003 released AS/NZS3551:2012 that in the electrical testing section, Appendix B, did not include tolerances or specifications for some tests, added a new test regime called Touch Current with a diagram showing how to apply the test that clearly would not work, added tests that in some areas were a waste of time, changed pass/fail thresholds that clashed with other standards and in a practical sense could not be applied.

In short a standard that should have been simplified was made more complex with added tests and costing the industry thousands of hours of additional testing time and hundreds of thousands of dollars in additional cost.

The reputation of Standards Australia and Standards New Zealand to produce good standards was sullied with the release of this document and everyone in the industry has remained using 3551:2004.

In March of 2013 at the NSW SMBE Seminar, I delivered a talk with Mike Flood present and showed the audience that the Touch Current Test as drawn would not work. Not one of the members of the audience nor Mike disputed my conclusions. I then gave Mike a list of the many problems with Appendix B.

I have made many representations to a number of organizations since that time and in July 2014 supplied to Mr Gethcy George of Standards Australia a complete list of the problems, not only giving each individual problem but also giving my recommendation to fix each one and the reasoning behind them.

After waiting three years, amendment 2 was released that added tolerances and specifications, did not fix other problems especially the glowing fault with Touch Current and even added another test that has questionable practical value.

A recent email from Mike Flood indicates that if he is representative of the committee, that they cannot get their thinking around the production of a FIELD TEST STANDARD reflecting local needs & experience with consideration of other equivalent standards such as EN62353. By the way the latest

EN62353:2014 corrects the Touch Current error in 3551:2012 and also maintains the same pass/fail levels as 3551:2004.

With the release of amendment 2 after three years being such a disappointment and the intransigent thinking of HE-003, I believe that Standards Australia has no other option but to dissolve the current HE-003 committee and put in place a new one with specific directives to produce a purely FIELD TEST STANDARD simplified from 3551:2004, easily implemented and not clashing with other standards.

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