Testimony of
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## Introduction

Good morning, Mr. Chairman and Members of the Committee. My name is David Miller and I am the Associate Administrator of the Federal Insurance and Mitigation Administration (FIMA). I appreciate the opportunity to discuss the importance of building codes and mitigation with the Committee.

Mitigation is the thread that permeates emergency management. Mitigation has an overlapping role across response, recovery, and preparedness. By taking active steps to lessen the impact of disasters before they occur, mitigation reduces the loss of life and property endured by affected communities. Mitigation efforts support more rapid recovery from disasters and lessen the financial impact of disasters on the Nation. Stringent building codes, flood-proofing requirements, earthquake design standards, wind-bracing requirements for new construction, and repair of existing buildings are examples of mitigation efforts. Other examples include adoption of zoning ordinances that steer development away from areas subject to flooding, storm surge, or coastal erosion, and the retrofitting of public buildings to withstand hurricane-strength winds or earthquake ground motions.

Mitigation is achieved through risk analysis, which provides the intelligence that creates a foundation for mitigation, and risk reduction, which can break the cycle of disaster damage, reconstruction, and repetitive damage. Since the establishment of FIMA on November 29, 1993, mitigation has been a cornerstone of emergency management. Our vision is "a Nation committed to a disaster-resilient and sustainable future." We engage partners from a broad spectrum of Whole Community stakeholders that include Federal, state, tribal, territorial, local, non-profit, and private sector organizations. This includes national leaders in building code development and enforcement.

To support our efforts, FIMA relies heavily on FEMA's Building Science Branch to provide the technical services necessary for risk reduction and efficient, effective mitigation. The Building Science Branch develops and produces multi-hazard guidance focused on creating disaster-resilient communities to reduce loss of life and property. The Branch takes a lead role in developing publications, guidance materials, tools, technical bulletins, training, and recovery advisories that incorporate the most up-to-date building codes, flood-proofing requirements, seismic design standards, and wind design requirements for new construction and the repair of existing buildings.

**FEMA's Role in Building Codes**

Building codes and standards provide safeguards for people at home, at school, and in the workplace. The International Codes (I-Codes), promulgated by the International Code Council (ICC), are a family of building and fire safety codes which provide a complete set of coordinated, comprehensive, and contemporary building and fire safety standards available for adoption by jurisdictions. Throughout the United States, code enforcement officials, architects, engineers, designers, and contractors work with a consistent set of requirements that, wherever adopted, lead to consistent code enforcement and higher quality construction. Despite the strength of the I-Codes, adoption of model codes can be uneven across and within States, even in areas with high levels of seismic hazard. The most effective codes are those that are both up-to-date and widely adopted and enforced.

Natural disasters such as hurricanes, tornadoes, tropical storms, earthquakes, and wildfires can have a devastating effect on the built environment and the economy. Studies of various catastrophes demonstrate that effective building code enforcement greatly reduces associated losses as described below. Post-disaster assessments of many communities have shown a direct relationship between building failures, the codes adopted, the resources directed toward implementation and enforcement, and the services available to support those codes.

Development of the I-Codes is based on a proven system of providing for public safety by allowing all interested and affected parties to participate in code creation. The code development procedures of the ICC allow anyone to submit a code change proposal, make a public comment and participate in the debate on any change. A Committee for each code, with a balance of members representing general interests, users of the code and producers, considers all views expressed and vote to recommend the disposition of each code change. Evidence of the committee vote on each change, with reason, is documented and published along with any challenges to each change. At a subsequent hearing the voting members of ICC representing state and local government vote on the final disposition of eachcode change. The results determine what is included in the new edition of each I-Code, published every three years.

The I-Codes governmental consensus process is an open, balanced, and inclusive code development procedure. FEMA and other federal agencies participate in this process as a means to satisfy the National Technology Transfer Act, which directs federal agencies to utilize voluntary private sector consensus codes and standards to the maximum extent possible in meeting their mission. The procedure follows the principles of openness, transparency, balance of interest, due process, an appeals process, and consensus, and is consistent with the manner in which Federal, state, and local laws are developed and finalized.

FEMA supports the development of safe building codes by continuously monitoring, strengthening, and maintaining disaster-resistant provisions of national level building codes and standards. Over the past 30 years, FEMA has worked with national model building codes and standards groups as well as engineering and construction industry groups to propose and gain adoption of numerous disaster-resistant provisions for earthquake, wind, and flood hazards in the Nation's model codes and standards. The Agency also participates in various codes and

standards committees to share lessons learned from previous disasters and lend insight to code-related studies.

In addition, FEMA engages with organizations like the ICC, and state and local building officials to help develop and encourage adoption of disaster-resistant building codes and standards. The core reference standard for the International Building Code flood provisions is the American Society of Civil Engineers' (ASCE) publication on *Flood Resistant Design and Construction*, ASCE 24, which contains hundreds of flood damage resistant building provisions championed by FEMA that are consistent with National Flood Insurance Program (NFIP) guidelines. The core reference standard for the International Building Code's earthquake provisions is the ASCE *Minimum Design Loads for Buildings and Other Structures*, ASCE 7. FEMA's extensive contributions to these publications and our collaboration with many partners in mitigation have successfully shaped the International Building Code into a model substantially equivalent to the building requirements of the National Flood Insurance Program (NFIP) and the National Earthquake Hazards Reduction Program (NEHRP).

FEMA's role in building codes is likely to evolve given the recent passage of the Biggert-Waters Flood Insurance Reform Act of 2012. The legislation directs FEMA to conduct a study and submit a report to Congress regarding the impact, effectiveness, and feasibility of amending section 1361(Criteria for Land Management and Use) of the National Flood Insurance Act of 1968 (42 U.S.C. § 4102) to include widely used and nationally recognized building codes as part of the floodplain management criteria in that section of the Act.

