



# FEMA

## DISASTER ASSISTANCE POLICY

DAP9524.4

**I. TITLE: Repair vs. Replacement of a Facility under 44 CFR §206.226(f) (The 50 Percent Rule)**

**II. DATE:** MAR 25 2009

**III. PURPOSE:**

This policy clarifies the application of 44 CFR §206.226(f) to determinations of whether a disaster-damaged facility is eligible for repair or replacement.

**IV. SCOPE AND AUDIENCE:**

This policy is applicable to all major disasters declared on or after the date of publication. It is intended for personnel involved in the administration of the Public Assistance program.

**V. AUTHORITY:**

Section 406 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), 42 U.S.C. §5172, and 44 CFR §206.226(f).

**VI. BACKGROUND:**

According to 44 CFR §206.226(f)(1), "A facility is considered repairable when disaster damages do not exceed 50 percent of the cost of replacing a facility to its predisaster condition, and it is feasible to repair the facility so that it can perform the function for which it was being used as well as it did immediately prior to the disaster." This regulation is often referred to as "The 50 Percent Rule."

**VII. POLICY:**

**A. Definitions**

1. **Disaster damage**, as used in 44 CFR §206.226(f)(1), refers to the costs related to the repair of the disaster damage only. It does not include all eligible costs.

2. **Facility**, as defined in 44 CFR §206.201(c), is "any publicly or privately owned building, works, system, or equipment, built or manufactured, or an improved and maintained natural feature."



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3. **Permanent Work** means “restorative work that must be performed through repairs or replacement, to restore an eligible facility on the basis of its predisaster design and current applicable standards” (see 44 CFR §206.201(g)).

4. **Predisaster design**, as defined in 44 CFR §206.201(h), is “the size or capacity of a facility as originally designed and constructed or subsequently modified by changes or additions to the original design. It does not mean the capacity at which the facility was being used at the time the major disaster occurred if different from the most recent designed capacity.”

5. **Repair cost** is the eligible cost to repair damaged components of a facility.

6. **Replacement cost** is the cost to build a new facility based on the damaged facility’s predisaster design and in conformity with applicable codes and standards (see section 406(e) of the Stafford Act).

7. **Standards**, as defined in 44 CFR §206.221(i), means “codes, specifications or standards required for the construction of facilities.”

### B. Facilities

1. The definition of facilities includes single structures and systems. The application of The 50 Percent Rule to various facilities depends upon how the facility is constructed. Appendix A to this policy contains examples of how to apply The 50 Percent Rule to various facilities.

2. Individual elements of buildings should not be segregated when applying The 50 Percent Rule (e.g., windows, roof, HVAC, electrics, plumbing, etc.). For example, it is not appropriate to segregate windows in a disaster-damaged building and conclude that if 51 percent of windows are destroyed, then all windows require replacement.

3. For facilities that are systems composed of multiple components that can be easily segregated, it is practical to apply The 50 percent Rule to individual components of the system, rather than the system as a whole. For example, a component of a sewer system may be a section from “manhole to manhole.”



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### C. Computations

1. In accordance with 44 CFR §206.226(f), a facility is eligible for replacement when the repair cost exceeds 50 percent of the replacement cost. The comparison of repair costs with replacement costs results in a fraction that expresses repair as a percentage of replacement.

2. The numerator of the fraction is the cost of repairing disaster damage only and includes costs associated with codes and standards upgrades that apply to the repair of the damaged elements only. The numerator does **not** include costs associated with:

- a. Upgrades of other elements triggered by codes and standards;
- b. Design associated with upgrades;
- c. Demolition of the entire facility (demolition essential to the repair only of the damaged elements may be included in the numerator);
- d. Site work;
- e. Applicable project management costs;
- f. Contents; and/or
- g. Hazard mitigation measures.

