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44 CFR Part 9

Updates to Floodplain Management and Protection of Wetlands  
Regulations To Implement Executive Order 13690 and the Federal Flood  
Risk Management Standard; Proposed Rule

## DEPARTMENT OF HOMELAND SECURITY

### Federal Emergency Management Agency

#### 44 CFR Part 9

[Docket ID: FEMA–2015–0006]

RIN 1660–AA85

### Updates to Floodplain Management and Protection of Wetlands Regulations To Implement Executive Order 13690 and the Federal Flood Risk Management Standard

**AGENCY:** Federal Emergency Management Agency, DHS.

**ACTION:** Notice of proposed rulemaking.

**SUMMARY:** The Federal Emergency Management Agency (FEMA) proposes to amend its regulations on “Floodplain Management and Protection of Wetlands” to implement Executive Order 13690, which establishes the Federal Flood Risk Management Standard (FFRMS). FEMA also proposes a supplementary policy (FEMA Policy: 078–3) that would further clarify how FEMA applies the FFRMS.

**DATES:** Comments must be received no later than October 21, 2016.

**ADDRESSES:** You may submit comments, identified by Docket ID: FEMA–2015–0006, by one of the following methods:

*Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments.

*Mail/Hand Delivery/Courier:* Regulatory Affairs Division, Office of Chief Counsel, Federal Emergency Management Agency, 8NE–1604, 500 C Street SW., Washington, DC 20472–3100.

To avoid duplication, please use only one of these methods. All comments received will be posted without change to <http://www.regulations.gov>, including any personal information provided. For instructions on submitting comments, see the Public Participation portion of the **SUPPLEMENTARY INFORMATION** section.

**FOR FURTHER INFORMATION CONTACT:** Kristin Fontenot, Director, Office of Environmental Planning and Historic Preservation, Federal Insurance and Mitigation Administration, DHS/FEMA, 400 C Street SW., Suite 313, Washington, DC 20472–3020. Phone: 202–646–2741; Email: [Kristin.Fontenot@fema.dhs.gov](mailto:Kristin.Fontenot@fema.dhs.gov).

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- 0.2PFA—0.2 Percent Annual Chance Flood Approach
- ABA—Architectural Barriers Act
- ADA—Americans With Disabilities Act
- CEQ—Council on Environmental Quality
- CFR—Code of Federal Regulations
- CISA—Climate-Informed Science Approach
- CRS—Community Rating System

- EA—Environmental Assessment
- EIS—Environmental Impact Statement
- FBFM—Flood Boundary Floodway Map
- FEMA—Federal Emergency Management Agency
- FFRMS—Federal Flood Risk Management Standard
- FHBM—Flood Hazard Boundary Map
- FIMA—Federal Insurance & Mitigation Administration
- FIRM—Flood Insurance Rate Map
- FIS—Flood Insurance Study
- FMA—Flood Mitigation Assistance
- FVA—Freeboard Value Approach
- GPD—Grant Programs Directorate
- HMA—Hazard Mitigation Assistance
- HUD—Department of Housing and Urban Development
- IA—Individual Assistance
- IPAWS—Integrated Public Alert Warning System
- IRFA—Initial Regulatory Flexibility Analysis
- MHU—Manufactured Housing Unit
- MitFLG—Mitigation Framework Leadership Group
- NEPA—National Environmental Policy Act of 1969
- NFIA—National Flood Insurance Act, as Amended
- NFIP—National Flood Insurance Program
- NMF—National Mitigation Framework
- NOAA—National Oceanic and Atmospheric Administration
- NPRM—Notice of Proposed Rulemaking
- OMB—Office of Management and Budget
- PA—Public Assistance
- PDM—Pre-Disaster Mitigation
- PHC—Permanent Housing Construction
- PIA—Privacy Impact Assessment
- PRA—Paperwork Reduction Act of 1995
- PV—Present Value
- RFA—Regulatory Flexibility Act
- SBREFA—Small Business Regulatory Enforcement Fairness Act of 1996
- SORN—System of Records Notice
- Stafford Act—Robert T. Stafford Disaster Relief and Emergency Assistance Act, as Amended
- USGS—United States Geological Survey
- WRC—Water Resources Council

#### I. Public Participation

We encourage you to participate in this rulemaking by submitting comments and related materials. We will consider all comments and materials received during the comment period.

If you submit a comment, identify the agency name and the Docket ID for this rulemaking, indicate the specific section of this document to which each comment applies, and give the reason for each comment. You may submit your comments and materials by electronic means, mail, or delivery to the address under the **ADDRESSES** section. Please submit your comments and materials by only one means.

Regardless of the method used for submitting comments or material, all submissions will be posted, without change, to the Federal e-Rulemaking Portal at [www.regulations.gov](http://www.regulations.gov), and will

include any personal information you provide. Therefore, submitting this information makes it public. You may wish to read the Privacy Act notice that is available via a link on the homepage of [www.regulations.gov](http://www.regulations.gov).

*Viewing comments and documents:* For access to the docket to read background documents or comments received, go to the Federal e-Rulemaking Portal at <http://www.regulations.gov>. Background documents and submitted comments may also be inspected at the Office of Chief Counsel, Federal Emergency Management Agency, 500 C Street SW., 8NE-1604, Washington, DC 20472-3100.

## II. Executive Summary

The Federal Emergency Management Agency (FEMA) is proposing to amend 44 CFR part 9 “Floodplain Management and Protection of Wetlands” and issue a supplementary policy to implement the Federal Flood Risk Management Standard (FFRMS) that was established by Executive Order 13690. 44 CFR part 9 describes the 8-step process FEMA uses to determine whether a proposed action would be located within or affect a floodplain, and if so, whether and how to continue with or modify the proposed action. Executive Order 13690 and the FFRMS changed the Executive Branch-wide guidance for defining the “floodplain” with respect to “federally funded projects” (*i.e.*, actions involving the use of Federal funds for new construction, substantial improvement, or to address substantial damage to a structure or facility). For FEMA Federally Funded Projects, FEMA proposes to use the updated definition of “floodplain” contained in the FFRMS. As discussed further below, the FFRMS allows the agency to define “floodplain” using any of three “approaches.” In many cases, each of these approaches would result in a larger floodplain and a requirement to design projects such that they are resilient to a higher vertical elevation. For actions that do not meet the definition of FEMA Federally Funded Project, FEMA would continue to use the historical definition of floodplain, *i.e.*, the area subject to a one percent or greater chance of flooding in any given year (or the area subject to a 0.2 percent annual chance of flooding in any given year for critical actions). Finally, the proposed rule would require the use, where possible, of natural systems, ecosystem processes, and nature-based approaches in the development of alternatives for all actions proposed in a floodplain.

FEMA estimates that for the 10-year period after the rule goes into effect, the benefits would justify the costs. Flooding is the most common and costly type of natural disaster in the United States, and floods are expected to be more frequent and more severe over the next century due in part to the projected effects of climate change. This proposed rule would ensure that FEMA Federally Funded Projects are designed to be resilient to both current and future flood risks.

## III. Background

Below, FEMA describes in more specific detail the basis for this proposed rule. Section III.A. describes Executive Order 11988 and the Water Resources Council’s 1978 “Floodplain Management Guidelines” (1978 Guidelines). Executive Order 11988 along with the 1978 Guidelines established an 8-step decision-making process by which Federal agencies carry out Executive Order 11988’s direction to avoid the long- and short-term adverse impacts associated with the occupancy and modification of the floodplain and avoid the direct or indirect support of floodplain development whenever there is a practicable alternative. Section III.B. describes FEMA implementing regulations at 44 CFR part 9, which closely follow the model decision-making process. Section III.C. describes how lessons learned from major events, including Hurricane Sandy, prompted reevaluation of the prevailing standard for determining whether a proposed action was located within a floodplain.

Section III.D. describes the development of Executive Order 13690 and the Federal Flood Risk Management Standard. Lessons learned from major flood events, including Hurricane Sandy, prompted reevaluation of the prevailing standard. Pursuant to direction from the President’s Climate Action Plan and to build on the work of the Hurricane Sandy Rebuilding Task Force, the Mitigation Framework Leadership Group developed the Federal Flood Risk Management Standard. Subsequently, the President issued Executive Order 13690 to establish the Federal Flood Risk Management Standard, and to amend Executive Order 11988. Executive Order 13690 directs agencies to issue or amend their existing regulations and procedures to comply with the Order. Section III.E. describes the substantive components of the Federal Flood Risk Management Standard and Section III.F. describes FEMA’s proposed approach to implement the required changes.

### A. Executive Order 11988, “Floodplain Management”

The President issued Executive Order 11988, (42 FR 26951, May 25, 1977) in furtherance of the National Flood Insurance Act of 1968, as amended (42 U.S.C. 4001 *et seq.*); the Flood Disaster Protection Act of 1973, as amended (Pub. L. 93-234, 87 Stat. 975); and the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 *et seq.*).<sup>1</sup> Executive Order 11988 requires Federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains, where there is a practicable alternative. It requires each Federal agency to provide leadership and take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities for: (1) Acquiring, managing, and disposing of Federal lands and facilities; (2) providing federally undertaken, financed, or assisted construction and improvements; and (3) conducting Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities. It states that each agency has a responsibility to evaluate the potential effects of any actions it may take in a floodplain; to ensure that its planning, programs, and budget requests reflect consideration of flood hazards and floodplain management; and to prescribe procedures to implement the policies and requirements of the Executive Order.

In order to meet these requirements, each agency, before taking an action, must determine whether the proposed action will occur in a floodplain.<sup>2</sup> Prior to being revised in 2015, Executive Order 11988 defined the word “floodplain” to include, at a minimum, the “area subject to a one percent or

<sup>1</sup> The National Flood Insurance Act and the Flood Disaster Protection Act establish a multi-purpose program to provide flood insurance, minimize the damage caused by flood losses, and guide the development of proposed construction, where practicable, away from floodplains. NEPA requires Federal agencies to analyze the environmental impacts of proposed actions and evaluate alternatives to those actions, which includes the evaluation of floodplains.

<sup>2</sup> Any action FEMA takes, including its provision of grants for disaster assistance, first undergoes an analysis pursuant to Executive Order 11988 (unless the action is specifically exempted from the requirements of the Order). The grant recipient, therefore, generally provides information to FEMA about the practicability of alternatives outside the floodplain and other information to assist in the analysis.

greater chance of flooding in any given year.”<sup>3</sup> The Executive Order defines agency “action” to include actions that the agency takes directly (such as when a Federal agency builds a new facility for its own operations) as well as actions that a non-Federal entity takes using Federal funding (such as a State or local government building a new facility using Federal grant funding).

If the action will occur in a floodplain, the agency must consider alternatives to avoid adverse effects and incompatible development in the floodplain. If the agency finds that the only practicable alternative requires the action to occur in the floodplain, the agency must, prior to taking the action, design or modify the action in order to minimize potential harm to or within the floodplain. Additionally, the agency must prepare and circulate a notice containing an explanation of why the action is proposed to be located in the floodplain. Particularly relevant to FEMA, the Executive Order also requires agencies to provide appropriate guidance to applicants for grant funding to encourage them to evaluate the effects of their proposals in floodplains prior to submitting grant applications.

Executive Order 11988 requires agencies to prepare implementing procedures in consultation with the Water Resources Council (WRC),<sup>4</sup> FEMA, and the Council on Environmental Quality (CEQ). As noted, in 1978, the WRC issued “Floodplain Management Guidelines,” (1978 Guidelines), the authoritative interpretation of Executive Order 11988.<sup>5</sup> The 1978 Guidelines provided a section-by-section analysis, defined key terms, and outlined an 8-step decision-making process for carrying out the directives of Executive Order 11988.

<sup>3</sup> This is also referred to as the 100-year floodplain or the base floodplain.

<sup>4</sup> The Water Resources Council, established by statute (42 U.S.C. 1962a–1), is charged with maintaining a continuing study and preparing an assessment biennially, or at such less frequent intervals as the Council may determine, of the adequacy of supplies of water necessary to meet the water requirements in each water resource region in the United States and the national interest therein; and maintaining a continuing study of the relation of regional or river basin plans and programs to the requirements of larger regions of the Nation and of the adequacy of administrative and statutory means for the coordination of the water and related land resources policies and programs of the several Federal agencies. It is responsible for appraising the adequacy of existing and proposed policies and programs to meet such requirements, and making recommendations to the President with respect to Federal policies and programs.

<sup>5</sup> 43 FR 6030, Feb. 10, 1978. A PDF copy of the 1978 Guidelines can be found at this link: [http://portal.hud.gov/hudportal/documents/huddoc?id=DOC\\_14216.pdf](http://portal.hud.gov/hudportal/documents/huddoc?id=DOC_14216.pdf).

#### *B. 44 CFR Part 9, “Floodplain Management and Protection of Wetlands”*

FEMA promulgated regulations implementing Executive Order 11988 at 44 CFR part 9, “Floodplain Management and Protection of Wetlands.”<sup>6</sup> Part 9 closely follows the 1978 Guidelines in setting forth FEMA’s policy and procedures for floodplain management relating to disaster planning, response and recovery, and hazard mitigation. Part 9 applies to FEMA disaster and non-disaster assistance programs, including Public Assistance (PA), Individual Assistance (IA), Hazard Mitigation Assistance (HMA), and grants processed by FEMA’s Grant Programs Directorate (GPD) (involving grants for preparedness activities). Pursuant to section 8 of Executive Order 11988, Part 9 does not apply to assistance provided for emergency work essential to save lives and protect property and public health and safety, performed pursuant to sections 403 and 502 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended (42 U.S.C. 5170b and 5192). In addition, FEMA does not apply Part 9 to non-grant, site-specific actions under the National Flood Insurance Program (NFIP),<sup>7</sup> such as the issuance of individual flood insurance policies, the adjustment of claims, or the issuance of individual flood insurance maps. FEMA does not apply Part 9 to site-specific actions under the NFIP because the establishment of programmatic criteria, rather than the application of the programmatic criteria to individual situations, is the action with the potential to influence/affect floodplains.<sup>8</sup>

As noted, Part 9 outlines the 8-step decision-making process FEMA follows in applying Executive Order 11988 to its actions:

*Step (1) Floodplain determination (44 CFR 9.7).* Under Step 1, FEMA must determine if a proposed agency action is located in or affects the base floodplain (or, for critical actions, the 500-year floodplain). The base floodplain is the

<sup>6</sup> FEMA published an interim final rule on December 27, 1979 (44 FR 76510) and a final rule on September 9, 1980 (45 FR 59520). Note that this part also implements a related Executive Order 11990, “Protection of Wetlands.” See 42 FR 26961, May 25, 1977.

<sup>7</sup> A complete list of FEMA programs to which part 9 does not apply appears at 44 CFR 9.5. The exemption for actions under the NFIP is located at 44 CFR 9.5(f).

<sup>8</sup> For example, part 9 requires FEMA to apply the 8-step process to a programmatic determination of categories of structures to be insured, but does not require FEMA to apply an 8-step review to a determination of whether to insure each individual structure. See 45 FR 59520, Sept. 9, 1980 (59523).

area subject to inundation by the base flood, which is that flood which has a 1 percent chance of occurrence in any given year (also known as the 1 percent annual chance flood or 100-year flood). A “critical action” is any activity for which even a slight chance of flooding would be too great.<sup>9</sup> The minimum floodplain of concern for critical actions is 500-year floodplain, which is the area subject to inundation from a flood having a 0.2 percent chance of occurring in any given year. The 500-year floodplain generally covers a larger area than the base floodplain. FEMA’s regulations state that in each instance where the 8-step process refers to the base floodplain, an agency should substitute the 500-year floodplain for the base floodplain if the proposed action is a critical action.

FEMA follows a specific regulatory sequence in order to make its floodplain determination. First, FEMA must consult the Flood Insurance Rate Map (FIRM), the Flood Boundary Floodway Map (FBFM), and the Flood Insurance Study (FIS) for the area. A FIRM is an official, detailed map issued by the NFIP, showing elevations and boundaries of the 1 percent annual chance floodplain and the 0.2 percent annual chance floodplain.<sup>10</sup> The FBFM is a version of a flood map that shows only the floodway<sup>11</sup> and flood boundaries. An FIS report is an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations. If a FIRM is not available, FEMA must obtain a Flood Hazard Boundary Map (FHBM) which is a less detailed map than a FIRM and shows the approximate areas of the base floodplain. If data on flood elevations, floodways, or coastal high hazard areas are needed, or if the map does not delineate the flood hazard boundaries in the vicinity of the proposed site, FEMA must seek detailed information from a list of sources included in the

<sup>9</sup> The concept of critical actions evolved during the drafting of the 1978 Guidelines and reflects a concern that the impacts of floods on human safety, health, and welfare for many activities could not be minimized unless a higher degree of protection than the base flood was provided. See Interagency Task Force on Floodplain Management, Further Advice on Executive Order 11988 Floodplain Management (1980) available at [http://www.gsa.gov/graphics/pbs/FEDERAL\\_EMERGENCY\\_MANAGEMENT\\_AGENCY\\_R2F-a8-k\\_0Z5RDZ-i34K-pR.pdf](http://www.gsa.gov/graphics/pbs/FEDERAL_EMERGENCY_MANAGEMENT_AGENCY_R2F-a8-k_0Z5RDZ-i34K-pR.pdf).

<sup>10</sup> FEMA estimates that only 18 percent of mapped flood zones have detailed floodplain boundaries of the 0.2 percent annual chance floodplain.

<sup>11</sup> The floodway is the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. See 44 CFR 59.1.

regulations. See 44 CFR 9.7(c)(1)(ii). If the sources listed do not have or know of detailed information and are unable to assist in determining whether or not the proposed site is in the base floodplain, FEMA must seek the services of a licensed consulting engineer experienced in this type of work. If, however, a decision involves an area or location within extensive Federal or State holdings or a headwater area, and no FIS, FIRM, FBFM, or FHBM is available, FEMA will seek information from the land administering agency before seeking information and/or assistance from the list of sources included in the regulations. Then, if none of the sources listed has information or can provide assistance, FEMA will seek the services of an experienced Federal or other engineer.

*Step (2) Early public review (44 CFR 9.8).* FEMA must make public its intent to locate a proposed action in the base floodplain. FEMA must provide adequate information to enable the public to have an impact on the decision outcome for all proposed actions having potential to affect, adversely, or be affected by floodplains. For each action having national significance for which notice is provided, FEMA uses the **Federal Register** as the minimum means for notice, and will provide notice by mail to national organizations reasonably expected to be interested in the action. 44 CFR 9.8(c)(5) describes the contents of the public notice, such as a description of the action, the degree of hazard involved, a map of the area, or other identification of the floodplain, and identification of the responsible agency official.

*Step (3) Practicable alternatives (44 CFR 9.9).* If the action is in the floodplain, FEMA will identify and evaluate practicable alternatives to carrying out a proposed action in floodplains, including the following: Alternative sites outside the floodplain; alternative actions which serve essentially the same purpose as the proposed action, but which have less potential to affect or be affected by the floodplain; and "no action." The floodplain site itself must be a practicable location in light of the other factors. Under 44 CFR 9.9(c), FEMA will analyze several factors in determining the practicability of the alternatives described in 44 CFR 9.9(b), namely natural environment, social concerns, economic aspects, and legal constraints. 44 CFR 9.9(d) states that FEMA will not locate the proposed action in the floodplain, if a practicable alternative exists outside the floodplain or wetland. For critical actions, FEMA will not

locate the proposed action in the 500-year floodplain, if a practicable alternative exists outside the 500-year floodplain. Even if no practicable alternative exists outside the floodplain, in order to carry out the action the floodplain or wetland must itself be a practicable location in light of the review required under Step 3.

*Step (4) Impact of chosen alternative (44 CFR 9.10).* FEMA must identify if the action has impacts in the floodplain or directly or indirectly supports floodplain development that has additional impacts in the floodplain. If the proposed action is outside the floodplain and has no identifiable impacts or support, the action can be implemented (Step 8). 44 CFR 9.10(b) provides that FEMA will identify the potential direct and indirect adverse impacts associated with the occupancy and modification of floodplains and the potential direct and indirect support of floodplain development that could result from the proposed action. FEMA's identification of such impacts shall be to the extent necessary to comply with the requirements of Executive Order 11988 to avoid floodplain locations unless they are the only practicable alternatives and to minimize harm to and within floodplains and wetlands.

*Step (5) Minimize impacts (44 CFR 9.11).* If the proposed action has identifiable impacts in the base floodplain or directly or indirectly supports development in the floodplain, FEMA must minimize these effects and restore and preserve the natural and beneficial floodplain values served by floodplains. 44 CFR 9.11(b) states generally that FEMA will design or modify its actions so as to minimize harm to or within the floodplain; will minimize destruction, loss, or degradation of wetlands; will restore and preserve natural and beneficial floodplain values; and will preserve and enhance natural and beneficial wetland values. Pursuant to 44 CFR 9.11(c), FEMA will more specifically minimize potential harm to lives and the investment at risk from the base flood, or, in the case of critical actions, from the 500-year flood; potential adverse impacts the action may have on others; and potential adverse impacts the action may have on floodplain values. Pursuant to 44 CFR 9.11(d), FEMA will not allow new construction or substantial improvement in a floodway, and will not allow new construction in a coastal high hazard area, except for a functionally dependent use<sup>12</sup> or a

structure or facility which facilitates an open space use. For a structure which is a functionally dependent use, or which facilitates an open space use, FEMA will not allow construction of a new or substantially improved structure in a coastal high hazard area unless it is elevated on adequately anchored pilings or columns, and securely anchored to such piles or columns so that the lowest portion of the structural members of the lowest floor (excluding the pilings or columns) is elevated to or above the base flood level (the 500-year flood level for critical actions) (including wave height). Regarding elevation of structures, 44 CFR 9.11(d)(3) states that there will be no new construction or substantial improvement of structures unless the lowest floor of the structures (including basement) is at or above the level of the base flood, and there will be no new construction or substantial improvement of structures involving a critical action unless the lowest floor of the structure (including the basement) is at or above the level of the 500-year flood.

*Step (6) Reevaluate alternatives (44 CFR 9.9).* FEMA must reevaluate the proposed action. Pursuant to 44 CFR 9.9(e), upon determination of the impact of the proposed action to or within the floodplain and of what measures are necessary to comply with the requirement to minimize harm to and within the floodplains, FEMA will determine whether: the action is still practicable at a floodplain site in light of the exposure to flood risk and the ensuing disruption of natural values, the floodplain site is the only practicable alternative, there is a potential for limiting the action to increase the practicability of previously rejected non-floodplain sites and alternative actions, and minimization of harm to or within the floodplain can be achieved using all practicable means. Pursuant to 44 CFR 9.9(e)(2), FEMA will take no action in a floodplain unless the importance of the floodplain site clearly outweighs the requirement of Executive Order 11988 to avoid direct or indirect support of floodplain development; reduce the risk of flood loss; minimize the impact of floods on human safety, health, and welfare; and restore and preserve floodplain values.

*Step (7) Findings and public explanation (44 CFR 9.12).* If FEMA finds that the only practicable alternative is to take the action in the floodplain, it must give public notice of the reasons for this finding. 44 CFR

<sup>12</sup> A functionally dependent use means a use which cannot perform its intended purpose unless

it is located or carried out in close proximity to water (e.g., bridges and piers). See 44 CFR 9.4.

9.12(e) describes the requirements for the content of such notice, such as a statement of why the proposed action must be located in an area affecting or affected by a floodplain or wetland, a description of all significant facts considered in making this determination, identification of the responsible official, and a map of the relevant area.

*Step (8) Implementation (Multiple sections of 44 CFR and applicable program guidance).* FEMA may implement the proposed action after it allows a reasonable period for public response and reviews the implementation and post-implementation to ensure compliance with the minimization standards in 44 CFR 9.11. Implementation of the requirements of Executive Order 11988 is integrated into the specific regulations and procedures of the grant program under which the action is proposed to take place. After the proposed action is implemented, the FEMA program providing the funding determines, under its applicable regulations and procedures, whether the grant recipient has completed the prescribed mitigation.

