



**US Army Corps  
of Engineers®**

# ENGINEERING AND CONSTRUCTION BULLETIN

**No.** 2017-7

**Issuing Office:** CECW-CE

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**SUBJECT:** Changes to UFC 3-410-01, Heating, Ventilating and Air Conditioning Systems, with Change 3

**CATEGORY:** Directive and Guidance

## **REFERENCES:**

a. Unified Facilities Criteria (UFC) 3-410-02, Lonworks ® Direct Digital Control for HVAC and other Local Building Systems, with Change 1

b. Unified Facilities Criteria (UFC) 3-410-01, Heating, Ventilating and Air Conditioning Systems, with Change 3

1. The following changes to the HVAC Systems UFC were recently completed.

2. A paragraph on Variable Refrigerant Flow (VRF) Systems has been added to the HVAC Systems UFC (Par 3-5.16). VRF Systems will no longer be permitted in Air Force facilities. The Army will allow VRF Systems; however, they will be strongly discouraged. The Navy is not restricting VRF systems as long as they comply with ASHRAE 15 Safety Standard for Refrigeration Systems.

3. The reasons for the changes to VRF systems include:

a. Concern of Refrigerant Concentration - the refrigerant lines are run inside buildings usually over office spaces. A typically sized VRF system contains enough refrigerant to asphyxiate occupants in the event of a refrigerant leak.

b. Long refrigerant runs are common with VRF systems and many times the lines are branched out. A refrigerant leak would be difficult to locate and once found very difficult to repair as there is other piping and ductwork installed in dropped ceilings.

c. VRF Systems have proprietary control systems. These closed systems are not permitted per UFC 3-410-02 Lonworks ® Direct Digital Control for HVAC and other Local Building Systems , with Change 1. This UFC states, “An Open DDC system is characterized by the ability for any qualified entity to readily modify, operate, upgrade, and perform retrofits on the DDC system.”

4. The aforementioned changes to the HVAC Systems UFC were posted on 26 January 2017.

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

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LARRY D. MCCALLISTER, PHD, P.E., PMP  
Acting Chief, Engineering and Construction Division  
Directorate of Civil Works