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On Behalf of the

National Association of Home Builders

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Disaster Preparedness: DRRA Implementation and FEMA Readiness

Introduction

Chairwoman Titus, Ranking Member Meadows, I am pleased to appear before you today on behalf of the National Association of Home Builders (NAHB) to share our views regarding disaster preparedness. My name is Randy Noel, and I am NAHB's Immediate Past Chairman of the Board. I am also the president of Reve Inc., a custom home building firm based in LaPlace, Louisiana. My company has built more than 1,000 homes in the greater New Orleans area. As a longtime resident of Louisiana, I have had a firsthand look at what catastrophic disasters can do to communities.

NAHB represents more than 140,000 members who are involved in land development and building single-family and multifamily housing, remodeling, and other aspects of residential and light commercial construction. NAHB's members construct approximately 80 percent of all new housing built in the United States each year. NAHB's mission is to enhance the climate for housing and the building industry, including providing and expanding opportunities for all people to have access to safe, decent, and affordable homes.

Due to the wide range of activities they conduct on a regular basis to house the nation's residents, our members are often required to comply with various FEMA mandates and/or opt to participate in voluntary programs and initiatives to meet their business goals. As such, NAHB has a long history of supporting and participating in many of FEMA's disaster- and resiliency-related activities and the National Flood Insurance Program (NFIP). We have repeatedly demonstrated our commitment to working with FEMA and others to promote sound federal disaster and floodplain management policies and cost-effective, market-driven solutions that maintain housing affordability while balancing the needs of growing communities with the need for reasonable protection of life and property. Today, I would like to discuss with you the role building codes play in disaster preparedness and the need for policies and programs to enable and facilitate the production of resilient homes.

It is clear that the unusual number of significant natural disasters occurring over the past few years, coupled with ongoing concerns over the effects of climate change, have increased awareness of and raised concerns about the resilience of buildings. Although most states and localities are governed by building regulations that are designed to protect homes and their occupants from severe weather events and hazards, some argue that more should be done. But those additional efforts come at costs that not only curtail homeownership and significantly hinder housing affordability, but also can severely impact state and local economies. This is because these policies greatly influence how existing structures and cities are reengineered, rebuilt and/or remodeled and impact how and where new homes and communities are built.

Background

The Disaster Recovery Reform Act (DRRA) of 2018 was signed into law by President Trump on Oct. 5, 2018 as part of the broader legislation that reauthorized the Federal Aviation Administration. The DRRA, which amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act, reforms several FEMA programs to help states and communities better prepare for, respond to, recover from, and mitigate against disasters of all types. To do so, much of the focus is on two areas: ensuring that buildings, infrastructure and communities are able to absorb the effects of a natural disaster and recover within reasonable expectations and manageable costs; and mitigating potential damage before it occurs.

The unprecedented number and scope of disasters over the past several years and their associated losses have been tragic and sobering. They have impacted lives, businesses and communities across the spectrum, including many NAHB members and our affiliated state and local home builder associations. In fact, when disaster strikes, the Nation's home builders are at the forefront of many of the recovery and rebuilding efforts. As such, NAHB is fully supportive of the continuing efforts to improve the nation's readiness and capacity to respond to catastrophic disasters but cautions that care must be taken to ensure these efforts are comprehensive, flexible, focused on highest risk areas and structures, and that solutions are cost effective for all stakeholders. NAHB stands ready to work with you, your colleagues, FEMA and others to continue to improve the resiliency of the nation and, in particular, the nations' housing stock.

Building Codes

The DRRA includes a number of directives targeted at making buildings more resilient, such as providing additional resources for the implementation of building codes post disaster, allowing certain funds to be used for code adoption and enforcement, and requiring repair and rebuilding of federally-assisted facilities to follow certain building codes. Many of these efforts are predicated on requiring the use of "latest published editions" of certain codes or standards.

