REVIEW OF THE IMPACT OF LIP REGULATION IN RELATION TO PUBLISHED FIRE STATISTICS

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INTRODUCTION
It is well established that cigarette-related fires can lead to property losses, injuries and fatalities [1]. US Congress, through the Cigarette Fire Safety Act of 1994, initiated research aimed at determining the feasibility of developing a more fire-safe cigarette. New York State was the first state to enact legislation in 2004, which required all cigarettes sold to pass an ignition propensity performance test as stipulated by the ASTM E2187 standard.

Canada introduced its Cigarette Ignition Propensity Regulations on 1st October 2005. In Australia, where discarded cigarette butts are viewed as a major cause of bush fires [2]. Spain and Italy adopted the ASTM method on 9th March 2007. Similarly New Zealand and South Africa also adopted the ASTM method in 2009 and 2011 respectively. Within the European Union (EU), Finland was the first country to amend its tobacco legislation regarding the fire safety of cigarettes which entered into force on 1st April 2010. The issue of cigarette ignition propensity for the other EU countries was first considered under the Tobacco Product Safety Directive in 2008. The European Committee for Standardisation (CEN) was subsequently asked to develop the relevant standards, which national authorities could use to measure compliance with fire safety rules. The result is the ISO 12863: Standard Test Method for Assessing the Ignition Propensity of Cigarettes. The ISO standard was adopted by the European Commission on 9th August 2011 in all its official languages. Tobacco companies had until 17th November 2011 to ensure that cigarettes sold in EU complied with the new standard.

The World Health Organization (WHO)’s scientific advisory group on tobacco products (Study Group on Tobacco Product Regulation, or TobReg) published its report on reduced ignition propensity cigarettes in 2008 [3]. At the 9th session of the Conference of the Parties (COP9) of the Framework Convention on Tobacco Control (FCTC) in Seoul (Republic of Korea, November 2012), reduced ignition propensity was formally adopted by the Partial Guidelines for Implementation of Articles 9 & 10 under “Product Characterization in Relation to Fire-Risk”. The Partial Guidelines cited the available standard test methods (e.g., ISO 12863 and ASTM E2187) and suggested a performance standard. “As of 2012, international practice is to require a not-burn-through rate of no less than 75% by testing on 10 layers of filter paper” [4].

DISCUSSION
Since these enactments of RIP regulations there have been few comprehensive evaluations of the fire statistics and the impact of these regulations on the incidence of fires. A post-RIP impact assessment conducted by TriData Division of System Planning Corporation [5], which was commissioned by Philip Morris International, examined fire loss trend, per capita fire incidence and fire incidence per tobacco consumption based on data from Alberta and Ontario (two Canadian provinces with robust fire incident collection systems before and after the implementation of reduced ignition propensity legislation), and New York State. The report concluded that the “implementation of reduced ignition propensity cigarettes did not result in the predicted decrease of smoking material related fires and deaths” (Figures 1 and 2).

The development stages of the ASTM E2187-based test methodology have, through necessity, resulted in a simplification of real world fire scenarios involving smoking materials (Figure 4). Each simplification represents a significant departure from reality which would need to be validated by real fire statistics over a period of time. It is also important to note the ASTM E2187-based tests are an evaluation of the extinction potential of the cigarette under carefully controlled laboratory conditions, rather than the ignition potential, as the latter would be highly dependent upon many other factors in real world situations. It is therefore recognised that multiple means are needed to reduce cigarette-related fires and assessment of the probable impact of any one approach is challenging as many of these factors interact to affect fire safety [6,7]. For example, fires in which a soft furnishing product has been identified as the item of ignition accounts for about 5% of all the residential fires in the US and similar for other countries, but are responsible for a disproportionately high proportion of fire deaths and losses [1,8] (Figure 5).

REFERENCES
2. White, S. Trying to keep the home fires burning, World Tobacco 2006; 34-36
4. WHO, Conference of the Parties to the WHO Framework Convention on Tobacco Control: fifth session (Seoul, Republic of Korea), Decision on Further development of the partial guideline for implementation of Articles 9 and 10 of the WHO FCTC (Regulation of the contents of tobacco products and Regulation of tobacco product disclosure), 17 November 2012
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There is even less effect when cigarette fires are adjusted for changes in cigarette consumption. The data show no substantive decrease attributable to reduced ignition propensity cigarettes. The study highlights the general uncertainties associated with some of the reported short-term (often based on one or two years of statistics) fire risk evaluations post RIP implementation. Fire statistics for domestic properties from the United States show similar trends to those for Alberta and Ontario [6] (Figure 3).