#### *C. Reevaluation of the 1 Percent Chance or 100-Year Flood Standard*

In the aftermath of Hurricane Sandy, the President issued Executive Order 13632,<sup>13</sup> which created the Federal Interagency Hurricane Sandy Rebuilding Task Force (Sandy Task Force). The Sandy Task Force was chaired by the Secretary of the Department of Housing and Urban Development (HUD), which led the effort in coordination with multiple Federal partners. The Sandy Task Force was supported by an advisory group composed of State, local, and Tribal elected leaders. Pursuant to direction from Executive Order 13632 to remove obstacles to resilient rebuilding, the Sandy Task Force reevaluated the 1 percent chance/100-year standard. In April 2013, the Sandy Task Force announced a new Federal flood risk reduction standard which required elevation or other flood-proofing to 1 foot above<sup>14</sup> the best available and most recent base flood elevation and applied that standard to all Federal disaster

recovery investments in Sandy-affected communities.<sup>15</sup> The Sandy Task Force called for all major Sandy rebuilding projects in Sandy-affected communities using Federal funding to be elevated or otherwise flood-proofed according to this new flood risk reduction standard.

In May 2013, DHS issued the National Mitigation Framework (NMF) to establish a common platform and forum for coordinating and addressing how the Nation manages risk through mitigation capabilities.<sup>16</sup> The NMF established the Mitigation Framework Leadership Group (MitFLG) to promote coordination of mitigation efforts across the Federal Government. Its goal is broader than the goal of the Sandy Task Force, as it focuses on enabling achievement of a secure and resilient Nation by developing, employing and coordinating core mitigation capabilities to reduce the loss of life and property. The MitFLG is responsible for assessing the effectiveness of mitigation core capabilities as they are developed and deployed across the Nation. The MitFLG facilitates information exchange, coordinates policy implementation recommendations on national-level issues, and oversees the successful implementation of the NMF. The MitFLG is composed of representatives from the Department of Agriculture, the Department of Commerce, the Department of Defense, the Department of Energy, the Environmental Protection Agency, the General Services Administration, the Department of Health and Human Services, DHS, HUD, the Department of the Interior, the Department of Justice, the Small Business Administration, and the Department of Transportation. FEMA also chairs the MitFLG.<sup>17</sup>

In June 2013, the President issued a Climate Action Plan<sup>18</sup> that directs agencies to take appropriate actions to reduce risk to Federal investments, specifically directing agencies to build on the work done by the Sandy Task Force and to update their flood risk reduction standards for “federally-

funded . . . projects” to ensure that “projects funded with taxpayer dollars last as long as intended.”<sup>19</sup> In November 2013, the President’s State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience (Climate Task Force) convened, with 26 Governors, mayors, and local and Tribal leaders serving as members. After a year-long process of receiving input from State, local, Tribal, and territorial governments; private businesses; trade associations; academic organizations; civil society; and other stakeholders, the Task Force provided a recommendation to the President in November 2014. In order to ensure resiliency, Federal agencies, when taking actions in and around floodplains, should include considerations of the effects of climate change, including sea level rise, more frequent and severe storms, and increasing river flood risks. The Climate Task Force also recommended that the best available climate data should be used in siting and designing projects receiving Federal funding, and that margins of safety, such as freeboard and setbacks, should be included.<sup>20</sup>

#### *D. Issuance of Executive Order 13690 and the Federal Flood Risk Management Standard, and Revision of the 1978 Guidelines*

The MitFLG developed the FFRMS reflecting the best available science, lessons learned, and input and recommendations gathered from the Sandy Task Force, the Climate Action Plan, and the Climate Task Force. As a result of MitFLG’s efforts, on January 30, 2015, the President issued Executive Order 13690, “Establishing a Federal Flood Risk Management Standard (FFRMS) and a Process for Further Soliciting and Considering Stakeholder Input.”<sup>21</sup> Executive Order 13690 amended Executive Order 11988 and established the FFRMS. It also set forth a process by which additional input from stakeholders is solicited and considered before agencies implement the FFRMS. It required FEMA to publish, on behalf of the MitFLG, an updated version of the Implementing Guidelines (revised to incorporate the changes required by Executive Order 13690 and the FFRMS) in the **Federal Register** for notice and comment. After receipt and adjudication of comments, Executive Order 13690 required the MitFLG to submit to the WRC

<sup>13</sup> HUD release entitled, “Federal Government Sets Uniform Flood Risk Reduction Standard for Sandy Rebuilding Projects,” April 4, 2013.

<sup>14</sup> Department of Homeland Security, *National Mitigation Framework* (2013), available at [http://www.fema.gov/media-library-data/20130726-1914-25045-9956/final\\_national\\_mitigation\\_framework\\_20130501.pdf](http://www.fema.gov/media-library-data/20130726-1914-25045-9956/final_national_mitigation_framework_20130501.pdf). Mitigation reduces the impact of disasters by supporting protection and prevention activities, easing response, and speeding recovery to create better prepared and more resilient communities. This Framework describes mitigation roles across the whole community.

<sup>15</sup> See *National Mitigation Framework*, p. 30.

<sup>16</sup> Executive Office of the President, *The President’s Climate Action Plan* (2013), available at <https://www.whitehouse.gov/sites/default/files/image/president27climateactionplan.pdf>.

<sup>19</sup> See *The President’s Climate Action Plan* at 15.

<sup>20</sup> President’s State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience, *Recommendations to the President*, (2014), available at [http://www.whitehouse.gov/sites/default/files/docs/task\\_force\\_report\\_0.pdf](http://www.whitehouse.gov/sites/default/files/docs/task_force_report_0.pdf) at 7.

<sup>21</sup> 80 FR 6425 Feb. 4, 2015.

<sup>13</sup> 77 FR 74341, Dec. 14, 2012.

<sup>14</sup> This is also known as “freeboard.” “Freeboard” is a factor of safety usually expressed in feet above a flood level for purposes of floodplain management. Freeboard tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrologic effect of urbanization of the watershed. See [www.fema.gov/freeboard](http://www.fema.gov/freeboard).

recommendations for finalizing the draft Guidelines. Finally, Executive Order 13690 required the WRC to issue final Guidelines to provide guidance to agencies on the implementation of Executive Order 11988, as amended, consistent with the FFRMS. After the completion of this process, Executive Order 13690 directs agencies to issue or amend their existing regulations and procedures to comply with the Order. The MitFLG is required to reassess the FFRMS annually, after seeking stakeholder input, and provide recommendations to the WRC to update the FFRMS if warranted. The WRC is required to update the FFRMS at least every 5 years.

FEMA, on behalf of MitFLG, published a **Federal Register** notice for a 60-day notice and comment period seeking comments on a draft of the Revised Guidelines on February 5, 2015.<sup>22</sup> In response to multiple requests, the MitFLG later extended the comment period for an additional 30 days to end on May 6, 2015.<sup>23</sup> Periodically during the public comment period, the Administration (through FEMA and CEQ) sent advisories to representatives from Governors' offices nationwide announcing the issuance of Executive Order 13690 and inviting comments on the draft Revised Guidelines. The Administration also attended or hosted over 25 meetings across the country with State, local, and Tribal officials (including 26 mayors) and interested stakeholders to discuss Executive Order 13690 and the draft Revised Guidelines. The MitFLG held 9 public listening sessions across the country<sup>24</sup> that were attended by over 700 participants from State, local, and Tribal governments and other stakeholder organizations to facilitate feedback on the draft Revised Guidelines. The MitFLG published notice of these public listening sessions in the **Federal Register**.<sup>25</sup>

The public comment period closed on May 6, 2015. The MitFLG received over 2700<sup>26</sup> comments. The MitFLG

adjudicated the comments and presented its recommendations to the WRC, as required by Executive Order 13690. The WRC issued the final Revised Guidelines on October 8, 2015.<sup>27</sup> The Revised Guidelines contain an updated version of the FFRMS (located at Appendix G of the Revised Guidelines), reiterate key concepts from the 1978 Guidelines, and explain the new concepts resulting from the Executive Order 13690 and the FFRMS. In response to public comments, the FFRMS was updated to clarify the distinction between actions and Federally Funded Projects.

#### *E. Substantive Components of the FFRMS*

The FFRMS is a flexible framework to increase resilience against flooding and help preserve the natural values of floodplains. Incorporating this standard into existing agency processes will ensure that agencies expand management from the current base flood level to a higher vertical elevation and corresponding horizontal floodplain so that Federally Funded Projects will last as long as intended. In addition, the FFRMS encourages the use of natural features and nature-based approaches in the development of alternatives for all Federal actions.

Under the FFRMS, an agency may establish the floodplain for Federally Funded Projects using any of the following approaches: (1) Climate-Informed Science Approach (CISA): Utilizing the best-available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding based on climate science; (2) Freeboard Value Approach (FVA): Freeboard (base flood elevation + X, where X is 3 feet for critical actions and 2 feet for other actions); (3) 0.2 percent annual chance Flood Approach (0.2PFA): 0.2 percent annual chance flood (also known as the 500-year flood); or (4) the elevation and flood hazard area that result from using any other method identified in an update to the FFRMS.<sup>28</sup> Each of the approaches is described in further detail below.

#### FFRMS Approach 1: CISA

The FFRMS states that the CISA is the preferred approach, and that Federal agencies should use this approach when data to support such an analysis are available. For areas vulnerable to coastal flood hazards, the CISA includes the

regional sea-level rise variability and lifecycle of the Federal action. This includes use of the Department of Commerce's National Oceanic and Atmospheric Administration's (NOAA's) or similar global mean sea-level-rise scenarios. These scenarios would be adjusted to the local relative sea-level conditions and would be combined with surge, tide, and wave data using state-of-the-art science in a manner appropriate to policies, practices, criticality, and consequences (risk).<sup>29</sup> For areas vulnerable to riverine flood hazards (*i.e.*, flood hazards stemming from a river source), the CISA would account for changes in riverine conditions due to current and future changes in climate and other factors such as land use, by applying state-of-the-art science in a manner appropriate to policies, practices, criticality, and consequences (risk).

The CISA for critical actions would utilize the same methodology as used for non-critical actions that are subject to Executive Order 11988, but with an emphasis on criticality as one of the factors for agencies to consider when conducting the analysis.

#### FFRMS Approach 2: FVA

The FFRMS defines freeboard values as an additional 2 feet added to the base flood elevation, or, for critical actions, an additional 3 feet added to the base flood elevation. In other words, the floodplain established by the FFRMS-FVA is the equivalent of the 1 percent annual chance floodplain, plus either 2 or 3 feet of vertical elevation, as applicable based on criticality, as well as a corresponding increase in the horizontal extent of the floodplain. The increased horizontal extent will not be the same in every case. As shown in the next two illustrations, when the same vertical increase is applied in multiple Federally Funded Projects in different areas, the amount of the increase in the horizontal extent of the respective floodplains will depend upon the topography of the area surrounding the proposed location of the Federally Funded Project. FFRMS-FVA Illustration A reflects an area with relatively flat topography on either side of the flooding source (*i.e.*, river or stream) channel. This is generally representative of coastal plains, portions of the Midwest, and other areas with less variation in topography. FFRMS-FVA Illustration B reflects an area with steep topography on either side of the

<sup>22</sup> 80 FR 6530, Feb. 5, 2015.

<sup>23</sup> 80 FR 16018, Mar. 26, 2015.

<sup>24</sup> The meetings were held in Iowa, Mississippi, California, Virginia (Hampton Roads), Virginia (Fairfax), New York, Texas, Washington, and via webinar.

<sup>25</sup> 80 FR 19090, Apr. 9, 2015.

<sup>26</sup> The MitFLG received approximately 556 separate submissions, which raised over 2700 separate issues and positions. Written comments were received at a series of 8 in-person listening sessions across the country (135 submissions); verbal comments were shared during the public comment periods of these same listening sessions (74 commenters); comments were submitted through the FFRMS email address (20 submissions); comments were submitted through regulations.gov (326 submissions); and comments were submitted as part of a petition of support (1 submission).

<sup>27</sup> Available in the docket for this rulemaking at [www.regulations.gov](http://www.regulations.gov) under Docket ID FEMA-2015-0006.

<sup>28</sup> See Executive Order 13690 Section 2(i), 80 FR 6425, Feb. 4, 2015 (6426).

<sup>29</sup> The Revised Guidelines expand further upon the methods for calculating sea-level rise for areas vulnerable to coastal flood hazards in Section II (C) of Appendix H, "Climate-Informed Science Approach and Resources."

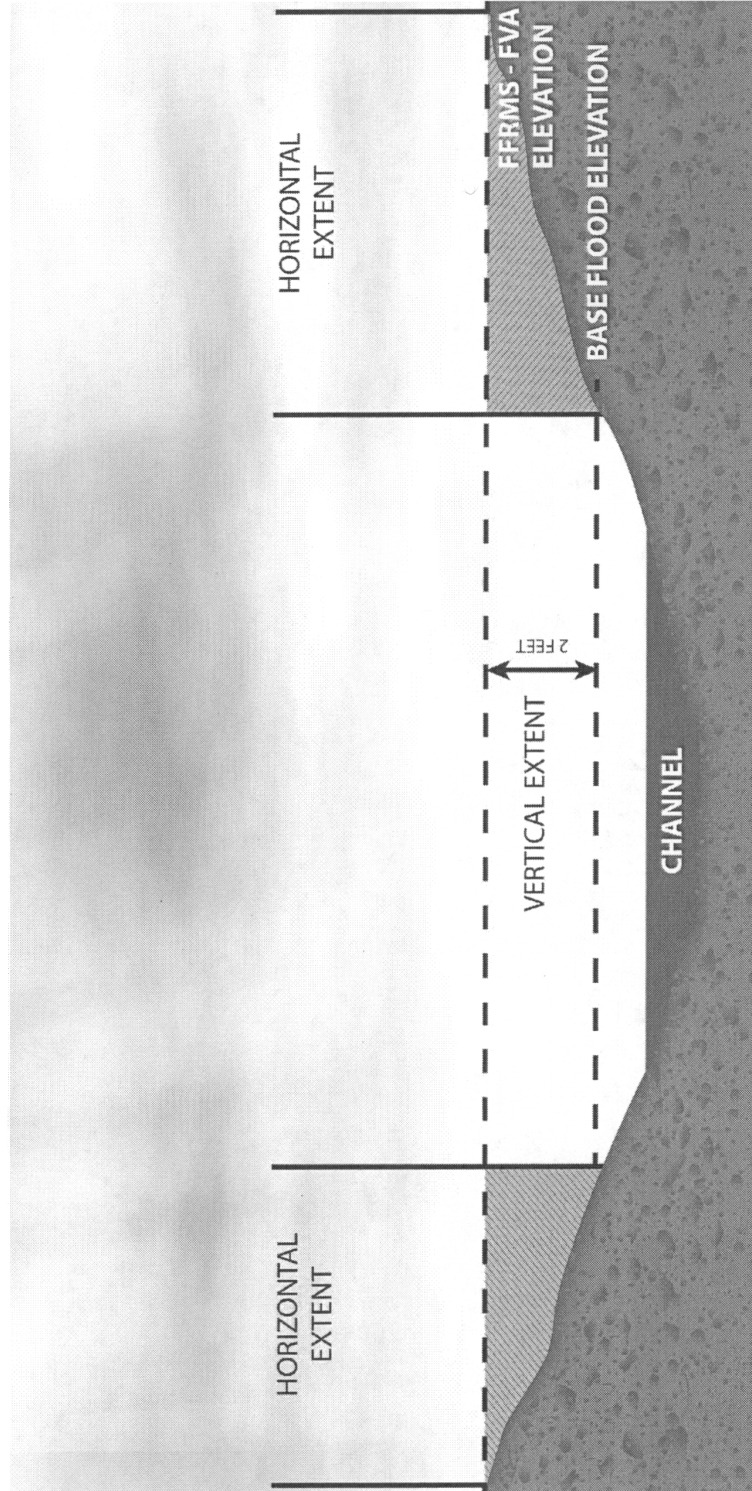
floodings source channel. This is representative of mountainous areas or areas with changes in elevation near the flooding source. With the same addition of 2 feet to the base flood elevation applied to both example locations, the

increase to the horizontal extent of the floodplain in FFRMS-FVA Illustration A is comparatively larger than the increase to the horizontal extent of the floodplain in FFRMS-FVA Illustration B. These illustrations visually depict the

fact that the horizontal increase to the floodplain will not be uniform when applying the same increase to establish the FVA and will vary depending on local topography.

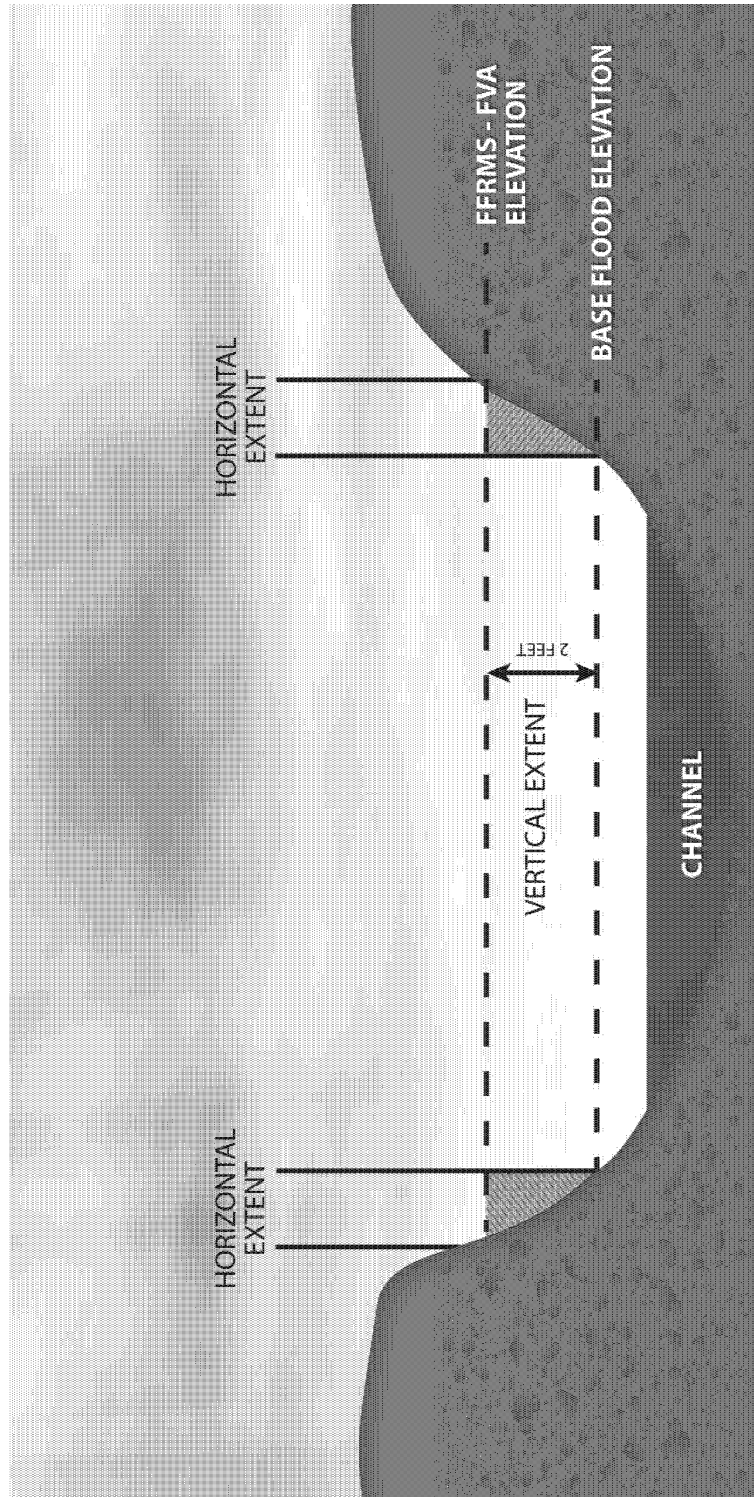
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FFRMS-FVA Illustration A





FFRMS-FVA Illustration B



**BILLING CODE 9111-66-C**

**FFRMS Approach 3: 0.2PFA**

Agencies may use available 0.2 percent annual chance (or “500-year”) flood data as the basis of the FFRMS elevation and corresponding floodplain extent. The FFRMS notes that the 0.2 percent annual chance flood hazard data produced by FEMA in coastal areas only

considers storm-surge hazards; these data do not include local wave action or storm-induced erosion that are considered in the computation of base flood elevations. The FFRMS encourages agencies to obtain or develop the necessary data, including wave heights, to ensure that any 0.2 percent annual chance flood data applied will achieve an appropriate

level of flood resilience for the proposed investment.

**FFRMS Approach 4: Update to FFRMS**

Executive Order 13690 requires the MitFLG to reassess the FFRMS annually, after seeking stakeholder input, and provide recommendations to the WRC to update the FFRMS if

warranted. It requires the WRC to update the FFRMS at least every 5 years.

Further Guidance on Application of the FFRMS Approaches To Establishing the Floodplain

The FFRMS states that when an agency does not use CISA in a coastal flood hazard area, the agency must use, at a minimum, the applicable FVA (*i.e.*, the base flood elevation plus 3 feet for critical actions, or the base flood elevation plus 2 feet for other actions). In cases where the FEMA 0.2 percent annual chance flood elevation does not include wave height, or a wave height has not been determined, the FFRMS notes that the result will likely either be lower than the current base flood elevation or the base flood elevation plus applicable freeboard. The FFRMS states that the 0.2 percent annual chance elevation should not be used in these cases.

When actionable science is not available and an agency opts not to follow the CISA for riverine flood hazard areas, the FFRMS states that an agency may also select either the FVA, or 0.2 percent annual chance flood elevation approach, or a combination of approaches, as appropriate. It states that the agency is not required to use the higher of the elevations, but may opt to do so.

F. FEMA’s Implementation of Executive Order 13690 and FFRMS

When Executive Order 13690 was issued, FEMA evaluated the application of Executive Order 13690 and the FFRMS with respect to its existing authorities and programs. The FFRMS establishes a flexible standard to improve resilience against the impact of flooding—to design for the intended life of the Federal investment. FEMA supports this principle. With more than \$260 billion in flood damages across the Nation since 1980, it is necessary to take action to responsibly use Federal funds, and FEMA must ensure it does not needlessly make repeated Federal investments in the same structures after flooding events. In addition, the FFRMS will help support the thousands of communities across the Country that have strengthened their State and local floodplain management codes and standards to ensure that infrastructure and other community assets are resilient to flood risk. FEMA recognizes that the need to make structures resilient also requires a flexible approach to adapt for the needs of the Federal agency, local community, and the circumstances surrounding each project or action.

FEMA intends to implement Executive Order 13690, the FFRMS, and the Revised Guidelines through this proposed rule and supplementary policy, which would (1) add or revise definitions to be consistent with those included in Executive Order 13690 and the Revised Guidelines; (2) incorporate

the use of the FFRMS approaches for establishing the floodplain into FEMA’s existing 8-step process; and (3) include the requirement to consider the use of nature-based approaches where possible when developing alternatives for developing in the floodplain.

Making the Initial Floodplain Determination

As stated above, Executive Order 13690 and the FFRMS changed the definition of “floodplain” with respect to “Federally Funded Projects” (*i.e.*, actions involving the use of Federal funds for new construction, substantial improvement, or to address substantial damage to a structure or facility). The FFRMS allows the agency to define “floodplain” using any of three approaches. For actions which do not meet the definition of a Federally Funded Project, an agency should continue to use the historical definition of floodplain, *i.e.* the area subject to a 1 percent or greater chance of flooding in any given year (or the area subject to a 0.2 percent annual chance of flooding in any given year for critical actions). This means that one of the first steps an agency must take is to determine whether to use the FFRMS definition of the floodplain or the historical definition of the floodplain. Figure 1 illustrates the process by which FEMA would decide which floodplain would apply to an action or FEMA Federally Funded Project.