NAHB has long been a supporter of the development and implementation of reasonable, practical, and cost-effective building codes and standards. We have established a highly knowledgeable and active member committee to oversee and participate in code development, as well as a seasoned staff team that is dedicated to advocating for builders and consumers. Our participation is evident with ICC, ASHRAE, the National Fire Protection Association, the American Society of Civil Engineers, the American Wood Council, and the American Society for Testing Materials and others, through which we aim to find workable solutions that are both affordable and provide jurisdictional flexibility.

It is with this backdrop that we raise concerns about requiring the adoption of the "latest published editions." Doing so can be extremely problematic. First, modern codes already are resilient, so increasing the stringency is not necessary. Second, any policy must recognize and accommodate the different risks, building technologies and landforms that occur across the country by specifically allowing the model codes to be amended. Third, each state and local government follows its own code adoption, implementation, and enforcement processes and has limited dedicated resources, which may not be conducive to adopting the latest published codes within the expected timeframes. Finally, although the term "latest published editions" is defined

in DRRA as the two most recently published editions, which would mean, for example the 2015 or 2018 I-Codes, this definition sunsets after five years. Once that happens, FEMA retains the discretion to define "latest published editions" as it sees fit. NAHB believes a literal interpretation is unworkable and unnecessary.

- Modern Codes are Resilient

  Building codes are designed to establish minimum requirements for public health and safety for commercial and residential structures. Although they have existed in various forms for decades, building codes in the United States achieved a milestone in 2000 when the three regional code organizations were consolidated into the International Code Council (ICC) and their codes were combined to create the first set of "I-Codes", which were published in 2000. Although there are other building codes available, the I-Codes are the most widely used model building codes, with some form of the International Building Code (IBC) adopted in all 50 states and versions of the International Residential Code (IRC) adopted in 49 states. The I-Codes are modified through a formal public consensus process every three years. This has resulted in the publication of a new edition in 2003, 2006, 2009, 2012, 2015, and 2018. Work has commenced on the 2021 version of the code and final votes will take place in the fall of 2019.

  When the I-Codes were created, a number of major improvements were immediately made to the traditional building code requirements within the residential building code to address issues observed after Hurricane Andrew in 1992 and the California earthquakes of 1989 and 1994. Although additional improvements have been made since the I-Codes' debut in 2000, the number of changes incorporated into the newer editions of the IRC that dramatically impact structural reliability and occupant life safety within residential structures have greatly diminished. In other words, the modern building codes (e.g., post-2000) have proven to be resilient and the need for triannual updates is not necessary for improved resilience.

  Despite this, many believe that homes built following the "latest published edition" of the building code equate to more resilient homes, but that is not necessarily the case when compared to those built to previous editions of the IRC. Homes built to modern building codes – defined as any edition of the IRC – have been shown to be resilient. Evidence from FEMA and others demonstrate the IRC, throughout its history, has been very effective in preventing the destruction of homes due to various storms and earthquakes and significantly reducing damage to wall and roof coverings. [1]Further, because many of today's new homes are built with additional sustainable and high-performance building features, they are even more durable and resilient.

[1] For example, FEMA's Summary Report on Building Performance - 2004 Hurricane Season (FEMA 490, March 2005) indicates that "no structural failures were observed to structures designed and constructed to the wind design requirements of…the 2000 IBC/IRC". FEMA's Summary Report on Building Performance from Hurricane Katrina (FEMA 548, April 2006) states "most structural failures observed…appeared to be the result of inadequate design and construction methods commonly used before IBC 2000 and IRC 2000 were adopted and enforced." FEMA's MAT Report following Hurricane Irma in Florida (FEMA P-2023, December 2018) states "buildings designed and constructed to comply with the FBC met expectations by performing well structurally."

The successful performance of the IRC is also an indication of the "maturing" of building codes as they have gone through the iterative process of refinement since 2000. While tweaking the code to reflect technological advances will continue, it is clear that major changes aren't as necessary as they used to be. Similarly, because the codes are nearing a point of diminishing returns in terms of the cost/benefit ratio, additional updates may not be cost effective. Homes can be built to withstand any disaster, but homes cannot yet consistently be built to withstand any disaster *and* be affordable. New homes built to modern codes are safe. New homes built to modern codes are resilient. There is no need to require adherence to the latest published edition of the code – especially if that is interpreted to mean the most recent version.

