



September 25, 2019

Department of Veterans Affairs
425 I Street NW
Washington, DC 20001

Via email: donald.myers@va.gov

Re: Recommendations of the International Code Council on the Department of Veterans Affairs' (VA) Structural Safety Standards

The International Code Council (ICC) is a member-focused association dedicated to helping the building community and the construction industry provide safe, resilient, and sustainable construction through the development and use of model codes (I-Codes) and standards used in the design, construction, and compliance processes. Most U.S. states and communities, federal agencies, and many global markets choose the I-Codes to set the standards for regulating construction, plumbing and sanitation, fire prevention, and energy conservation in the built environment. ICC appreciates the opportunity to submit the following recommendations on VA's structural safety standards.

As noted in VA's Design and Construction Procedures (PG 18-3), the Public Buildings Amendment Act (PBAA) "requires Federal agencies to follow national recognized 'model' building codes." Pursuant to these Procedures, VA currently adheres to the 2012 editions of the International Building Code (IBC) and International Plumbing Code (IPC) and the 2004 edition of the International Energy Conservation Code (IECC) as minimum standards.¹ 38 U.S.C. § 8105 also requires the VA Secretary to assure that each medical facility constructed or altered "shall be of fire, earthquake, and other natural disaster resistant construction" VA has implemented these requirements for earthquake hazards by adopting the 2015 IBC for new construction.²

As the Secretary's Advisory Committee on Structural Safety of VA Facilities considers updates to VA's construction and renovation requirements, ICC strongly urges VA to update its standards to reference the latest editions (currently 2018) of the IBC, IPC, and IECC but also at a minimum the International Existing Building Code (IEBC), International Mechanical Code (IMC), International Fuel Gas Code (IFGC), and International Wildland Urban Interface Code (IWUIC), consistent with the National Mitigation Investment Strategy (NMIS)³ as well as Federal Emergency Management Agency (FEMA), General Services Administration (GSA), and Department of Defense (DOD) policy. For reference, the 2018 edition of each of these codes is freely viewable on ICC's website: <https://codes.iccsafe.org/>.

¹ See VA, PG 18-3 – DESIGN AND CONSTRUCTION PROCEDURES (Sept. 2013), *available at* <https://www.cfm.va.gov/TIL/cpro/cpTop01.pdf>.

² VA, H 18-8 – SEISMIC DESIGN REQUIREMENTS (Oct. 1, 2016), *available at* <https://www.cfm.va.gov/til/etc/seismic.pdf>.

³ National Mitigation Investment Strategy (Aug. 2019), *available at* <http://www.fema.gov/media-library/assets/documents/181812>.

I. VA should update its minimum standards to the 2018 editions of the IBC, IPC, and IECC because of their improved hazard mitigation components

Updating to the latest editions of the IBC, IPC, and IECC tracks 38 U.S.C. § 8105's disaster resistant construction requirements and, as discussed below, is consistent with federal policy. The 2018 IBC includes several updates that increase building resilience against natural hazards, including updated wind and seismic hazard maps as well as required special inspections for seismic resistance, required structural observations for hospitals and high rise buildings, required storm shelters for educational and critical facilities, and updated design loads for facilities facing tsunami risk. The 2018 IPC increases requirements to protect drinking water from contaminants and permits water reuse, both of which can help buildings and communities mitigate drought.

The 2018 IECC is more than 33% more efficient than the 2004 edition. Research supports the role of the IECC's efficiency measures in disaster migration. For instance, the IECC promotes passive survivability, with one study finding that a typical low-rise that met the 2009 IECC remained about 10°F warmer after a three-day blackout in winter than older buildings.⁴ In a summer blackout, code compliant buildings provided around 5 degrees of relief. Subsequent improvements in the code would lead to even greater benefits to performance relative to the existing building stock, given the 2018 IECC is about 25% more efficient than the 2009 IECC studied.

Increased energy efficiency also supports an increased ability to remain functional in a power outage. Less building energy load means either smaller capacity emergency generators or allows generators to run longer with available on-site fuel.

Power outages and extreme temperatures present particular challenges to vulnerable populations. The elderly and infirm are most susceptible to temperature extremes and may be unwilling or unable to leave their homes. The 1995 heat wave in Chicago saw hundreds of deaths—many elderly residents who were unwilling to leave their homes.

In addition to power outages, VA facilities may see secondary impacts affecting residents. Following extreme temperature and some water-related events (e.g., flooding, hurricanes, severe storms) incidents of mold, mildew, and other indoor environmental quality issues may arise. Rot and durability issues are also of concern. To prevent rot, mold, and mildew, the IECC controls heat, air, and moisture transfer in building enclosures.

Updating VA's Design and Construction Procedures to the 2018 IBC, IPC, and IECC is also consistent with the PBAA. In fact, in prior solicitations, VA has required adherence to the 2018 editions of these codes, citing the PBAA.⁵ However, without referencing these codes in the Department's Design and Construction Procedures, these requirements are not applicable to all projects.

⁴ Urban Green Council, *Baby It's Cold Inside* (2014).

⁵ VA, *Community Based Residential Treatment VISN 8 Open and Continuous Solicitation*, Solicitation Number: 36C24818R0232 (Jan. 2018).