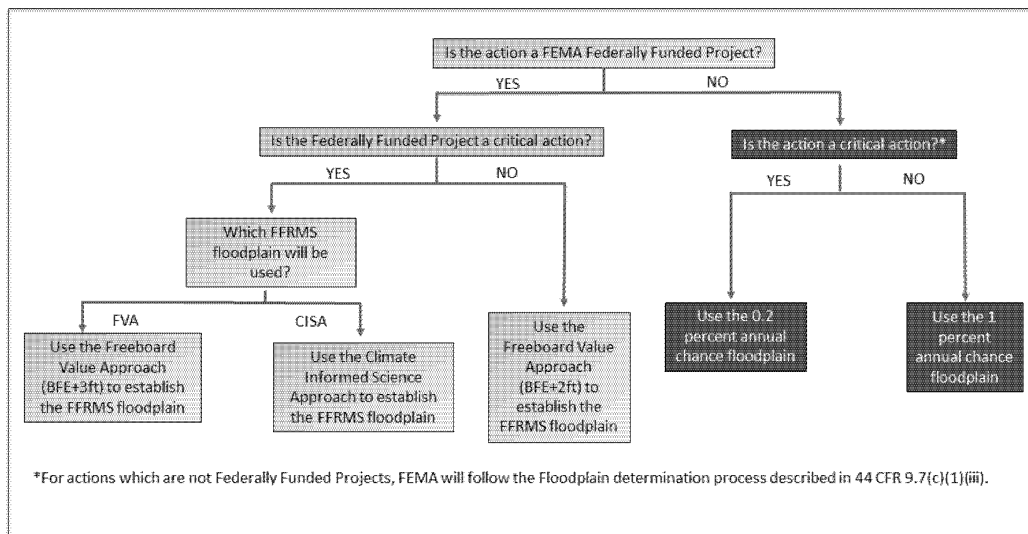


Figure 1: Process to Establish the Appropriate Floodplain for the 8-Step Decision-Making Process

## Selection Between the FFRMS Approaches

Executive Order 13690 requires the MitFLG to reassess the FFRMS annually, after seeking stakeholder input, and provide recommendations to the WRC to update the standard if warranted based on accurate and actionable science that takes into account changes to climate and other changes in flood risk. At a minimum, Executive Order 13690 requires an update to the FFRMS at least every 5 years.<sup>30</sup> This requires a balancing approach in selecting between the FFRMS approaches: Agencies must be flexible enough to account for updates to the FFRMS and yet also implement a framework that is standardized enough to be easily understood by and consistently applied to stakeholders.

Consistent with the flexibility built into Executive Order 13690, FEMA proposes to implement the FFRMS by adopting the flexible framework proposed in Executive Order 13690 in its entirety instead of mandating a particular approach in its regulations. Under this proposal, FEMA would provide additional guidance (more readily capable of revisions and updates) that addresses which approach FEMA would use for different types of actions and how FEMA would tailor its application of the various approaches depending on the type and criticality of the action. Specifically, FEMA's supplementary policy selects the use of the FFRMS-FVA to establish the floodplain for non-critical actions. For critical actions, FEMA would allow the use of the FFRMS-FVA floodplain or the FFRMS-CISA, but only if the elevation established under the FFRMS-CISA is higher than the elevation established under the FFRMS-FVA.

FEMA proposes to use the FFRMS-FVA as the baseline approach for both critical and non-critical FEMA Federally Funded Projects for several reasons. First, a choice to use the FFRMS-FVA would reflect the practical need for standardization at this stage of implementation. The FFRMS-FVA elevation is computed using the 1 percent annual chance elevation, and FEMA may use the same historical sequence it has followed to determine the 1 percent annual chance elevation for the purposes of establishing the FFRMS-FVA elevation. This would still allow for the use of widely available FEMA products such as FIRMs, FBFMs, and FISs. By following the same historical sequence and utilizing known mapping products, FEMA staff would

need relatively minimal additional training to be able to use these products to determine the horizontal extent of the FFRMS-FVA floodplain. In addition, the familiarity of the process and products to be used in most projects would benefit stakeholders by providing a consistent methodology which stakeholders would similarly be able to use to determine where FEMA will require application of the FFRMS. Second, requiring the use of the FFRMS-FVA as the minimum elevation for critical actions would be consistent with FEMA's policy to encourage communities to adopt higher standards, including freeboard standards, than the minimum floodplain management criteria under the NFIP.<sup>31</sup> Generally, adoption of a freeboard tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed.<sup>32</sup> Consistent with FEMA's policy, 22 States and an additional 596 localities have adopted freeboard requirements ranging from 1 to 3 feet.<sup>33</sup> FEMA supports that adoption by requiring that all of its projects are consistent with more restrictive Federal, State, or local floodplain management standards.<sup>34</sup>

FEMA considered proposing the use of the FFRMS-CISA instead of FFRMS-FVA to reflect the FFRMS's designation of the FFRMS-CISA as the preferred approach and to reflect that the FFRMS-FVA sets a general level of protection, whereas FFRMS-CISA uses a more site-specific approach to predict flood risk based on future conditions.

However, there are several reasons why that course of action is not appropriate at this time. First, actionable climate data are not currently available for all locations. For coastal floodplains, one of the primary considerations associated with the FFRMS-CISA is determining what the projected future sea level rise will be for the area in which the project will be completed. There are multiple interagency reports, published scientific journals, and agency tools that provide scenario-based projections of sea level

rise for coastal floodplains. However, FEMA is not aware of an analogous approach for riverine floodplains that accounts for uncertainties due to climate change with respect to projected future precipitation and associated flooding.<sup>35</sup> Instead, the Revised Guidelines suggest the agency would need to conduct a hydrology study that is informed by expected changes in climate and land use factors and incorporate this analysis into its current method for determining the floodplain.<sup>36</sup> FEMA expects that more data will be developed supporting broader-based inland and riverine application of the FFRMS-CISA as agencies implement the FFRMS and that this data will be considered and incorporated into future updates of the FFRMS. FEMA requests comment on the availability of actionable, planning, and project-scale climate data with respect to coastal and riverine floodplains.

Second, in addition to the data challenges, there are a number of factors to be considered in deciding how to apply the FFRMS-CISA that might result in a decision-making process that could unnecessarily delay recovery in the wake of a disaster event for non-critical actions. The Revised Guidelines recommend that the FFRMS-CISA methodology account for project-specific factors such as the risk to which the action will be exposed, the anticipated level of investment, and the lifecycle of the action.<sup>37</sup> For example, an applicant might consider a construction project that is in a coastal floodplain and find that there are multiple projections for what the sea level rise may be in 100 years. The most aggressive projection might indicate that the project should be elevated 10 feet above the 1 percent annual chance flood elevation. However, the applicant might decide that this project is not intended to be functional for 100 years or that the applicant's budget might justify using a lesser projection now and plan for future upgrades to the structure or facility. There may be a way to standardize this type of decision-making process as the FFRMS-CISA is more broadly used; however, the current lack of a standardized methodology for making these decisions and the need to engage in such project-specific considerations in conjunction with stakeholders could result in uncertainty and delay. In light of the above concerns, FEMA requests comment regarding how FEMA could implement

<sup>31</sup> See 44 CFR 60.1(d).

<sup>32</sup> See 44 CFR 59.1.

<sup>33</sup> Association of State Floodplain Managers, States and Other Communities in FEMA CRS with Building Freeboard Requirements, (2015), available at [http://www.floods.org/ace-files/documentlibrary/FloodRiskMngmtStandard/States\\_with\\_freeboard\\_and\\_CRS\\_Communities\\_with\\_Freeboard\\_in\\_Other\\_states\\_2-27-15.pdf](http://www.floods.org/ace-files/documentlibrary/FloodRiskMngmtStandard/States_with_freeboard_and_CRS_Communities_with_Freeboard_in_Other_states_2-27-15.pdf).

<sup>34</sup> See 44 CFR 9.11(d)(6).

<sup>35</sup> See Revised Guidelines at Appendix H, 15.

<sup>36</sup> See Revised Guidelines at 55.

<sup>37</sup> See Revised Guidelines at 55.

<sup>30</sup> See Executive Order 13690 Section 4(b), 80 FR 6425, Feb. 4, 2015 (6426).

the FFRMS–CISA for non-critical actions using a publicly-accessible, standardized, predictable, flexible, and cost-effective methodology.

FEMA also considered whether it should alter its proposal for use of the FFRMS–CISA in relation to the FFRMS–FVA (or FFRMS–0.2PFA). FEMA specifically welcomes comment on each of the potential alternatives outlined below. FEMA could choose a more protective approach in which it would determine the elevations established under FFRMS–CISA, FFRMS–FVA and the FFRMS–0.2PFA for critical actions and only allow the applicant to use the highest of the three elevations. This approach would ensure that applicants were building to the most protective level, would avoid potential inconsistencies with FEMA’s policy to encourage adoption of freeboard standards by local communities, and would prevent a scenario where an applicant was allowed to build to a lower elevation than previously required for critical actions under FEMA’s implementation of Executive Order 11988.<sup>38</sup> FEMA believes that its proposed policy is sufficiently protective and would be less expensive to administer and implement than the alternative approach described above, but nonetheless welcomes comment on this alternative approach.

Also alternatively, FEMA could choose to allow use of the FFRMS–CISA, even if the resulting elevation is lower than the application of the FFRMS–FVA. This approach would give FEMA and its grantees more flexibility in implementing the standard, would enable FEMA and its grantees to build to an elevation based on the best available science taking criticality into account, and would provide a pathway to relief for those areas that experience declining flood risks.<sup>39</sup> FEMA believes that the need for standardization, administrability, and adequate protection all counsel in favor of its policy, but welcomes comments on this alternative approach as well.

FEMA is not proposing to use the FFRMS–0.2PFA because of the limited national availability of information on the 0.2 percent annual chance flood elevation and the additional costs

associated with producing this information when not available. The FFRMS–0.2PFA floodplain, like the FFRMS–FVA floodplain, would have a greater horizontal extent and require higher elevation standards when compared to the 1 percent annual chance floodplain. However, while most areas of the country have 1 percent annual chance floodplain information and the necessary topographical information to determine the horizontal extent under the FVA, far fewer are mapped with 0.2 percent annual chance floodplain information. This is because although all FEMA-mapped flood zones have either detailed or approximate 1 percent annual chance floodplain boundaries, FEMA estimates that only 18 percent of mapped flood zones have detailed floodplain boundaries of the 0.2 percent annual chance floodplain.<sup>40</sup> Finally, in coastal areas, the FFRMS requires Federal agencies to use the FFRMS–FVA as the minimum elevation, when not using the FFRMS–CISA, because the 0.2 percent annual chance flood information depicted on FEMA FIRMs and in the FISs in coastal areas consider storm-surge hazards, but not wave action.<sup>41</sup> FEMA recognizes that the FFRMS–0.2PFA may result in a higher elevation than the FFRMS–FVA in some circumstances. However, based on the foregoing reasons, FEMA expects it will be clearer, less costly, and provide more certainty to stakeholders, if FEMA selects the FFRMS–FVA as the primary approach.

Based on the foregoing reasons, FEMA proposes to combine approaches and use the FFRMS–FVA to establish the floodplain for non-critical actions and allow the use of the FFRMS–FVA floodplain or the FFRMS–CISA for critical actions, but only if the elevation established under the FFRMS–CISA is higher than the elevation established under the FFRMS–FVA. This proposal balances flexibility with standardization, is consistent with FEMA’s encouragement to communities to adopt higher floodplain management standards, reflects the priority that FEMA places on ensuring adequate planning for critical actions, and may yield important lessons with respect to potential future applications of the FFRMS–CISA.

In addition to seeking comments on FEMA’s proposed approach to implementation generally, FEMA specifically seeks public comments on the impact of the proposed elevation

requirement on the accessibility of covered facilities under the Fair Housing Act, the Americans with Disabilities Act (ADA), the Architectural Barriers Act (ABA), and Section 504 of the Rehabilitation Act of 1973. Elevating buildings as a flood damage mitigation strategy will likely have a negative impact on affected communities’ disabled and elderly populations, unless those buildings are made accessible. Although all ADA title II and III facilities, ABA facilities, and Section 504 covered facilities are subject to accessibility requirements, single-family properties are generally not subject to accessibility requirements unless they are public housing (ADA title II) or a social service establishment (ADA title III). Consequently, even if the homes of people with disabilities are made accessible, a community’s single- and multi-family housing stock may become largely inaccessible through elevation requirements. If the only accessible homes in a community are those currently occupied by people with disabilities, those people will likely be isolated. As occupants age or become disabled, they may have no option to remain in their homes or to age in place because adding an accessible route into an existing single- or multi-family building will be costly or impossible. It is therefore crucial for community sustainability and integration of people with disabilities that those buildings that *are* subject to accessibility requirements be made to comply.

In light of the substantial community impact of elevating housing and other buildings, along with the challenges associated with the traditional options for making elevated buildings accessible (*i.e.*, elevators, lifts, and ramps), FEMA invites comments on strategies it could employ to increase the accessibility of properties so affected in the event the proposed increase in elevation is adopted. Additionally, FEMA invites comments on the cost and benefits of such strategies, including data that supports the costs and benefits.

#### Determining the Corresponding Horizontal Extent of the FFRMS Floodplain

Once an agency has made the determination that an action is a Federally Funded Project that requires use of the FFRMS floodplain, and then made a determination which of the FFRMS approaches to apply, the agency must then decide where the FFRMS floodplain lies. There are no federally produced maps depicting the boundary of the FFRMS-floodplain established by the FVA or CISA, and FEMA maps depicting the 0.2 percent annual

<sup>38</sup> There may be some areas of the country where application of the FFRMS–CISA and the FFRMS–FVA could result in a lower elevation than the FFRMS–0.2PFA which under existing regulations is the elevation requirement for critical actions.

<sup>39</sup> While FEMA believes that the average flood risk will generally continue to increase nationwide due to climate change, there is considerable uncertainty in projecting flood risk at more granular levels. Some areas may experience declines in flood risk due to reduced rainfall or other unpredictable changes to the floodplain.

<sup>40</sup> FEMA riverine flood hazard data inventory information comes from the Coordinated Needs Management Strategy dataset.

<sup>41</sup> See Revised Guidelines at 57.

floodplain are only available in some areas. However, a map of the FFRMS floodplain is not required to determine if the location of a proposed Federally Funded Project is within the FFRMS floodplain. The floodplain determination can generally be made by comparing the ground elevation at the proposed site to the elevation established using the applicable FFRMS approach. If the ground elevation is less than the FFRMS elevation, then the site is in the FFRMS floodplain. Therefore, in order to complete the floodplain determination, FEMA intends to rely on two-dimensional information on a map to determine the location of the proposed site relative to the FFRMS floodplain. To do so, FEMA will need point information on (1) the FFRMS elevation and (2) the ground elevation of the proposed site. Once FEMA establishes the FFRMS elevation and the ground elevation based on available information, FEMA would compare the two values to determine if the proposed FEMA Federally Funded Project location is in the FFRMS floodplain.

#### Establishing the FFRMS Elevation Under Each of the Approaches

In order to make the floodplain determination and establish the proper elevation under each approach, FEMA intends to leverage its existing processes in each of its grant programs for ensuring compliance with Executive Order 11988. Although the specifics of the processes may vary somewhat from program to program, FEMA generally uses the following steps. During the initial stages of project development, FEMA informs applicants of all applicable Federal, State and local requirements which might apply to their projects to include Executive Order 11988 and the 8-step process. Once applicants have identified potential projects, FEMA works with them to assess the proposed project location and determine whether it is in the floodplain and therefore whether it is necessary to apply the 8-step process. FEMA is available to assist applicants with the 8-step process and FEMA reviews the project application to ensure that the project scope of work is in compliance with Executive Order 11988 requirements. FEMA will continue to perform these steps in its implementation of Executive Order 13690 and the FFRMS. When making the floodplain determination under the FFRMS, FEMA intends to investigate what flood information is available in order to select the best available information.<sup>42</sup> FEMA would rely on a

range of available data to establish the FFRMS elevation for each of the approaches.

The FFRMS–CISA elevation is established using the best available, actionable climate-informed science. The Revised Guidelines provide guidance to agencies on the application of the CISA approach in coastal and riverine areas.<sup>43</sup> In particular, FEMA will use Appendix H of the Revised Guidelines titled “Climate-Informed Science Approach and Resources” to guide its decision-making. Appendix H outlines guidance on risk-based framing (*i.e.*, how agencies may consider current and future flood risks over the lifetime of the investment/project) followed by specific considerations and methods to consider climate change. Because the CISA uses a scenario-based analysis to establish an elevation by assessing a range of possible future conditions and considering the nature of the affected action, the anticipated lifecycle of the action, and the tolerance for risk associated with the action, use of the CISA would be based on project-specific decisions. FEMA may consider information presented by the applicant or any other Federal agency in this evaluation and will ultimately determine whether the methodology is appropriate for the action being considered and meets the relevant criteria.

FEMA recognizes that the FFRMS–CISA is a new and developing process and that there is uncertainty in the considerations and factors that will come up during an FFRMS–CISA analysis. As such, FEMA is not able to develop an exhaustive set of regulatory criteria for determining whether a given methodology or elevation is appropriate. However, FEMA recognizes that regulatory transparency reduces uncertainty for its grantees, and it will consider providing further guidance and information in the future as the agency’s experience in implementing FFRMS–CISA grows.

Appendix H of the Revised Guidelines provides the following criteria to define the CISA, which FEMA will consider when developing further guidance and information: (1) Uses existing sound science and engineering methods (*e.g.*, hydrologic and hydraulic analysis and methodologies) as have historically been used to implement Executive Order 11988, but supplemented with best available climate-related scientific information when appropriate (depending on the

agency-specific procedures and type of federal action); (2) is consistent with the climate science and related information found in the latest National Climate Assessment report or other best-available, actionable science; (3) combines information from different disciplines (*e.g.*, new perspectives from the atmospheric sciences, oceanographic sciences, coastal sciences, and hydrologic sciences in the context of climate change) in addition to traditional science and engineering approaches; and, (4) includes impacts from projected land cover and land use changes (which may alter hydrology due to increased impervious surface), long-term coastal and/or riverine erosion, and vertical land movement (for determining local changes to sea level) expected over the lifecycle of the action.

The FFRMS describes the FFRMS–FVA elevation as the addition of 2 or 3 feet to the 1 percent annual chance flood elevation. FEMA would leverage the process described in 44 CFR 9.7(c)(1)(iii) to search for the best available flood hazard information to establish the 1 percent annual chance flood elevation. This process recognizes that information on flood hazards at proposed sites may range from detailed data obtained from FEMA flood studies, to information which approximates the geographic area of the floodplain, to areas with no information. Where FEMA has issued a detailed study, FEMA could obtain the 1 percent annual chance flood elevation from the FIRM or FIS. In areas where FEMA has issued a limited study, FEMA would then seek detailed information from the list of sources in 44 CFR 9.7(c)(1)(iii)(B)(1)–(8).

For example, where an effective FIRM displays a 1 percent annual floodplain with limited detail, local sources such as a Floodplain Administrator, Flood Control Districts, or Transportation departments may have detailed information on file which was produced for development within the floodplain, for watershed plans, or for infrastructure designs. Where detailed information is not available from FEMA studies or other sources, but approximate flood information is available from a FEMA FIRM, FEMA may use simplified methods to develop a 1 percent annual chance flood elevation as presented in FEMA publication 265, entitled “Managing Floodplain Development in Approximate A zones: A Guide for Obtaining and Developing Base (100-Year) Flood Elevations.”<sup>44</sup> A 1 percent

<sup>43</sup> See the Revised Guidelines at Appendix H “Climate-Informed Science Approach and Resources.”

<sup>44</sup> FEMA, Managing Floodplain Development in Approximate Zone A: A Guide for Obtaining and Developing Base (100-Year) Flood Elevations

<sup>42</sup> See § 9.7(c)(1)(iii) of this proposed rule.

annual chance flood elevation developed using a simplified approach may yield an acceptable level of accuracy for the purpose of establishing whether a proposed FEMA Federally Funded Project is within the FFRMS–FVA floodplain. Where no flood hazard information is available, or where more accurate information on the 1 percent annual chance elevation is necessary for the purposes of complying with other sections of Part 9, such as § 9.11, FEMA publication 265 also provides guidance on detailed engineering methodologies to develop a 1 percent annual chance flood elevation. FEMA may rely on staff engineers to complete the engineering analysis, or FEMA may rely on information submitted as part of an application, where the applicant has obtained design and engineering services to develop the project scope of work.

The FFRMS–0.2PFA elevation is the elevation of the 0.2 percent annual chance flood. If FEMA were to use this approach in the future, FEMA could follow the same process to establish the 0.2 percent annual chance flood elevation as it would to establish the 1 percent annual chance flood elevation. FEMA would first rely on the 0.2 percent annual chance flood elevation reported in a FEMA FIS, then seek information from additional sources, before finally seeking the assistance of an engineer.

#### Establishing the Ground Elevation

FEMA may use available topographic information from the USGS to establish the ground elevation for a proposed location of a FEMA Federally Funded Project. Additionally, FEMA may also rely on information on the ground elevation submitted by an applicant as part of their project application.

#### IV. Discussion of the Proposed Rule

As noted above, this proposed rule would implement Executive Order 13690, the FFRMS, and the Revised Guidelines as part of FEMA's floodplain management regulations. Below, we provide a brief summary of a number of the major provisions of the proposed rule, followed by a section-by-section description of these and other changes.

#### Major Provisions

##### Conforming Changes to Definitions

FEMA proposes to amend § 9.4 to reflect the new definitions required by Executive Order 13690 and the FFRMS. As noted above, the most significant definitional change introduced by

Executive Order 13690 and the FFRMS is the change to the meaning of “floodplain.” As discussed in more detail below, in order to harmonize this change in § 9.4 FEMA proposes to revise a number of existing definitions, and remove other definitions. In addition, FEMA proposes to revise the remaining sections of 44 CFR part 9 that refer generally to the floodplain, or refer specifically to the base (or 100-year) floodplain or the 500-year floodplain, for clarity.

##### Distinction Between “FEMA Federally Funded Projects” and Other FEMA Actions

As noted above, the first Step in the 8-step process is to determine whether the proposed action is in the floodplain. Because Executive Order 13690 and the October 8, 2015 version of FFRMS revise the definition of the “floodplain” that must be used for “Federally Funded Projects,” FEMA proposes to revise the first Step to require FEMA to first determine whether the proposed action falls within the definition of “FEMA Federally Funded Project.” Under the proposed rule, if FEMA determines that the action is a FEMA Federally Funded Project, *i.e.*, if FEMA determines that the action uses FEMA funds for new construction, substantial improvement, or to address substantial damage to a structure or facility, the FFRMS floodplain applies. If, on the other hand, FEMA determines that the action does not fall under the definition of a FEMA Federally Funded Project, the 1 percent annual chance floodplain (or the 0.2 percent annual chance floodplain for critical actions) applies.

##### Emphasis on Nature-Based Approaches

Executive Order 13690 requires that agencies use, where possible, natural systems, ecosystem processes, and nature-based approaches in the development of alternatives for Federal actions in the floodplain. FEMA proposes to incorporate this requirement into § 9.9, which addresses the requirement to consider practicable alternatives when determining whether to locate an action in the floodplain. This requirement applies regardless of whether the proposed action is a FEMA Federally Funded Project. To further explain this requirement, FEMA proposes to add a definition of “nature-based approaches,” meaning features designed to mimic natural processes and provide specific services such as reducing flood risk and/or improving water quality.

#### Section-by-Section Analysis

##### A. Authority Citation

FEMA proposes to add a reference to Executive Order 13690.

##### B. Section 9.1—Purpose of Part

FEMA proposes to add “as amended” to reflect Executive Order 13690's amendment of Executive Order 11988.

##### C. Section 9.2—Policy

FEMA proposes to add language to paragraph 9.2(b)(3) to reflect the policy statement from Executive Order 13690 that the United States must improve the resilience of communities and Federal assets against the impacts of flooding based on the best-available and actionable science. This statement of policy is complementary to the longstanding goals of Executive Order 11988 to reduce the risk of flood loss, but reflects an updated Federal policy of resilience and risk reduction that takes the effects of climate change and other threats into account.

##### D. Section 9.3—Authority

FEMA proposes to add reference to Executive Order 13690, which amended Executive Order 11988.

##### E. Section 9.4—Definitions

In Section 9.4, FEMA proposes to add terms for “0.2 Percent Annual Chance Flood,” “0.2 Percent Annual Chance Floodplain,” “1 Percent Annual Chance Flood or Base Flood,” “1 Percent Annual Chance Flood Elevation or Base Flood Elevation,” “1 Percent Annual Chance Floodplain or Base Floodplain,” “Associate Administrator,” “Emergency Work,” “Federal Flood Risk Management Standard (FFRMS),” “Federal Flood Risk Management Standard Floodplain,” “FEMA Federally Funded Project,” “FIMA, and “Nature-Based Approaches;” to remove the definitions of “Base Flood,” “Base Floodplain,” “Emergency Actions,” “Five Hundred Year Floodplain,” and “Mitigation Directorate;” and to revise the definitions of “Critical Action,” “Floodplain,” “New Construction,” “Orders,” and “Substantial Improvement.”

