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Subject: Interim Guidance for Elevators

Applicability: Directive and Guidance

References:

a. Interim Technical Guidance (ITG 2013-01) Elevator Design, Naval Facilities Engineering Command

b. Restrictions on the use of Machine-Room-Less Elevator Design by Kevin P. Morse, NAVFAC Engineering and Expeditionary Warfare Center

1. Recent elevator designs have been geared toward space savings for the building. The space savings is being accomplished by eliminating the elevator machine room. While these new designs have accomplished space savings various concerns have risen.

2. A major function of the elevator machine room is to provide a safe space to conduct elevator inspection, testing, maintenance and repair. By eliminating the machine room there is no longer a working space for adjusting or repair and there is a risk of being struck by the elevator itself. Additionally the 480 VAC electrical components associated with the elevator drive motor would need to be located in an area adjacent to the elevator doors. This location places elevator users at risk of electrical shock and arc-flash hazards during elevator servicing.

3. Machine-Room-Less (MRL) elevator designs that have a minimal extension of elevator hoistway can result in a construction savings of \$15-20K but are proprietary. Manufacturers of these systems have non-standard equipment and typically do not provide training for the servicing of this equipment. The result is additional cost of parts and service. It should be noted also with MRL elevator configurations the hoistway must be extended an additional 6-8 inches. As such the hoistway would need to extend above the roof or the entire top floor raised to accommodate for required clearances. Each construction would involve additional cost. These added costs more than make up for the \$15-20K first-cost savings.

4. Many of the MRL elevator systems have shown cost savings associated with their energy efficient features. Their energy savings is derived from its “permanent-magnet gearless”

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machine design. Currently there are many elevator manufacturers who produce non-MRL elevator systems with this energy saving technology. As such the energy savings itself is not a reason to specify an MRL elevator system.

5. Considering the aforementioned concerns it was concluded that a specific UFC for elevators is needed. Until this new UFC is written and signed, the Navy has created an interim guidance for elevators, ITG 2013-01 NAVFAC ELEVATOR DESIGN.

6. Funding is being requested for the development of this UFC during FY15. Until this UFC is signed ITG 2013-01 shall be followed. It can be found on the Whole Building Design Guide website at the following link: http://www.wbdg.org/ccb/browse_cat.php?c=212
It should be noted that ITG 2013-01 does not conflict with IBC (International Building Code) Chapter 30 nor UFC 3-600-01 Fire Protection Engineering for Facilities.

7. The point of contact for this ECB is Timothy Gordon, CECW-CE, 202-761-4125.

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JAMES C. DALTON, P.E., SES
Chief, Engineering and Construction
U.S. Army Corps of Engineers