II. VA should adopt the latest editions of the IEBC, IMC, IFGC, and IWUIC to promote hazard mitigation

ICC urges the VA to adopt the 2018 editions of the IEBC, IMC, IFGC, and IWUIC. The IMC regulates the design and installation of mechanical systems, appliances, appliance venting, duct and ventilation systems, combustion air provisions, hydronic systems, and solar systems. The IFGC addresses the design and installation of fuel gas distribution piping and systems, appliances, appliance venting systems, combustion air provisions, gaseous hydrogen systems, and motor vehicle gaseous-fuel-dispensing stations. The IEBC provides requirements for repair and alternative approaches for alterations and additions to existing buildings. The IEBC provides controlled departure from full compliance with the IBC (which focuses on new construction) based on the scope of the rehabilitation and building characteristics, while maintaining fire prevention, structural, and life safety features.

The IMC, IFGC, and IEBC each address core natural hazards (including, for example, seismic, wind, snow, and flood risk) as they pertain to the alterations or systems the codes address. For example, to mitigate against seismic hazards, the IMC and IFGC require securing equipment to prevent tanks or gas lines from shaking and separating, causing fires from gas leaks or severed electrical connections, while the IEBC requires enhanced anchorage and bracing for concrete and masonry walls.

The IWUIC is a specialty code for wildfire mitigation. It applies to all buildings in the wildland-urban interface (WUI) and prescribes the use of non-combustible building materials to prevent ignition from flying embers and fires, prescribes setbacks, addresses the depth and the finish of walls that serve as fire breaks, and requires mesh around chimney tops and on vents and other openings to prevent the entry or exit of embers. Given the natural hazard mitigations provisions within the 2018 IEBC, IFGC, IMC, and IWUIC, ICC urges VA to adopt them into its Design and Construction Procedures.

Doing so is also consistent with the PBAA. The scope of VA's construction portfolio encompasses alterations and additions, which would be subject to the IEBC, mechanical systems under the IMC, and fuel gas under the IFGC. In prior solicitations, VA has required adherence to the 2018 editions of the IMC and IFGC, citing the PBAA.⁶ That Act applies equally to all projects, which is why ICC believes it appropriate for VA to reference these codes in its Design and Construction Procedures. Otherwise, these requirements would not be applicable to all projects. VA's current Design and Construction Procedures apply the IBC to modifications. The IEBC has been crafted to be a more appropriate code for such projects and, for that reason, ICC urges VA to utilize it.

III. Adoption of the 2018 I-Codes is consistent with current federal requirements for hazard mitigation

The NMIS, released by the FEMA-chaired Mitigation Framework Leadership Group (MitFLG), presents a unified national strategy on mitigation investment that reduces risks posed by natural hazards and increases the nation's resilience to disasters. The MitFLG is composed of 14 federal agencies and departments as well as state, tribal and local officials and is charged with coordinating the strategy's

⁶ VA, Community Based Residential Treatment VISN 8 Open and Continuous Solicitation, Solicitation Number: 36C24818R0232 (Jan. 2018).



implementation. One of the most critical recommendations in the strategy is “[u]p-to-date building codes and standard criteria should be required in federal and state grants and programs.”

FEMA’s “Required Minimum Standards” insist on the latest editions of the IBC and IEBC. The Agency has deemed adherence to the current versions of these codes to be so important that it will not fund rebuilding of public facilities post-disaster if that construction deviates.⁷ FEMA guidelines further require federal buildings within the wildland-urban interface to adhere to the current IWUIC for new construction, alterations, and maintenance.⁸

FEMA’s Community Rating System (CRS), which provides federal flood insurance discounts for communities undertaking disaster mitigation measures, recognizes the flood mitigation value of the IBC, IPC, IMC, and IFGC provide to community adopters.⁹ CRS also credits Building Code Effectiveness Grading Schedule (BCEGS) scores, which evaluates adoption and enforcement of the same codes FEMA considers directly through CRS, but also the IEBC, IECC, and IWUIC. Private insurers use BCEGS scores to provide premium discounts.

GSA requires the 2018 I-Codes (including the IBC, IPC, IECC, IEBC, IMC, IFGC, and IWUIC) for all civilian governmental buildings¹⁰ and the Department of Defense (DOD) currently requires the IBC, IEBC, IPC, IMC, and IWUIC for all U.S. military bases.¹¹

Consistent with the NMIS as well as FEMA, GSA, and DOD policy, ICC urges VA to update its minimum standards to the 2018 editions of the IBC, IPC, IECC, IEBC, IMC, IFGC, and IWUIC.

Thank you for the opportunity to provide comments. If you have any questions concerning ICC’s proposals, please do not hesitate to contact me.

Sincerely,

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⁷ FEMA, Public Assistance Program and Policy Guide, FP 104-009-2 (Apr. 2018), *available at* https://www.fema.gov/media-library-data/1525468328389-4a038bbef9081cd7dfe7538e7751aa9c/PAPPG_3.1_508_FINAL_5-4-2018.pdf.

⁸ FEMA, Implementation Guidelines for Executive Order 13728 Wildland-Urban Interface Federal Risk Management (2017), *available at* https://www.usfa.fema.gov/downloads/pdf/eo13728_guidelines.pdf.

⁹ National Flood Insurance Program Community Rating System Coordinator’s Manual, FIA-15/2017 (2017).

¹⁰ GSA, Facilities Standards for Public Buildings Service (“GSA P-100”) (July 2018), *available at* https://www.gsa.gov/cdnstatic/2018%20P100%20Final%20Updated%2010-16-18_0.pdf.

¹¹ DOD, Unified Facilities Criteria, DoD Building Code (General Building Requirements) (Nov. 2018), *available at* https://www.wbdg.org/FFC/DOD/UFC/ufc_1_200_01_2016_c2.pdf. DOD has adopted the 2015 I-Code editions and is working to update to the 2018 editions later this year.