**0.2 Percent Annual Chance Flood.** FEMA proposes to define the term “0.2 percent annual chance flood” to mean the flood which has a 0.2 percent chance of being equaled or exceeded in any given year. This was previously known as the “500-year flood.” FEMA proposes to use the term “0.2 percent annual chance flood” and discontinue using that term interchangeably with the term “500-year flood.” The term “500-year flood” can cause confusion as it

(1995), available at <https://www.fema.gov/media-library/assets/documents/1911>.

could be interpreted to mean that the area will only flood once every 500 years, instead of reflecting its true meaning, which is the annual risk of flooding in the area.

**0.2 Percent Annual Chance Floodplain.** FEMA proposes to define the term “0.2 percent annual chance floodplain” to mean the area subject to flooding by the 0.2 percent annual chance flood.

**1 Percent Annual Chance Flood or Base Flood.** FEMA proposes to retitle the current definition of “base flood” as “1 percent annual chance flood or base flood.” This reflects the fact that Executive Order 13690 uses the term “base flood” and the Revised Guidelines use the term “1 percent annual chance flood.” There is no substantive difference between the two terms and they may be used interchangeably. The “1 percent annual chance flood” means the flood that has a 1 percent chance of being equaled or exceeded in any given year. In the current definition of “base flood,” the term is also equated with the “100-year flood;” however, FEMA proposes to discontinue use of the term “100-year flood” because this term can cause confusion. It can be interpreted to mean that the area will only flood once every 100 years instead of reflecting its true meaning, which is the annual risk of flood in the area.

**1 Percent Annual Chance Flood Elevation or Base Flood Elevation.** FEMA proposes to define the term “1 percent annual chance flood elevation or base flood elevation” to mean the computed elevation to which floodwater is anticipated to rise during the 1 percent annual chance flood or base flood. FEMA also proposes to incorporate the explanation from the current definition of “base flood” about how the term is used in the NFIP to indicate the minimum level of flooding to be used by a community in the community’s floodplain management regulations. The elevation indicates how high to elevate a structure in order to protect it from the risk of flooding in a base flood.

**1 Percent Annual Chance Floodplain or Base Floodplain.** FEMA proposes to define the term “1 percent annual chance floodplain or base floodplain” to mean the area subject to flooding by the 1 percent annual chance flood or base flood. A floodplain is generally a lowland or flat area near water that has a greater chance of flooding than higher areas and areas farther from water. This definition would describe the minimum area that FEMA looks at when it determines whether an action will take place in a floodplain.

**Associate Administrator.** FEMA proposes to define “Associate Administrator” as the Associate Administrator of the Federal Insurance and Mitigation Administration. This reflects the current title of this position, and adding it to the definitions section allows for ease of use throughout Part 9, rather than having to reprint the entire title each time it is used.

**Base Flood and Base Floodplain.** FEMA proposes to remove the definitions of the “base flood” and “base floodplain” as FEMA proposes to incorporate them in the definitions of the “1 percent annual chance flood or base flood” and “1 percent annual chance floodplain or base floodplain.”

**Critical Action.** FEMA proposes to revise the definition of “critical action” to remove the requirement that the minimum floodplain of concern in the event of a critical action is the 500-year floodplain. There would no longer be a set requirement that an applicant use a particular approach to establishing the floodplain when the project is a critical action. Instead, FEMA and the applicant would follow the sequence described in § 9.7 when making the floodplain determination. FEMA would be required to determine whether the project meets the new definition of “FEMA Federally Funded Project” in § 9.4. If the project is a Federally Funded Project, then FEMA would establish the floodplain by using one of the FFRMS approaches (which require the applicant to consider whether an action is a critical action). If the project is not a Federally Funded Project, then FEMA would use, at a minimum, the 1 percent annual chance floodplain for non-critical actions and the 0.2 percent annual chance floodplain for critical actions.

**Emergency Work.** The current definition of “emergency actions” is emergency work essential to save lives and protect property and public health and safety performed under certain sections of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) and corresponding FEMA regulations. FEMA proposes to change the term to “emergency work” to clearly differentiate between the work under the specific sections of the Stafford Act that was exempted entirely from the requirements of Executive Order 11988 and the new exceptions to the application of the FFRMS (which include non-specific references to emergency actions) created by Executive Order 13690. FEMA also proposes to update the citations to the specific sections of the Stafford Act and FEMA

regulations, as the citations are outdated in the current definition.

**Federal Flood Risk Management Standard (FFRMS).** FEMA proposes to add a definition of “FFRMS,” which is the Federal flood risk management standard established by Executive Order 13690 to be incorporated into existing processes used to implement Executive Order 11988. FEMA proposes to add a definition for FFRMS because this rule proposes to implement it and therefore refers to it throughout the proposed changes to Part 9.

**Federal Flood Risk Management Standard (FFRMS) Floodplain.** FEMA proposes to define the “FFRMS floodplain” consistent with the definition in Executive Order 13690, which is the floodplain that is established using one of four approaches: CISA, FVA, 0.2PFA, and the elevation and flood hazard area that result from using any other method identified in an update to the FFRMS.

FEMA proposes to define the “CISA” as the elevation and flood hazard area that result from using the best-available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding based on climate science. This approach will also include an emphasis on whether the action is a critical action as one of the factors to be considered when conducting the analysis.

FEMA proposes to define the “FVA” as the elevation and flood hazard area (the horizontal extent of the floodplain) that result from using the freeboard value, reached by adding an additional 2 feet to the base flood elevation for non-critical actions and by adding an additional 3 feet to the base flood elevation for critical actions.

FEMA proposes to define the “0.2PFA” as the area subject to flooding by the 0.2 percent annual chance flood. The 0.2 percent annual chance flood is a flood that has a 0.2 percent chance of happening in any given year. It is a flood that covers greater area that is less frequent than the 1 percent chance floodplain.

Finally, FEMA proposes to add a fourth approach, the elevation and flood hazard area that result from using any other method identified in an update to the FFRMS.

**FEMA Federally Funded Project.** FEMA proposes to add a definition of “FEMA Federally Funded Project” to mean actions where FEMA funds are used for new construction, substantial improvement, or to address substantial damage to a structure or facility. FEMA’s proposed definition mirrors the language in the FFRMS and the Revised Guidelines.

*FIMA.* FEMA proposes to revise the definition of the Federal Insurance Administration to mean the Federal Insurance and Mitigation Administration to reflect the current title of the organization.

*Five Hundred Year Floodplain.* FEMA proposes to remove the definition of the five hundred year floodplain as a standalone term and designated floodplain and to instead substitute the term to 0.2 percent annual chance floodplain. The 0.2 percent annual chance floodplain is the floodplain covering an area where the chance of flood is 0.2 percent in any given year.

*Floodplain.* FEMA currently defines “floodplain” as the lowland and relatively flat areas adjoining inland and coastal waters including, at a minimum, that area subject to a 1 percent or greater chance of flooding in any given year. FEMA proposes to revise the definition to remove the phrase “including, at a minimum, the area subject to a one percent or greater chance of flooding in any given year.” This is because the FFRMS expands the consideration from the 1 percent annual chance (base) floodplain.

The current definition also states that wherever the term “floodplain” appears in Part 9, if a critical action is involved, “floodplain” means the area subject to inundation from a flood having a 0.2 percent chance of occurring in any given year (500-year floodplain). FEMA proposes to remove this provision from the definition of floodplain because there is no longer a set requirement that an applicant use a particular approach to establishing the floodplain when there is a critical action. Instead, FEMA and the applicant must follow the sequence described in § 9.7 when making the floodplain determination. FEMA must determine whether the project meets the new definition of “FEMA Federally Funded Project” in § 9.4. If the project is a FEMA Federally Funded Project, then FEMA must establish the floodplain by using one of the FFRMS approaches (which require the applicant to consider whether an action is a critical action). If the project does not meet the definition of FEMA Federally Funded Project (*i.e.* the project is not “new construction, substantial improvement, or repairs to address substantial damage to a structure or facility”), then FEMA must use, at a minimum, the 1 percent annual chance floodplain for non-critical actions and the 0.2 percent annual chance floodplain for critical actions.

FEMA proposes to add that the floodplain may be more specifically categorized as the 1 percent annual chance (base) floodplain, the 0.2 percent

annual chance floodplain, or the FFRMS floodplain (as defined above). “Floodplain” is a flexible, general term, but in establishing the correct floodplain to use, it will be necessary to determine whether the action is a Federally Funded Project and whether it is a critical action.

*Mitigation Directorate.* FEMA proposes to remove the definition of the “Mitigation Directorate” as it is now included in the definition of “FIMA.”

*Nature-Based Approaches.* FEMA proposes to add a definition of “nature-based approaches.” Executive Order 13690 added a provision requiring agencies to use nature-based approaches where possible and this term has not previously been defined. FEMA proposes to define nature-based approaches as the features (sometimes referred to as “green infrastructure”) designed to mimic natural processes and provide specific services such as reducing flood risk and/or improving water quality. Nature-based approaches are created by human design (in concert with and to accommodate natural processes) and generally, but not always, must be maintained in order to reliably provide the intended level of service. Nature-based approaches are sometimes referred to as green infrastructure and may include, for example, green roofs, or downspout disconnection that reroutes drainage pipes to rain barrels, cisterns, or permeable areas instead of the storm sewer. The proposed definition mirrors the language of the WRC Revised Guidelines.

*New Construction.* FEMA proposes to remove the parenthetical “including the placement of a mobile home” from the definition of new construction because retaining the clause would have unintended effects, given the new definition of FEMA Federally Funded Projects. The application of the FFRMS is required for any action which meets the definition of “Federally Funded Project.” “FEMA Federally Funded Project” is defined as an action where FEMA funds are used for new construction, substantial improvement, or to address substantial damage to a structure or facility. If FEMA continued to define the placement of a mobile home as “new construction,” it would be required to apply the FFRMS to any placement of a mobile home. As described further in the discussion of § 9.13, FEMA does not intend to require the application of the FFRMS in the placement of mobile homes for the purpose of temporary housing.

*Orders.* FEMA proposes to revise the definition of “orders” to include Executive Order 13690.

*Substantial Improvement.* FEMA proposes to update the reference to the Stafford Act, because the citation is outdated in the current definition.

#### F. Section 9.5—Scope

FEMA proposes to add an effective date provision to this section, indicating that the revisions proposed to Part 9, which implement the changes required by Executive Order 13690 and the FFRMS, would apply to new actions that are commenced on or after the effective date of the final rule. This is to clarify that current Part 9, including use of the base floodplain (or 500-year floodplain for critical actions), would still apply to actions that are in the planning or development stage or undergoing implementation as of the effective date of the final rule revising Part 9. Only new actions would be subject to revised Part 9 so that the changes would not be applied retroactively to projects which have already been reviewed for compliance with Executive Order 11988 and may have incurred designed expenses to meet the current floodplain management standards. Any new actions would be subject to revised Part 9, including the changes required under Executive Order 13690 and the FFRMS, such as determining whether to use the base floodplain or FFRMS floodplain for the action and using nature-based approaches to mitigate harm when development in the floodplain is not avoidable.

FEMA proposes to update the citations to the Stafford Act sections and references to organizations and titles in paragraphs (c)–(g) as they are not current. FEMA also proposes to update paragraph (c)(8) as it refers to a defunct title for the Individuals and Households program and includes programs that no longer exist.

FEMA also proposes to eliminate the cross references in the last sentence of paragraph 9.5(f)(1), because they relate to regulatory provisions (44 CFR 9.9(e)(6) and 9.11(e)(4)) that FEMA proposes to remove in this rule. FEMA describes its rationale for eliminating the cited text later in this preamble.

#### G. Section 9.6—Decision-Making Process

Section 9.6 sets out the floodplain management and wetlands protection decision-making process to be followed by FEMA in applying Executive Orders 11988 and 11990 to its actions. There are eight Steps the agency must follow. Step 1 states that FEMA will determine whether the proposed action is located in the 100-year floodplain or, for critical actions, the 500-year floodplain. FEMA



proposes to remove the specific requirement to use the 100-year (1 percent annual chance) floodplain or 500-year (0.2 percent annual chance) floodplain for critical actions and instead use the general term “floodplain.” Instead, FEMA proposes to refer the reader to section 9.7(c) of the regulations, which describes (1) the flexible framework that FEMA would apply to FEMA Federally Funded Project under Executive Order 13690 and the FFRMS, as well as (2) the historical framework that FEMA would continue to apply to actions that do not qualify as FEMA Federally Funded Projects.

#### H. Section 9.7—Determination of Proposed Action’s Location

Paragraph (a) of section 9.7 states that the purpose of the section is to establish FEMA’s procedures for determining whether any action as proposed is located in or affects the base floodplain (or the 500-year floodplain for a critical action) or a wetland (*i.e.*, Step 1 of the 8-step decision-making process described in section 9.6). As in section 9.6, FEMA proposes to simply refer to “floodplain” rather than base floodplain or 500-year floodplain, because Executive Order 13690 and the FFRMS’s flexible framework to determining which floodplain is appropriate depending on the type and criticality of the action means the floodplain must be established using the process set forth in paragraph 9.7(c) and may be something other than the floodplain established using the 1 percent annual chance flood or 0.2 percent annual chance flood.

Paragraph (b) of § 9.7 states that information about the 100-year and 500-year floods may be needed to comply with the regulations in Part 9. FEMA proposes to update this statement to reflect that information about the 1 percent annual chance (base) floodplain, 0.2 percent annual chance floodplain, and the FFRMS floodplain may be needed.

Paragraph (c) of § 9.7 outlines the sequence FEMA must follow in making the floodplain determination. FEMA proposes to implement the change to the definition of floodplain required by Executive Order 13690 and the FFRMS in § 9.7(c), “Floodplain determination.” As an initial step, FEMA would determine whether the project is a *FEMA Federally Funded Project* as defined in § 9.4. If the project is a FEMA Federally Funded Project, FEMA would establish the FFRMS floodplain and associated flood elevation using one of the four approaches outlined in the proposed section. For example, FEMA would likely be required to apply the

FFRMS floodplain to construction projects under FEMA’s Public Assistance program authorized under Section 406 of the Stafford Act, Hazard Mitigation Grant Program authorized under Section 404 of the Stafford Act, and Flood Mitigation Assistance Program authorized under Section 1366 of the National Flood Insurance Act. However, it is likely that certain other grant programs or actions would not be required to apply the FFRMS floodplain, because the actions funded do not involve construction activities. This may include grants provided for disaster planning through FEMA’s Pre-Disaster Mitigation Program authorized under Section 203 of the Stafford Act and grants for planning and training awarded through programs administered by FEMA’s Protection and National Preparedness Office. Each grant program FEMA funds would be required to determine whether the 1 percent annual chance, 0.2 percent annual chance, or FFRMS floodplain applies to the particular action.

FEMA proposes to implement the FFRMS in its regulations by adopting the flexible framework proposed in Executive Order 13690 in its entirety, instead of mandating a particular approach. Under this proposal, FEMA would provide additional guidance (more readily capable of revisions and updates) that addresses which approach FEMA would use for different types of actions and how FEMA would tailor its application of the various approaches depending on the type and criticality of the action. Executive Order 13690 makes clear that the intent of providing a flexible framework is to acknowledge that the impacts of flooding are anticipated to increase over time due to the effects of climate change and other threats. In order to determine what those impacts may be, there is value in using the best-available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding based on climate science, rather than relying solely upon the 1 percent annual chance flood standard, which does not account for or provide any factor of safety to mitigate against the possibility that flood risk may increase over time.

Executive Order 13690 provides an exception to use of the FFRMS when the action is in the interest of national security, where the action is an emergency action, where application to a Federal facility or structure is demonstrably inappropriate, or where the action is a mission-critical requirement related to a national security interest or an emergency action. FEMA proposes to adopt these

exceptions in their entirety. It is important to note that an exception to using the FFRMS under any of the reasons listed in this section does not exempt the action from the requirements of Executive Order 11988 altogether. Instead, if one of FEMA’s actions were excepted under this provision, FEMA would still be required to apply the 1 percent annual chance floodplain for non-critical actions and the 0.2 percent annual chance floodplain for critical actions. FEMA does have the authority to exempt certain actions from any application of the requirements of Executive Order 11988 and those actions which are exempted are enumerated in Section 9.5(c).

FEMA proposes that if it determines that the action is not a FEMA Federally Funded Project, *i.e.*, that the action does not involve the use of FEMA funds for new construction, substantial improvement, or to address substantial damage to a structure or facility, the proposed action may be evaluated using the 1 percent annual chance floodplain for non-critical actions and the 0.2 percent annual chance floodplain for critical actions. The sequence for making that determination remains relatively unchanged. The Regional Administrator (RA) first consults the FEMA FIRM, the FBFM and the FIS. If neither a FIRM nor a FBFM is available, the RA consults the FHBM. The regulation provides a list of sources to consult in the event the FHBM is not available. FEMA proposes to update this list of sources to those suggested in the Revised Guidelines, which were updated to reflect current titles and new available resources.<sup>45</sup> Finally, if none of these sources have the information necessary to comply with the Orders, the RA seeks the services of an engineer experienced in this type of work. If a decision involves an area or location within extensive Federal or State holdings or a headwater area, and no FIS, FIRM, FBFM, or FHBM is available, FEMA seeks information from the land administering agency before seeking information and/or assistance from the list of sources or an engineer.

Additionally, FEMA is proposing to change the paragraph structure of § 9.7 for clarity.

#### I. Section 9.8—Public Notice Requirements

The only proposed change is to paragraph 9.8(c)(5)(ii), to correct a typographical error.

<sup>45</sup> FEMA proposes to update this list of sources to reflect the WRC’s Revised Guidelines.

### *J. Section 9.9—Analysis and Reevaluation of Practicable Alternatives*

FEMA proposes to add the requirement to use natural systems, ecosystem processes, and nature-based approaches in the development of alternatives for Federal actions in the floodplain to § 9.9(b). Under § 9.9, FEMA must make a preliminary determination (Step 3 of the 8-step process) as to whether the floodplain is the only practicable location for the action. Part of that analysis involves considering whether there are alternative actions that serve essentially the same purpose as the proposed action but which have less potential to affect or be affected by a floodplain. Under this proposed rule, during the course of the aforementioned analysis, FEMA would consider whether using natural systems, ecosystem processes and nature-based approaches might have less of an effect on the floodplain.

FEMA proposes to remove paragraph (d)(2) of § 9.9, which prohibits FEMA from locating a proposed critical action in the 500-year floodplain. This is because under this proposed rule, critical actions would no longer be subject to a specific requirement related to the 500-year floodplain. Instead, FEMA would follow the sequence described in § 9.7 when making the floodplain determination. As noted above, FEMA would determine whether the project meets the new definition of “FEMA Federally Funded Project” in § 9.4. If FEMA determined that the project is a FEMA Federally Funded Project, then FEMA would establish the floodplain by using one of the FFRMS approaches (which require the applicant to consider whether an action is a critical action). If FEMA determined that the project is not a FEMA Federally Funded Project, then FEMA would use, at a minimum, the 1 percent annual chance floodplain for non-critical actions and the 0.2 percent annual chance floodplain for critical actions. After FEMA completed that process, it would apply the appropriate floodplain to the remainder of the 8-step process. Therefore, FEMA proposes to revise paragraph (d)(1) to specify that the “floodplain” is the floodplain established in § 9.7(c).

FEMA proposes to eliminate paragraph 9.9(e)(6). Section 9.9(e)(6) prohibits FEMA from providing a new or renewed contract for flood insurance for a structure if the Regional Director has chosen the “no action” option provided for in § 9.9(e)(5). This provision was temporarily suspended via a November 28, 1980 **Federal Register** Notice of intent not to enforce

certain regulation concerning denial of flood insurance coverage. (45 FR 79069) FEMA ultimately did not ever implement this provision and does not intend to do so now; therefore, FEMA is proposing to remove it from the regulation.

### *K. Section 9.11—Mitigation*

FEMA proposes to remove the reference to the base flood and the 500-year flood from paragraph 9.11(c) and instead reference the floodplain as established in § 9.7(c) when describing its intent to minimize potential harm to lives and the investment at risk. Again, this is because there is no longer a set requirement related only to the base floodplain or the 500-year floodplain when there is a critical action. Instead, FEMA must follow the sequence described in § 9.7 when making the floodplain determination.

In paragraph 9.11(d), FEMA proposes to revise the text to reflect that the minimization standards are applicable to all of FEMA’s grant programs. Currently, paragraph 9.11(d) states that the minimization standards are applicable to only FEMA’s implementation of the Disaster Relief Act of 1974. Some of FEMA’s grant programs are authorized under other legislation.

In paragraphs 9.11(d)(2) and 9.11(d)(3)(i)–(ii), FEMA proposes to specifically require elevation of the lowest floor of a building to the FFRMS floodplain during the construction of new or substantially improved structures. As described above, FEMA must follow the sequence described in § 9.7 when making the floodplain determination. FEMA must determine whether the project meets the new definition of “FEMA Federally Funded Project” in § 9.4. The definition of “FEMA Federally Funded Project” is an action where FEMA funds are used for new construction, substantial improvement, or to address substantial damage to a structure or facility. “Substantial Improvement” as defined in § 9.4 includes all actions taken to address substantial damage to a structure or facility. Because paragraphs 9.11(d)(2) and 9.11(d)(3)(i)–(ii) specifically reference new construction or substantial improvement, FEMA must establish the floodplain in these circumstances by using one of the FFRMS approaches (which require the applicant to consider whether an action is a critical action). FEMA multi-hazard mitigation guidance can be consulted for technical information on elevation methods for new construction and the retrofitting of existing structures with

various types of foundations.<sup>46</sup> For example, in the case of structures with basements, the structure may be elevated on solid foundation walls by creating a new masonry-enclosed area on top of an abandoned and filled-in basement or elevated on an open foundation by filling in the old basement.<sup>47</sup> If the structure with a basement is non-residential, the applicant may elect to dry floodproof the structure rather than elevate. In this case, basements may be dry floodproofed using the same techniques as spaces above grade, including the creation of continuous impermeable walls, creating flood resistance in core interior areas, adding sealants on openings, installing flood shields for openings in exterior walls, and installing backflow valves and internal drainage systems.<sup>48</sup>

For the same reasons as stated above, in paragraph 9.11(d)(9), FEMA proposes to remove the reference to the base flood or, in the case of critical actions, the 500-year flood from paragraph 9.11(d)(9) and instead reference the floodplain as established in § 9.7(c) when describing the requirements for the replacement of building contents, material and equipment.

FEMA proposes to revise paragraphs 9.11(e)(1) and (e)(2) by adding “and Mitigation” to the title of the “Federal Insurance Administration” to reflect the current title of the organization, the “Federal Insurance and Mitigation Administration.” FEMA also proposes to revise paragraphs 9.11(e)(2)(ii), 9.11(e)(3)(i)(E), and 9.11(e)(3)(ii) by replacing “FIA” with “FIMA” to again reflect the change in title.

Finally, FEMA proposes to eliminate paragraph 9.11(e)(4). Paragraph 9.11(e)(4) provides that where the Regional Director has been precluded from providing assistance for a new or substantially improved structure in a floodway, FEMA may not provide a new or renewed policy of flood insurance for that structure. As noted in the regulation, this provision was temporarily suspended via a November 28, 1980 **Federal Register** Notice of intent not to enforce certain regulation concerning denial of flood insurance

<sup>46</sup> A catalogue of FEMA Building Science Branch publications including descriptions of available publications for natural hazards can be accessed at <http://www.fema.gov/media-library/assets/documents/12909>.

<sup>47</sup> See FEMA, *FEMA P-259 Engineering Principles and Practices of Retrofitting Floodprone Residential Structures* (2012), available at <http://www.fema.gov/media-library/assets/documents/3001>, at 5E-8.

<sup>48</sup> FEMA, *FEMA P-936, Flood Proofing of Non-Residential Buildings* (2013), available at <http://www.fema.gov/media-library/assets/documents/34270>, at 3-2.

coverage. (45 FR 79069) FEMA ultimately did not implement this provision and does not intend to do so now; therefore, FEMA is removing it from the regulation.

