

# Edits to the General Flood Standards

## Flood Standards Development Committee Meeting

### December 16, 2014

#### **GF-1, Scope of the Computer Flood Model and Its Implementation**

##### Purpose

Professional Team: **Editorial**

It is recognized that “models” are complex and may include models within models which can be known as “sub-models” or “component models.” This would be expected for some approaches to flood modeling, although not a necessary requirement. And, it is recognized that such models, sub-models, or component models may be part of other models such as hurricane models or wave models, etc. This would not preclude their use as “part” of the flood modeling process. The Commission will take a broad view of the process or methodology that “ties” together the various models, ~~or~~ sub-models, or component models. As such, the broader and more general model will be considered as the “flood model” under review given that it should result in one set of loss costs and one probable maximum loss curve. It is important that the general modeling approach be found acceptable and that any failure to meet a standard by the various models, ~~component models, or~~ sub-models, or component models necessary to model the nature of the flood peril would be viewed as unacceptable for flood modeling purposes. Therefore, a model, sub-model, or component model capable of modeling one aspect of the flood peril, such as coastal storm surge flooding or flood plain flooding, and otherwise meeting all the Commission standards could not be found acceptable without being combined with other models, sub-models, or component models that in their entirety accurately or reliably model the full scope and nature of the flood peril.

**GF-2, Qualifications of Modeling Organization Personnel and Consultants Engaged in Development of a Flood Model**

## Standard

Jack Nicholson: Technical/Editorial

- B. The flood model and model submission documentation shall be reviewed by either modeling organization personnel or consultants in the following professional disciplines: hydrology (advanced degree), meteorology (advanced degree), statistics (advanced degree), structural engineering (licensed Professional Engineer or advanced degree with experience in coastal and inland flooding), statistics (advanced degree), actuarial science (Associate or Fellow of Casualty Actuarial Society), meteorology (advanced degree), coastal engineering (licensed Professional Engineer or advanced degree), and computer/information science (advanced degree). These individuals shall certify Forms GF-1 through GF-6 as applicable.

Relevant Forms: GF-1, General Flood Standards Expert Certification

## GF-2A. Meteorological/Hydrological Flood Standards

Meteorologist Expert Certification

## **GF-2B. Meteorological/Hydrological Flood Standards**

#### **Hydrologist Expert Certification**

#### **GE-3 Statistical Flood Standards Expert Certification**

GE-4A Vulnerability Flood Standards Structural Engineer

## Vulnerability Focused Expert Certification

~~GE-4B Vulnerability Flood Standards Coastal Structural Engineer~~

## Vulnerability Focused Expert Certification

GF-5 Actuarial Flood Standards Expert Certification

GF-5, Actuarial Flood Standards Expert Certification  
GF-6 Computer Flood Standards Expert Certification

#### **Disclosures:**

Professional Team: **Editorial**

- 1.B. If the flood model is developed by an entity other than a modeling company, describe its organizational structure and indicate how proprietary rights and control over the flood model and its critical components is exercised. If more than one entity is involved in the development of the flood model, describe all involved.
  - 1.C. If the flood model, or any of its sub-models and component models, is developed by an entity other than a modeling company, describe the funding source for the development of the flood model or any of its sub-models and component models.
  - 3.A. Provide reviewer names and dates of external independent peer reviews that have been performed on the following components as currently functioning in the flood model:
    1. Meteorology/Hydrology (including Coastal Engineering)
    2. Statistics
    3. Vulnerability

4. Actuarial Science
5. Computer Science

**3.D.4.** Provide a list of rating agencies and insurance regulators that have reviewed the flood model. Include the dates and reasons or purpose of the reviews.

Renumber current Disclosures 4-11 to 5-12.

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8. Provide a completed Form GF-4A, Vulnerability Flood Standards Structural Expert Certification. Provide a link to the location of the form [insert hyperlink here].

**9. Provide a completed Form GF-4B, Vulnerability Flood Standards Coastal Structural Expert Certification. Provide a link to the location of the form [insert hyperlink here].**

**10. Provide a completed Form GF-5, Actuarial Flood Standards Expert Certification. Provide a link to the location of the form [insert hyperlink here].**

**11. Provide a completed Form GF-6, Computer Flood Standards Expert Certification. Provide a link to the location of the form [insert hyperlink here].**

## Audit

Professional Team: **Editorial**

1. The professional vitae of personnel and consultants engaged in the development of a flood model and responsible for the current flood model and the submission will be reviewed. Background information on the professional credentials of individuals providing testimonial letters in the submission shall be reviewed.

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2. Forms GF-1 (General Flood Standards Expert Certification), GF-2A (Meteorological/Hydrological Flood Standards Meteorologist Expert Certification), GF-2B (Meteorological/Hydrological Flood Standards Hydrologist Expert Certification), GF-3 (Statistical Flood Standards Expert Certification), GF-4A (Vulnerability Flood Standards Structural Expert Certification), **GF-4B (Vulnerability Flood Standards Coastal Structural Expert Certification)**, GF-5 (Actuarial Flood Standards Expert Certification), GF-6 (Computer Flood Standards Expert Certification), and all independent peer reviews of the flood model under consideration will be reviewed. Signatories on the individual forms will be required to provide a description of their review process.

## **GF-5, Editorial Compliance**

### **Standard**

Jack Nicholson: **Editorial if changes to GF-2 are accepted**

- Relevant Forms:
- GF-1, General Flood Standards Expert Certification
  - GF-2A, Meteorological/Hydrological Flood Standards  
Meteorologist Expert Certification
  - GF-2B, Meteorological/Hydrological Flood Standards  
Hydrologist Expert Certification
  - GF-3, Statistical Flood Standards Expert Certification
  - GF-4A, Vulnerability Flood Standards Structural Engineer  
Expert Certification
  - ~~GF-4B, Vulnerability Flood Standards Coastal Structural Engineer  
Expert Certification~~
  - GF-5, Actuarial Flood Standards Expert Certification
  - GF-6, Computer Flood Standards Expert Certification
  - GF-7, Editorial Review Expert Certification