



**DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, DC**

MEMORANDUM FOR AFCEC/CL

FROM: HQ USAF/A4C
1260 Air Force Pentagon
Washington, DC 20330-1260

SUBJECT: Tyndall AFB Design Wind Speeds and Building Envelope Protection

I am issuing this design guidance to the Air Force Civil Engineer Center (AFCEC) and the Tyndall Project Management Office (PMO) to establish the design wind speed for the redevelopment of Tyndall AFB, Florida, following its destruction by Hurricane Michael in October 2018. This guidance is applicable only to Tyndall AFB and is intended to ensure that the design of infrastructure and facilities is more resilient to future severe weather events.

UFC 3-301-01, Structural Engineering, establishes the wind speed used in structural design for DoD locations and implements the American Society of Civil Engineers Standard 7, Minimum Design Loads for Buildings and Other Structures. The UFC is in revision incorporating the 2016 ASCE 7 updates and minor updates to the Risk Categories (RC) with a projected publication in CY 2019. It is my understanding that while there are no RC V facilities at Tyndall AFB, this category remains available for future facility requirements.

Based upon our AF Structural SME recommendations and in alignment with the SecAF directed Severe Weather Readiness Assessment recommendations, the Tyndall PMO will use the draft 2019 UFC and the following Tyndall design wind speeds based upon Risk Categories III-V:

	RC I (mph)	RC II (mph)	RC III (mph)	RC IV (mph)	RC V (mph)
Tyndall Design Wind Speeds	Not Permitted	Not Permitted	165	170	203

In addition to the wind speeds discussed, I am issuing additional design guidance on opening protection and exterior envelope materials. While we should always use our Unified Facilities Criteria as the basis for all our facilities designs, we will also integrate the best practices from the Florida Building Code (FBC) High-Velocity Hurricane Zone (HVHZ) into this design guidance to further improve facility resiliency at Tyndall.

All exterior building envelope materials such as but not limited to windows, glazing, roofing systems, concrete masonry unit or metal panel walls, and doors shall have a current Miami-Dade Notice of Acceptance (NOA) and installed to HVHZ standards that match the specified wind requirement. The intent is to provide additional protection where the UFC may be less prescriptive to reduce the risk of building envelope compromise and/or structural failure due

to high winds and large and small missile, or debris, impacts. Our construction industry partners shall continue to have the option of submitting test results or drawings sealed by a Professional Engineer stating conformance with HVHZ standards in lieu of materials pre-approved by Miami-Dade County. An example for this particular situation might be a custom-engineered submittal for an aircraft hangar door.

Finally, all structural designs shall ensure a continuous wind load transfer from roof framing to foundation, another HVHZ design principle. In many cases our UFCs will already address this: for example, the roof framing will be connected structural steel columns bolted to interior or perimeter footings. Smaller structures that may not have a structural steel frame should be reviewed to ensure the use of straps or other appropriate roof framing to foundation connections through the load bearing walls.

NANCY J. BALKUS, P.E., SES
Deputy Director of Civil Engineers
DCS/Logistics, Engineering, & Force Protection