*L. Section 9.13—Particular Types of Temporary Housing*

FEMA proposes to specifically designate the use of the 1 percent annual chance (base) floodplain when evaluating whether to take a temporary housing action. See proposed § 9.13(d)(1). FEMA proposes to specifically prohibit housing an individual or family in the 1 percent annual chance (base) floodplain, unless the Regional Administrator has complied with the provisions in proposed § 9.9 to determine that the site is the only practicable alternative. See proposed § 9.13(d)(3). FEMA proposes to designate the 1 percent annual chance (base) floodplain as the floodplain of choice when taking temporary housing actions for several reasons: (1) The temporary nature of the assistance means there is not an opportunity to improve community resilience or floodplain management long term, which is the intent of the FFRMS; (2) expansion of the base floodplain to the FFRMS floodplain and prohibiting placement of temporary housing in the FFRMS floodplain may result in the temporary housing of individuals and families many miles from their homes, which is not practicable; and (3) it is not always feasible to elevate mobile homes, when they are being placed as temporary housing.

FEMA proposes to add the sentence “actual elevation levels will be based on manufacturer specifications and applicable Agency guidance” to reflect the fact that it is not always feasible to elevate mobile homes. See proposed § 9.13(d)(4)(i). Since mobile homes are often the last resort for temporary housing and they are being placed temporarily, it is not always practicable to elevate mobile homes to a given level. However, the proposed rule would require that such homes be elevated to the fullest extent practicable.

In paragraph 9.13(d)(4)(ii), FEMA proposes to substitute “44 CFR parts 59–60” for “44 CFR part 59 *et seq.*” to be clear what specific sections of the regulations the language references.

FEMA also proposes to require the elevation of a mobile home to at least the level of the FFRMS floodplain, if FEMA intends to sell or otherwise dispose of mobile homes in the FFRMS floodplain. See proposed § 9.13(e)(2). The reason for this requirement is that any sale or disposal of a mobile home

no longer constitutes temporary housing; FEMA believes that any unit intended for permanent placement should be protected to the fullest extent practicable, because the probability that a flood will occur within the floodplain is greater over the anticipated lifespan of a permanent structure than a temporary structure, and so the benefit of hazard mitigation is greater to the permanent structure than the temporary structure. Further, any sale or disposal of a mobile home must meet NFIP requirements of residential structures by elevating the lowest floor. Mobile homes placed in the floodplain for the purposes of temporary housing must meet the criteria of the NFIP or any more restrictive standards unless the community has granted a variance. See proposed § 9.13(d)(4)(ii).

Additionally, FEMA is proposing to change the paragraph structure of § 9.13. No substantive changes are intended as a result of this restructuring.

*M. Section 9.17—Instructions to Applicants*

In paragraph 9.17(a), FEMA proposes to add “as amended” to reflect Executive Order 13690’s amendment of Executive Order 11988.

In paragraph 9.17(b), FEMA proposes to update the reference to the WRC’s 1978 Guidelines to the full title for the Revised Guidelines.

*N. Section 9.18—Responsibilities*

In paragraph 9.18(b), FEMA proposes to update the references to the FIA and the title of Associate Administrator.

In paragraph 9.18(b)(2), FEMA proposes to add “as amended” to reflect Executive Order 13690’s amendment of Executive Order 11988.

*O. Appendix A to Part 9—Decision-Making Process for E.O. 11988*

FEMA proposes to remove “Appendix A to Part 9—Decision-Making Process for E.O. 11988” in its entirety. The graphic is no longer accurate. Further, given that Executive Order 13690 deliberately created a flexible approach to establishing the FFRMS and also requires update of the FFRMS every 5 years, there is no utility to including the appendix in regulation. Instead, FEMA would include a revised version of the appendix to include the new decision-making process and the definition of the FFRMS floodplain in its policy implementing the FFRMS.

**V. Response to Leadership Intent Comments**

On November 17, 2015, FEMA’s Federal Insurance and Mitigation Administration released for public

comment FEMA’s Overview of FEMA’s Intent to Implement the FFRMS (Intent). Continuing our commitment to an open, collaborative, stakeholder-focused process in implementing the FFRMS, FEMA shared this framework for public comment on FEMA’s Web site through December 17, 2015.

FEMA received 12 comments in response to the Intent. Of the 12 comments received, 10 comments were supportive, 1 comment was opposed, and 1 comment was not germane.<sup>49</sup>

The 10 comments received in support of the Intent came from a variety of sources, including local governments, associations, environmental action organizations, and commenters that chose to reply in their private capacity. Following is a discussion of the comments submitted.

The adverse comment came from a local government official. The official stated that the CISA would be “a means to extort money from citizens based on a junk science forecasts/models of which so called projections have been outrageously inaccurate.” The commenter did not provide any support for the statement. FEMA disagrees with the commenter’s assessment that Climate-Informed Science Approach (CISA) is based on “junk science forecasts/models.” Scientists compare models’ projections of historical climate trends to the historical records climate variables to measure the confidence of the models’ abilities to accurately predict future climate conditions.<sup>50</sup> Many peer reviewed studies of climate models have found in general that climate model simulations of historical global temperature and other climactic variables are comparable to the historical recorded observations of those variables.<sup>51</sup> These studies provide confidence in accuracy of climate models’ projections of future climate conditions.

The 2014 United States National Climate Assessment (Assessment) concluded that “[g]lobal trends in temperature and many other climate variables provide consistent evidence of

<sup>49</sup>The comments are available in the docket for this rulemaking.

<sup>50</sup>Risbey et al. 2014. Well-estimated global surface warming in climate projections selected for ENSO phase. “Nature Climate Change”, 4, 835–840.

<sup>51</sup>See Covey et al. 2003. An overview of results from the coupled model intercomparison project (CIMP). “Global and Planetary Change”, 37, 103–133; and Cubasch et al. 2013. Introduction. In: “Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change” [Stocker et al. (eds)]. Cambridge University Press, Cambridge at 131.

a warming planet.”<sup>52</sup> These trends “are based on a wide range of observations, analyzed by many independent research groups around the world.”<sup>53</sup> The Assessment reported that confidence is very high<sup>54</sup> that global sea level has risen during the past century and that it will continue to rise, and there is medium confidence that global sea level rise will be in the range of 1–4 feet by 2100.<sup>55</sup> The Assessment further reports that although changes in overall precipitation are uncertain in many U.S. areas, there is high degree of certainty that the heaviest precipitation events will increase everywhere, and by large amounts.<sup>56</sup> The approaches to establish a higher vertical elevation and corresponding floodplain provided in the FFRMS are intended to address these future flood risks.

Within the 10 supportive comments, the commenters provided suggestions and asked questions concerning FEMA’s proposed framework. One local government agreed that the CISA should be used in “calculating the [FFRMS] flood level and floodplain,” but stated that:

[Allowing a different set of standards for FFRMS and NFIP not only allows for non-compliance with the NFIP i[t] encourages it. How will FEMA discipline a community for not complying with the NFIP when they provided the funding for the project under FFRMS. This is a double standard and will create legal issues if not revised.

FEMA disagrees that implementing the FFRMS encourages noncompliance with NFIP standards. FEMA acknowledges that it is proposing to provide an option to use the CISA for critical facilities, but notes that under this proposal, the CISA would only be allowed if the elevation is higher than the elevation established using the FVA. This precaution would eliminate the possibility that the CISA elevation used for a FEMA Federally Funded Project would be less than the base flood elevation required as the minimum standard of the NFIP. Additionally, FEMA has complied and will continue to comply with local floodplain management standards that are more restrictive. FEMA is not proposing to amend § 9.11(d)(6), which prohibits FEMA from taking any action that is inconsistent with the NFIP standards or

any more restrictive Federal, State, or local floodplain management standards.

One commenter was concerned with the issue of coordination between Federal agencies, stating:

The Background [to the Intent document] states that “Federal agencies have the flexibility to select from the approaches of the FFRMS to establish the floodplain for a given action.” While flexibility may be warranted, the interagency coordination provision must come into play in establishing the “floodplain” by various agencies. The Framework language needs to be revised from “. . . should coordinate early . . .” to “. . . shall coordinate early.” This needs to be a required action whereby the most protective, conservative delineation of the floodplain is achieved and applied by all [F]ederal agencies for all purposes.

FEMA agrees with this comment and in the supplementary policy, FEMA proposes that when FEMA is funding a FEMA Federally Funded Project with, or in the same area as, another Federal agency, FEMA will coordinate with the applicable Federal agency early in the planning process.

Multiple commenters stated that the use of the FVA may create a disincentive to update flood maps. Their concern was that the use of the FFRMS–FVA rather than the FFRMS–CISA might create a sense that flood map updates and associated funding are less critical because of the safety standard provided by freeboard. Commenters stated that:

[t]he freeboard provision is a positive, protective step, however, it should not become a default standard to replace updated flood mapping.

FEMA disagrees with the statement that using the FVA will eliminate the desire to update flood maps. FEMA has stated that the FFRMS will not affect FEMA’s flood mapping standards. While FEMA’s FIS and FIRMs may be used as sources of best available information to establish the FFRMS elevation, the primary function of FIS and FIRMs is not to establish the FFRMS. The production of FIS and FIRMs are managed for other purposes, such as to serve the mission of the NFIP.

Two commenters requested that FEMA address how changing flood hazard information will be used in establishing the FFRMS elevation. One commenter stated:

[i]n all the talk I hear about flood mitigation and resolution I never hear any discussion as how standard measurements, what you call base line, do not take into account or even look at how those base lines have moved due to erosion.

Another commenter asked:

On occasion, FEMA has issued Advisory Base Flood Elevations (ABFEs) following a

major flooding event, when it has been determined that the effective [Base Flood Elevations (BFEs)] significantly underestimate the base flood [. . .] What will FEMA consider to be the advisory “BFE” when adding freeboard under EO 13690?

Section 2(a)(1) of the Executive Order directs agencies to use approaches based on the best available information and FEMA’s effective FIRM. Because flood risk can change over time, FEMA’s mapping program continually updates its inventory of flood hazard information. Flood zone designations may be established or revised when new and more accurate information becomes available because of a FEMA-contracted restudy or because the community makes the information available to FEMA. More accurate information may include more accurate or updated topographic information which would capture changes in the ground elevation due to factors including erosion. Information from a preliminary FIRM or ABFE may serve as best available information if the information shows that a site previously located outside the floodplain is now in the floodplain, or that the existing FEMA Base Flood Elevation has increased. In response to the commenter’s question, when determining what is the appropriate “BFE” when adding freeboard under Executive Order 13690, FEMA would use the best available information.

One comment received from a local government stated that the FVA is one-size fits-all, and the FVA would not reflect local conditions when establishing the FFRMS elevation. FEMA uses the best available information to establish the base flood elevation, which reflects local flooding conditions. Therefore, FEMA disagrees with the comment that the FVA would not reflect local conditions.

Five commenters stated that FEMA should use the 0.2 percent annual chance floodplain approach (500-year floodplain) to establish the minimum FFRMS elevation and floodplain for critical actions. One commenter stated that:

In some instances, the 500-year floodplain may provide a higher elevation than the other options, and in those instances the 500-year floodplain should be used. Critical actions are actions for which even a slight chance of flooding would be too great. As such, an all three FFRMS approaches should be considered to achieve the highest level of protection.

Another commenter stated the FVA may provide too restrictive a standard when the FVA elevation is higher than the 0.2 percent annual chance floodplain elevation:

<sup>52</sup> Walsh et al. 2014: Ch. 2: Our Changing Climate. “Climate Change Impacts in the United States: The Third National Climate Assessment,” J. M. Melillo, Terese (T.C.) Richmond, and G. W. Yohe, Eds., U.S. Global Change Research Program, 19–67.

<sup>53</sup> *Id.*

<sup>54</sup> “Very high” is the highest confidence level used in the Assessment. *See id.* at 61.

<sup>55</sup> *Id.* at 66.

<sup>56</sup> *Id.* at 33.

For example, in areas where the 500-year water surface is less than 2 feet above the 100-year water surface, the freeboard value approach may be overly conservative and go well above the 500-year level protection.

FEMA recognizes that the FVA may be more or less conservative than the 0.2PFA. However, FEMA is proposing in the supplementary policy to select to use the FVA but not the 0.2PFA. FEMA feels it is more pragmatic to only establish the elevation using one approach to manage the level of effort and costs needed to establish the FFRMS elevation. Additionally, by establishing only one FFRMS approach as the default approach, FEMA believes the supplementary policy would be clearer for stakeholders and applicants to identify which FFRMS approach FEMA would require for FEMA Federally Funded Projects. When using the CISA, the supplementary policy proposes that FEMA would evaluate if the CISA methodology is appropriate to the action being considered. In accordance with the Revised Guidelines, the CISA methodology should consider the criticality of the action. Flood elevations informed by the CISA can be adjusted to be higher to account for the increased consequences associated with flood damage.<sup>57</sup> This consideration should assist FEMA in making appropriate decisions about data sources to use in the CISA analysis to account for the flood risk to the FEMA Federally Funded Project.

Four commenters generally stated FEMA should require use of the CISA for critical and/or non-critical actions. Specifically, one commenter stated:

FEMA has an obligation to protect taxpayer dollars and thus to use climate informed science when its experts determine the data is adequate to accurately calculate the FFRMS flood level and floodplain.

Another commenter stated:

Failure to evaluate sea level rise over the next several decades would be an egregious oversight when deciding what to build, where to build, and how to build in coastal environments.

Executive Order 13690 and the FFRMS do not prescribe a particular approach regardless of the individual circumstance. Instead, they intentionally provide for flexibility in application to allow Federal agencies to develop an implementation approach that meets the needs and mission of the particular agency. FEMA had to take into account many considerations when making its determination, such as: (1) Consistency: The need to create an approach which would allow

stakeholders and applicants to consistently determine which standard FEMA would apply to FEMA Federally Funded Projects; (2) disaster considerations: the ability to implement the approaches in both a non-disaster and post-disaster environment. In a post-disaster environment, FEMA needs to be able to make decisions quickly to assist communities in their recovery. Other considerations included cost as well as resilience. FEMA balanced consideration of the preference in the FFRMS for the CISA against these implementation considerations when making the decision to propose optional use of the CISA. FEMA is not proposing to require the CISA for non-critical projects; however, as the FFRMS is reevaluated annually and updated in 5 years as required by Executive Order 13690, this may change.

Four commenters stated that FEMA should comply with State, Tribal, territorial, or local government flood risk standards, when those standards are more restrictive than the FFRMS. One comment stated:

Any critical or non-critical FEMA actions or FEMA-funded projects should thus comply with all applicable [S]tate and local floodplain protection standards.

FEMA has and will continue to comply with more restrictive local floodplain management standards. FEMA is not proposing to amend § 9.11(d)(6), which prohibits FEMA from taking an action if it is inconsistent with any more restrictive Federal, State, local, Tribal, and territorial, floodplain management standards.

One comment received from an environmental action organization stated that:

The threshold for what constitutes substantial improvement/damage should be a maximum of 50%. A cumulative approach to calculate substantial improvement/damage over projects' lifetimes should be utilized.

FEMA is not proposing to amend the definition of substantial improvement in § 9.4. Substantial improvement is defined as any repair, reconstruction or other improvement of a structure or facility, which has been damaged in excess of, or the cost of which equals or exceeds, 50 percent of the market value of the structure or replacement cost of the facility. FEMA is not proposing to adopt a cumulative approach to calculate substantial improvement because FEMA does not track improvements made by applicants, without FEMA funding, to their own public facilities. If a local community has adopted a cumulative approach to calculating substantial improvement or substantial damage, FEMA will comply

with the more restrictive local standard in accordance with § 9.11(d)(6).

Another commenter addressed use of the emergency action exception of the FFRMS:

While we support the provision in EO 13690 that exempts emergency action from the Federal Flood Risk Management Standard, we urge the agency to narrowly define what constitutes an emergency action [ . . . ] [P]ermanent work under the PA Program (PA) [ . . . ] should not be classified as emergency work for the purposes of exemption.

FEMA is not proposing to exempt permanent work (Categories C–G) funded by the Public Assistance program under the emergency action exception of the FFRMS.

Two commenters encouraged FEMA to address how structural flood risk management systems will affect the FFRMS floodplain. One commenter stated:

Structural flood risk management systems are intended to reduce flood risk—not eliminate flood risk. As such, the agency should evaluate flood risks if building behind such structures, including the risk of flooding should the structure fail or be breached.

FEMA will consider the factors described in section 1.B.6 of the Revised Guidelines, Structural Flood Risk Management Systems, when considering whether an action which is landward of a structural flood risk management system is in the FFRMS floodplain. Per the direction in the Revised Guidelines, flood control structures' status on effective FIRMS will not be the sole resource used to determine if a project is within the FFRMS floodplain. FEMA determinations of accreditation status, Zone AR,<sup>58</sup> and Zone A99<sup>59</sup> may not convey the full hazard to projects landward of a flood control structure.<sup>60</sup> Additional information, as fully listed in the Revised Guidelines, would need to be gathered to inform the determination of if the project is within the FFRMS floodplain.

One commenter suggested FEMA should adopt a comprehensive definition of resilience, stating:

<sup>58</sup> Zone AR is defined as the area of special flood hazard that results from the decertification of a previously accredited flood protection system that is determined to be in the process of being restored to provide base flood protection. Mandatory flood insurance purchase requirements and floodplain management standards apply. See 44 CFR 64.3(a)(1).

<sup>59</sup> Zone A99 is defined as the area of special flood hazard where enough progress has been made on a protective system, such as dikes, dams, and levees, to consider it complete for insurance rating purposes. See 44 CFR 64.3(a)(1).

<sup>60</sup> See Revised Guidelines at 58.

<sup>57</sup> Revised Guidelines at 55.

The more comprehensive definition laid out in [the Water Resources, Reform and Development Act of 2014] provides guidelines that FEMA can incorporate into its guidance [and] . . . gives more detail and guidance to regulators and the regulated community, thereby increasing certainty.

FEMA is not proposing to define resilience in Part 9. There is no universal definition of resilience, nor is one associated with FEMA's implementation of Executive Order 13690. Section 9.11 requires FEMA to minimize potential harm to the investment at risk from flooding. With the exception of specific minimization standards in § 9.11(d), FEMA does not specify the techniques which must be used to achieve minimization of harm and improve the resilience of actions within the floodplain.

The same commenter also supported the inclusion of structures and facilities in the Revised Guidelines, stating:

FEMA has expanded the scope of the guidelines by including their application to [F]ederal "facilities," in addition to structures [ . . . ] By expanding the scope of the guidelines to include roads and bridges, FEMA has made an important step toward establishing more resilient and disaster-resistant communities located within [F]ederal floodplains.

However, FEMA disagrees with the comment that FEMA has expanded the scope of the guidelines. Executive Order 11988 applies to Federal actions, meaning (a) acquiring, managing and disposing of Federal lands and facilities; (b) providing federally undertaken, financed or assisted construction and improvements; and (c) conducting Federal activities and programs affecting land use, including, but not limited to, water and related land resources, planning, regulating and licensing activities. The definition of action encompasses providing federally assisted construction to both structures and facilities.

Finally, one commenter suggested FEMA should incorporate the FFRMS into agency regulations and procedures within 18 months, requesting:

[p]lease identify which regulations, and guidance, documents will require amendment.

FEMA has identified the regulations which will require amendment to implement Executive Order 13690 and the FFRMS in this Notice of Proposed Rulemaking.

## VI. FFRMS FY 2016 Appropriations Language

Section 750 of Division E of the Consolidated Appropriations Act, 2016 (Act) (Pub. L. 114–113, 129 Stat. 2242) provides that none of the funds made

available under that Act or any other Act could be used to (1) implement, administer, carry out, modify, revise or enforce Executive Order 13690 other than for (a) acquiring, managing, or disposing of Federal lands or facilities; (b) providing federally undertaken, financed, or assisted construction or improvements; or (c) conducting Federal activities or programs affecting land use, including water and related land resources planning, regulating, and licensing activities; or (2) implement Executive Order 13690 in a manner that modifies the non-grant components of the National Flood Insurance Program.

FEMA does not interpret this prohibition on the use of appropriated funds to have any effect on this rulemaking or its policy development. Paragraph 750(a)(1) effectively allows for action to be taken to implement Executive Order 13690 as long as it is within the original scope of responsibilities outlined in Section 1 of Executive Order 11988. Subsection (a)(2) prohibits FEMA from implementing Executive Order 13690 in a way that modifies the non-grant components of the NFIP. Neither this rulemaking nor FEMA's policy development goes beyond the scope of Section 1 of Executive Order 11988 or modifies the non-grant components of the NFIP. Although FEMA has always applied the 8-step decision-making process to program-wide NFIP actions, such actions do not qualify as FEMA Federally Funded Projects under this rule. Therefore, the prohibition on the use of appropriated funds does not apply to this Notice of Proposed Rulemaking.

## VII. Regulatory Analyses

### A. Executive Order 12866, Regulatory Planning and Review & Executive Order 13563, Improving Regulation and Regulatory Review

Executive Orders 13563 and 12866 direct agencies to assess the costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits (including potential economic, environmental, public health and safety effects, distributive impacts, and equity). Executive Order 13563 emphasizes the importance of quantifying both costs and benefits, of reducing costs, of harmonizing rules, and of promoting flexibility. This rule has been designated a "significant regulatory action" although not economically significant, under section 3(f) of Executive Order 12866. Accordingly, the rule has been reviewed

by the Office of Management and Budget.

As noted, FEMA is proposing to amend 44 CFR part 9, "Floodplain Management and Protection of Wetlands" and issue a supplementary policy to implement the Executive Order 13690 and the FFRMS.

The FFRMS is a flexible framework to increase resilience against flooding and to help preserve the natural values of floodplains. FEMA is proposing to incorporate the FFRMS into its existing processes, to ensure that the floodplain for FEMA Federally Funded Projects is expanded from the current base flood level to a higher vertical elevation and corresponding horizontal floodplain and that, where possible, natural systems, ecosystem processes, and nature-based approaches would be used when developing alternatives to locating Federal actions in the floodplain.

FEMA estimates that for the 10-year period after the rule goes into effect, the benefits would justify the costs. Flooding is the most common type of natural disaster in the United States, and floods are expected to be more frequent and more severe over the next century due to the projected effects of climate change.<sup>61</sup> The ocean has warmed, polar ice has melted, and porous landmasses have subsided.<sup>62</sup> Global sea level has risen by about 8 inches since reliable record keeping began in 1880 and is projected to rise another 1 to 4 feet by 2100.<sup>63</sup> Floods are costly natural disasters; between 1980 and 2013, the United States suffered more than \$260 billion in flood-related damages.<sup>64</sup> This proposed rule would help protect Federal investments from future floods, and would help minimize harm in floodplains, by changing how FEMA defines the floodplain for FEMA-funded new construction and substantial improvement (*i.e.*, "Federally Funded Projects"). The expected costs of this proposed rule are primarily due to increased elevation or floodproofing requirements of structures in the FFRMS floodplain, with the majority of these costs expected to be incurred by FEMA itself through several

<sup>61</sup> Walsh, J., D. Wuebbles, K. Hayhoe, J. Kossin, K. Kunkel, G. Stephens, P. Thorne, R. Vose, M. Wehner, J. Willis, D. Anderson, S. Doney, R. Feely, P. Hennon, V. Kharin, T. Knutson, F. Landerer, T. Lenton, J. Kennedy, and R. Somerville, 2014: Ch. 2: Our Changing Climate. "Climate Change Impacts in the United States: The Third National Climate Assessment", J. M. Melillo, Terese (T.C.) Richmond, and G. W. Yohe, Eds., U.S. Global Change Research Program, 19–67. Doi.10.7930/JOKW5CXT. Page 20.

<sup>62</sup> *Ibid* [page 21].

<sup>63</sup> *Ibid* [page 21].

<sup>64</sup> NOAA, National Weather Service. "Hydrologic Information Center—Flood Loss Data". <http://www.nws.noaa.gov/hic/>.

grant programs, which will be either passed through to taxpayers or result in lower levels of Government services. FEMA grant recipients would bear approximately 25 percent of the project costs for those grant programs that have a cost-share requirement.

The cost components of this proposed rule relate to grants under FEMA's IA, PA, HMA, and GPD programs, as well as FEMA facilities and the Integrated Public Alert Warning System (IPAWS). To estimate the cost of the proposed elevation requirements FEMA uses data from the NIFP. Table 1 and Table 2 show the costs and benefits by program, that FEMA has available, annualized for the first 10 years. Most of the estimated costs come from PA Category C, which includes replacements of bridges.

