

## DEPARTMENT OF HOMELAND SECURITY

### Federal Emergency Management Agency

#### 44 CFR Part 9

[Docket ID: FEMA–2023–0026]

RIN 1660–AB12

### Updates to Floodplain Management and Protection of Wetlands Regulations To Implement 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 to implement the Federal Flood Risk Management Standard (FFRMS) and update the agency's 8-step decision-making process floodplain reviews. FEMA also proposes a supplementary policy that would further clarify how FEMA would apply the FFRMS. The proposed rule would change how FEMA defines a floodplain with respect to certain actions, and FEMA would use natural systems, ecosystem process, and nature-based approaches, where possible, when developing alternatives to locating the proposed action in the floodplain.

**DATES:** Comments must be received no later than December 1, 2023.

**ADDRESSES:** You may submit comments, identified by Docket ID: FEMA–2023–0026, via the Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.

**FOR FURTHER INFORMATION CONTACT:** Portia Ross, Policy and Integration Division Director, Office of Environmental Planning and Historic Preservation, Resilience, DHS/FEMA, 400 C Street SW, Suite 313, Washington, DC 20472–3020. Phone: (202) 709–0677; Email: [fema-regulations@fema.dhs.gov](mailto:fema-regulations@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
- E.O.—Executive Order
- FBFM—Flood Boundary Floodway Map
- FEMA—Federal Emergency Management Agency

- FFRMS—Federal Flood Risk Management Standard
- FHBM—Flood Hazard Boundary Map
- 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
- IRFA—Initial Regulatory Flexibility Analysis
- NEPA—National Environmental Policy Act of 1969
- NFIA—National Flood Insurance Act, as amended
- NFIP—National Flood Insurance Program
- 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
- RCP—Representative Concentration Pathway
- RFA—Regulatory Flexibility Act
- RIA—Regulatory Impact Analysis
- SBREFA—Small Business Regulatory Enforcement Fairness Act of 1996
- SFHA—Special Flood Hazard Area
- SLR—Sea Level Rise
- SORN—System of Records Notice
- Stafford Act—Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended
- THU—Temporary Housing Unit
- USGS—United States Geological Survey
- WRC—Water Resources Council

## I. Public Participation

Interested persons are invited to participate in this rulemaking by submitting comments and related materials. We will consider all comments and material received during the comment period.

If you submit a comment, include the Docket ID FEMA–2023–0026, indicate the specific section of this document to which each comment applies, and give the reason for each comment. All submissions may be posted, without change, to the Federal e-Rulemaking Portal at <http://www.regulations.gov>, and will include any personal information you provide. Therefore, submitting this information makes it public. For more about privacy and the docket, visit <https://www.regulations.gov/document?D=DHS-2018-0029-0001>.

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>.

## II. Executive Summary

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>1</sup> Executive Order 13690 amended Executive Order 11988 and established the FFRMS. The FFRMS is a flood resilience standard that is required for “Federally funded projects” and provides a flexible framework to increase resilience against flooding and help preserve the natural values of floodplains and wetlands.

On August 22, 2016, FEMA published a Notice of Proposed Rulemaking (NPRM) entitled “Updates to Floodplain Management and Protection of Wetlands Regulations to Implement Executive Order 13690 and the Federal Flood Risk Management Standard” in the **Federal Register** (81 FR 57402). This NPRM would have revised FEMA’s regulations on “Floodplain Management and Protection of Wetlands” to implement Executive Order 13690. FEMA also proposed a supplementary policy entitled “FEMA Policy: Guidance for Implementing the Federal Flood Risk Management Standard (FFRMS)” (FEMA Policy 078–3), which would have further clarified how FEMA would apply the FFRMS. The notice of availability and request for comments for the supplementary policy also published in the August 22, 2016 **Federal Register** at 81 FR 56558. On September 20, 2016, FEMA published a notice of data availability regarding a draft report, the *2016 Evaluation of the Benefits of Freeboard for Public and Nonresidential Buildings in Coastal Areas*, which had been added to the docket for the proposed rule (81 FR 64403).

