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ENGINEERING AND CONSTRUCTION BULLETIN

No. 2024-10

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SUBJECT: Seismic Parameters Outside United States and Territories

CATEGORY: Policy and Guidance

1. References:

- a. UFC 1-200-01, DoD Building Code, with Change 3, 26 February 2024
- b. UFC 3-301-01, Structural Engineering, with Change 1, 2 October 2023

2. **Purpose.** This ECB provides guidance for applying new seismic parameters to structures outside of the United States and territories.

3. **Applicability.** This ECB applies to all structures outside of the United States and territories. The ECB does not apply to structures inside the United States and territories.

4. Background.

a. The Department of Defense (DoD), in partnership with the Department of State (DoS), contracted with Global Earthquake Model (GEM) and United States Geological Survey (USGS) to provide updated seismic parameters for all DoD installations and DoS facilities outside of the United States and territories using all available information including the GEM model. Results from the contracted effort have recently become available and are, accordingly, being incorporated into design requirements.

b. Previous seismic parameters published at WBDG have not been updated in several years. The new seismic parameters are based on ASCE 7-16 and all currently available data including USGS and GEM's on-going worldwide modeling efforts. Consequently, the updated seismic parameter values have significant changes for some locations. The new seismic parameters are highlighted in this ECB because the change is more drastic than a general or typical code update. Some locations will see over a 500% increase in parameter values.

c. UFC 3-301-01, 2-4.7 states, "Seismic ground motion parameters at specific locations outside of the United States and its territories and possessions can be identified using the structural load data tool hosted on the Whole Building Design Guide (WBDG) website at <https://www.wbdg.org/additional-resources/tools/ufcsltd>." The new values will be released at WBDG approximately 30 August 2024.

d. Future seismic parameters for locations outside United States and territories will be aligned with USGS and GEM information. Consequently, future updates are not expected to result in changes as considerable as this initial adoption. Seismic data per ASCE 7-22 will be incorporated into the Structural Load Data Tool when IBC 2024 is officially adopted by DoD Building Code which is anticipated to be in Summer 2025.

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5. **Policy.** Follow UFC 1-200-01, Section 1-3.1 for implementation of the new seismic parameters into projects.
6. **Guidance.** The Authority Having Jurisdiction (AHJ) shall make a determination how to implement the new seismic parameters for existing structures and projects not included in UFC 1-200-01, Section 1-3.1 applicability. It is recommended the AHJ coordinate with Engineer of Record (EOR) or a licensed professional engineer (PE) familiar with seismic design along with Stakeholder(s) in order to evaluate how the new seismic parameters impact a project's structural design, incurred risk, and overall life safety performance on a case-by-case basis.
7. **Update.** All new requirements will be included in the next appropriate policy document update. UFC 3-301-01, Change 2 is anticipated 1 September 2024.
8. **Points of Contact.** HQUSACE point of contact for this ECB is Richard Ludwitzke, CECW-EC, (202) 761-1580 or Hien Duong, CECW-EC, (202) 823-1336.

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PETE G. PEREZ, P.E., SES
Chief, Engineering and Construction
U.S. Army Corps of Engineers