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October 27, 2022

Office of General Counsel
Regulations Division
Department of Housing and Urban Development
451 7th Street SW, Room 10276
Washington, DC 20410-0500

Via regulations.gov

Re: Comments of the International Code Council on the Green and Resilient Retrofit Program Request for Information, Docket No. FR–6350–N–01 [2022-20855]

The International Code Council (ICC) is a nonprofit organization, driven by the engagement of its more than 63,000 members, that is dedicated to helping communities and the building industry provide safe, resilient, and sustainable construction through the development and use of model codes (I-Codes) and standards used in design, construction, and compliance processes. Most U.S. states and communities, federal agencies, and many global markets choose the International Codes (I-Codes) to set the standards for regulating construction and major renovations, plumbing and sanitation, fire prevention, and energy conservation in the built environment.

The Code Council is committed to providing communities with solutions they need to achieve their energy efficiency, greenhouse gas (GHG) emissions reduction, and resilience goals. The I-Codes and supporting resources play an essential role in achieving energy efficiency and GHG reduction goals. During 2021, the Code Council Board of Directors released a new framework, Leading the Way to Energy Efficiency: A Path Forward on Energy and Sustainability to Confront Climate Change, leveraging the success of the International Energy Conservation Code (IECC), International Residential Code (IRC) and International Green Construction Code (IgCC). Given buildings account for 40% of total energy consumption in the United States, the adoption and effective implementation of building and energy codes will play a critical role in advancing efforts to mitigate emissions and enhance resilience in the form of job creation and improving health and safety for all.

Additionally, the I-Codes have been recognized by the Federal Emergency Management Agency (FEMA) and the White House as one of the most cost-effective mitigation measures to protect communities and their residents from the growing impacts of disasters. As stated in FEMA's agency-wide Buildings Codes Strategy, "[w]hen a community adopts and enforces hazard-resistant building codes and standards, it lays the foundation for increased resilience and a culture of preparedness by making mitigation a standard practice." In its National Initiative to Advance Building Codes, the White House calls on agencies across the government to leverage the benefits modern hazard-resistant codes provide.

Safer and more resilient buildings strengthen community lifelines, reduce community risk, and ultimately reduce overall costs for community disaster recovery. The below comments reiterate prior Code Council comments regarding the importance of the adoption and enforcement of current building construction, fire prevention, and life safety codes and standards (hereafter collectively referred to as

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"building codes") as two of the most effective risk mitigation measures a jurisdiction can undertake. Current or modern building codes are a foundational element of both community resilience and sustainability, and thus should remain a priority for federally funded projects. The Department of Housing and Urban Development (Department) is strongly positioned to advance this policy linkage, and thereby drive meaningful improvement in building performance and safety of our existing building stock in the face of increasingly damaging hazard events through the new Green and Resilient Retrofit Program (GRRP). Additionally, the Department has the obligation to protect taxpayer's investments, assuring that federal funding provides long-term value, serves to reduce future reliance on federal funding for disaster recovery, and better leverages limited funding for energy-related programs (for example the Weatherization Assistance Program or the Low-Income Energy Assistance Program).

At the core, building codes deliver the solutions necessary to target the overall goals of the GRRP including but not limited to "reducing energy consumption and carbon emissions, improving indoor air quality for residents, reducing residents' and properties' exposure to climate hazards, and protecting life, livability, and property when disaster strikes." The Code Council's detailed recommendations on the GRRP are listed below.