On August 15, 2017, the President issued Executive Order 13807 (“Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects”) which revoked Executive Order 13690. See 82 FR 40463, Aug. 24, 2017. Accordingly, in light of the revocation of Executive Order 13690, FEMA withdrew the August 22, 2016 NPRM and supplementary policy (83 FR 9473). On May 20, 2021, the President issued Executive Order 14030 (“Climate-Related Financial Risk”)<sup>2</sup> reinstating Executive Order 13690, thereby reestablishing the FFRMS. Accordingly, FEMA is proposing an updated revision

to its regulations and an updated supplementary policy to implement the FFRMS.

FEMA is proposing to amend 44 CFR part 9, “Floodplain Management and Protection of Wetlands,” and issue a supplementary policy to implement the FFRMS and update the agency’s 8-step process. As mentioned above, the FFRMS is a flood resilience standard that is required for “Federally funded projects” and provides a flexible framework to increase resilience against flooding and help preserve the natural values of floodplains and wetlands. A floodplain is any land area that is subject to flooding and refers to geographic features with undefined boundaries. 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 11988, as amended,<sup>3</sup> 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). The revised definitions allow for consideration of both current and future flood risks in defining the floodplain to minimize the impact of floods on human health, safety, and welfare and reduce the risk of flood loss. For actions subject to the FFRMS, FEMA proposes to use the updated definition of “floodplain” contained in the 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 (Revised Guidelines).<sup>4</sup> As discussed further below, the FFRMS allows the agency to define “floodplain” using any of three approaches or a fourth approach resulting from any other method in an update to the FFRMS. 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 an action subject to the

FFRMS, FEMA would continue to use the historical definition of floodplain with minor clarifying revisions to help stakeholders better understand the terminology. Regardless of whether the action is subject to FFRMS, FEMA will follow the Revised Guidelines<sup>5</sup> to determine whether an action is in the floodplain. 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 believes that this rule is an important step toward mitigating future flood risk, and that such mitigation will ultimately benefit communities by allowing them to recover from future disasters more efficiently and effectively. The United States is experiencing increased flooding and flood risk from climate change.<sup>6</sup> The full extent of future changes in flood risk has not yet been estimated across the full inventory of Federal, State, local, Tribal, and territorial properties. However, in a survey of Federal properties alone, those assessments that have been completed identified over 40,000 individual Federal buildings and structures with a combined replacement cost of \$81 billion located in the current 100-year floodplain and approximately 160,000 structures with a total replacement cost of \$493 billion located in the current 500 year floodplain.<sup>7</sup> Approximately 10,250 individual Federal buildings and structures were identified in coastal areas with a combined replacement cost of \$32.3 billion that would be severely impacted by an eight-foot sea-level rise scenario and over 12,195 individual Federal buildings and structures with a combined replacement cost of over \$43.7 billion under a ten-foot “worst case” sea level rise scenario.<sup>8</sup> This proposed rule would ensure that actions subject to the FFRMS are designed to be resilient to both current and future flood risks to minimize the impact of floods on human health, safety, and welfare

<sup>5</sup> *Id.*

<sup>6</sup> As a result of climate change, flood events are on the rise. Climate change is increasing flood risk through (1) more “extreme” rainfall events,” caused by a warmer atmosphere holding more water vapor and changes in regional precipitation patterns; and (2) sea-level rise. See Rob Bailey, Claudio Saffioti, and Sumer Drall, *Sunk Costs: The Socioeconomic Impacts of Flooding* 3 and 8, Marsh McLennan (2021).

<sup>7</sup> Federal Budget Exposure to Climate Risk. OMB Assessment found [https://www.whitehouse.gov/wp-content/uploads/2022/04/ap\\_21\\_climate\\_risk\\_fy2023.pdf](https://www.whitehouse.gov/wp-content/uploads/2022/04/ap_21_climate_risk_fy2023.pdf) (last accessed July 12, 2023).

