



Federal Emergency Management Agency

Washington, D.C. 20472

July 13, 1999

MEMORANDUM FOR: Regional and Headquarters Engineers
Technical Evaluation Contractors

FROM: [original signed]
Michael Buckley, Director
Technical Services Division

SUBJECT: Policy for Accepting Numerical Models for Use in the NFIP

With a memo dated April 12, 1999, we released an updated version of the list entitled "Numerical Models Accepted for Use in the NFIP." This is a list that the Technical Services Division maintains as a means of ensuring consistency in implementing CFR 65.6(a)(6), which are the regulations that explain conditions by which a computer model can be used for flood hazard mapping in the National Flood Insurance Program. The purpose of this memorandum is to clarify the procedures to follow for accepting numerical models for flood hazard mapping and adding them to the list.

As you are aware, we can not accept flood insurance studies that are performed with numerical models other than those on the accepted models list. For your convenience, the list is posted on the Flood Hazard Mapping page of our web site at www.fema.gov/plan/prevent/fhm/. It can be found under "Forms, Documents, and Software" in the "Engineers and Surveyors" section, or directly at www.fema.gov/plan/prevent/fhm/en_modl. Please visit the web site for the most up-to-date version of the list, as it will be updated as necessary.

APPLICABLE NFIP REGULATIONS

As Paragraph 65.6(a)(6) of the NFIP regulations states, any computer program used to perform hydrologic and hydraulic analyses in support of a flood insurance map revision must meet all of the following criteria:

1. The model must be reviewed, tested, and accepted by a government agency responsible for the implementation of programs for flood control and/or regulation of floodplains.
2. The model must be well-documented, including source codes and user's manuals.

3. The model must be available to the Federal Emergency Management Agency (FEMA) and all present and future parties impacted by flood insurance mapping that is developed or amended through the use of the model.

EXPLANATION OF CONDITIONS

If the certifying agency is not a Federal agency, the model must be “reviewed, tested, and accepted” with respect to its use in the design of flood control structures or floodplain land use regulation in order to comply with (1) above. We strongly encourage this certification by an agency other than FEMA, and this certification must be in writing. There have been several instances in which FEMA itself has reviewed and tested a model, or “self-certified” a model, in order to accept it; however, we would prefer not to do this in the future, for this is a time-consuming and expensive procedure. If such a situation arises in the future, we will likely charge a fee for the review of the model. Therefore, we recommend that another government agency that is familiar with the model, such as the U.S. Army Corps of Engineers, be contacted to certify its use.

With regard to (2) and (3) above, we understand that many models developed today by private entities, such as software developers, are often proprietary in nature. The conditions listed are not meant to infringe upon the software developer’s rights. FEMA has an obligation under Paragraph 67.8(e) of the NFIP regulations to ensure that parties impacted by floodplain mapping have the right to appeal map actions. Computed base flood elevations (BFEs) can be appealed only if they are believed to be scientifically or technically incorrect. As part of resolving an appeal, it may be necessary that the source codes and user’s manuals for the computer program used to develop or amend BFEs be made available to impacted parties who can demonstrate the need to review the model. This is necessary so that impacted parties are able to evaluate the methodology used to compute the BFEs.

We have developed two sample disclosure agreements that we believe protect the interests of software developers and meet the procedural and technical guidelines of Parts 65 and 67 of the NFIP regulations. The first, entitled “Conditional Permission to Disclose Source Code and User’s Manual,” is a general agreement between FEMA and a model developer, which states that the model developer will release the source codes and user’s manuals to any appellant who demonstrates the need to review the model. This agreement is enacted prior to a model being added to the list of acceptable models. The second, entitled “Disclosure Agreement Regarding Source Code and User’s Manual,” is an agreement between the model developer and an appellant, which provides for the release of the source codes and user’s manuals to the appellant, and ensures that the appellant will protect the proprietary rights of the model developer. This second agreement is enacted only when an appeal is received. Copies of these agreements are available upon request.

I trust that this adequately explains the procedures to be taken to add a model to the list of “Numerical Models Accepted for Use in the NFIP.” If you have any comments or questions, please do not hesitate to contact Ms. Sally P. Magee of our Headquarters staff in Washington, D.C. at (202) 646-8242, or by facsimile at (202) 646-4596.