November 18, 2011

Ms. Brenda Edwards
U.S. Department of Energy
Building Technologies Program
Mailstop EE-2J
Building Energy Codes
1000 Independence Avenue, SW
Washington, DC 20585

Re: Docket Number EERE-2011-BT-BC-0046
“Building Energy Codes Cost Analysis”

Dear Ms. Edwards:

The National Multi Housing Council and National Apartment Association (NMHC/NAA) appreciate the opportunity to comment on the Department of Energy’s (DOE or the Agency) methodology for assessing the cost effectiveness of changes to residential building energy codes and new code editions. We represent the nation’s leading firms participating in the multifamily rental housing industry and are committed to improving the energy performance of the nation’s built environment, while maintaining the availability and affordability of apartment homes. However, we have significant concerns about the data sources and underlying assumptions identified for use in DOE’s multifamily analysis. In numerous cases, incomplete data and flawed assumptions do not accurately represent the multifamily sector.

NMHC/NAA are engaged in all aspects of the apartment industry, including ownership, development, management and finance. NMHC represents the principal officers of the apartment industry’s largest and most prominent firms. NAA is a federation of 170 state and local affiliates comprised of more than 50,000 multifamily housing companies representing more than 5.9 million apartment homes. Together, we operate a joint federal legislative program and provide a unified voice for the private apartment industry.

NMHC/NAA have an extensive history of service in the development of national model energy codes and have served on numerous code and standard committees, including the International Code Council’s (ICC) International Energy Conservation Code (IECC) and ASHRAE Standards 90.1 and 90.2. We also serve as an ICC Strategic Partner and are members of the ICC Code Technology Committee, Industry Advisor Committee and the newly formed Sustainability, Energy and High Performance Building Code Action Committee. As such, we have an explicit commitment to developing meaningful, practical and cost-effective building codes.

We recognize that the DOE plays an important role in the code development process, and that the code committees attribute significant weight to DOE’s analysis. Therefore, it is critically important that any data and cost calculations reflect realistic industry benchmarks and are accurate, transparent and replicable. It is also essential that DOE’s methodology remain flexible and responsive to changing market conditions, including the capability of incorporating changing data points and new data sources. Most importantly, DOE’s methodology should recognize that multifamily development is unique in the residential sector and requires sector-specific analysis of code provisions and costs.
Multifamily Industry Recommendations

Multifamily Building Prototype
DOE’s September 13, 2011 Federal Register Notice (the RFI) indicates that the Agency is basing certain elements of the multifamily building prototype on the U.S. Census Bureau, 2006 Characteristics of New Housing. However, the 2010 data is now available and should serve as DOE’s reference dataset. A review of the 2010 dataset reveals a misalignment between DOE’s model multifamily building and real-world conditions.

- **Multifamily Building Types:** Data sources do not define multifamily buildings in a universal manner, with some sources including townhouses or distinguishing between owner-occupied and renter-occupied buildings, while others define buildings according to the number of dwelling units. In part, this reflects the diversity of multifamily building types, ranging from very small, two- to four-unit properties, to large buildings with dozens of units. Consequently, one prototype building may not accurately capture the attributes of the multifamily sector. Given that building size, configuration and density significantly influence building energy performance, DOE should consider using multiple multifamily models that reflect the breadth of multifamily building designs.

- **Regional Building Characteristics:** DOE’s methodology proposes one multifamily prototype. However, this approach fails to account for the wide variation of multifamily building characteristics between different geographic regions. For example, DOE suggests using a 20-unit prototype building. However, the Census’ Characteristics of New Housing data shows that in the South, 38 percent of new multifamily units were completed in buildings with 50 units of more. That number swells to 52 percent of the units completed in the West. Again, DOE can accommodate such differences in multifamily building design and density by including multiple multifamily models in its methodology. Such models should differentiate between small and large multifamily property types.

- **Number of Floors:** Census data shows that 51 percent of new multifamily units were completed in buildings with 4 floors or more. This suggests that a 2-story prototype is not representative of current apartment construction conditions. While we appreciate that the residential codes under consideration apply to buildings 3 stories or less, the data reflects a trend towards larger, taller buildings. NMHC/NAA suggest that a 3-story building is more representative of typical apartment construction today. A 3-story design is particularly important to understand the energy performance of many multifamily buildings where mid-story units only have one exterior wall exposure (versus a 2-story design where every unit has exterior wall exposures plus roof exposure or ground contact).

Multifamily Finance Metrics
The RFI carefully details the DOE’s proposed method for calculating the first cost and economic impacts of code provisions. However, the proposed process relies on single-family finance metrics and specifically ties the analysis to homebuyer costs. This analysis is not applicable in the multifamily sector and would result in seriously flawed estimates of code cost-effectiveness. While DOE correctly identifies that multifamily development represents a smaller percentage of new construction than single-family development, multifamily housing is critically important to fulfilling the nation’s affordable and work-force housing needs. Moreover, these housing sectors are particularly sensitive to cost increases, where cash flow and rent rates are more constrained than in other housing types.