<sup>8</sup> *Id.*

<sup>3</sup> Executive Order 13690 amended Executive Order 11988 in 2015 and was revoked in 2017 by Executive Order 13807. Executive Order 13690 was reinstated in 2021 by Executive Order 14030. See 80 FR 64008 (Oct. 22, 2015), 82 FR 40463 (Aug. 24, 2017), and 86 FR 27967 (May 25, 2021).

<sup>4</sup> 80 FR 64008 (Oct. 22, 2015); <https://www.regulations.gov/document/FEMA-2015-0006-0358>. (Last accessed July 12, 2023).

<sup>1</sup> 80 FR 6425, Feb. 4, 2015.

<sup>2</sup> 86 FR 27967 (May 25, 2021).

and to protect Federal investments by reducing the risk of flood loss. FEMA estimated the total impacts of the proposed rule by analyzing the impact of the FVA, 0.2PFA and CISA for FEMA’s Public Assistance (PA), Individual Assistance (IA), and Hazard Mitigation Assistance (HMA) grant

programs by examining the number of projects that would be subject to the proposed requirements in the first 10 years after the rule’s publication.<sup>9</sup> FEMA’s analysis focused on the costs, benefits, and transfer payments (*i.e.*, impacts on FEMA grants), that would result over a 50-year period from

applying the requirements of the proposed rule to those projects, for a total period of analysis spanning 60 years. Tables 1 and 2 show the total impacts of this proposed rule under the three approaches for each of the affected programs.

TABLE 1—SUMMARY OF COSTS, TRANSFERS AND BENEFITS BY APPROACH AND PROGRAM FOR AFFECTED PROJECTS IN YEARS 1–10  
[Low estimate, 2021\$]

Costs *	Undiscounted	3% Discount rate		7% Discount rate	
		Present value	Annualized	Present value	Annualized
CISA Total (primary) (+5-ft) .....	\$138,393,786	\$118,052,707	\$4,265,594	\$97,202,003	\$6,923,623
PA .....	102,794,460	87,685,759	3,168,346	72,198,527	5,142,645
IA .....	1,421,690	1,212,730	43,820	998,537	71,125
HMA .....	48,908,310	41,719,781	1,507,459	34,351,150	2,446,806
FVA Total .....	61,994,588	52,882,642	1,910,806	43,542,402	3,101,492
0.2PFA Total .....	53,397,625	45,549,257	1,645,829	37,504,256	2,671,399
FEMA Admin .....	3,741,680	3,267,150	118,052	2,776,613	197,776
Not Quantified .....	<i>Not Estimated:</i> Increased resiliency standard for approximately 20,961 facility projects over 10 years, Additional costs for Adding Requirements to Buildings with Basements, Diversion of Projects Out of the Floodplain, Lifecycle maintenance costs for floodproofing, and Project Delays and Forgone Projects.				
<b>Transfer Payments from FEMA to Grant Recipients *</b>					
CISA Total (primary) (+5-ft) .....	109,216,359	93,163,768	3,366,283	76,709,000	5,463,923
PA .....	82,955,130	70,762,410	2,556,855	58,264,212	4,150,115
IA .....	1,421,690	1,212,730	43,820	998,537	71,125
HMA .....	36,681,233	31,289,834	1,130,594	25,763,363	1,835,104
FVA Total .....	48,898,424	41,711,348	1,507,154	34,344,206	2,446,311
0.2PFA Total .....	41,973,888	35,804,576	1,293,725	29,480,702	2,099,888
<b>Benefits *</b>					
PA (CISA, primary) (+1-ft) .....	55,180,000	47,069,660	1,700,766	38,756,122	2,760,569
Not Quantified .....	<i>Not Estimated:</i> Damage Avoidance for approximately 13,254 IA and HMA structure projects and 20,961 PA and HMA facility projects over 10 years, Potential Lives Saved, Increased Public Health and Safety, Decreased Cleanup Time, Protection of Critical Facilities, Reduction of Personal and Community Impacts.				