- Codes Must be Amendable

  State and local governments play a key role in the codes adoption process and determining the value of and need for certain code requirements. For decades, state and local governments have been responsible for evaluating each new edition of the model consensus-based building codes and determining which provisions are applicable within their borders. This is done after a thorough consideration of risks, costs, technology, and resources, among other factors. Some states make few changes to the model codes, others hand-pick the provisions and/or amend certain requirements, and others use the model code as a baseline to create their own state-specific code.

  DRRA acknowledges the need to recognize "standards, and amendments made by State, local, tribal, or territorial governments during the adoption process," and, in fact, the ability of state and local governments to tailor building codes and amend them, as needed, to fit the needs of their communities and protect their citizens is one reason the model building codes work. Under this rubric, Nevada is free to identify the risks it faces and adopt the codes that are best suited to its locale, geography and economic conditions, while North Carolina is able to do the same. In fact, the model codes are intended to be tailored and amendments are made to nearly every code that is adopted at the state or local level, whether it applies to only the administrative requirements or major rewrite of the entire document. For example, North Carolina adopted its 2018 building codes based on the 2015 I-Codes on January 1 of this year with 38 pages of amendments.[2] Similarly, Nevada adopts the building codes at the local level, but collaborates statewide on the amending process and had 14 pages of amendments on the residential code alone.[3] Implementation of the new statute must not alter this vital underpinning and must allow and embrace amendments.

[2] See Summary of NC State Building Codes Amendments at Codehttp://www.ncdoi.com/OSFM/Engineering_and_Codes/Documents/2018_NCBuildingCode_amendments/2018_NCBuildingCode_amendments.pdf.

[3] See Southern Nevada Amendments to the 2018 International Residential Code at http://www.clarkcountynv.gov/building/plan-review/Building%20Codes/2018_IRC_Amendments.pdf.

- Code Adoption Processes Vary
  Evaluating and adopting a new building code is a time consuming and costly undertaking – one which oftentimes requires state legislative, as well as administrative action. The multi-step process typically entails public hearings, comment periods and appeals - an administrative procedure that can take over a year to complete, not counting the transitional period between when the new code is approved and when it takes effect. This additional time is necessary so that builders and code officials can be trained on the new requirements, how they are to be implemented, and how compliance will be measured and enforced in the field.

  Recognizing the level of effort required to update the codes, coupled with resource constraints and the controversial changes made to the 2009 and 2012 IRC codes (unrelated to structural integrity or resilience, including the mandatory requirements for fire sprinklers and stringent energy code requirements that increased cost, mandated the use of particular building products and systems, and created unintended consequences such as mold and moisture issues), many state and local governments have elected to follow a six-year or longer cycle for updating their building codes. In this way, they are able to maintain building safety without compromising their ability to oversee, administer and enforce the requirements or keep up with emerging technology.

  Given these realities, mandating the adoption of the "latest published editions" creates an unintended disadvantage for many states and localities that, under other measures, would be considered to be fairly up to date in maintaining their codes (e.g., following a standard and predictable process and timeline). FEMA must value and recognize state and local governments that make good faith efforts to adopt and enforce modern codes and defer to state and local expertise in determining which building codes are appropriate.

In sum, those who call for the adoption of more stringent and costly building requirements fail to understand that this would do very little to provide further protection from natural disasters. Any by, inappropriately focusing on new construction, this would create hardships for state and local governments, and would make new housing prohibitively expensive for hard-working families at a time when the nation is already suffering through a housing affordability crisis. A better approach is the swift implementation of DRRA's various mitigation, funding and assistance programs with a specific focus on making the existing housing stock more resilient.