**Current Programs and Initiatives**

FEMA helps thousands of communities and tens of thousands of individuals avoid the suffering and economic loss associated with disaster damage through risk identification and analysis; sound floodplain management strategies; support for strong building codes; and grants to strengthen the built environment.

To help save lives in extreme wind events, we encourage construction of safe rooms through grants programs like the Hazard Mitigation Grant Program and Pre-disaster Mitigation Grant Program. Since 1999, FEMA has helped fund 1,334 community safe rooms in 20 states, including 235 in 2011, a nearly 90 percent increase from the 124 rooms constructed with FEMA funding in 2010. According to a 2005 report by the Multihazard Mitigation Council, a public/private partnership designed to reduce the economic and social costs of natural hazards, FEMA grants disbursed between 1993 and 2003 to mitigate the effects of floods, hurricanes, tornados, and earthquakes are expected to save more than 220 lives and prevent almost 4,700 injuries over approximately 50 years.

In addition to saving lives, mitigation saves money. According to a study by the Multihazard Mitigation Council, every dollar invested in mitigation saves, on average, four dollars that would be spent after a disaster for repairs and recovery. Mitigation programs save the American public an estimated $3.4 billion dollars annually through a strategic approach to natural hazard risk management. In 2011, FEMA's Hazard Mitigation Assistance (HMA) programs helped local communities across the United States prepare for future disasters by providing up to $252

million in flood grant funds for mitigation activities affecting more than 1,300 properties. These measures are expected to result in potential losses avoided of approximately $502 million for flood programs.

Further evidence showcasing the benefits of mitigation can be seen in a loss avoidance study in Kenosha County, Wisconsin, which showed the acquisition of residential structures from 1995-2008 at a cost of $11 million resulted in losses avoided of $14.5 million. In Birmingham, Alabama, a similar study showed the acquisition of 735 residential properties from 1995-2000 at a cost of $43.3 million resulted in losses avoided of $63.7 million.

FEMA's HMA programs present a critical opportunity to reduce the risk to individuals and property from natural hazards while simultaneously reducing reliance on Federal disaster funds. This program is one way FEMA supports mitigation through a Whole Community approach, and also works to implement Presidential Policy Directive 8 (PPD-8), which aims to strengthen the security and resilience of the United States through systematic preparation for threats that pose the greatest risk to the security of the Nation. As part of PPD-8, FEMA and its interagency partners are developing the National Mitigation Framework (NMF) and will align key roles and responsibilities to deliver capabilities and provide a unified, integrated, accessible system with common terminology. Creation of this framework will be guided by the principles of resilience and stability; leadership and locally-focused implementation; partnerships and inclusiveness; risk-based culture; credibility and relevance; and risk.

The NMF and its companion Federal Interagency Operational Plan were developed by interagency partners to provide a more detailed concept of operations; describe critical tasks and responsibilities; detail resource, personnel, and sourcing requirements; and provide specific provisions for the rapid integration of resources and personnel. The Community Resilience and Long-Term Vulnerability Reduction core capabilities of the NMF specify critical actions pertaining to building codes and their enforcement. The NMF will help us create a nation-wide, holistic, integrated model for mitigation.

**How does FEMA encourage mitigation at the state/local levels?**

PPD-8 emphasizes the need for an all-of-nation approach to preparedness. In an effort to support development of building codes and engage state and local partners, FEMA has collaborated nationally to bring attention to the importance of these codes through Presidential Proclamations declaring the month of May as National Building Safety Month in both 2011 and 2012. National Building Safety Month is endorsed by many state Governors and thousands of local jurisdictions across the country.

FEMA also uses a variety of programs to reach members of the Whole Community. The Risk Mapping, Assessment, and Planning (Risk MAP) Program strengthens state, tribal, territorial, and local government capability by providing actionable risk information, mitigation planning tools, and risk communication outreach support.

FEMA's funding for state and local hazard plans and projects for state, tribal, territorial, local, non-profit, and private sector partners reduces overall risks to the population and structures while

reducing reliance on funding from actual disaster declarations. For example, the Susquehanna River flooding in 2006 inundated Our Lady of Lourdes Hospital in Binghamton, New York with 16-20 inches of contaminated floodwater, forcing patient evacuations and a shut-down of critical operations for two weeks, causing an estimated $20 million in losses. Following the disaster, funds from FEMA and the State of New York supported construction of a floodwall at a cost of approximately $7 million. When Tropical Storm Lee again caused flooding in 2011, it damaged approximately 2,000 buildings, and engulfed the hospital parking lot in floodwater. However, due to the mitigation investment, the 14-foot reinforced concrete floodwall extending around the hospital allowed the facility to operate at full capacity during and after the storm, thereby avoiding the losses suffered during the earlier flooding.

Our Lady of Lourdes Hospital did more than mitigate financial losses during Tropical Storm Lee. By continuing to operate at full capacity amidst the storm, the hospital brought stability to the affected community and provided support for the recovery efforts to follow. In addition to cost-savings, mitigation creates additional, non-quantifiable benefits. Heightened community awareness, knowledge of risk management, and understanding of emergency management topics throughout the community are immeasurable benefits stemming from mitigation efforts.

**Conclusion**

Mitigation is a central part of FEMA's mission to support our citizens and first responders to ensure that as a nation we work together to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards. Mitigation is an essential component of national preparedness and emergency management, and strengthens significantly our chances of saving lives and avoiding costs during disasters. Adoption of effective building codes in local ordinances can further mitigation efforts and preserve lives and property that would otherwise be lost.

Thank you, Mr. Chairman, for providing me this opportunity to appear before you today. I look forward to answering any questions you or other Members of the Committee may have.