1. **How might this program help prioritize and scale best practices for reducing energy consumption and carbon emissions, improving indoor air quality for residents, and strengthening climate resilience among affordable multifamily buildings? How can these measures and practices be deployed in a way that preserves affordability of our properties?**

Although the federal government invests billions of dollars in infrastructure annually, and requires current codes and standards for its own portfolio, FEMA is the only federal entity that currently requires that federally assisted projects adhere to up-to-date building codes and standards. FEMA has done so to "increase the resilience of communities after a disaster," "protect lives and property," and to "reduc[e] the need for future Federal disaster recovery funding and other assistance." Recognizing the importance of resilient construction, a component of the President's American Job Plan commits to "build back above existing codes and standards" in disaster-prone communities

The International Code Council encourages the Department of Housing and Urban Development (HUD) to require programs set up with federal dollars, including HUD's new GRRP program, to use up-to-date codes and standards for any retrofit or renovation activities that fall under the grant program. Building codes play an essential role in enhancing resilience in response to the changing climate and supporting community needs in achieving their energy efficiency and GHG emission reductions targets. Implementation of current codes for the GRRP program would promote increased energy efficiency, resilience and sustainability.

There are various benefits to implementing up-to-date codes that incorporate energy efficiency measures in buildings, including during emergency response and recovery, for social and economic resilience, and for climate mitigation and adaptation. If HUD includes energy efficiency improvements for a building that is not built to withstand a disaster event, there is increased risk of stranding federal investments. Requiring current codes for all federally funded building and construction projects, including those under the GRRP, ensures that these investments are maximized and provide safety.

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Without a consistent baseline for all projects funded through GRRP requirements would default to the codes in place at the state or local level. FEMA has found that about two thirds of the country is not protected by hazard resistant codes. This leaves residents unnecessarily exposed to the impacts of disaster events including loss of lives and property. Similarly, at a time when energy prices are rising and the nation invests in energy efficiency to reduce the contributions to climate change a strong (and consistent) set of minimum criteria is essential.

Better built buildings minimize repair and displacement costs and economic impacts following natural disasters, reduce the risk of loss, have better ventilation and indoor air quality, and cut energy and water utility bills. Keeping utility bills low also mitigates default risks, with one recent study finding that energy-efficient homes have a third less risk of mortgage default. The Department of Energy estimates that robust energy codes and standards can save owners and occupants $126 billion in avoided energy bills by 2040, with emission reductions equivalent to the annual emissions from 89 million homes. Those same codes and standards help maintain internal temperatures, permitting building occupants to more safely shelter in place for periods without power during extreme weather.

As stated in the White House's National Initiative to Advance Building Codes, "[m]odern, consensus-based codes […] provide sets of model standards for several aspects of building design, including energy efficiency and improving resilience to various hazards such as wildfires, hurricanes, and floods. Communities that have adopted modern building codes are already saving an estimated $1.6 billion a year in avoided damage from major hazards […]" The effectiveness of building codes in improving resilience to hazards was evident following Hurricane Ian in Florida, where the community of Punta Gorda's buildings remained largely intact because of their enhanced storm-specific building codes implemented following the destruction of Hurricanes Andrew in 1992 and Charley in 2004. Historically, HUD has not required strong building codes and standards for their funded projects. The International Code Council strongly encourages HUD and other federal agencies to align with FEMA in developing a government-wide strategy to support the adoption and use of hazard resistant building codes.

The GRRP should require use of current codes—including I-Codes like the International Building Code (IBC), IRC, and IECC—to ensure funded projects achieve future energy efficiency goals, emissions reduction targets, and resilience outcomes. The Federal Emergency Management Agency (FEMA) in its multi-year study, *Building Codes Save: A Nationwide Study*, found that if all new buildings across the U.S. were built to modern editions of the I-Codes, the country would save more than $600 billion in losses avoided by 2060. The FEMA *Building Codes Strategy* aims to drive coordination and prioritize activities that advance the adoption and enforcement of hazard resistant building codes across all of the federal assistance programs administered by the agency. The interagency Mitigation Framework Leadership Group (MitFLG) in its *National Mitigation Investment Strategy* recommended, "[u]p-to-date building codes and standard criteria should be required in federal and state grants and programs."