Pre-Disaster Mitigation

The DRRA includes a number of actions related to improving the ability of existing structures to withstand catastrophes, including the creation of the National Public Infrastructure Pre-Disaster Mitigation Program, which allows the President to set-aside up to 6 percent of the amount appropriated to FEMA's disaster relief fund for pre-disaster mitigation. States and tribal governments that have received a major disaster declaration in the past seven years will be eligible to competitively apply for these grants, which estimates suggest could range from $800 million to $1 billion annually. NAHB asserts that increasing the resiliency of the existing housing stock would be a prudent use of this funding stream.

One hundred and thirty million homes out of the nation's housing stock of 137 million were built before 2010, and therefore, most were not subject to the modern building codes that are now in effect. Equally problematic, the latest Census statistics show the number of homes built before 1970 that are taken out of commission is only about six out of every 1,000 being retired per year. These low rates of replacement mean that the built environment in the U.S. will change slowly and continue to be dominated by structures that are at least several decades old. Indeed, optimistic estimates suggest that if 1.2 million homes were built every year, after 20 years only 16 percent of the conventional housing stock would consist of new homes built between now and then. In comparison, 68 percent would still consist of homes built before 1990.[4] Clearly, these statistics demonstrate the impact that more recent improvements in development and construction practices and building codes can have on the built environment is limited because they largely focus on new construction, and points to the need to proactively address the existing housing stock.

Many of the post-disaster investigations support this conclusion. For example, in FEMA's Mitigation Assessment Team Report regarding Hurricane Sandy, the summary reads, "Many of the low-rise and residential buildings in coastal areas [that had observable damage] were of older construction that pre-dates the NFIP."[5] Similarly, the Insurance Institute for Business and Home Safety stated in its preliminary findings report for Hurricanes Harvey and Irma that, "[t]otal destruction from wind occurred to mobile homes, as well as older site built conventional homes," and "[n]ewer homes generally performed better than older buildings."[6]

As policymakers seek to mitigate the effects of future natural disasters, they need to create opportunities and incentives to facilitate upgrades and improvements to the older homes, structures and infrastructure that are less resilient to natural disasters because they were built when there were no national model codes in existence or constructed following codes that are now outdated.

Housing Affordability

The DRRA directs FEMA to enact a series of reforms to strengthen building code adoption and enforcement, authorize new resources for pre-disaster mitigation and identify new eligible mitigation activities, among others. Those related to the enactment of more stringent codes and the provision of additional funding streams are the ones most likely to impact the residential construction industry and, more specifically, housing affordability.

Many people cannot afford to purchase a home, much less one that exceeds current building requirements. In Louisiana, after the new code was adopted, builders saw an increase in construction costs of about 8 percent. Obviously, those costs are passed along to the consumer and can have a significant impact on the pool of eligible buyers. Indeed, NAHB estimates that in 2019, a $1,000 increase in the median new home price would price 127,560 U.S. households out

[4] Emrath, Paul, Ph.D., *More New Homes Needed to Replace Older Stock*, National Association of Home Builders, August 2, 2018.

[5] Federal Emergency Management Agency, *Mitigation Assessment Team Report Hurricane Sandy in New Jersey and New York*, November 27, 2013.

[6] Brown-Giammanco, Ph.D., *Hurricanes Harvey and Irma – IBHS Preliminary Findings Report*, Insurance Institute for Business & Home Safety, May 19, 2019.

of the market.[7] But compliance with many code changes and building retrofits can be significantly more costly than $1,000. For example, cost increases range from $4,800- $14,000 due to the changes from the 2006 to the 2009 code. [8]

At the end of the day, stricter construction standards and mitigation come with a price tag. Regardless of the level of benefit, some entity has to provide the upfront funding required to conduct the construction or mitigation activities or they will not occur. This is where the challenge lies for most consumers and homeowners. Just because more stringent codes or pre-disaster mitigation may provide a benefit doesn't mean it can or will be implemented. While the increased funding from DRRA can help, because most of these sources have been consistently oversubscribed and target the highest risk structures, it is unlikely they will be able to fully serve the array of mitigation needs associated with existing housing. New sources, avenues, and incentives must be found.