<sup>9</sup> FEMA focused its analysis on the projects impacted in the first 10 years after the rule’s publication. FEMA considered the resulting costs, benefits, and transfer payments of the proposed rule on those projects over a 50-year period, for a total of 60 years. The costs and transfers occur in the first 10 years of the 60-year period because that is when the initial investment to elevate or floodproof them to meet the proposed requirements takes place. This is an upfront cost that occurs when the project is constructed. However, the benefits of the proposed rule are realized over the 50-year useful life of the affected structures.

TABLE 2—SUMMARY OF 60-YEAR COSTS, TRANSFERS AND BENEFITS BY APPROACH AND PROGRAM FOR AFFECTED PROJECTS IN YEARS 1–10  
[High estimate, 2021\$]

Costs *	Undiscounted	3% Discount rate		7% Discount rate	
		Present value	Annualized	Present value	Annualized
CISA Total (primary) (+5-ft) .....	\$151,319,537	\$129,078,635	\$4,663,993	\$106,280,511	\$7,570,278
PA .....	120,722,020	102,978,331	3,720,912	84,790,095	6,039,533
IA .....	1,421,690	1,212,730	43,820	998,537	71,125
HMA .....	48,908,310	41,719,781	1,507,459	34,351,150	2,446,806
FVA Total .....	68,035,769	58,035,891	2,097,008	47,785,478	3,403,723
0.2PFA Total .....	57,766,400	49,275,911	1,780,484	40,572,701	2,889,962
FEMA Admin .....	4,942,430	4,291,414	155,061	3,619,968	257,848

<sup>9</sup> FEMA used an average of the number of affected projects during the prior 10-year period to estimate the average annual impacts of the future 10-year period.

TABLE 2—SUMMARY OF 60-YEAR COSTS, TRANSFERS AND BENEFITS BY APPROACH AND PROGRAM FOR AFFECTED PROJECTS IN YEARS 1–10—Continued  
[High estimate, 2021\$]

Costs *	Undiscounted	3% Discount rate		7% Discount rate	
		Present value	Annualized	Present value	Annualized
Not Quantified .....	<i>Not Estimated:</i> Increased resiliency standard for approximately 20,961 facility projects over 10 years, Additional costs for Adding Requirements to Buildings with Basements, Diversion of Projects Out of the Floodplain, Lifecycle maintenance costs for floodproofing, and Project Delays and Forgone Projects.				
<b>Transfer Payments from FEMA to Grant Recipients *</b>					
CISA Total (primary) (+5-ft) .....	119,647,439	102,061,693	3,687,791	84,035,355	5,985,773
PA .....	97,422,670	83,103,514	3,002,776	68,425,607	4,873,903
IA .....	1,421,690	1,212,730	43,820	998,537	71,125
HMA .....	36,681,233	31,289,834	1,130,594	25,763,363	1,835,104
FVA Total .....	53,773,657	45,870,019	1,657,420	37,768,366	1,657,420
0.2PFA Total .....	45,499,493	38,811,991	1,402,392	31,956,941	2,276,268
<b>Benefits *</b>					
PA (CISA, primary) (+1-ft) .....	61,985,720	52,875,076	1,910,533	43,536,175	3,101,048
Not Quantified .....	<i>Not Estimated:</i> Damage Avoidance for approximately 13,254 IA and HMA structure projects and 20,961 PA and HMA facility projects over 10 years, Potential Lives Saved, Increased Public Health and Safety, Decreased Cleanup Time, Protection of Critical Facilities, Reduction of Personal and Community Impacts.				