BILLING CODE 9111-66-P

1 Table 1. Summary of Costs and Non-Monetized Benefits by Program (Low Estimate, 2015\$)

Cost	3% Discount Rate			7% Discount Rate	
	Undiscounted	Present Value	Annualized	Present Value	Annualized
IA MHU	\$2,376	\$2,027	\$238	\$1,669	\$238
IA PHC	\$16,901	\$14,417	\$1,690	\$11,871	\$1,690
PA Category C	\$56,455,153	\$48,157,391	\$5,645,515	\$39,651,737	\$5,645,515
PA Category D			Not estimated		
PA Category E	\$2,593,108	\$2,211,974	\$259,311	\$1,821,290	\$259,311
PA Category F			Not estimated		
PA Category G			Not estimated		
HMA Elevation	\$1,498,569	\$1,278,309	\$149,857	\$1,052,532	\$149,857
HMA Floodproofing	\$23,637	\$20,163	\$2,364	\$16,602	\$2,364
FEMA Training	\$173,215	\$151,286	\$17,735	\$128,615	\$18,312
Floodplain Determination	\$15,156	\$13,112	\$1,537	\$10,972	\$1,562
Implementation Costs	\$178,652	\$170,923	\$20,037	\$161,503	\$22,994
<b>Benefits</b>					
IA MHU					
IA PHC			Not estimated		
PA Category C			Damage Avoidance		
PA Category D			Potential Lives Saved		
PA Category E			Increased Public Health and Safety		
PA Category F			Decreased Cleanup Time		
PA Category G			Protection of Critical Facilities		
HMA Elevation			Reduction of Personal and Community Impacts		
HMA Floodproofing					
FEMA Training					
Floodplain Determination			Administrative Requirement of Rule		
Implementation Costs					

2 \*Costs for roads not estimated

3

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Table 2. Summary of Costs and Non-Monetized Benefits by Program (High Estimate, 2015\$)

Cost	3% Discount Rate			7% Discount Rate	
	Undiscounted	Present Value	Annualized	Present Value	Annualized
IA MHU	\$33,833	\$28,861	\$3,383	\$23,763	\$3,383
IA PHC	\$240,712	\$205,332	\$24,071	\$169,066	\$24,071
PA Category C	\$338,730,847	\$288,944,283	\$33,873,085	\$237,910,372	\$33,873,085
PA Category D			Not estimated		
PA Category E	\$34,371,967	\$29,319,985	\$3,437,197	\$24,141,432	\$3,437,197
PA Category F			Not estimated		
PA Category G			Not estimated		
HMA Elevation	\$20,648,203	\$17,613,336	\$2,064,820	\$14,502,434	\$2,064,820
HMA Floodproofing	\$32,562	\$277,761	\$32,562	\$228,702	\$32,562
FEMA Training	\$173,215	\$151,286	\$17,735	\$128,615	\$18,312
Floodplain Determination	\$15,156	\$13,112	\$1,537	\$10,972	\$1,562
Implementation Costs	\$178,652	\$170,923	\$20,037	\$161,503	\$22,994
<b>Benefits</b>					
IA MHU	Not estimated Damage Avoidance Potential Lives Saved Increased Public Health and Safety Decreased Cleanup Time Protection of Critical Facilities Reduction of Personal and Community Impacts				
IA PHC					
PA Category C					
PA Category D					
PA Category E					
PA Category F					
PA Category G					
HMA Elevation					
HMA Floodproofing					
FEMA Training					
Floodplain Determination	Administrative Requirement of Rule				
Implementation Costs					

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\*Costs for roads not estimated

BILLING CODE 9111-66-P  
 IA Projects  
 IA Permanent Housing Construction  
 (PHC) projects and sales of

Manufactured Housing Units (MHUs) would be affected by the proposed rule. Although floodproofing is a valid option in some instances, FEMA regulations prohibit the floodproofing of residential structures. In these cases, elevation is the only option. FEMA calculated the cost of elevating structures under PHC



structures by adding the cost of elevating projects between 1 foot and 3 feet above the BFE, depending on location and type of project. FEMA subtracted certain costs that it determined to be part of the baseline. Specifically, numerous States and localities have existing freeboard requirements that would result in elevation costs and benefits regardless of this proposed rule, so costs and benefits for these areas were reduced based on existing requirements. The total PHC cost is estimated to range between \$1,690 and \$24,071 per year for FEMA (PHCs are funded fully by FEMA). FEMA estimates that an average of 2.22 PHCs per year would be subject to FFRMS requirements. IA also includes the sale of MHUs. The total MHU cost is estimated to range between \$238 and \$3,383 per year. FEMA estimates that an average of 4.88 MHUs per year would be subject to FFRMS requirements. An MHU elevation must be paid fully by an IA grant recipient who ultimately purchases the MHU.

#### PA Projects

PA Categories C, D, E, F, and G projects would be affected by the proposed rule, but FEMA is only able to provide partial estimates of costs associated with Categories C (Roads and Bridges) and E (Public Buildings).

FEMA cannot estimate the costs of improving flood resiliency of roads because of the highly project-specific nature of road projects, and numerous options for making roads resilient. Damage to roads during flood events can be caused by erosion and scour, inundation by floodwater, or debris blockage, and can be worsened by issues such as misaligned culverts, insufficient culvert capacity, embankment erosion, road and shoulder damage, and obstructions that reduce culvert capacity. A sampling of mitigation actions that can improve the resiliency of a road to flooding include installing low water crossings, increasing culvert size, installing a relief culvert, adding rip rap to a road embankment to provide slope protection, installing structures such as aprons and baffle structures that dissipate the energy of floodwater, realigning culverts, and installing road shoulder subsurface drains.<sup>65</sup>

FEMA considers all PA Category C grants used to replace publicly-owned bridges to be critical actions for the purposes of this analysis. There are a variety of techniques that can be used to

floodproof a bridge, but the specific techniques depends on the specific bridge, location, and circumstances. FEMA estimates that the costs of this proposed rule for Category C bridge grants would range from a low of \$5,645,515 per year to a high of \$33,873,085 per year. FEMA estimates that an average of 7.10 PA Category C bridge projects per year would be subject to FFRMS requirements. The total cost to the PA program is estimated to be between \$5,904,826 and \$37,310,281 per year. With the 75 percent cost share, the cost to FEMA would be between \$4,428,620 and \$27,982,711 per year, while the cost to grant recipients would be between \$1,476,207 and \$9,327,570 per year.

FEMA used data from PA grant approvals from 2006–2015 and used a multi-step process to estimate the range of costs for elevating Category E structures. FEMA estimates that the elevation cost for Category E non-critical actions would be a low of \$219,301 per year and a high of \$3,123,171 per year. FEMA estimates that an average of 19.19 PA Category E projects per year would be subject to FFRMS requirements. In addition, FEMA estimates that the total cost for Category E critical actions would range from a low of \$40,009 per year to a high of \$314,026 per year.

#### HMA Projects

FEMA used data from HMA grant approvals for elevation and floodproofing of structures from 2006–2015 and a multi-step process to estimate the range of costs for elevating or floodproofing these structures. FEMA estimates that the total cost for HMA non-critical actions for elevation projects would range from a low of \$138,999 per year to a high of \$1,979,591 per year. In addition, FEMA estimates that the total cost for HMA critical actions for elevation projects would range from a low of \$10,858 per year to a high of \$85,229 per year. FEMA estimates that an average of 73.69 HMA elevation projects per year would be subject to FFRMS requirements. The total cost for HMA non-critical actions for floodproofing projects would be a low of \$2,188 per year and a high of \$31,165 per year. In addition, FEMA estimates that the total cost for HMA critical actions for floodproofing projects would be a low of \$176 per year and a high of \$1,397 per year. FEMA estimates that an average of 4.70 HMA floodproofing projects per year would be subject to FFRMS requirements. FEMA estimates the total cost of this rule for the HMA program to be between \$152,221 and \$2,097,382 per year. With the 75 percent cost share, the cost to

FEMA would be between \$114,165 and \$1,573,037 per year, while the cost to grant recipients would be between \$38,055 and \$524,346 per year.

HMA also funds various other types of projects, such as minor flood control, property acquisition, generators, and mitigation reconstruction, but FEMA is unable to estimate the potential costs associated with these projects because the manner in which each applicant meets the resiliency standards will be fact-specific and dependent upon the nature of the design and purpose of the project. Additional minor mitigation measures would have to be taken for these projects, if located in the expanded FFRMS floodplain. FEMA requests public comments.

The costs of the proposed rule would be from IA, PA, and HMA programs, as well as administrative costs. FEMA expects minimal costs associated with GPD and IPAWS because these programs do not fund new construction or substantial improvement projects. These projects are also by nature typically resilient from flooding. FEMA facilities may also be subject to additional requirements due to the implementation of the proposed rule.

FEMA estimates that the total additional grants costs as a result of the proposed rule would be between \$906,696 and \$7.8 million per year for FEMA and between \$301,906 and \$2.6 million per year for grant recipients due to the increased elevation or floodproofing requirements of FEMA Federally Funded Projects.

In addition, FEMA expects to incur some administrative costs as a result of this proposed rule. FEMA estimates initial training costs of around \$100,000 the first two years after the rule is implemented, and administrative and training costs of around \$16,000 per year thereafter. FEMA estimates that the total annual cost of this rule after year two would be between \$6.1 million and \$39.5 million.

FEMA estimates the quantified cost of this proposed rule over the next 10 years would range between \$60.1 million and \$394.7 million. The present value (PV) of these estimated costs using a 7 percent discount rate would range between \$42.9 million and \$277.3 million. The PV using a 3 percent discount rate would range between \$52.0 million and \$336.7 million. These costs would be split between FEMA (75 percent) and recipients (25 percent) of FEMA grants in the floodplain. The low estimates of the 10-year costs of this rule, discounted at 3 percent and 7 percent are presented in Table 3. The high estimates of the 10-year costs of

<sup>65</sup> See FEMA, "FEMA B-797 Hazard Mitigation Field Book: Roadways", (2010), available at <http://www.fema.gov/media-library/assets/documents/19299>.

this rule, discounted at 3 percent and 7 percent are presented in Table 4.

TABLE 3—10-YEAR COST TOTALS USING 3 PERCENT AND 7 PERCENT DISCOUNT RATES (LOW ESTIMATE, 2015\$)

Year	FEMA Admin. costs	FEMA Grant costs	Recipient cost share	Undiscounted annual costs	Annual costs discounted at 3%	Annual costs discounted at 7%
1 .....	\$135,291	\$4,544,475	\$1,514,499	\$6,194,265	\$6,013,850	\$5,789,033
2 .....	105,336	4,544,475	1,514,499	6,164,310	5,810,454	5,384,147
3 .....	16,010	4,544,475	1,514,499	6,074,984	5,559,471	4,958,997
4 .....	16,010	4,544,475	1,514,499	6,074,984	5,397,545	4,634,576
5 .....	16,010	4,544,475	1,514,499	6,074,984	5,240,335	4,331,380
6 .....	16,010	4,544,475	1,514,499	6,074,984	5,087,704	4,048,019
7 .....	16,010	4,544,475	1,514,499	6,074,984	4,939,518	3,783,195
8 .....	16,010	4,544,475	1,514,499	6,074,984	4,795,649	3,535,696
9 .....	16,010	4,544,475	1,514,499	6,074,984	4,655,970	3,304,389
10 .....	16,010	4,544,475	1,514,499	6,074,984	4,520,359	3,088,214
Total .....	368,707	45,444,751	15,144,992	60,958,451	52,020,854	42,857,646
Annualized .....					6,098,431	6,101,965

TABLE 4—10-YEAR COST TOTALS USING 3 PERCENT AND 7 PERCENT DISCOUNT RATES (HIGH ESTIMATE, 2015\$)

Year	FEMA Admin. costs	FEMA Grant costs	Recipient cost share	Undiscounted annual costs	Annual costs discounted at 3%	Annual costs discounted at 7%
1 .....	\$135,291	\$29,579,819	\$9,855,299	\$39,570,409	\$38,417,873	\$36,981,691
2 .....	105,336	29,579,819	9,855,299	39,540,454	37,270,670	34,536,164
3 .....	16,010	29,579,819	9,855,299	39,451,128	36,103,371	32,203,872
4 .....	16,010	29,579,819	9,855,299	39,451,128	35,051,817	30,097,077
5 .....	16,010	29,579,819	9,855,299	39,451,128	34,030,890	28,128,109
6 .....	16,010	29,579,819	9,855,299	39,451,128	33,039,699	26,287,953
7 .....	16,010	29,579,819	9,855,299	39,451,128	32,077,378	24,568,180
8 .....	16,010	29,579,819	9,855,299	39,451,128	31,143,085	22,960,916
9 .....	16,010	29,579,819	9,855,299	39,451,128	30,236,005	21,458,800
10 .....	16,010	29,579,819	9,855,299	39,451,128	29,355,345	20,054,953
Total .....	368,707	295,798,190	98,552,993	394,719,890	336,726,132	277,277,715
Annualized .....					39,474,575	39,478,109

## Benefits

FEMA anticipates that the benefits of the proposed rule would justify the costs. FEMA has provided qualitative benefits, including the reduction in damage to properties and contents from future floods, potential lives saved, public health and safety benefits, reduced recovery time from floods, and increased community resilience to flooding.

FEMA believes this proposed rule would result in savings in time and money from a reduced recovery period after a flood and increased safety of individuals. Generally, if properties are protected, there would be less damage, resulting in less clean-up time. In addition, higher elevations help to protect people, leading to increased safety. FEMA is unable to quantify these benefits, but improving the resiliency of bridges has significant qualitative benefits, including: Protecting evacuation and escape routes; limiting

blockages of floodwaters passing under the bridge that may lead to more severe flooding upstream; and, avoiding the cost of replacing the bridge again if it is damaged during a subsequent flood. Any estimates of these savings would be dependent on the specific circumstances and FEMA is not able to provide a numeric value on these savings.

A 2008 FEMA report analyzes potential savings from damage avoidance associated with including freeboard in the construction of new residential structures in coastal areas at various freeboard levels.<sup>66</sup> According to this report, in some contexts a dollar spent on elevation activities could result in a \$1.30 to \$8.92 return on investment, due to damage avoidance only. This report shows that the benefits of

<sup>66</sup> FEMA, "2008 Supplement to the 2006 Evaluation of the National Flood Insurance Program's Building Standards". [http://www.fema.gov/media-library-data/20130726-1911-25045-9876/2008\\_freeboard\\_report.pdf](http://www.fema.gov/media-library-data/20130726-1911-25045-9876/2008_freeboard_report.pdf).

incorporating freeboard exceed the costs for certain projects located in coastal flood zones. However, the report's scope is limited to new construction of houses in coastal areas. Due to the relatively narrow scope of the study, FEMA has not used the results of this report to estimate monetized benefits of freeboard to the nationwide projects that would be affected by this rule. FEMA requests information and studies from the public that examine the benefits of freeboard for a more diverse set of projects, such as non-residential structures, retrofitting substantial improvement projects, projects in non-coastal floodplains. If FEMA receives additional information that informs an estimate of the monetized benefits of freeboard to a broad range of structures, we may provide a monetized estimate of benefits in the final rule.

For more in-depth review of these costs and benefits, please see the Regulatory Evaluation, which can be found in the docket for this rulemaking.

### B. Regulatory Flexibility Act

This section considers the effects that this proposed rule would have on small entities as required by the Regulatory Flexibility Act (RFA), 5 U.S.C. 601 *et seq.*, Pub. L. 96-354) as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA). The RFA generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a “significant economic impact on a substantial number of small entities.” 5 U.S.C. 605(b). Small entities include small businesses, small organizations, and small governmental jurisdictions.

FEMA prepared an Initial Regulatory Flexibility Analysis (IRFA) for this proposed rule. This analysis is detailed in this section and represents FEMA’s assessment of the impacts of this proposed rule on small entities. Section 1 outlines FEMA’s initial assessment of small entities that would be affected by the proposed regulations. Section 2 presents FEMA’s analysis and summarizes the steps taken by FEMA to comply with the RFA.

#### 1. Initial Assessment of Small Entities Affected by the Proposed Regulations

The proposed rule would affect FEMA grant recipients that receive Federal funds for new construction, substantial improvement to structures, or to address substantial damage to structures and facilities. Many of these grants are available to local governmental jurisdictions and non-profit organizations. FEMA does not provide grants to for-profit businesses.

#### 2. Analysis and Steps Taken To Comply With the Regulatory Flexibility Act

The following IRFA addresses the following requirements of the RFA:

(1) A description of the reasons why action by the agency is being considered;

(2) a succinct statement of the objectives of, and legal basis for, the proposed rule;

(3) a description of and, where feasible, an estimate of the number of small entities to which the proposed rule will apply;

(4) a description of the projected reporting, recordkeeping and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for preparation of the report or record;

(5) an identification, to the extent practicable, of all relevant Federal rules which may duplicate, overlap or conflict with the proposed rule;

(6) a description of any significant alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimize any significant economic impact of the proposed rule on small entities. Consistent with the stated objectives of applicable statutes, the analysis shall discuss significant alternatives such as: The establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities; the use of performance rather than design standards; and an exemption from coverage of the rule, or any part thereof, for such small entities.

#### 2.1 Description of the Reasons Why Action by the Agency Is Being Considered

On January 30, 2015, the President issued Executive Order 13690, which amended Executive Order 11988 and established a new flood risk management standard called the FFRMS. Executive Order 13690 directs agencies to issue or amend their existing regulations and procedures to comply with the Order; therefore, FEMA is updating its regulations at 44 CFR part 9 and issuing an FFRMS policy.

The FFRMS is intended to reduce flood risk by expanding the floodplain with respect to Federally Funded Projects, revising the definition of the floodplain, adding a definition of “critical action,” and requiring agencies to use natural systems, ecosystem processes, and nature-based approaches in the development of alternatives for Federal actions in the floodplain.

#### 2.2 Succinct Statement of the Objectives of, and Legal Basis for, the Proposed Rule

FEMA is responsible for publishing information on floodplain areas and identifying special hazards. FEMA is also responsible for several grant programs that use Federal funds to assist in construction or reconstruction following a disaster, as well as grants for hazard mitigation and recovery. These grants can potentially be used for locations within a floodplain.

To meet the requirements of section 2(d) of Executive Order 11988, requiring agencies to issue or amend existing regulations and procedures to implement the Executive Order, FEMA

promulgated regulations which are located at 44 CFR part 9. FEMA is revising 44 CFR part 9 to reflect the changes to Executive Order 11988 made via Executive Order 13690.

The objective of the proposed rule is to revise the regulations for locating FEMA Federally Funded Projects in an expanded floodplain to reduce the risk of flooding to those projects. In addition, for actions that are determined to be “critical actions” as defined by the proposed rule, the proposed rule would impose more stringent elevation and resiliency requirements. This is necessary to protect actions where even a slight chance of flooding is too great.

The rule would also require the use of nature-based approaches, where possible, when considering alternatives for development in the floodplain. Nature-based approaches can include both natural and engineered features. The objective of requiring the use, where possible, of nature-based approaches is to help to restore the floodplain’s natural processes. The use of nature-based approaches may result in reduced flood risks. In addition, nature-based approaches have less potential to degrade the natural and beneficial values of floodplains. Some examples of nature-based approaches could include restoring wetland functions along a coastal or riverine system to create a living shoreline or using green infrastructure measures to reduce runoff.

#### 2.3 Description Of and Where Feasible, an Estimate of the Number of Small Entities To Which the Proposed Rule Will Apply

This rule would affect certain recipients of FEMA grants. These would primarily be PA and HMA grant recipients, which include States, Tribal governments, local governments and certain non-profit organizations. The PA grant recipients would include Categories C, D, E, F, and G projects however, FEMA is only able to provide reasonable estimates of the number of entities and costs associated with Categories C (roads and bridges) and E (public buildings). IA and GPD are not discussed in this analysis. IA provides grants directly to individuals and individuals are not small entities as defined in 5 U.S.C. 601(6). FEMA finds that this rule would likely have no effect on GPD grants because GPD projects are not typically substantial improvement or new construction.

PA provides grants to States, Tribal governments, local governments and certain non-profit organizations for rebuilding, replacement, or repair of public and non-profit facilities damaged

by disasters. Where such rebuilding, replacement or repair involves new construction, substantial improvement, and repair of substantial damage of structures in the expanded FFRMS floodplain, PA recipients would incur additional costs to comply with proposed elevation and floodproofing requirements. Out of a population<sup>67</sup> of 20,341 individual PA Category E grant recipients, a random sample of 96 recipients<sup>68</sup> shows that 79 projects (approximately 82 percent) would meet the definition of small entities under the Regulatory Flexibility Act. This was made up of 45 small governments, 33 private non-profits, and one Tribal government. According to historical data, there have been an average of 44 new construction, substantial improvement, or repair of substantial damage PA Category E projects annually over the past 10 years with approximately 19 of these located in the 1 percent annual chance floodplain or expanded FFRMS floodplain. Therefore, FEMA estimates that 16 small entities would be affected each year through PA Category E projects (19 × 82 percent). As discussed earlier, FEMA did not include Categories D, F, and G projects therefore the total number of affected entities could be higher.

HMA provides mitigation grants to States, Tribal governments, local governments and certain non-profit organizations to, among other things, relocate property outside of the floodplain, or to elevate or floodproof structures to the flood level. As noted in the Regulatory Evaluation, HMA has funded an average of 67 projects per year from 2006–2015. Unlike PA grants, the majority of HMA grants are for projects located in the floodplain, so for this analysis FEMA assumes that all HMA projects are in the floodplain. FEMA has estimated that the freeboard requirements would expand the floodplain by 16.8 percent based on studies conducted in 24 U.S. counties with varied topography. With the 16.8 percent expansion of the floodplain, HMA would have an additional 11

projects per year ( $67 \times 16.8$  percent = 11) for a total of 78 projects located in the 1 percent annual chance floodplain or expanded FFRMS floodplain. Assuming 82 percent<sup>69</sup> of HMA grant recipients are small entities, the proposed rule would affect approximately 64 small entities per year (78 projects × 82 percent).

#### 2.4 Description of the Projected Reporting, Recordkeeping, and Other Compliance Requirements of the Proposed Rule, Including an Estimate of the Classes of Small Entities Which Will Be Subject to the Requirement and the Type of Professional Skills Necessary for Preparation of the Report or Record

FEMA will not be changing the application process for its grant programs. The majority of the costs of this proposed rule would fall on FEMA. Small entities, like all entities, would be subject to additional costs associated with floodproofing, elevation of structures, and flood resiliency measures required by the proposed rule. For the purposes of this analysis, and based on historical data, FEMA presents the costs such that most projects would choose to elevate because of the additional level of safety elevation provides over floodproofing and a historically higher number of projects that involved elevation as opposed to floodproofing.<sup>70</sup> FEMA uses an NFIP report to estimate the cost of the proposed elevation requirements.<sup>71</sup> The report provides estimates for the cost of elevating structures as a percentage of total construction cost.

According to HMA data, the average cost of floodproofing is 50 percent of the cost of freeboard elevation. Floodproofing involves sealing off areas below the flood level so that water cannot enter, or altering the use of these areas so that flood waters may pass through without causing serious damage. Non-residential structures where elevation is not feasible may be floodproofed rather than elevated. Additionally, floodproofing preexisting

properties may be less costly than elevating an existing property. So, where a project may floodproof rather than elevate, costs may be lower for some projects than the costs presented here. However, for existing properties that choose to elevate rather than floodproof, costs may be higher for some projects than the costs presented here because the NFIP report cost estimates are for when freeboard is included in the design of a structure. FEMA requests comments on these assumptions.

The Federal cost-share of eligible PA work is generally 75 percent, so PA recipients would be required to fund 25 percent of the costs to comply with the requirements of the proposed rule.<sup>72</sup> FEMA estimates that the average annual cost of the proposed rule for PA Category E projects would be between \$13,648 and \$180,905<sup>73</sup> per project. Using the Federal cost share, each small entity would have an average expected cost between \$3,412 ( $\$13,648 \times 25$  percent cost share) and \$45,226 ( $\$180,905 \times 25$  percent).