- **Rental Housing Finance Survey:** Most of the economic parameters and underlying assumptions identified in DOE’s cost analysis are substantially different in the multifamily sector. Moreover, the data sources referenced in the RFI do not provide the information necessary to conduct a cost analysis in the multifamily market, nor are equivalent sources of multifamily data currently available. Recognizing this deficiency, the

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1 Building Energy Codes Cost Analysis, Request for Information (RFI), 76 Fed. Reg. at 56415, Note 5, September 13, 2011.
2 The 2010 data became available on June 1, 2011. See http://www.census.gov/const/www/charindex.html.
4 Id. at Table: Number of Multifamily Units Completed by Number of Floors in Building. http://www.census.gov/const/C25Ann/mfufloursall.pdf.
5 Id. 4 floors or more totaled 33 percent in 2006, increasing to 36 percent in 2007, 42 percent in 2008 and 44 percent in 2009.
new Rental Housing Finance Survey (RHFS) is a collaboration between the U.S. Department of Housing and Urban Development (HUD), the U.S. Census Bureau, Fannie Mae and Freddie Mac designed to capture data on multifamily finance criteria. The survey includes information on multifamily mortgage financing, emphasizing loan originations and loan terms, as well as multifamily operating costs, revenues and property characteristics. According to HUD, the RHFS is specifically designed so that “[p]olicy analysts, program managers, budget analysts, and Congressional staff can use the survey’s results to advise executive and legislative branches about the mortgage finance characteristics of the multifamily rental housing stock in the United States and the suitability of public policy initiatives.”

- **Other Sources of Multifamily-Specific Data:** The RHFS will provide DOE with the best source of finance information for the multifamily sector; however, the survey data will not be available until the 2012 - 2013 timeframe. Until its’ release, the best proxy is information from the government sponsored enterprises, Fannie Mae and Freddie Mac.

- **Disparity Between Multifamily and Single-Family Data:** A review of just one element of the mortgage parameters - Loan Term - using Freddie Mac and Fannie Mae data shows a wide discrepancy between the multifamily and single-family metrics. The RFI indicates that DOE will use a 30-year loan term in its analysis. According to Freddie Mac’s “Multifamily Loan Performance Database Overview and Data Dictionary,” a dataset that includes nearly 7,000 loans, the average multifamily loan term is 11.5 years. Fannie Mae also provides loan data on the securities part of their multifamily portfolio. In their main program, Delegated Underwriting and Servicing (DUS) product line, the average multifamily loan term is 10.5 years. In their other multifamily product lines, (negotiated transactions), the average loan maturity is longer - 16.4 years. However, these loans constitute less than 8 percent of total loans, so a weighted average yields a 10.9 year average loan term. Numerous other economic parameters are significantly different in the multifamily sector than those assumed by DOE, including, interest rates, down payments, fees, taxes and others.

- **Multifamily-Specific Cost Considerations:** DOE’s analysis should also consider technical costs that are unique to multifamily development and not captured in single-family analysis. For example, the RFI explains that thicker wall insulation may force a structural design change from the typical 2x4 construction to 2x6 wall construction. In multifamily, that difference in wall design and corresponding loss of interior space can trigger numerous other design changes necessary to comply with the Americans with Disabilities Act and the Fair Housing Act.

- **Split Incentive Problems:** Cost-benefit analysis of energy efficiency measures in multifamily buildings is further frustrated by typical utility-billing arrangements, whereby building owners are responsible for equipment costs, but energy cost savings accrue to apartment residents. The costs of new energy code requirements will be borne by multifamily developers, builders and owners. However, these costs can usually not be fully recouped through higher revenues (i.e. rent rates). This is an important consideration involved in assessing expected multifamily cash flows and financial impacts.

The impacts of new residential code provisions cannot be well-understood by the multifamily sector without an individualized cost-effectiveness analysis. An appropriate multifamily analysis will require extensive reconsideration of DOE’s proposed methodology. If a separate multifamily methodology is not feasible at this time, however, DOE should acknowledge that its cost estimates reflect the single-family market and are not broadly generalizable to the multifamily sector.

**Conclusion**

NMHC/NAA appreciate the opportunity to provide comments on DOE’s proposed methodology. We encourage DOE to reconfigure the multifamily building prototype and add additional multifamily models to better align with

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7 RFI at 56423.
10 RFI at 56419.
the construction realities in the apartment market. DOE should further reassess the methodology for analyzing cost-effectiveness and cost impact to the multifamily sector, and incorporate multifamily-specific data sources to the extent practicable. Finally, where multifamily data is incomplete or unavailable, DOE should acknowledge any analytical limitations as they apply to the multifamily sector.

We look forward to working with you in your efforts to improve the methodology for code cost-effectiveness and to promote energy efficiency and conservation in multifamily housing. Any questions on our comments can be directed to Ron Nickson, NMHC Vice President of Building Codes, at 202/974-2327 or rnickson@nmhc.org.

Sincerely,

Cindy V. Chetti       Gregory Brown
Senior Vice President of Government Affairs    Vice President of Government Affairs
National Multi Housing Council                    National Apartment Association