\* FEMA focused its analysis on the projects impacted in the first 10 years after the rule’s publication. FEMA considered the resulting costs, benefits, and transfer payments of the proposed rule on those projects over a 50-year period, for a total of 60 years. The costs and transfers occur in the first 10 years of the 60-year period because that is when the initial investment to elevate or floodproof them to meet the proposed requirements takes place. This is an upfront cost that occurs when the project is constructed. However, the benefits of the proposed rule are realized over the 50-year useful life of the affected structures.

Table 3 provides the estimated number of structures and facilities affected by the proposed rule over the first 10 years, assuming that each approach is the only expansion option. Structures, which are walled and roofed buildings, would comply with the proposed FFRMS through elevating or

floodproofing to the required height. Facilities, which are any human-made or human-placed items other than a structure such as roads and bridges, would require different mitigation measures in order to comply with the increased resiliency standard of the proposed rule. The monetized impacts

of this rule are representative of the floodproofing and elevation mitigation measures that would be required of structures. However, for reasons explained in more detail later, FEMA was unable to monetize the impacts of the rule for facilities.

TABLE 3—ESTIMATED NUMBER OF STRUCTURES AND FACILITIES AFFECTED BY THE PROPOSED RULE IN YEARS 1–10

FFRMS approach	Structures			Total structures	Facilities		Total facilities	Total projects
	PA	IA	HMA		PA	HMA		
FVA .....	1,090	2,650	9,492	13,232	20,120	841	20,961	34,193
0.2PFA .....	840	2,650	9,447	12,937	20,120	841	20,961	33,898
CISA .....	1,173	2,903	10,351	14,427	20,120	841	20,961	35,388

Quantified estimates of the benefits of this rule are available for only non-residential PA Category E projects, which are for structures. Due to the highly project-specific nature of facilities projects and numerous options for making them resilient, FEMA could not estimate the costs of improving flood resiliency of facilities.<sup>10</sup> Tables 1 and 2 show that the total 60-year benefits for non-residential PA Category

E projects in the first 10 years is \$43.5 million (7 percent, high). This benefit is for adding one foot of freeboard, assuming a 59-inch sea level rise (SLR).<sup>11</sup> Although the cost for PA Category E projects is \$84.8 million (7 percent, high), this cost represents 5 feet of freeboard (FEMA’s assumption for

CISA).<sup>12</sup> FEMA does not have data to quantify the benefits of additional freeboard and thus the quantified benefits represent only a portion of the increased risk reduction that would be achieved through this rule. Ensuring projects are built to the height necessary to avoid additional loss scenarios would provide additional unquantified benefits of avoided damages to the structure,

<sup>10</sup> Category E projects are public buildings and contents. See Public Assistance Fact Sheet at [https://www.fema.gov/sites/default/files/2020-07/fema\\_public-assistance-fact-sheet\\_10-2019.pdf](https://www.fema.gov/sites/default/files/2020-07/fema_public-assistance-fact-sheet_10-2019.pdf).

<sup>11</sup> FEMA used one foot for benefits as the 2022 report only specifies monetary benefits for an additional one foot over current requirements. FEMA included this number in the quantified benefits because it is the only monetary benefit available for any freeboard level.

<sup>12</sup> Costs for the FVA may be a better comparison because they represent 2 or 3 feet of freeboard, depending on criticality. However, the number of projects using FVA and CISA differ, making such a comparison difficult.

decreased cleanup time and disruption to the community, and increased public health and safety. Moreover, FEMA's use of CISA as its preferred approach would use the best available and actionable scientific data to tailor future flooding risk to each project ensuring that projects are built only to the height necessary and thus maximizing net benefits. Accordingly, FEMA believes the benefits of the rule—quantified and unquantified—would justify its costs.

