




FEMA

March 1, 2018

MEMORANDUM FOR: Regional Administrators  
Regions I-X

ATTENTION: Regional Mitigation Division Directors  
Hazard Mitigation Assistance Branch Chiefs

FROM: Michael Grimm   
Assistant Administrator, Mitigation  
Federal Insurance and Mitigation Administration

SUBJECT: Cost Effectiveness Determination for Non-Residential Hurricane  
Wind Retrofit Measures Funded by FEMA

This memorandum establishes the use of pre-determined benefits for wind retrofit projects on non-residential buildings in wind borne debris regions.

Two mitigation packages, Option 1 and Option 2, are considered eligible for the pre-determined benefits:

- Option 1 consists of (1) opening protection for doors, windows, and louvers against wind borne debris, wind driven rain, and high wind pressure, and (2) roof retrofit, which consists of securing roof top equipment, replacing roof decking and covering
- Option 2 consists of (1) opening protection, (2) roof retrofit, and (3) improvement to or creating a continuous load path from the roof to the foundation

Eligible structures must have primary structural framing that consists of steel, concrete, or reinforced masonry; structures composed of other building materials, such as wood, steel stud, and unreinforced masonry are not eligible for this pre-determined benefit. When retrofitted, structures will comply with the loading requirements of latest edition of the International Building Code (IBC), International Existing Building Code (IEBC), American Society of Civil Engineers, Minimum Design Loads for Buildings and Other Structures (ASCE 7), FEMA P-577, and the requirements of the locally enforced building code.

Applicants must provide maps with structures clearly indicated as being in a wind borne debris region to be eligible to use the pre-determined benefits. Additionally, the project must have a useful life of at least 25 years.

Mitigation projects meeting the above criteria are considered cost effective if the **mitigation project costs less than 10% of the building replacement value**. This eliminates the requirement for applicants to conduct a separate benefit cost analysis for eligible projects. The benefits are based on FEMA's existing methodology

for evaluating the cost-effectiveness of non-residential wind retrofit projects.

Applicants must document the source used to determine the Building Replacement Value (BRV). Additionally, cost estimates submitted with projects for hurricane wind retrofits that utilize the pre-determined benefits must be developed using industry cost-estimation standards, vendor estimates or other industry acceptable sources. The benefits identified in this memo cannot be used to estimate or develop application project costs. Projects must still meet all other Hazard Mitigation Assistance (HMA) requirements.

This methodology is available for all HMA grant programs and can be applied to new applications as well as projects under review. Additionally, pre-determined benefits can be used to evaluate cost overruns for approved projects, if a new cost effectiveness review is required. Applicants and sub applicants are not required to use the pre-determined benefits and can continue to perform analysis using FEMA's Benefit Cost Analysis Toolkit for each structure.

If you have any questions, please contact Kayed Lakhia, Division Director, Hazard Mitigation Assistance at (202) 646-3458.