2. **HUD would like recommendations for designing the program to meet energy and emissions reduction goals as well as climate resilience. HUD seeks information on how to balance multiple goals (i.e., energy efficiency, decarbonization, and climate resilience). In addition, given the various eligible uses of funds, cost-effectiveness will vary greatly across projects.**

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How might HUD factor in cost-effectiveness when evaluating applications for energy- and/ or resilience-related projects?

Please incorporate the response to Question 1 by reference here.

Federal funding to support building construction, including incentives to drive retrofits such as the new GRRP, should be coordinated with building and energy codes to assure a holistic policy approach aligned with overall energy, resilience, sustainability and emissions reduction goals. The I-Codes are developed through a consensus-based process that includes representatives from across the building industry. This process provides for a broadly acceptable balance of cost, safety, resilience and sustainability. Further, the I-Codes represent a coordinated set of provisions that include both resilience and energy efficiency measures. HUD should specify that all funded projects meet or exceed the requirements of the IECC and the IRC (for one- and two-family dwellings) and the IBC (for multifamily dwellings). We would also encourage HUD to incentivize the use of the IgCC and the zero energy appendices of the IECC to drive even further resilience and sustainability.

The IECC has made significant progress in advancing efficiency. The 2021 IECC represents a roughly 40% improvement in energy efficiency for buildings compared to the 2006 edition. DOE's final determination on the 2021 IECC found a 9.4% site energy savings improvement and an 8.7% reduction in carbon emissions for residential buildings relative to the 2018 version. The commercial provisions of the 2021 IECC (which includes multifamily buildings) provide a 12.1 percent improvement in site energy use and a 10.2 percent improvement in GHG emissions over the 2018 edition. The determination concluded that, on a national weighted average basis, the 2021 IECC-Commercial is 6.5% more efficient for site energy use and 3.3% more for energy costs than Standard 90.1-2019. Given these enhanced energy efficiency and emissions reduction benefits, the International Code Council also encourages HUD to consider meeting the IECC-C for multifamily buildings. These savings not only reduce the impact of energy use but save consumers billions of dollars on their energy bills. According to the DOE, from 2010 to 2040, model energy codes for residential and commercial buildings are projected to save $138 billion in energy costs savings, 900 million metric tons (MMT) of avoided CO_2 emissions, and 13.5 quads of primary energy.

The IgCC, a collaborative effort of the Code Council, American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), Illuminating Engineering Society, and the U.S. Green Building Council, provides adoptable code language for communities that want to go beyond requirements contained in base codes. It is ideally positioned to serve as a stretch code for multifamily projects, building off the existing code infrastructure to deliver increased energy and water savings. The IgCC provides the design and construction industry with the single, most effective way to deliver sustainable, resilient, high-performance buildings. The continued goal of the IgCC is to build and provide criteria for energy efficiency, resource conservation, water safety, land use, site development, indoor environmental quality and building performance that can be adopted broadly. The Code Council urges adoption and compliance with the IgCC to support further climate mitigation and adaptation throughout the built environment for HUD funded programs and projects, including the GRRP.

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3. **How might HUD encourage or require applicants to leverage other funding for projects— such as owner equity, other federal, state, local, and/or utility grants, loans, rebates, tax credits, and incentives?**

Given the heterogeneity in the adoption of hazard resistant codes and standards across our country, we believe federally assisted construction and infrastructure investments should at minimum adhere to up-to date codes and standards. That position is supported by past FEMA Administrators from both parties, the federal government's National Mitigation Investment Strategy, and the still active Disaster Risk Reduction Minimum Codes and Standards Policy that former FEMA Administrator Fugate put in place.

HUD should consider incentivizing applicants who leverage other funding opportunities to enhance their codes. Where an applicant for GRRP funding doesn't have strong energy or resilient codes, HUD should provide increased support or application points when an applicant demonstrates commitment to enhancing their building and energy codes. Under the GRRP, HUD should recognize those applicants demonstrating an effort to pair the HUD funding with other grants, such as the Community Development Block Grants, Building Resilient Infrastructure and Communities, Hazard Mitigation Grant Program, American Rescue Plan, Resilient and Efficient Codes Implementation, and Inflation Reduction Act grants, to improve their codes.