### III. Legal and Factual Background

Below, FEMA describes in more specific detail the basis for this proposed rule. Section III.A describes Executive Order 11988, the Water Resources Council's 1978 "Floodplain Management Guidelines" (1978 Guidelines), and the statutory authority underlying the Executive Order. 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's statutory authority to require its grant recipients to carry out repairs or construction in accordance with specific standards. Section III.C describes FEMA's implementing regulations at 44 CFR part 9, which closely follow the model decision-making process under Executive Order 11988. Section III.D 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.E describes the development of Executive Order 13690, the Federal Flood Risk Management Standard, and additional guidance in the Revised Guidelines issued in 2015 as well as subsequent amendments to Executive Order 11988. Section III.F describes the substantive components of the Federal Flood Risk Management Standard and Section III.G 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.*). The National Flood Insurance Act, as amended by the Flood Disaster Protection Act establishes a multi-purpose program to provide flood insurance, minimize exposure of property to flood losses, minimize the damage caused by flood losses, and guide the development of proposed construction, where practicable, away from floodplains.<sup>13</sup> The National Flood Insurance Act and the Flood Disaster Protection Act highlight coordination of flood insurance with land management programs in flood-prone areas. NEPA requires Federal agencies to analyze the environmental impacts of proposed actions and evaluate alternatives to those actions, which includes the evaluation of the impacts of proposed actions in the floodplains.<sup>14</sup> NEPA mandates that agencies "attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences."<sup>15</sup> In furtherance of and consistent with this statutory foundation, 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. The Executive Order 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.

To meet these requirements, each agency, before taking an action, must determine whether the proposed action

will occur in a floodplain.<sup>16</sup> Section (6)(c) of Executive Order 11988 defines the word "floodplain" to mean "the lowland and relatively flat areas adjoining inland and coastal waters including floodprone areas of offshore islands, including at a minimum, the area subject to a one percent or greater chance of flooding in any given year."<sup>17</sup>

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 explaining 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>18</sup> FEMA, and the Council on Environmental Quality (CEQ). As noted, the WRC issued "Floodplain Management Guidelines" (1978 Guidelines), the authoritative interpretation of Executive Order 11988.<sup>19</sup> The 1978 Guidelines provided

<sup>16</sup> Any action FEMA takes in a floodplain, including its provision of grants for disaster assistance, 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.

<sup>17</sup> This is also referred to as the "100-year floodplain" or the "base floodplain."

<sup>18</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>19</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/>

<sup>13</sup> See 42 U.S.C. 4001 and 4102.

<sup>14</sup> See 42 U.S.C. 4332(2)(C).

<sup>15</sup> See 42 U.S.C. 4331(b)(3).

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.

### B. Statutory Authority To Require FFRMS Under FEMA Grant Programs

FEMA's grant programs that fund new construction, substantial improvement, or repairs to address substantial damage are authorized under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended (42 U.S.C. 5121 *et seq.*) and the National Flood Insurance Act of 1968, as amended (42 U.S.C. 4001 *et seq.*). FEMA generally has authority under these discretionary grant programs to set eligibility criteria. Further, section 323 of the Stafford Act authorizes FEMA to require, as a condition of grant funding for all Stafford Act programs, that the repair or construction of private and public facilities be completed in accordance with "applicable standards of safety, decency, and sanitation in conformity with applicable codes, specifications and standards."<sup>20</sup> Section 323 also grants FEMA discretion to require any other safe land use and construction practices it deems appropriate after adequate consultation with appropriate State and local government officials.<sup>21</sup> Section 404 of the National Flood Insurance Act grants FEMA the authority to provide flood mitigation grant funding and requires the activities funded to be consistent with floodplain management criteria developed by the Administrator.<sup>22</sup>

### C. 44 CFR Part 9, "Floodplain Management and Protection of Wetlands"

Consistent with the National Flood Insurance Act, the Flood Disaster Protection Act, and NEPA, FEMA promulgated regulations implementing Executive Order 11988 at 44 CFR part 9, "Floodplain Management and Protection of Wetlands."<sup>23</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 generally applies to FEMA actions, including FEMA direct actions

[huddoc?id=DOC\\_14216.pdf](#) (last accessed July 12, 2023).

