



**US Army Corps
of Engineers®**

ENGINEERING AND CONSTRUCTION BULLETIN

No. 2022-4

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SUBJECT: Elevator Design Compliance

CATEGORY: Directive and Policy

1. References:

- a. UFC 3-490-06 Elevators with Change 1, 13 January 2021
- b. UFC 1-200-01 DOD Building Code with Change 1, 1 October 2020
- c. UFGS 14 21 13 Electric Traction Freight Elevators, 1 May 2016
- d. UFGS 14 21 23 Electric Traction Passenger Elevators, 1 May 2016
- e. UFGS 14 24 13 Hydraulic Freight Elevators, 1 May 2016
- f. UFGS 14 24 23 Hydraulic Passenger Elevators, 1 May 2016
- g. ER 415-1-15 Engineering and Construction Biddability, Constructability, Operability, Environmental and Sustainability (BCOES) Reviews
- h. American Society of Mechanical Engineers (ASME) A17.1 – 2019/CSA B44:19 Safety Code for Elevators and Escalators
- i. International Building Code 2021, 23 October 2020

2. **Purpose.** This Engineering and Construction Bulletin (ECB) provides direction for mechanical designers, project managers and other project delivery team members to ensure an elevator design complies with all applicable criteria and guidance.

3. **Background.** Over the past few years, there have been multiple elevator design deficiencies in U.S. Army Corps of Engineers (USACE) projects. Elevator designs outside the Contiguous United States (OCONUS) face the challenge of evaluating if in-country manufacturers meet DoD elevator criteria. Deficiencies occurred with USACE designs for Army, Navy and Air Force installations. Faulty or incomplete designs have been discovered through inspections, elevator breakdowns, poor performance, or during the ordering process for repair parts. As a result, elevators experienced operational issues, and some were disabled. Some elevators were out of service for an extended period to correct deficiencies and some facilities were not able to be occupied due to the elevator not meeting requirements for emergency personnel. All of these issues created a hardship for building owners and occupants.

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4. **Applicability.** This ECB applies to all Army new construction and renovation projects.

5. **Implementation.** The following steps must be taken to provide the best opportunity for a successful elevator design.

a. Assure the correct versions of criteria (codes, standards, UFCs, UFGSs and ECBs) are applied to the elevator design. Criteria and codes applicable to elevators are listed in Part 1 References in this ECB. Note in some instances the UFCs or UFGSs may provide different direction or additional direction than codes or standards. The UFCs and UFGSs must be followed in their entirety and always take precedence over the code or standard.

(1) For Design Bid Build (DBB) projects, criteria published prior to the completion of the 35% design apply. Refer to UFC 1-200-01 for projects that have an 18 month (548 days) or greater delay between the design completion and solicitation which states, “(design) must be re-evaluated to determine if any design revision is necessary due to changes in criteria (including codes and standards) or site infrastructure.” The re-evaluation must also include all applicable ECBs that were published in the 548 days prior to solicitation.

(2) For Design Build (DB) projects, criteria published prior to the date of the RFP issuance apply. See UFC 1-200-01 for RFPs “issued in multiple phases or steps” as applicable. For projects that have an 18 month (548 days) or greater delay between RFP completion and solicitation, the RFP must be re-evaluated to determine if a revision is required due to criteria changes or an ECB issuance.

b. Prior to the completion of the design or the release of the RFP, a BCOES review must take place, to include the elevator design. It should be noted that both steps a.(1) and a.(2) are being added to the checklist of ER 415-1-11. These checklist line items pertain to the entire design, to include elevators.

c. Once the design is checked for current criteria, verify the construction submittal is accurate and complete. Catching errors or omissions in the submittal can prevent an elevator outage occurrence or more importantly avoid a safety hazard incident for an installed elevator.

d. Criteria equivalencies for Japanese and Korean elevators are being analyzed to determine what non-US makes and models would be acceptable. Once these equivalencies are developed, further direction will be forthcoming on how they can be applied.

e. Specifications and designs for elevators encompass multiple disciplines. Care must be taken to assure there is coordination between these disciplines. One designer must take the lead, typically the Mechanical Engineer, to confirm that all drawings and specifications are coordinated and completed. The designs will require Architectural and Fire Protection reviews.

6. **Lessons Learned.** Please submit elevator lessons learned and reviews for lessons learned on the Mechanical Engineering Sharepoint site:

<https://usace.dps.mil/sites/KMP-ME> specifically at:

<https://usace.dps.mil/sites/KMP-ME/Lists/MechanicalLessonsLearned/AllItems.aspx>

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7. **Funding.** No specific funding is provided to determine elevator compliance. The project delivery team, especially the Mechanical Engineer, Fire Protection Engineer, and Architect, should ensure that elevator designs are completely reviewed per the implementation section of this ECB.

8. **Point of Contact.** The HQUSACE point of contact for this ECB is Timothy Gordon, CECW-EC, (202) 761-4125.

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