4. **While HUD seeks to maximize impact, how can HUD best ensure that funding is distributed equitably?**

The International Code Council encourages HUD to utilize the flexibility of standing up the GRRP to maximize the amount of federal assistance and implementation of up-to-date building code requirements to support historically disadvantaged communities and populations. Additionally, we encourage HUD to consider Justice 40 communities and historically underserved jurisdictions for GRRP funding, particularly those with a history of repetitive loss from disasters and those experiencing high energy burdens, that would experience significant benefits from the adoption and effective enforcement of modern building and energy codes.

Implementation of modern building energy codes like the IECC (as discussed in the response to Question 2) promote the creation of sustainable, green jobs that further addresses equitable outcomes. Current codes that support energy efficiency and savings also support social resilience. In the U.S., low-income households face energy burdens two to three times that of median households. Of all U.S. households, 25% (30.6 million) face a high energy burden (i.e., pay more than 6% of income on energy bills) and 13% (15.9 million) of U.S. households face a severe energy burden (i.e., pay more than 10% of income on energy). Building codes and weatherization or retrofit programs provide important mechanisms for reducing energy burdens. Importantly, such efforts can improve quality of life and health outcomes while providing economic stimulus and job creation. Reducing the energy burden through energy efficiency measures provided in energy codes can help reduce one potential source of vulnerability, especially for those underserved populations experiencing increased energy burdens.

Requiring GRRP projects follow current hazard-resistant codes could also prevent roughly $14,000 in losses per building in areas where codes have not been updated in the past two decades, an $11 to $1

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return on investment in many of these areas that will mitigate loss of life and injuries, property damage, business interruptions, as well as first responder and annual homeownership costs. Per FEMA, in recent years, 30% of new construction has taken place in these areas. In addition, 24 states' residential energy codes are currently at least 15% less efficient than the 2021 IECC.[1] The Department should require adherence to current codes for GRRP projects due to the noticeable inconsistency in code adoptions across the country. Ensuring that future construction within these jurisdictions is resilient and energy efficient provides corresponding loss avoidance benefits equivalent to preserving 15,000 new homes, and avoiding 1.5 MMT of CO_2 emissions, per year. The loss avoidance benefit of constructing buildings to wildfire resistant codes has the equivalent value of preserving about 4,800 new homes, and avoiding 500,000 metric tons of CO_2 emissions, per year.

5. **HUD's ability to achieve its goal of benchmarking energy and water use for the majority of HUD-assisted multifamily portfolio rests on the availability and accessibility of whole building aggregate energy data. What role can HUD play to support greater access to this utility data? What opportunities exist for HUD to engage utilities and/or public utility commissions to make this data readily available to our multifamily building owners? What incentives, financial support, and/or technical support would encourage owners to participate and get their properties benchmarked?**

The International Code Council also urges HUD to financially incentivize the use of up-to-date performance standards through the GRRP to provide a baseline dataset of performance to be continually analyzed throughout the lifecycle of the building. ANSI/RESNET/ICC 301-2019 (Standard 301) and ANSI/RESNET/ICC 850-2020 (Standard 850) provide calculation methodologies to analyze the energy and water performance respectively of homes. Standard 301, Standard for the Calculation and Labeling of the Energy Performance of Dwelling and Sleeping Units using an Energy Rating Index (ERI), provides a consistent, uniform methodology for evaluating and labeling energy performance of homes. Standard 301 is also a route to 2021 IECC Residential compliance and with the Zero-Energy Pathway, generating an ERI score with verification from a RESNET HERS Rater. Standard 850 provides a consistent, uniform methodology for evaluating, quantifying, and labeling the water use performance of homes. These Standards will provide a baseline measurement of energy and water performance to be measured against, through benchmarking of data. Technical support and financial incentives, funded through the GRRP, will provide building owners with opportunities to benchmark their homes and seek opportunities to enhance the energy and water performance of HUD-assisted multifamily homes.