One alternative that has been used in several states is providing insurance discounts for conducting specific activities. In Texas, the state's hurricane insurance pool, the Texas Windstorm Insurance Association, offers premium discounts of 19% to 33% for building code compliance. In Rhode Island, insurers are required to waive the hurricane deductible for insured homeowners who voluntarily implement mitigation measures that are specified in the insurance regulation.[9] These programs have proven to be popular, as they provide value through loss reduction, yet enable and facilitate broader participation through reduced costs. The recognition and expansion of programs like these is one way to engage participation while avoiding hefty fees.

Another alternative is to recognize the value of the above-code measures and/or mitigation investments within the lending process – a practice that could apply to both new and existing construction. Under current practice, in most instances, mortgage companies, appraisers and real estate professionals do not consider the costs or benefits associated with the various resiliency upgrades that DRRA promotes. This creates a disincentive to take proactive steps to reduce a home's exposure, as those expenditures are not necessarily considered to add value. If the improvements are not included in the appraisal or appraised value of the structure, not only is the buyer uninformed about the home's qualities, his or her willingness to pay more can be significantly diminished.

In an effort to spur private investment in resiliency, the value and benefit of above code practices and mitigation measures should be incorporated into standard real estate lending practices and real estate listings. By recognizing and valuating the upgrades, appraisers can consistently give weight to these improvements in their valuations, lenders may reconsider qualifying loan ratios, realtors can promote their benefits, and homeowners would get assurances that the investments they have made will retain value and be recognized in resale. Homes will also get the upgrades

[7] Zhao, Na, Ph.D., *NAHB Priced-Out Estimates for 2019*, National Association of Home Builders, January 2, 2019.
[8] Home Innovations Research Labs, Estimated Costs of the 2015 IRC Code Changes, (Report No. 5946-002_11192014, January, 2015
[9] Frith, Alan, *Developing a Comprehensive Wind Mitigation Incentive Program Is Complicated, but Modeling Simplifies the Task*, AIR, September 25, 2017.

needed to better weather storm events, thereby reducing future damage, insurance outlays, and homeowner displacement – the very purpose of many of DRRA's directives.

Other opportunities to facilitate, incentivize, and offset the costs of voluntary above-code construction and/or pre-disaster mitigation include tax incentives, grants, the creation of a weatherization assistance-like program for resiliency, and other financing programs. Clearly, FEMA cannot solve this issue on its own, but it can work within the DRRA framework to lay the groundwork for future collaborations.

Moving Forward

Sound building codes are already in place in most communities and they are doing their job. As FEMA considers and takes action to implement the various directives of DRRA, NAHB remains concerned with how any expansion of federal authority over state and local governments' ability to adopt location-appropriate building codes and take other steps will impact where and how homes are built and severely constrain the production of affordable housing. NAHB is also troubled by the inappropriate focus the adoption of the most recent versions of codes places on new construction at the expense of the existing housing stock and strongly believes that expanding the mitigation opportunities and targeting them to existing structures could help to better manage and more evenly distribute the risks.

We strongly urge FEMA and this Subcommittee through its oversight role to focus any efforts related to housing on cost-effective, market driven solutions that encourage greater resiliency in the nation's housing stock while preserving housing affordability for both new and existing homes. Further, given our members' knowledge and experience building homes and communities – activities that place them on the front lines in terms of designing, planning, and building to reduce risks and minimize future losses -- we stand ready to assist and help deliver positive results and help FEMA reach its goals.

Conclusion

I would like to thank the Subcommittee for the opportunity to testify today and share NAHB's views. The nation's home builders have long supported the adoption and implementation of building codes as a way to ensure the homes we build are solid and safe. In doing so, what has become clear is that with each new home we build, we are transforming our communities into resilient cities of the future.