The cost-sharing arrangement for HMA is 75 percent Federal and 25 percent recipient, so HMA recipients would be required to fund 25 percent of the costs to comply with the requirements of the proposed rule. FEMA estimates the average cost of the proposed rule for HMA projects would be between \$1,952 and \$26,890 annually.<sup>74</sup> Using the Federal cost share, each small entities would have an average cost between \$488 ( $\$1,952 \times 0.25$ ) and \$6,722 ( $\$26,890 \times 0.25$ ).

Reporting and recordkeeping is not expected to change with the exception of minor changes to FEMA's Mitigation Grant Program/e-Grants system. This is an automated grant application and management system that would have one question changed as a result of this proposed rule. FEMA would still make the determination if a project would take place in an FFRMS floodplain. (See

<sup>72</sup> In extraordinary circumstances the Federal share for PA may be 90 percent when actual Federal obligations exceed a qualifying threshold. See 44 CFR 206.47.

<sup>73</sup> According to the Regulatory Evaluation for this proposed rule, FEMA estimates the average annual cost for 19 PA Category E projects is between \$259,311 and \$3,437,197. The estimated cost per project is between \$13,648 ( $\$259,311/19$ ) and \$180,905 ( $\$3,437,197/19$ ). For information about how FEMA arrived at these estimates, please see the Regulatory Evaluation for this proposed rule located in the docket.

<sup>74</sup> According to the Regulatory Evaluation for this proposed rule, FEMA estimates the annual cost for 78 HMA projects is between \$152,221 and \$2,097,382. The estimated cost per project is between \$1,952 ( $\$152,221/78$  projects) and \$26,890 ( $\$2,097,382/78$  projects). For information about how FEMA arrived at these estimates, please see the Regulatory Evaluation for this proposed rule located in the docket.

<sup>67</sup> PA Category C grant recipients (Roads & Bridges) were not included in this population as the dataset that FEMA used lists the project grantees (States and Tribes), and not subgrantees (local governments and private non-profits). Therefore FEMA is not able to estimate the number of small entities affected by Category C grants. Over the past 10 years, PA has funded the replacement of 71 bridges. FEMA requests data and/or comments to determine how many bridge replacement project grants go to small entities.

<sup>68</sup> The population of PA Category E projects includes all "Public Buildings" grants from 2006–2015. Because of the large population, a random sample of 96 projects was drawn, using a confidence level of 95 percent and a 10 percent confidence interval.

<sup>69</sup> In FEMA's dataset, HMA recipients only included project titles and not the name of the grantee. This prevented FEMA from determining if a grant recipient was a small entity. Since PA and HMA provide funding to similar entities (States, Tribal governments, local governments and certain non-profit organizations) for disaster related activity, FEMA used the percentages of small entity grant recipients found in PA Category E as a proxy for HMA small entities.

<sup>70</sup> According to historical HMA data, there have been an average of 63 elevation projects and only 4 floodproofing projects per year.

<sup>71</sup> FEMA, "2008 Supplement to the 2006 Evaluation of the national Flood Insurance Program's Building Standards" Table 3. [http://www.fema.gov/media-library-data/20130726-1911-25045-9876/2008\\_freeboard\\_report.pdf](http://www.fema.gov/media-library-data/20130726-1911-25045-9876/2008_freeboard_report.pdf).

the Paperwork Reduction Act section of this preamble below for information about the proposed revision to this collection of information.)

#### 2.5 Identification, to the Extent Practicable, of Relevant Federal Rules Which may Duplicate, Overlap, or Conflict With the Proposed Rule

This rule does not duplicate, overlap, or conflict with other Federal rules as the proposed rule only relates for FEMA Federally Funded Projects. Existing FEMA rules relating to compliance with Executive Order 11988, Floodplain Management are being modified to comply with Executive Order 13690, which amends Executive Order 11988.

#### 2.6 Description of Any Significant Alternatives to the Proposed Rule Which Accomplish the Stated Objectives of Applicable Statutes and Which Minimize Any Significant Economic Impact of the Proposed Rule on Small Entities

The standards proposed in this rule represent FEMA's efforts to implement Executive Order 13690, which establishes executive branch-wide policy in this area. Small entities would have the option to relocate outside of the floodplain. This may be preferable in cases where property can be obtained and new facilities built for less cost than elevating or floodproofing to the freeboard level in the floodplain, and the recipient has the ability to relocate.

Executive Order 13690 allows several approaches to determine the FFRMS floodplain, but FEMA is proposing to adopt the FFRMS-FVA in most cases. The FFRMS-FVA uses the most easily attainable data for elevation and floodproofing standards and is the most consistent with existing State and local regulations. As a result, FEMA's proposed approach would reduce the burden on small entities by not requiring a separate set of Federal requirements that are more likely to be different from existing State and local requirements. Section F of this NPRM, FEMA's Implementation of Executive Order 13690 and FFRMS, describes the FFRMS approaches allowed by Executive Order 13690 and FEMA's considerations when selecting between the FFRMS approaches.

FEMA invites all interested parties to submit data and information regarding the potential economic impact that would result from adoption of the proposals in this proposed rule. FEMA will consider all comments received in the public comment process.

#### C. Unfunded Mandates Reform Act

Pursuant to Section 201 of the Unfunded Mandates Reform Act of 1995 (Public Law 104-4, 2 U.S.C. 1531), each Federal agency shall, unless otherwise prohibited by law, assess the effects of Federal regulatory actions on State, local, and Tribal governments, and the private sector (other than to the extent that such regulations incorporate requirements specifically set forth in law). Section 202 of the Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1532) further requires that before promulgating any general notice of proposed rulemaking that is likely to result in the promulgation of any rule that includes any Federal mandate that may result in expenditure by State, local, and Tribal governments, in the aggregate, or by the private sector, of \$100 million or more (adjusted annually for inflation) in any 1 year, and before promulgating any final rule for which a general notice of proposed rulemaking was published, the agency shall prepare a written statement detailing the effect on State, local, and Tribal governments and the private sector. The proposed rule would not result in such an expenditure, and thus preparation of such a statement is not required.

#### D. National Environmental Policy Act (NEPA) of 1969

Section 102 of the National Environmental Policy Act of 1969 (NEPA), Public Law 91-190, 83 Stat. 852 (Jan. 1, 1970) (42 U.S.C. 4321 *et seq.*) requires agencies to consider the impacts of their actions on the quality of the human environment. The Council on Environmental Quality's procedures for implementing NEPA, 40 CFR 1500 through 1508, require Federal agencies to prepare Environmental Impact Statements (EIS) for major Federal actions significantly affecting the quality of the human environment. Each agency can develop categorical exclusions to cover actions that have been demonstrated to not typically trigger significant impacts to the human environment individually or cumulatively. Agencies develop environmental assessments (EA) to evaluate those actions that do not fit an agency's categorical exclusion and those actions for which a categorical exclusion applies but extraordinary circumstances exist. At the end of the EA process the agency will determine whether to make a Finding of No Significant Impact or whether to initiate the EIS process.

Rulemaking is a major Federal action subject to NEPA. Categorical exclusion A3 included in the list of exclusion

categories at Department of Homeland Security Instruction Manual 023-01-001-01, Revision 01, Implementation of the National Environmental Policy Act, Appendix A, issued November 6, 2014, covers the promulgation of rules, issuance of rulings or interpretations, and the development and publication of policies, orders, directives, notices, procedures, manuals, and advisory circulars. The purpose of this proposed rule is to update the Floodplain Management and Protection of Wetland requirements to adopt the approaches outlined in Executive Order 13690 to establish the floodplain and associated flood elevation that must be used in the decision-making process to be followed by FEMA in applying Executive Orders 11988 and 13690 to its actions. The decision-making process requires FEMA to determine whether a proposed action is located in a wetland and/or the floodplain. FEMA is required to take mitigative measures, if it makes the determination to carry out an action in the floodplain. The rule would also add a requirement to use natural systems, ecosystem processes, and nature-based approaches in the development of alternatives for Federal actions in a floodplain. The result of applying the approaches outlined in Executive Order 13690 to establish the floodplain and associated flood elevation may be additional structures elevated or structures elevated to a higher level. Federal assistance for the reconstruction, elevation, retrofitting, upgrading to current codes and standards, and improvements to pre-existing facilities when the immediate project area has already been disturbed and when those actions do not alter basic functions, do not exceed the capacity of other system components, or modify intended land use are categorically excluded under Department of Homeland Security Instruction Manual 023-01-001-01, Revision 01, Implementation of the National Environmental Policy Act, Appendix A (N7). New construction upon or improvement of land where the proposed use is compatible with applicable planning and zoning standards and coastal management programs, the site is in a developed or previously-disturbed site, the proposed use will not substantially increase the number of motor vehicles in the area, the site and scale of construction are consistent with nearby buildings, and the construction or improvement will not result in uses that exceed the existing support infrastructure capacities are categorically excluded under Department of Homeland

Security Instruction Manual 023-01-001-01, Revision 01, Implementation of the National Environmental Policy Act, Appendix A (E2). No extraordinary circumstances exist that will trigger the need to develop an EA or EIS. See Department of Homeland Security Instruction Manual 023-01-001-01, Revision 01, Implementation of the National Environmental Policy Act, section (V)(B)(2). An EA will not be prepared because a categorical exclusion applies to this rulemaking action and no extraordinary circumstances exist.

#### *E. Paperwork Reduction Act (PRA) of 1995*

As required by the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13, 109 Stat. 163, (May 22, 1995) (44 U.S.C. 3501 *et seq.*), FEMA may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the collection of information displays a valid control number.

In this proposed rule, FEMA is seeking a revision to the already existing collection of information, OMB Control Number 1660-0072, because FEMA is proposing to replace question E.1. on screenshot #10 in order to comply with the proposed FFRMS requirements. Currently, 1660-0072's screenshot #10, E.1. reads: "Does a Flood Insurance Rate Map (FIRM), Flood Hazard Boundary Map (FHBM), hydrologic study, or some other source indicate that the project is located in or will affect a 100-year floodplain, a 500-year floodplain if a critical facility, an identified regulatory floodway, or an area prone to flooding?" We are proposing to change it to: "Does a Flood Insurance Rate Map (FIRM), Flood Hazard Boundary Map (FHBM), hydrologic study, or some other source indicate that the project is located in or will affect a floodplain (including a base floodplain, 500-year floodplain, or FFRMS floodplain), an identified regulatory floodway, or an area prone to flooding?" This proposed rule serves as the 60-day comment period for this proposed change pursuant to 5 CFR 1320.11. FEMA invites the general public to comment on the proposed collection of information.

#### Collection of Information

*Title:* Mitigation Grant Program/e-Grants.

*Type of Information Collection:* Revision of a currently approved collection.

*OMB Number:* 1660-0072.

*FEMA Forms:* FEMA Form 101-0-0-1, Benefit Cost Determination; FEMA Form 093-0-0-1, Environmental

Review; FEMA Form 080-0-0-12, Project Narrative-Sub-grant Application.

*Abstract:* The FEMA pre-disaster mitigation grant programs—FMA and PDM—both utilize an automated grant application and management system known as e-Grants to apply for these grants. These programs provide funding to allow for the reduction or elimination of the risks to lives and property from hazards. The e-Grants system also provides the mechanism to provide quarterly reports of the financial status of the project and the final closeout report.

*Affected Public:* State, local and Tribal Governments.

*Estimated Number of Respondents:* 56.

*Estimated Number of Responses:* 5,264.

*Estimated Total Annual Burden Hours:* 43,848.

*Estimated Cost:* There are no operation and maintenance, or capital and start-up costs associated with this collection of information.

#### Comments

Comments may be submitted as indicated in the **ADDRESSES** caption above. Comments are solicited to (a) evaluate whether the proposed data collection is necessary for the proper performance of the agency, including whether the information shall have practical utility; (b) evaluate the accuracy of the agency's estimate of the burden of the proposed collection of information, including the validity of the methodology and assumptions used; (c) enhance the quality, utility, and clarity of the information to be collected; and (d) minimize the burden of the collection of information on those who are to respond, including through the use of appropriate automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, *e.g.*, permitting electronic submission of responses.

#### *F. Privacy Act*

Under the Privacy Act of 1974, 5 U.S.C. 552a, an agency must determine whether implementation of a proposed regulation would result in a system of records. A "record" is any item, collection, or grouping of information about an individual that is maintained by an agency, including, but not limited to, his/her education, financial transactions, medical history, and criminal or employment history and that contains his/her name, or the identifying number, symbol, or other identifying particular assigned to the individual, such as a finger or voice

print or a photograph. See 5 U.S.C. 552a(a)(4). A "system of records" is a group of records under the control of an agency from which information is retrieved by the name of the individual or by some identifying number, symbol, or other identifying particular assigned to the individual. An agency cannot disclose any record, which is contained in a system of records, except by following specific procedures.

In accordance with DHS policy, FEMA has completed a Privacy Threshold Analysis for this proposed rule. This proposed rule does not affect the 1660-0072 OMB Control Number's current compliance with the Privacy Act of 1974, as amended, or the E-Government Act of 2002. OMB Control Number 1660-0072 is covered by the DHS/FEMA/PIA-006—FEMA National Emergency Management Information System Mitigation Electronic Grants Management System Privacy Impact Assessment (PIA). As a result, no update to DHS/FEMA/PIA-006 is necessary. OMB Control Number 1660-0072 is covered under the System of Records Notice (SORN) for DHS/FEMA-009 Hazard Mitigation, Disaster Public Assistance, and Disaster Loan Programs, 79 FR 16015, Mar. 24, 2014. This proposed rule does not create a new system of records and no update to this SORN is necessary.

#### *G. Executive Order 13175, Consultation and Coordination With Indian Tribal Governments*

Executive Order 13175, "Consultation and Coordination With Indian Tribal Governments," 65 FR 67249, Nov. 9, 2000, applies to agency regulations that have Tribal implications, that is, regulations that have substantial direct effects on one or more Indian Tribes, on the relationship between the Federal Government and Indian Tribes, or on the distribution of power and responsibilities between the Federal Government and Indian Tribes, or on the distribution of power and responsibilities between the Federal Government and Indian Tribes. Under this Executive Order, to the extent practicable and permitted by law, no agency shall promulgate any regulation that has Tribal implications, that imposes substantial direct compliance costs on Indian Tribal governments, and that is not required by statute, unless funds necessary to pay the direct costs incurred by the Indian Tribal government or the Tribe in complying with the regulations are provided by the Federal Government, or the agency consults with Tribal officials.

FEMA has reviewed this proposed rule under Executive Order 13175 and

has determined that this rule does not have a substantial direct effect on one or more Indian Tribes, on the relationship between the Federal Government and Indian Tribes, or on the distribution of power and responsibilities between the Federal Government and Indian Tribes.

Part 9 applies to FEMA disaster and non-disaster assistance programs, including PA, Individual Assistance, HMA, and grants processed by GPD. Pursuant to section 8 of Executive Order 11988, Part 9 does not apply to assistance provided for emergency work essential to save lives and protect property and public health and safety, performed pursuant to sections 403 and 502 of the Stafford Act, as amended (42 U.S.C. 5170b and 5192).

Indian Tribes have the same opportunity to participate in FEMA's grant programs as other eligible participants, and participation is voluntary. The requirements of this rule do not affect Tribes differently than other grant recipients. Therefore, FEMA does not expect this proposed rule to have a substantial direct effect on one or more Indian Tribes or impose substantial direct compliance costs on Indian Tribal governments, but will consider any information provided in comments to inform its analysis of this issue as part of a final rule.

Notwithstanding FEMA's conclusion that this proposed rule does not have tribal implications, FEMA recognizes the importance of engaging with Tribes with respect to the FFRMS. FEMA therefore summarizes below the extensive engagement process that precedes this rule, including significant engagement with Tribal leaders. As noted above, in the aftermath of Hurricane Sandy, the President issued Executive Order 13632,<sup>75</sup> which created the Federal Interagency Hurricane Sandy Rebuilding Task Force (Sandy Task Force). This Task Force was chaired by the Secretary of HUD, who led the effort in coordination with multiple Federal partners, as well as an advisory group composed of State, local, and Tribal elected leaders.

In June 2013, the President issued a Climate Action Plan which directs agencies to take the appropriate actions to reduce risk to Federal investments, specifically directing agencies to build on the work done by the Sandy Task Force and update their flood risk reduction standards for "federally-funded projects" to ensure that "projects funded with taxpayer dollars last as long as intended." In November 2013, the Climate Task Force convened, with 26 Governors, mayors, and local

and Tribal leaders serving as members. After a year-long process of receiving input from across State, local, Tribal and territorial governments; private businesses; trade associations; academic organizations; civil society; and other stakeholders, the Task Force provided a recommendation to the President in November 2014 that, in order to ensure resiliency, Federal agencies, when taking actions in and around floodplains, should include considerations of the effects of climate change, including sea level rise, more frequent and severe storms, and increasing river flood risks.

Executive Order 13690 amended Executive Order 11988 and established the FFRMS. It also set forth a process by which additional input from stakeholders could be solicited and considered before agencies took any action to implement the FFRMS. It required FEMA to publish, on behalf of the MitFLG, an updated draft version of the 1978 Guidelines<sup>76</sup> revised to incorporate the changes required by Executive Order 13690 and the FFRMS in the **Federal Register** for notice and comment. After the MitFLG received and adjudicated the comments, Executive Order 13690 required the MitFLG to submit to the WRC recommendations for finalizing the draft Guidelines.

FEMA, on behalf of MitFLG, published a **Federal Register** notice for a 60-day notice and comment period seeking comments on a draft of the Revised Guidelines, 80 FR 6530, Feb. 5, 2015. Additionally, on February 27, 2015, FEMA wrote to Tribal Leaders specifically asking for their comments regarding the Executive Order establishing the FFRMS.

In response to multiple requests, the MitFLG extended the comment period for an additional 30 days to end on May 6, 2015. The Administration also attended or hosted over 25 meetings across the country with State, local, and Tribal officials (including 26 mayors) and interested stakeholders to discuss Executive Order 13690 and the Guidelines. The MitFLG held 9 public listening sessions across the country that were attended by over 700 participants from State, local, and Tribal governments and other stakeholder organizations to discuss the Guidelines. There were Tribal representatives at both the Ames, Iowa and Sacramento, California listening sessions; however, the specific Tribes that they were representing were not identified. The MitFLG published notice of these public

listening sessions in the **Federal Register**.

The public comment period closed on May 6, 2015. Two Tribes submitted formal comments on the Guidelines during the **Federal Register** comment period. The MitFLG adjudicated all comments and presented its adjudication and recommendations to the WRC as required. The WRC issued the Revised Guidelines on October 8, 2015 and the corresponding Notice published in the October 22, 2015 **Federal Register** at 80 FR 64008.

FEMA welcomes Tribal comments on all aspects of this proposed rule.

#### *H. Executive Order 13132, Federalism*

Executive Order 13132, "Federalism," 64 FR 43255, Aug. 10, 1999, sets forth principles and criteria that agencies must adhere to in formulating and implementing policies that have federalism implications, that is, regulations that have "substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government." Federal agencies must closely examine the statutory authority supporting any action that would limit the policymaking discretion of the States, and to the extent practicable, must consult with State and local officials before implementing any such action.

FEMA has reviewed this proposed rule under Executive Order 13132 and has determined that this rule does not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, and therefore does not have federalism implications as defined by the Executive Order.

Part 9 applies to FEMA disaster and non-disaster assistance programs, including Public Assistance, Individual Assistance, HMA, and grants processed from GPD. Pursuant to section 8 of Executive Order 11988, Part 9 does not apply to assistance provided for emergency work essential to save lives and protect property and public health and safety, performed pursuant to section 403 and 502 of the Stafford Act, as amended (42 U.S.C. 5170b and 5192). The proposed rule does not significantly affect the rights, roles, and responsibilities of States, and involves no preemption of State law nor does it limit State policymaking discretion.

<sup>76</sup> The 1978 Guidelines were the original interpretation of Executive Order 11988.

<sup>75</sup> 77 FR 74341, Dec. 14, 2012.

*I. Executive Order 12898, Environmental Justice*

Under Executive Order 12898, “Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations,” (59 FR 7629, Feb. 16, 1994), as amended by Executive Order 12948, (60 FR 6381, Feb. 1, 1995), FEMA incorporates environmental justice into its policies and programs. The Executive Order requires each Federal agency to conduct its programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons from participation in programs, denying persons the benefits of programs, or subjecting persons to discrimination because of race, color, national origin or income level.

FEMA does not expect this rule to have a disproportionately high and adverse human health or environmental effect on low income or minority populations, but will consider any information provided in comments to inform its analysis of this issue as part of a final rule.

*J. Executive Order 12630, Taking of Private Property*

This rule will not effect a taking of private property or otherwise have taking implications under Executive Order 12630, “Governmental Actions and Interference With Constitutionally Protected Property Rights” (53 FR 8859, Mar. 18, 1988).

*K. Executive Order 12988, Civil Justice Reform*

This NPRM meets applicable standards in sections 3(a) and 3(b)(2) of Executive Order 12988, “Civil Justice Reform” (61 FR 4729, Feb. 7, 1996), to minimize litigation, eliminate ambiguity, and reduce burden.

*L. Executive Order 13045, Protection of Children From Environmental Health Risks and Safety Risks*

This NPRM will not create environmental health risks or safety risks for children under Executive Order 13045, “Protection of Children From Environmental Health Risks and Safety Risks” (62 FR 19885, Apr. 23, 1997).

*M. Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities, OMB Circular A-119*

“Voluntary consensus standards” are standards developed or adopted by voluntary consensus standards bodies,

both domestic and international. These standards include provisions requiring that owners of relevant intellectual property have agreed to make that intellectual property available on a non-discriminatory, royalty-free or reasonable royalty basis to all interested parties. OMB Circular A-119 directs agencies to use voluntary consensus standards in their regulatory actions in lieu of government-unique standards except where inconsistent with law or otherwise impractical. The policies in the Circular are intended to reduce to a minimum the reliance by agencies on government-unique standards.

Consistent with President Obama’s Climate Action Plan,<sup>77</sup> the National Security Council staff coordinated an interagency effort to create a new flood risk reduction standard for Federally Funded Projects. The views of Governors, mayors, and other stakeholders were solicited and considered as efforts were made to establish a new flood risk reduction standard for Federally Funded Projects. The FFRMS is the result of these efforts.

**List of Subjects in 44 CFR Part 9**

Flood plains and Reporting and recordkeeping requirements.

For the reasons discussed in the preamble, FEMA proposes to amend 44 CFR part 9, as follows:

**PART 9—FLOODPLAIN MANAGEMENT AND PROTECTION OF WETLANDS**

- 1. The authority citation for part 9 is revised to read as follows:

**Authority:** E.O. 11988 of May 24, 1977, 3 CFR, 1977 Comp., p. 117; E.O. 11990 of May 24, 1977, 3 CFR, 1977 Comp. p. 121; Reorganization Plan No. 3 of 1978, 43 FR 41943, 3 CFR, 1978 Comp., p. 329; E.O. 12127 of March 31, 1979, 44 FR 19367, 3 CFR, 1979 Comp., p. 376; E.O. 12148 of July 20, 1979, 44 FR 43239, 3 CFR, 1979 Comp., p. 412, as amended; 42 U.S.C. 5201; E.O. 13690, 80 FR 6425.

- 2. Revise § 9.1 to read as follows:

**§ 9.1 Purpose of part.**

This regulation sets forth the policy, procedure, and responsibilities to implement and enforce Executive Order 11988, Floodplain Management, as amended, and Executive Order 11990, Protection of Wetlands.

- 3. Amend § 9.2 by revising paragraph (b)(3) to read as follows:

<sup>77</sup> The White House, “President Obama’s Climate Action Plan, 2nd Anniversary Progress Report—Continuing to cut carbon, pollution, protect American communities, and lead internationally.” June 2015. [https://www.whitehouse.gov/sites/default/files/docs/cap\\_progress\\_report\\_final\\_w\\_cover.pdf](https://www.whitehouse.gov/sites/default/files/docs/cap_progress_report_final_w_cover.pdf).

**§ 9.2 Policy.**

\* \* \* \* \*

(b) \* \* \*

(3) Reduce the risk of flood loss to life and property and improve the resilience of communities and Federal assets against the impacts of flooding based on the best-available and actionable science;

\* \* \* \* \*

■ 4. In § 9.3:

■ a. Amend paragraph (a) by adding “and was amended by Executive Order 13690, January 30, 2015,” to the end of the phrase; and

■ b. Revise the third sentence of paragraph (d).