<sup>20</sup> See 42 U.S.C. 5165a(a)(1)

<sup>21</sup> See 42 U.S.C. 5165a(a)(2)

<sup>22</sup> See 42 U.S.C. 4104c and 4102.

<sup>23</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.

and FEMA's disaster and non-disaster assistance programs.<sup>24</sup>

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 applies part 9 programmatically to the National Flood Insurance Program (NFIP)<sup>25</sup>. 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>26</sup>

Below FEMA outlines the existing 8-step decision-making process that the agency currently follows in applying Executive Order 11988 to its actions:

*Step (1) Floodplain and wetland determination (44 CFR 9.7).* Under Step 1, FEMA must determine if a proposed agency action is located in or affects the 1 percent annual chance floodplain (or, for critical actions, the 0.2 percent annual chance floodplain) or wetland. The 1 percent annual chance (or base or 100-year) floodplain is the area subject to inundation by the 1 percent annual chance flood, which is that flood which has a 1 percent chance of occurrence in any given year (also known as the base or 100-year flood). A "critical action" is any activity for which even a slight chance of flooding would be too great.<sup>27</sup> The minimum floodplain of concern for critical actions is the 0.2 percent annual chance (or 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 0.2

<sup>24</sup> 44 CFR 9.4 defines the actions subject to the requirements, which include federal lands and facilities, providing federal funds for construction and improvements, and conducting activities or programs that affect land use.

<sup>25</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>26</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 44 CFR 9.5(f).

<sup>27</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 (1986) (last accessed July 12, 2023).

percent annual chance floodplain generally covers a larger area than the 1 percent annual chance floodplain. FEMA's regulations state that in each instance where the 8-step process refers to the 1 percent annual chance floodplain, an agency should substitute the 0.2 percent annual chance floodplain for the 1 percent annual chance floodplain if the proposed action is a critical action. Absent a finding to the contrary, FEMA currently assumes a proposed action involving a facility or structure that has been flooded is in the floodplain.

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.<sup>28</sup> A FIRM is an official, detailed map issued by the NFIP, generally showing elevations and boundaries of the 1 percent annual chance floodplain and the 0.2 percent annual chance floodplain.<sup>29</sup> The FBFM is a version of a flood map that shows only the floodway<sup>30</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 1 percent annual chance 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 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 the proposed site is in the 1 percent annual chance 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

<sup>28</sup> FEMA also utilizes best available information in making floodplain determinations, which may include preliminary FIRMs or Advisory Base Flood Elevations (ABFEs). See FEMA Policy: Guidance on the Use of Available Flood Hazard Information (last accessed July 12, 2023).

<sup>29</sup> FEMA estimates that only approximately 20 percent of mapped flood zones have detailed floodplain boundaries of the 0.2 percent annual chance floodplain.

<sup>30</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.

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. If the proposed action is outside the floodplain or wetland and has no identifiable impacts or support, the action can be implemented (Step 8).

*Step (2) Early public review (44 CFR 9.8).* FEMA must make public its intent to locate a proposed action in the floodplain or a wetland.<sup>31</sup> 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 or wetlands. 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 or a wetland, FEMA will identify and evaluate practicable alternatives to carrying out a proposed action in floodplains or wetlands, including the following: alternative sites outside the floodplain or wetland; 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 or wetland; and “no action.” The floodplain or wetland 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 or wetland if a practicable alternative exists outside the

floodplain or wetland. For critical actions, FEMA will not locate the proposed action in the 0.2 percent annual chance floodplain if a practicable alternative exists outside the 0.2 percent annual chance 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 wetland. 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 or wetlands and the potential direct and indirect support of floodplain or wetland development that could result from the proposed action.

