FALLING BEHIND on Electrical Safety

FIRE & LIFE SAFETY POLICY INSTITUTE
SAFETY THROUGH BETTER PUBLIC POLICY

From the hundreds of lives lost to the thousands of people injured every year, electrical malfunctions and failures continue to present dangers.

To tackle these issues, states have a vital tool in NFPA 70: National Electrical Code® (NEC®). The *NEC* is the benchmark for safe electrical design, installation, and inspection to protect people and property from electrical hazards. Updated every three years at the national level, it serves as the main conduit for bringing advancements in safety—and the latest electrical technology—into the built environment. However, the *NEC* can only fulfill this role if states incorporate the updates into the state electrical codes.

While 80% of U.S. residents expect up-to-date safety codes, nearly one-third of U.S. states have skipped one or more updates in the past 10 years and many have amended the code to remove safety regulations.

Currently, states vary considerably in how promptly and efficiently they adopt the *NEC* updates. A home built in Massachusetts, which adopts *NEC* updates within six months of their publication, will have the latest advances in electrical safety and technology. One built in Pennsylvania, where the state took over five years to adopt the 2008 *NEC* update and has skipped subsequent editions, will be nearly a decade out of date. Nearly a third of states* have failed to adopt one or more updates and many states amend the code to remove safety requirements.

In an independent survey commissioned by the NFPA Fire & Life Safety Policy Institute, over 80 percent of U.S. residents polled feel that policymakers should make it a priority to ensure electrical and fire safety codes are up-to-date as new technology and safety measures become available, and 86 percent believe that if they purchased a newly-constructed home today, it would meet the most up-to-date codes. To meet these expectations, policymakers must promote prompt and complete adoptions.

> **"Legislators are having a more involved role, which wasn't the case in the past."**
> *— survey participant*

The Policy Institute reviewed *NEC* update practices across the U.S. and commissioned interviews and surveys with individuals recently involved in state level *NEC* updates to better understand barriers to more prompt and efficient adoptions. These insights form the basis of the following recommendations intended to help policymakers encourage prompt updates and promote the advancement of electrical safety:

Take Advantage of the National Process

Officials have an important resource in the robust national process that develops the *NEC* updates and they should rely on it. The lobbying of elected officials to delay updates or remove safety protections stalls advancements in safety. In fact, some states already recognize this in statute. Instead of taking unnecessary risks with electrical safety, **elected officials should direct special interests to the national process.**

Rely on Experts

To maintain a robust level of expertise that will enable timely adoption, states should rely on electrical regulatory boards to update the electrical code and implement statewide licensing for electricians. These board members should be appointed based solely on expertise and professional experience and allowed to deliberate independently. States without dedicated electrical boards were two times as likely to skip an update over the past three *NEC* cycles as those with such boards. **States with electrical boards are also more efficient, tending to adopt new updates in about half the time as states that do not use an electrical board.**

> **"I was extremely impressed with the knowledge that these men and women had."**
> *— survey participant*

Prioritize Adoption of the *NEC*

States that adopt the *NEC* as part of a package with other codes, for example building, plumbing and energy conservation, take roughly twice as long to do so. **Waiting to adopt the *NEC* updates with other codes creates inevitable delays in advancing electrical safety and technology.**

Consider Costs Holistically and in Context

Policymakers are concerned with the compliance costs regulations impose but these costs should not be considered in isolation. Every year, electrical-related fires are responsible for over $2 billion in direct property losses. Focusing solely on the cost of compliance ignores the potential benefits of lives and dollars saved through the prevention of fire and accidents. **Attempts to estimate costs should be framed in a way to consider benefit of deaths, injuries and property loss avoided.**

> **"The committee wants to create a safe electrical environment without an undue or unnecessary financial impact to the users, builders, etc."**
> *— survey participant*

For further information on the findings, recommendations and methods described here, please visit www.nfpa.org/policyinstitute

* Of the 44 states that adopt a statewide electrical code

FROM **2010-2014** THE AVERAGE NUMBER OF ELECTRICAL-RELATED HOME AND NON-HOME FIRES EACH YEAR IS OVER **61,000** CLAIMING AN ANNUAL AVERAGE **432 lives** AND RESPONSIBLE FOR AN ANNUAL AVERAGE LOSS OF **$2.014 billion**

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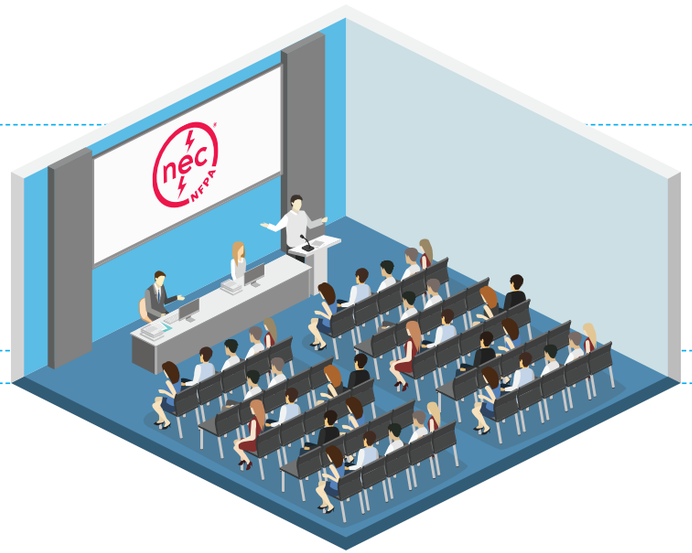
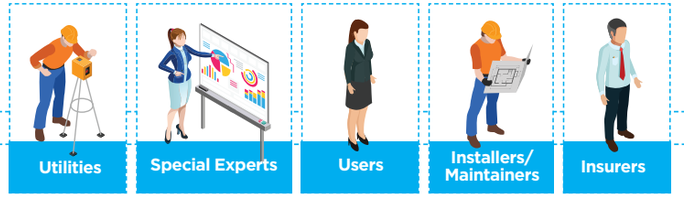
THE MAKING OF THE 2017 NFPA 70 NATIONAL ELECTRICAL CODE®

Hundreds of participants give their time and expertise to each update. Each panel member represents one of the following interest categories:





THE NEC® EQUATION

The 520 panel members serve on 19 code-making panels. Each panel can have no more than one third of its representation from the same interest category. This principle of balance prevents any single interest category from dominating the process and ensures all voices have the opportunity to be heard. The 520 panel members reviewed and debated more than 5,500 public inputs during 35,000 person-hours.

19
CODE-MAKING PANELS

520
PANEL MEMBERS

5,500+
PUBLIC INPUTS THROUGH TWO ROUNDS OF PUBLIC REVIEW

35,000
PERSON-HOURS

33%
MAXIMUM REPRESENTATION ON ANY PANEL OF ANY INTEREST CATEGORY