

Checklist - Proposed Model, FEMA Numerical Models Meeting the Minimum Requirements

| Proposed Model Name | Reviewer | Date (mm/dd/yyyy) | |
|---------------------|---|-------------------|------------------|
| <i>model name</i> | <i>name</i> | <i>date</i> | |
| ID | | Pass / Fail | Reviewer Comment |
| 1 | The model has been reviewed, tested, and accepted by a government agency responsible for the implementation of programs for flood control and/or regulation of floodplains. | | |
| 1.1 | The model will be used or is planned to be used by communities for NFIP studies; | | |
| 1.2 | The model provides new capabilities beyond any non-proprietary model on the existing accepted models lists; and | | |
| 1.3 | The model has been “reviewed, tested, and accepted” with respect to its use in the design of flood-control structures or floodplain land use regulation. A written certification must be provided by the review agency to FEMA. ¹ | | |
| 1.3.1 | The certifying agency must review the model in sufficient detail to conclude that the model is scientifically correct and technically sound. The model must be based on sound hydrodynamic, hydrologic, or hydraulic principles. For this review, the certifying agency may rely on published technical papers by authors other than the model developers that demonstrate the model is technically sound. FEMA may request the certifying agency to provide the list of reviewed technical references. | | |
| 1.3.2 | The certifying agency must test the model with measured data or compare the model to other similar models on FEMA's list of "Numerical Models Accepted for Use in the NFIP" (http://www.fema.gov/mitltsd/ENmodl.htm) to determine whether the model can adequately reproduce the measured data or provide results comparable to other models accepted by FEMA. A summary of the testing methods and results should be provided to FEMA. | | |
| 1.3.3 | The certifying agency must accept the model for its use in administering programs for the design of flood control structures and/or the regulation of floodplain lands. | | |
| 1.3.4 | With the request for approval of the model submitted to FEMA, the certifying agency must cite and describe specific examples of using the model to demonstrate the applicability of the model to the NFIP for purpose of the design of flood control structures and/or the regulation of floodplain lands. | | |

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| 1.3.5 | If necessary, FEMA may request the certifying agency to provide assistance, such as providing answers to technical questions, relative to the use of the certified model for Flood Insurance Studies and appeals in the NFIP. | | |
| 1.3.6 | The certification must be provided by a responsible agency official who has the authority to certify the model on behalf of the agency. | | |
| 2 | The model must be well documented, including source codes and user's manuals. | | |
| 3 | The model must be available to the Department of Homeland Security's Federal Emergency Management Agency (FEMA) and all present and future parties affected by flood insurance mapping that is developed or amended through the use of the model. | | |
| 3a | First disclosure agreement, "Conditional Permission to Disclose Source Code and User's Manual" has been executed by model developer and provided to FEMA. ² | | |
| 3b | Second disclosure agreement, "Disclosure Agreement Between Model Developer and Impacted Party" has been agreed to by model developer and provided to FEMA. This second agreement is used only when an appeal is received. ² | | |
| <p>¹Certification criteria are per FEMA's criteria for certification of coastal, hydrologic, and hydraulic models as stated by the FEMA Guidelines and Standards for Flood Risk Analysis and Mapping. The FEMA Local Model Acceptance Letter Certification Letter template may be used.</p> <p>²These agreements, the "Conditional Permission to Disclose Source Code and User Manual" document and the "Disclosure Agreement Between Model Developer and Impacted Party," are available at https://www.fema.gov/media-library/assets/documents/13091.</p> | | | |