3. The denominator of the fraction is the cost of replacing the facility on the basis of its predisaster design and in accordance with applicable codes and standards. These codes may relate to structural elements such as seismic resistance, mechanical or electrical systems, or the size of a structure. For example, a code may require a greater amount of space per student in a school, or wider lanes on a bridge. The use of a code related to size is limited in that the replacement facility must have the same capacity as the original facility (even though the physical size of the structure may be greater) (see 44 CFR §206.201(h)).

a. When circumstances require a greater capacity for the replacement facility (e.g., a school designed for 400 students now serves a population of 600 students), the costs to increase the capacity are not eligible and are not included in the denominator. In this example, the eligible replacement facility would be one with a capacity of 400 students at a size required by the current space-per-student code.



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b. The denominator does **not** include demolition, site work, applicable project management costs, contents, and/or hazard mitigation measures.

4. The following table illustrates eligible costs determinations.

Conditions		Eligible Costs
1	The repair cost does not exceed 50 percent of the replacement cost <b>and</b> no upgrades are triggered	Repair of eligible damage only
2	The repair cost does not exceed 50 percent of the replacement cost <b>and</b> upgrades to undamaged elements are triggered by codes and standards <b>and</b> the total of the two items is greater than 50 percent but less than 100 percent of the estimated replacement cost	Repair of eligible damage plus mandatory upgrade cost
3	The repair cost does not exceed 50 percent of the replacement cost <b>and</b> upgrades to undamaged elements are triggered by codes and standards <b>and</b> the total of the two items is greater than 100 percent of the estimated replacement cost	Repair of eligible damage plus mandatory upgrade cost, but total eligible costs capped at the estimated replacement cost. In this case, the applicant may elect to replace the facility, but total eligible costs are capped at the estimated replacement cost.
4	The repair cost exceeds 50 percent of the estimated replacement cost	The facility's actual replacement cost is eligible. In accordance with 44 CFR §206.226(f)(2), the applicant may elect to repair the facility in conformity with applicable codes and standards; in this case, eligible costs are limited to the estimated costs of repair or replacement, whichever is lower.

### D. Exceptions.

44 CFR §206.226(f)(3) provides an exception to The 50 Percent Rule for facilities that are listed on or eligible for listing in the National Register of Historic Places. If an applicable code or standard requires that the historic facility be restored in a certain manner and does not allow other options, the cost to restore the facility in accordance with the code or standard is an eligible cost and may exceed the estimated replacement cost.



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**VIII. RESPONSIBLE OFFICE:** Disaster Assistance Directorate (Public Assistance Division).

**IX. SUPERSESSION:** This policy supersedes Response and Recovery Directorate Policy 9524.4, *Eligibility of Facilities for Replacement under 44 CFR 206.226(d)(1)* dated September 24, 1998.

**X. REVIEW DATE:** This policy does not automatically expire, but will be reviewed 3 years from the date of publication.

A handwritten signature in black ink, appearing to read "James A. Walke", written over a horizontal line.

James A. Walke  
Acting Assistant Administrator  
Disaster Assistance Directorate



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### Appendix A

#### EXAMPLES

Following are examples for the application of the 50 percent rule.

<b>Damaged Facility</b>	<b>Part of the Facility considered when applying the 50 percent rule</b>
Bridge or Culvert	Each individual bridge or culvert
Building	Each building
Drainage channel	System section from node to node
Electrical distribution system	Each individual pole and conductor from pole to pole, transformer station
Equipment	Each piece of equipment
Irrigation system	System section from node to node
Lighting	Each individual lighting structure
Piers with other structures	Each individual component (e.g., pier, rest room, other structures)
Pool	Each individual component (e.g., pool and integral pumping, bath house)
Pumping station	Each individual pumping station
Roads	Each damaged roadway section
School campus	Each individual building
Signs	Each individual sign
Water or sewer line	Each individual component (e.g., lift station, manhole structure, piping from manhole to manhole)
Water or sewer treatment plant	Each individual component (e.g., control building, clarifier, sedimentation pond)