7. **How can and should HUD evaluate resilience needs and the effectiveness of these interventions, considering the variety of natural hazards and that the effectiveness of many resilience strategies are truly tested only when a disaster event strikes? How should HUD balance geographic disparities in the needs for resilience interventions (i.e., more frequent in**

[1] Statistic was extracted from the Department of Energy figure entitled *Residential Energy Code: State Energy Index Relative to Current Model Code (2021 IECC)*, which was presented at the Resilient and Efficient Codes Implementation Request for Information Workshop.

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coastal areas) and the availability of other funds, from HUD and other agencies, for recovering from disasters?

Modern, up-to-date building codes are at the core of climate mitigation and adaptation, through energy efficiency and emissions reduction strategies. Per FEMA, up-to-date and well enforced codes are the most effective mitigation measure. Efforts to bring communities up to current codes should be prioritized by HUD through retrofits or by paring GRRP funding with other federal funding avenues. Building codes also provide a multi-hazard approach to disaster mitigation and address resilience to common hazards experiences across the U.S. at a localized level. The adoption and effective implementation of building codes will play a critical role in advancing efforts to combat climate change and adapt to the associated impacts. The International Code Council encourages HUD to set minimum sustainability and resilience requirements based on model, consensus-based hazard-resistant building codes and energy codes for all federally supported housing, including through the GRRP.

The Federal Emergency Management Agency (FEMA) rated each state's building codes on how well they help newly built and retrofitted homes stand up to disaster. Thirty-nine states landed in the lowest category of resistance to hazards, meaning less than 25 percent of communities in each state have building codes that provide adequate resilience. Nineteen states scored zero out of 100, meaning no communities had codes that met these criteria, leaving residents vulnerable. FEMA's 2020 *Building Codes Save: A Nationwide Study* also found that 65 percent of counties, cities, and towns across the U.S. have not adopted modern building codes and only 50 percent of cumulative post-2000 construction adhered to the I-Codes. These are alarming statistics in light of the increasing frequency and magnitude of hazard events across the country. HUD should prioritize projects under the GRRP in communities that are susceptible to climate change impacts and do not have resilient building codes implemented.

There are also numerous studies that support the effectiveness of the implementation and enforcement of modern building codes. The FEMA study also found that the I-Codes could help communities avoid $132 billion to $171 billion in cumulative losses through 2040 and save more than $600 billion by 2060 if all new buildings across the U.S. were built to modern editions of the IBC and IRC.

HUD has the authority and capability to set requirements for federally funded housing, through GRRP, to ensure effective climate mitigation and adaptation. Implementing up-to-date codes that incorporate energy efficiency and resilience measures in federally funded housing will reap considerable benefits during emergency response and recovery, for social and economic resilience, and for climate mitigation and adaptation. The International Code Council recognizes HUD is currently considering updates to its minimum energy conservation requirements, but there is increased risk of stranding federal investments if HUD does not set consistent resilience and hazard-resistant standards based on current model building codes. Investments are continually lost to subsequent disasters, fueled by climate change, because many states do not have requirements that address resiliency and hazard-resistance. These savings and resilience benefits are discussed throughout responses to Questions 1, 2 and 4.

Requiring current codes for HUD and other federal housing projects ensures that these investments are maximized and provide the necessary safety and resilience required to withstand the impacts of climate change. HUD must move quickly to adopt resiliency standards to ensure equitable outcomes for those most at risk from the impacts of climate change.

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The Code Council strongly encourages HUD to require adherence to current building codes across the GRRP to ensure sustainable and resilient outcomes for all.

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Thank you for the opportunity to provide comments. If you have any questions concerning these recommendations, please do not hesitate to contact us.

Sincerely,

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