The revision reads as follows:

**§ 9.3 Authority.**

\* \* \* \* \*

(d) \* \* \* Section 2(d) of Executive Order 11988 and Section 3(c) of Executive Order 13690 require issuance of new or amended regulations and procedures to satisfy their substantive and procedural provisions. \* \* \*

■ 5. In § 9.4:

■ a. Add in alphanumeric order definitions for “0.2 Percent Annual Chance Flood,” “0.2 Percent Annual Chance Floodplain,” “1 Percent Annual Chance Flood or Base Flood,” “1 Percent Annual Chance Flood Elevation or Base Flood Elevation,” “1 Percent Annual Chance Floodplain or Base Floodplain,” and “Associate Administrator;”

■ b. Remove the definitions of “Base Flood” and “Base Floodplain;”

■ c. Revise the definition of “Critical Action;”

■ d. Remove the definition of “Emergency Actions;”

■ e. Add in alphabetical order definitions for “Emergency Work,” “Federal Flood Risk Management Standard (FFRMS),” “Federal Flood Risk Management Standard Floodplain,” “FEMA Federally Funded Project,” and “FIMA;”

■ f. Remove the definitions of “Five Hundred Year Floodplain” and “FIA;”

■ g. Revise the definition of “Floodplain;”

■ h. Remove the definition of “Mitigation Directorate;”

■ i. Add in alphabetical order a definition for “Nature-Based Approaches;” and

■ j. Revise the definitions of “New Construction,” “Orders,” and “Substantial Improvement.”

The additions and revisions read as follows:

**§ 9.4 Definitions.**

*0.2 Percent Annual Chance Flood* means the flood which has a 0.2 percent



chance of being equaled or exceeded in any given year.

0.2 Percent Annual Chance

Floodplain means the area subject to flooding by the 0.2 percent annual chance flood.

1 Percent Annual Chance Flood or Base Flood means the flood that has a 1 percent chance of being equaled or exceeded in any given year.

1 Percent Annual Chance Flood Elevation or Base Flood Elevation means the computed elevation to which floodwater is anticipated to rise during the 1 percent annual chance or base flood. The specific term "base flood elevation" or BFE is used in the National Flood Insurance Program (NFIP) and shown on FEMA Flood Insurance Rate Maps (FIRMs) and on the flood profiles in the FEMA Flood Insurance Study (FIS) Reports to indicate the minimum level of flooding to be used by a community in its floodplain management regulations.

1 Percent Annual Chance Floodplain or Base Floodplain means the area subject to flooding by the 1 percent annual chance or base flood.

\* \* \* \* \*

Associate Administrator means the Associate Administrator of the Federal Insurance and Mitigation Administration.

\* \* \* \* \*

Critical Action means an action for which even a slight chance of flooding is too great. Critical actions include, but are not limited to, those which create or extend the useful life of structures or facilities:

(1) Such as those which produce, use or store highly volatile, flammable, explosive, toxic or water-reactive materials;

(2) Such as hospitals and nursing homes, and housing for the elderly, which are likely to contain occupants who may not be sufficiently mobile to avoid the loss of life or injury during flood and storm events;

(3) Such as emergency operation centers, or data storage centers which contain records or services that may become lost or inoperative during flood and storm events; and

(4) Such as generating plants, and other principal points of utility lines.

\* \* \* \* \*

Emergency Work means work essential to save lives and protect property and public health and safety performed under sections 403 and 502 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (42 U.S.C. 5170b and 5192). See 44 CFR part 206, subpart C.

\* \* \* \* \*

Federal Flood Risk Management Standard (FFRMS) means the Federal flood risk management standard established by Executive Order 13690 to be incorporated into existing processes used to implement Executive Order 11988.

Federal Flood Risk Management Standard (FFRMS) Floodplain means the floodplain established using one of the following approaches:

(1) Climate-Informed Science Approach (CISA)—the elevation and flood hazard area that result from using a climate-informed science approach that uses the best-available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding based on climate science. This approach will also include an emphasis on whether the action is a critical action as one of the factors to be considered when conducting the analysis;

(2) Freeboard Value Approach (FVA)—the elevation and flood hazard area that result from using the freeboard value, reached by adding an additional 2 feet to the base flood elevation for non-critical actions and by adding an additional 3 feet to the base flood elevation for critical actions;

(3) 0.2 Percent Annual Chance Flood Approach (0.2PFA)—the area subject to flooding by the 0.2 percent annual chance flood; or

(4) The elevation and flood hazard area that result from using any other method identified in an update to the FFRMS.

FEMA Federally Funded Project means actions where FEMA funds are used for new construction, substantial improvement, or to address substantial damage to a structure or facility.

\* \* \* \* \*

FIMA means the Federal Insurance and Mitigation Administration.

\* \* \* \* \*

Floodplain means the lowland and relatively flat areas adjoining inland and coastal waters. The floodplain may be more specifically identified as the 1 percent annual chance (base) floodplain, the 0.2 percent annual chance floodplain, or the FFRMS floodplain. "Floodplain" does not include areas subject only to mudflow until FIMA adopts maps identifying "M" Zones.

\* \* \* \* \*

Nature-Based Approaches means the features (sometimes referred to as "green infrastructure") designed to mimic natural processes and provide specific services such as reducing flood risk and/or improving water quality. Nature-based approaches are created by human design (in concert with and to

accommodate natural processes) and generally, but not always, must be maintained in order to reliably provide the intended level of service.

New Construction means the construction of a new structure or facility or the replacement of a structure or facility which has been totally destroyed.

\* \* \* \* \*

Orders means Executive Order 11988, Floodplain Management, as amended by Executive Order 13690, and Executive Order 11990, Protection of Wetlands.

\* \* \* \* \*

Substantial Improvement means any repair, reconstruction or other improvement of a structure or facility, which has been damaged in excess of, or the cost of which equals or exceeds, 50% of the market value of the structure or replacement cost of the facility (including all "public facilities" as defined in the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988) before the repair or improvement is started, or if the structure or facility has been damaged and is proposed to be restored, before the damage occurred. If a facility is an essential link in a larger system, the percentage of damage will be based on the relative cost of repairing the damaged facility to the replacement cost of the portion of the system which is operationally dependent on the facility. The term "substantial improvement" does not include any alteration of a structure or facility listed on the National Register of Historic Places or a State Inventory of Historic Places.

\* \* \* \* \*

- 6. In § 9.5:
- a. Revise paragraph (a)(3) and the last sentence in paragraph (c) introductory text, and paragraphs (c)(1) through (12);
- b. Remove paragraphs (c)(13) and (14);
- c. Revise the last sentence of paragraph (d) introductory text, paragraphs (d)(1) through (3), paragraph (d)(4) introductory text, the second sentence of paragraph (e), paragraph (f)(1), paragraph (f)(2) introductory text, and the fourth and fifth sentences of paragraph (g) introductory text.

The revisions read as follows:

§9.5 Scope.

(a) \* \* \*

(3) The amendments to this part incorporating the changes required by Executive Order 13690 and the FFRMS apply to new actions commenced on or after.

\* \* \* \* \*

(c) \* \* \* The provisions of these regulations do not apply to the following (all references are to the

Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988, Public Law 93-288, as amended, except as noted):

(1) Assistance provided for emergency work essential to save lives and protect property and public health and safety performed pursuant to sections 403 and 502;

(2) Emergency Support Teams (section 303);

(3) Unemployment Assistance (section 410);

(4) Emergency Communications (section 418);

(5) Emergency Public Transportation (section 419);

(6) Fire Management Assistance (Section 420);

(7) Community Disaster Loans (section 417), except to the extent that the proceeds of the loan will be used for repair of facilities or structures or for construction of additional facilities or structures;

(8) The following Federal Assistance to Individuals and Households Program (section 408) categories of financial assistance:

(i) Housing needs or expenses, except for restoring, repairing or building private bridges, purchase of mobile homes and provision of structures as minimum protective measures;

(ii) Personal property needs or expenses;

(iii) Transportation expenses;

(iv) Medical/dental expenses;

(v) Funeral expenses;

(vi) Flood insurance premium;

(vii) Temporary Housing.

(9) Use of existing resources in the temporary housing assistance program [section 408], except that Step 1 (§ 9.7) shall be carried out;

(10) Debris removal (section 407), except those grants involving non-emergency disposal of debris within a floodplain or wetland;

(11) Repairs or replacements under section 406, of less than \$5,000 to damaged structures or facilities;

(12) Placement of families in existing resources and Temporary Relocation Assistance provided to those families so placed under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, Public Law 96-510.

(d) \* \* \* The references are to the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988, Public Law 93-288, as amended.

(1) Actions performed under the Federal Assistance to Individuals and Households Program (section 408) for restoring or repairing a private bridge, except where two or more individuals or families are authorized to pool their grants for this purpose.

(2) Small project grants (section 422), except to the extent that Federal funding involved is used for construction of new facilities or structures.

(3) Replacement of building contents, materials and equipment. (sections 406 and 422).

(4) Repairs under section 406 to damaged facilities or structures, except any such action for which one or more of the following is applicable:

\* \* \* \* \*

(e) \* \* \* This finding will be made in consultation with the Federal Insurance and Mitigation Administration and the Council on Environmental Quality as provided in section 2(d) of Executive Order 11988. \* \* \*

(f) *The National Flood Insurance Program (NFIP).* (1) Most of what is done by FIMA in administering the National Flood Insurance Program is performed on a program-wide basis. For all regulations, procedures or other issuances making or amending program policy, FIMA shall apply the 8-step decision-making process to that program-wide action. The action to which the 8-step process must be applied is the establishment of programmatic standards or criteria, not the application of programmatic standards or criteria to specific situations. Thus, for example, FIMA would apply the 8-step process to a programmatic determination of categories of structures to be insured, but not to whether to insure each individual structure. The two prime examples of where FIMA does take site specific actions which would require individual application of the 8-step process are property acquisition under section 1362 of the National Flood Insurance Act of 1968, as amended, and the issuance of an exception to a community under § 60.6(b) of this chapter.

(2) The provisions set forth in this regulation are not applicable to the actions enumerated below except that the FIMA Associate Administrator shall comply with the spirit of the Orders to the extent practicable:

\* \* \* \* \*

(g) \* \* \* The references are to the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988, Public Law 93-288. The above requirements apply to repairs, under section 406, between \$5,000 and \$25,000 to damaged structures of facilities except for:

\* \* \* \* \*

■ 7. In § 9.6, in paragraph (b), revise *Step 1* to read as follows:

**§ 9.6 Decision-making process.**

\* \* \* \* \*

(b) \* \* \* *Step 1.* Determine whether the proposed action is located in a wetland and/or a floodplain; and whether it has the potential to affect or be affected by a floodplain or wetland (see § 9.7);

\* \* \* \* \*

■ 8. In § 9.7, revise paragraphs (a), (b), and (c) to read as follows:

**§ 9.7 Determination of proposed action's location.**

(a) The purpose of this section is to establish Agency procedures for determining whether any action as proposed is located in or affects a floodplain or a wetland.

(b) *Information needed.* (1) The Agency shall obtain enough information so that it can fulfill the requirements of the Orders to:

(i) Avoid floodplain and wetland locations unless they are the only practicable alternatives; and

(ii) Minimize harm to and within floodplains and wetlands. In all cases, FEMA shall determine whether the proposed action is located in a floodplain or wetland. In the absence of a finding to the contrary, FEMA may assume that a proposed action involving a facility or structure that has been flooded is in the floodplain. Information about the 1 percent annual chance (base) floodplain, 0.2 percent annual chance floodplain, and FFRMS floodplain and location of floodways and coastal high hazard areas may also be needed to comply with these regulations, especially § 9.11.

(2) The following additional flooding characteristics shall be identified by the Regional Administrator as appropriate:

- (i) Velocity of floodwater;
- (ii) Rate of rise of floodwater;
- (iii) Duration of flooding;
- (iv) Available warning and evacuation time and routes;

(v) Special problems:

- (A) Levees;
- (B) Erosion;
- (C) Subsidence;
- (D) Sink holes;
- (E) Ice jams;
- (F) Debris load;
- (G) Pollutants;
- (H) Wave heights;
- (I) Groundwater flooding;
- (J) Mudflow.

(c) *Floodplain determination.* (1) In making the floodplain determination, FEMA shall follow this sequence:

(i) Determine whether the project is a FEMA Federally Funded Project as defined in § 9.4. If the project is a FEMA Federally Funded Project, FEMA shall establish the FFRMS floodplain and

associated flood elevation by using one of the following approaches:

(A) Climate-Informed Science Approach (CISA): The elevation and flood hazard area that result from using a climate-informed science approach that uses the best-available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding based on climate science. This approach will also include an emphasis on whether the action is a critical action as one of the factors to be considered when conducting the analysis;

(B) Freeboard Value Approach (FVA): The elevation and flood hazard area that result from using the freeboard value, reached by adding an additional 2 feet to the base flood elevation as determined using the process defined in paragraph (c)(1)(iii) of this section for non-critical actions and by adding an additional 3 feet to the base flood elevation as determined in paragraph (c)(1)(iii) of this section for critical actions;

(C) 0.2 Percent Annual Chance Flood Approach (0.2PFA): The area subject to flooding by the 0.2 percent annual chance flood; or

(D) The elevation and flood hazard area that result from using any other method identified in an update to the FFRMS.

(ii) Notwithstanding any other provision of FEMA regulations, FEMA may select among and prioritize the approaches in paragraph (c)(1)(i) of this section by separate policy. In addition, FEMA may provide an exception to using the FFRMS floodplain for FEMA Federally Funded Projects and instead use the 1 percent annual chance (base) floodplain for non-critical actions or the 0.2 percent annual chance floodplain for critical actions where the action is in the interest of national security, where the action is an emergency action, where application to a Federal facility or structure is demonstrably inappropriate, or where the action is a mission-critical requirement related to a national security interest or an emergency action.

(iii) If the project is not a FEMA Federally Funded Project as defined in § 9.4, FEMA shall use, at a minimum, the 1 percent annual chance floodplain for non-critical actions and the 0.2 percent annual chance floodplain for critical actions. FEMA shall establish the floodplain and associated elevation by following this sequence:

(A) The Regional Administrator shall consult the FEMA Flood Insurance Rate Map (FIRM), the Flood Boundary Floodway Map (FBFM), and the Flood Insurance Study (FIS).

(B) If a detailed map (FIRM or FBFM) is not available, the Regional Administrator shall consult a FEMA Flood Hazard Boundary Map (FHBM). If data on flood elevations, floodways, or coastal high hazard areas are needed, or if the map does not delineate the flood hazard boundaries in the vicinity of the proposed site, the Regional Administrator shall seek the necessary detailed information and assistance from other sources, such as the following Sources of Maps and Technical Information:

- (1) U.S. Department of Agriculture: Natural Resources Conservation Service;
  - (2) Department of Defense: U.S. Army Corps of Engineers;
  - (3) Department of Commerce: National Oceanic and Atmospheric Administration;
  - (4) Department of Homeland Security: FEMA;
  - (5) Department of the Interior: Bureau of Reclamation; U.S. Fish and Wildlife Service; United States Geological Survey;
  - (6) Tennessee Valley Authority;
  - (7) Department of Transportation;
  - (8) Environmental Protection Agency;
  - (9) General Services Administration;
- or
- (10) States and Regional Agencies.

(C) If the sources listed do not have or know of the information necessary to comply with the Orders' requirements, the Regional Administrator shall seek the services of a Federal or other engineer experienced in this type of work.

(2) If the determination of the floodplain involves an area or location within extensive Federal or State holdings or a headwater area, and an FIS, FIRM, FBFM, or FHBM is not available, the Regional Administrator shall seek information from the land administering agency before information and/or assistance is sought as described in paragraph (c)(1)(iii)(B) of this section. If none of these sources has information or can provide assistance, the services of an experienced Federal or other engineer shall be sought as described in paragraph (c)(1)(iii)(C) of this section.

■ 9. In § 9.8, revise paragraph (c)(5)(ii) to read as follows:

**§ 9.8 Public notice requirements.**

- (c) \* \* \*
- (5) \* \* \*
- (ii) Based on the factors in paragraph (c)(3) of this section, a map of the area or other identification of the floodplain and/or wetland areas which is of adequate scale and detail so that the location is discernible; instead of

publication of such map, FEMA may state that such map is available for public inspection, including the location at which such map may be inspected and a telephone number to call for information;

\* \* \* \* \*

- 10. In § 9.9:
  - a. In paragraph (b)(2), remove “; and” and add a period in its place and add a sentence to the end of paragraph (b)(2);
  - b. Revise paragraph (d)(1);
  - c. Remove paragraph (d)(2);
  - d. Redesignate paragraph (d)(3) as paragraph (d)(2); and
  - e. Lift the suspension of paragraph (e)(6) and remove the paragraph.

The addition and revision read as follows:

**§ 9.9 Analysis and reevaluation of practicable alternatives.**

\* \* \* \* \*

- (b) \* \* \*
- (2) \* \* \* In developing the alternative actions, the Agency shall use, where possible, natural systems, ecosystem processes, and nature-based approaches; and

\* \* \* \* \*

- (d) \* \* \*
- (1) The Agency shall not locate the proposed action in the floodplain as established by § 9.7(c) or in a wetland if a practicable alternative exists outside the floodplain or wetland.

- 11. In § 9.11:
  - a. Revise paragraph (c)(1);
  - b. Revise the first sentence of paragraph (d) introductory text, the second sentence of paragraph (d)(2), and paragraphs (d)(3) and (d)(9);
  - c. Revise paragraphs (e)(1), (e)(2) introductory text, and (e)(2)(ii) introductory text;
  - d. Revise the last sentence in the undesignated paragraph following the National Flood Insurance Program address in paragraph (e)(3)(i)(E);
  - e. Revise paragraph (e)(3)(ii); and
  - f. Lift the suspension of paragraph (e)(4) and remove the paragraph.

The revisions read as follows:

**§ 9.11 Mitigation.**

\* \* \* \* \*

- (c) \* \* \*
- (1) Potential harm to lives and the investment at risk in the floodplain as established in § 9.7(c);

\* \* \* \* \*

- (d) \* \* \* The Agency shall apply at a minimum, the following standards to its actions to comply with the requirements of paragraphs (b) and (c), of this section (except as provided in § 9.5(c), (d), and (g) regarding categories of partial or total exclusion). \* \* \*

\* \* \* \* \*

(2) \* \* \* There shall be no construction of a new or substantially improved structure in a coastal high hazard area unless it is elevated on adequately anchored pilings or columns, and securely anchored to such piles or columns so that the lowest portion of the structural members of the lowest floor (excluding the pilings or columns) is elevated to or above the FFRMS floodplain.\* \* \*

(3) *Elevation of structures.* (i) There shall be no new construction or substantial improvement of structures unless the lowest floor of the structures (including basement) is at or above the level of the FFRMS floodplain.

(ii) There shall be no new construction or substantial improvement of structures involving a critical action unless the lowest floor of the structure (including the basement) is at or above the level of the FFRMS floodplain.

(iii) If the subject structure is nonresidential, FEMA may, instead of elevating the structure, approve the design of the structure and its attendant utility and sanitary facilities so that below the flood level the structure is water tight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

(iv) The provisions of paragraphs (d)(3)(i), (ii), and (iii) of this section do not apply to the extent that the Federal Insurance and Mitigation Administration has granted an exception under § 60.6(b) of this chapter (formerly 24 CFR 1910.6(b)), or the community has granted a variance which the Regional Administrator determines is consistent with § 60.6(a) of this chapter (formerly 24 CFR 1910.6(a)). In a community which does not have a FIRM in effect, FEMA may approve a variance from the standards of paragraphs (d)(3)(i), (ii), and (iii) of this section, after compliance with the standards of § 60.6(a) of this chapter.

(9) In the replacement of building contents, materials and equipment, the Regional Administrator shall require as appropriate, disaster proofing of the building and/or elimination of such future losses by relocation of those building contents, materials and equipment outside or above the floodplain as established in § 9.7(c).

(e) \* \* \* (1) The Federal Insurance and Mitigation Administration shall make identification of all coastal high hazard areas a priority;

(2) Beginning October 1, 1981, the Federal Insurance and Mitigation Administration of FEMA may only provide flood insurance for new construction or substantial improvements in a coastal high hazard area if:

(ii) The structure is rated by FEMA-FIMA based on a system which reflects the capacity to withstand the effects of the 100-year frequency flood including, but not limited to, the following factors:

(3)(i) \* \* \* (E) \* \* \* *Unless a property owner is seeking an adjustment of the rate prescribed by FEMA-FIMA, this information need not be submitted.*

(ii) FIMA shall notify communities with coastal high hazard areas and federally related lenders in such communities, of the provisions of this paragraph. Notice to the lenders may be accomplished by the Federal instrumentalities to which the lenders are related.

- 12. In § 9.13, ■ a. Revise paragraph (d)(1) and the first sentence of paragraph (d)(3) introductory text; ■ b. Add a sentence to the end of paragraph (d)(4)(i); and ■ c. Revise the first sentence of paragraph (d)(4)(ii), and revise paragraph (e).

The revisions and addition read as follows:

**§ 9.13 Particular types of temporary housing.**

(d) \* \* \* (1) The temporary housing action shall be evaluated in accordance with the provisions of § 9.7 to determine if it is in or affects the 1 percent annual chance (base) floodplain or wetland.

(3) An individual or family shall not be housed in the 1 percent annual chance (base) floodplain or wetland unless the Regional Administrator has complied with the provisions of § 9.9 to determine that such site is the only practicable alternative.\* \* \*

(4) \* \* \* (i) \* \* \* Actual elevation levels will be based on manufacturer specifications and applicable Agency guidance.

(ii) No mobile home or readily fabricated dwelling may be placed if such placement is inconsistent with the criteria of the National Flood Insurance Program (44 CFR parts 59-60) or any

more restrictive Federal, State, or local floodplain management standard.\* \* \*

(e)(1) FEMA shall not sell or otherwise dispose of mobile homes or other readily fabricated dwellings which would be located in floodways or coastal high hazard areas. FEMA shall not sell or otherwise dispose of mobile homes or other readily fabricated dwellings which would be located in floodplains or wetlands unless there is full compliance with the 8-step process. Given the vulnerability of mobile homes to flooding, a rejection of a non-floodplain location alternative and of the no-action alternative shall be based on—

(i) A compelling need of the family or individual to buy a mobile home for permanent housing; and

(ii) A compelling requirement to locate the unit in a floodplain.

(2) FEMA shall not sell or otherwise dispose of mobile homes or other readily fabricated dwellings in the FFRMS floodplain unless they are elevated at least to the level of the FFRMS floodplain.

(3) The Regional Administrator shall notify the Assistant Administrator for Mitigation of each instance where a floodplain location has been found to be the only practicable alternative for a mobile home sale.

■ 13. In § 9.17, revise the first sentence of paragraph (a) and paragraph (b) introductory text to read as follows:

**§ 9.17 Instructions to applicants.**

(a) \* \* \* In accordance with Executive Orders 11988, as amended, and 11990, the Federal executive agencies must respond to a number of floodplain management and wetland protection responsibilities before carrying out any of their activities, including the provision of Federal financial and technical assistance.\* \* \*

(b) *Responsibilities of Applicants.* Based upon the guidance provided by the Agency under § 9.16, that guidance included in the U.S. Water Resources Council's "Guidelines for Implementing Executive Order 11988, Floodplain Management, and Executive Order 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input," and based upon the provisions of the Orders and this regulation, applicants for Agency assistance shall recognize and reflect in their application:

■ 14. In § 9.18, revise the second sentence of paragraph (b)(1) and the first

sentence of paragraph (b)(2) to read as follows:

**§ 9.18 Responsibilities.**

\* \* \* \* \*

(b) \* \* \*

(1) \* \* \* When a decision of a Regional Administrator relating to disaster assistance is appealed, the

Associate Administrator for FIMA may make determinations under these regulations on behalf of the Agency.

(2) Prepare and submit to the Office of Chief Counsel reports to the Office of Management and Budget in accordance with section 2(b) of Executive Order 11988, as amended, and section 3 of Executive Order 11990. \* \* \*

**Appendix A to Part 9 [Removed]**

■ 15. Remove appendix A to part 9.

Dated: August 15, 2016.

**W. Craig Fugate,**  
*Administrator, Federal Emergency Management Agency.*

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