



1 April 2012

Dear Colleagues,

As members of the fire fighting and burn injury prevention communities, we are concerned about the negative health and environmental effects of proposed amendments to International Electrotechnical Commission (IEC) **Standards 60065** and **62368** for candle resistance of television enclosures. There is no valid fire safety rationale as well as a large potential to cause serious harm to human health and the global environment.

We urge TC108 National Committees to vote “NO” on these proposals and additionally comment to remove the mandatory candle flame ignition requirement in Clause 11 of IEC 62368-1 Ed 2.0 -108/479/CDV and Clause 21 of IEC 60065 Ed 8.0 –108/478A/CDV as well as all related language and references.

We have reviewed the fire data cited in support of the above referenced amendments and do not find a valid fire-safety rationale for this requirement. TVs are already adequately protected against internal faults that could lead to fire; there is no documented fire safety benefit from housings resisting a candle flame. Proponents of the standard frequently cite outdated statistics from the 1990s when CRT televisions were the norm. The data cited primarily come from a single suburb in Sweden with a much larger number of TV fires than other parts of Sweden and the EU. There is no current evidence that a significant number of fires in TVs and other electronics are caused by external candle ignition. Please see “The Case against Candle Resistant TVs” at [Case Against](#) for more information.

While the fire risk is very low, the health risk, especially for fire fighters, is very high. The proposed standard would lead to considerable levels of fire retardant chemicals in plastic TV housings. When these fire retardant chemicals burn, large amounts of toxic and cancer-causing dioxins and furans can form, creating a significant health hazard for fire fighters.

In the November 2006 *Journal of Occupational and Environmental Medicine*, a meta-analysis of 32 research studies of cancer in fire fighters shows that fire

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fighters have significantly elevated rates of four types of cancer: multiple myeloma, non-Hodgkins lymphoma, prostate, and testicular cancer.^[1] These four types of cancer can all be related to exposure to dioxins and/or furans.^[2] We believe that fire retardant chemicals in TVs and other consumer products are likely to pose a greater health hazard to fire fighters and the public in general than the small open flame fires they can delay, or in some cases, prevent.

In addition, many fire retardants chemicals migrate out of the electronics housings, persist, and bioaccumulate at high levels in humans and animals ranging from children to pets to wild animals such as killer whales, sea otters, and even marine life living at depths of more than a thousand meters. When studied in experimental animals, many of these flame retardants are associated with health problems such as thyroid disease, reduced sperm count, infertility, hyperactivity, mental retardation, obesity, and cancer.

In summary, candle fires in modern flat-panel TVs present an unproven fire hazard. The accumulation and health problems from the fire retardant chemicals, especially to fire fighters, have been documented in many dozens of peer-reviewed scientific research papers. We trust you will read the attached white paper and carefully evaluate the data. To protect the health of firefighters and the general population, **we urge a vote of "No" on 108/479/CDV and 108/478A/CDV.**

Sincerely,

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Occupational Health, Safety and Medicine
International Association of Fire Fighters

Tom O'Connor, President,
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Peter A. Bansen, Chief
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[1] LeMasters G.K., et. al. (2006). Cancer risk among firefighters: a review and meta-analysis of 32 studies *Journal of Occupational and Environmental Medicine* 48(11): 1189-202 [2] Studies of Seveso, Italy residents exposed to dioxins showed increased multiple myeloma and non-Hodgkin's lymphoma. The Air Force Ranch Hand (Agent Orange sprayers) studies show increased prostate cancer in those exposed to dioxins. One study of dioxin exposed military dogs in Vietnam and one other study of Vietnam veterans showed increase rates of testicular cancer.

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