Testimony of Robert Duval

National Fire Protection Association

Before the

Connecticut Public Safety and Security Committee

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Good morning. My name is Robert Duval and I am the New England Regional Director and Senior Fire Investigator for the National Fire Protection Association (NFPA). I am here on behalf of NFPA to urge to committee to support to adoption of the complete provisions for electrical safety contained in the 2011 edition of NFPA 70, the National Electrical Code® (NEC®).

The NEC focuses on the proper installation of electrical systems and equipment to protect people and property from the potential dangers of electricity. As electrical equipment has become more complex and the need for electrical power in our homes and workplaces has increased, the NEC has evolved to meet new challenges. Revised every three years to allow for new technologies and improved practices for safe electrical installations, the NEC is a ready-to-use, comprehensive code suitable for adoption.

For experts in the electrical community, the NEC is considered the blueprint for electrical safety throughout the world. We believe the best measure of the NEC's valuable role in public safety is its widespread use and past performance. Today the NEC serves as the basis for the electrical code in all 50 states and around the world. NFPA is proud that the quality of the NEC makes it the most widely used and adopted code for electrical installations and the most widely adopted construction code in the world. Currently in New England, every state but Connecticut has adopted the 2008 edition of the NEC and many are working toward adopting the 2011 edition in the coming months.

Using the ANSI-accredited consensus code development process, the NEC's development involves 450 volunteers, representing electrical contractors, designers, inspectors, and manufacturer, electrical testing laboratories, electrical suppliers and utilities; as well as enforcing authorities, insurance organizations, labor and other users. These volunteers are organized into 20 code-making panels, balanced to ensure fair representation of affected interests. An 11-member correlating committee oversees the efforts of the panels. Because the process utilizes a comprehensive pool of professional expertise and safety knowledge, the resulting code protects the public while allowing for advances in design and development.

According to the NFPA Fire Analysis and Research Division, each year US Fire Departments respond to an estimated average of 53,630 reported fires involving electrical failure or malfunction as a factor contributing to ignition. These fires result in 507 civilian deaths, 1,431 civilian injuries and $1.4 billion in direct property damage. (Because of different reporting cycles, definitions, etc. statistics can often vary

slightly; however, it is clear from reports that the problem is very serious.) In a continued effort to reduce these life safety and property loss concerns, the most recent editions of the NEC include provisions that reflect the two fundamental safety tenets that have been the purpose of the NEC for its more than 100-year history; protection against fire and shock hazards arising from the use of electricity.

The 2008 edition of the NEC included the following requirements:

1] Expansion of requirement on Ground Fault Circuit Interrupter (GFCI) protection

These all important safety devices have been included in the requirement of the NEC since 1968 and are widely recognized as critical in protecting the users of electrical appliances against shock hazards. Countless electrocutions and electrical shock accidents have been mitigated by GFCI's.

2] A new requirement for Tamper-Resistant Receptacles (TRR)

TRRs are aimed at protecting unsuspecting young children from accidental contact with energized parts of electrical outlets. Each year approximately 2,400 children suffer severe shock and burns when they stick items into the slots of electrical receptacles. The cost of a TRR adds less than $1 to the cost of an unprotected receptacle. Based on current statistics, the average home has about 75 receptacles resulting in an overall added cost of less than $75.

3] Expansion of Arc-Fault Circuit Interrupter Protection (AFCI)

The original call for enhanced branch circuit and cord protection came from the US Consumer Product Safety Commission (CPSC) based on fires attributed to electrical origin. The manufacturers, in concert with Underwriters Laboratories, worked toward developing a product and a product standard to address the CPSC concern. The AFCI was the product developed as a means to mitigate the types of circuit malfunctions that circuit breakers and fuses are not designed to protect against. The 2008 NEC expands the areas within a home required to have AFCI protection. Modern technology has provided us with the opportunity to incorporate this next generation of circuit protective devices into homes. These devices advance the cause of electrical safety by providing early reaction and circuit interruption where wiring systems concealed within the walls and ceilings are damaged. These devices also respond to damaged appliances and extension cords, a known cause of home electrical fires. Why wasn't this technology provided before? It is because the technology did not exist.

The CPSC believes that the AFCI form of circuit breaker, if installed in all homes, could prevent 50% of electrical fires from occurring. I appreciate the fact that any cost increase in home construction must be closely scrutinized; however, the cost for including this life-saving technology is truly insignificant. (Average of approximately $200 for a 1700-2100 sq ft home)

In conclusion, these changes, which were arrived at after significant substantiation and deliberation with numerous, diverse organizations and individuals, have a single-minded purpose of making electrical system safe in the place that we expect to be safest – our homes.

NFPA will support the CT adoption of the 2011 edition (and subsequent editions) of NEC as written, with training for the state's enforcement community at no charge. This is NFPA's standard policy when a state or jurisdiction adopts one of our codes. NFPA understands that states may have special circumstances that need to be addressed through the state committee process. However, we believe those amendments to be mostly administrative issues and limited in nature.

I also notice that this bill calls for the adoption of the International Fuel Gas Code. I would ask you to consider instead the adoption of the National Fuel Gas Code (NFPA® 54) and Liquefied Petroleum Gas Code (NFPA® 58). The current state gas codes, as written, draw heavily from the provisions of these two codes. The same offer applies for the AHJ training for these two NFPA codes if adopted.

It is NFPA's hope that you will continue to move forward by providing the citizens of Connecticut with the appropriate level of safety outlined in the 2011 NEC as well as the NFPA Fuel Gas and LP-Gas codes.

Thank you for the opportunity to address this committee. We at NFPA look forward to working with you and the fire and building stakeholders in supporting the adoption of the 2011 edition of the NEC and Gas Codes.

The mission of the international nonprofit NFPA, established in 1896, is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training, and education.