*Step (5) Minimize impacts (44 CFR 9.11).* If the proposed action has identifiable impacts in the floodplain or wetland or directly or indirectly supports development in the floodplain or wetland, FEMA must minimize these effects and restore and preserve the natural and beneficial values served by floodplains and wetlands. 44 CFR 9.11(b) states generally that FEMA will design or modify its actions 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 1 percent annual chance flood, or, in the case of critical actions, from the 0.2 percent annual chance 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>32</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 1 percent annual chance flood level (the 0.2 percent annual chance 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 1 percent annual chance 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 0.2 percent annual chance 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 or wetland and of what measures are necessary to comply with the requirement to minimize harm to and within the floodplains and wetlands, FEMA will determine whether the action is still practicable at a floodplain or wetland site in light of the exposure to flood risk and the ensuing disruption of natural values, the floodplain or wetland site is the only practicable alternative, the scope of the action can be limited to increase the practicability of previously rejected non-floodplain or non-wetland sites and alternative actions, and minimization of harm to or within the floodplain or wetland can be achieved using all practicable means. Pursuant to 44 CFR 9.9(e)(2), FEMA will take no action in a floodplain or wetland unless the importance of the floodplain or wetland site clearly outweighs the requirement of Executive Order 11988 to avoid direct or indirect support of floodplain or wetland development; reduce the risk of flood loss; minimize the impact of floods on human safety, health, and welfare; and restore and preserve floodplain and wetland 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 or wetland, it must give public notice of the reasons for this finding. 44 CFR 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

<sup>31</sup> This step is required for any action that is within or affects a floodplain or wetland unless exempted or subject to the abbreviated processes outlined in 44 CFR 9.5.

<sup>32</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. See 44 CFR 9.4.

this determination, identification of the responsible official, and a map of the relevant area. FEMA may implement the proposed action after it allows a reasonable period for public response.

*Step (8) Implementation (Multiple sections of 44 CFR and applicable program guidance).* 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.

#### *D. Reevaluation of the 1 Percent Annual Chance Flood Standard*

In the aftermath of Hurricane Sandy, the President issued Executive Order 13632,<sup>33</sup> which created the Federal Interagency Hurricane Sandy Rebuilding Task Force (Sandy Task Force). 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>34</sup> the best available and most recent 1 percent annual chance flood elevation and applied that standard to all Federal disaster recovery investments in Sandy-affected communities.<sup>35</sup> The Sandy Task Force called for all major 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 June 2013, the President issued a Climate Action Plan<sup>36</sup> that directed 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>37</sup> 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. The Climate Task Force recommended that, in order to ensure resiliency, Federal agencies, when taking actions in and around floodplains, should include considerations of the effects of changing conditions, 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>38</sup>

#### *E. Executive Order 13690, the Federal Flood Risk Management Standard and Subsequent Amendments to Executive Order 11988, and Revisions to the 1978 Guidelines*

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>39</sup> Executive Order 13690 amended Executive Order 11988 and established the FFRMS. It required FEMA to publish 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. 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.

FEMA, acting on behalf of the Mitigation Framework Leadership Group, 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>40</sup> FEMA received over 556 separate submissions.<sup>41</sup> The final Revised Guidelines were issued on October 8, 2015.<sup>42</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 FFRMS. In response to public comments, the Mitigation Framework Leadership Group clarified the distinction between actions and Federally funded projects.

On August 22, 2016, FEMA published an NPRM entitled “Updates to Floodplain Management and Protection of Wetlands Regulations To Implement Executive Order 13690 and the Federal Flood Risk Management Standard” in the **Federal Register** (81 FR 57402). The rulemaking would have revised FEMA’s regulations on “Floodplain Management and Protection of Wetlands” to implement Executive Order 13690. FEMA also proposed a supplementary policy entitled “FEMA Policy: Guidance for Implementing the Federal Flood Risk Management Standard (FFRMS)” (FEMA Policy 078–3), which would have further clarified how FEMA would apply the FFRMS. The notice of availability and request for comments for the supplementary policy also published in the August 22, 2016 **Federal Register** at 81 FR 56558. On September 20, 2016, FEMA published a notice of data availability regarding a draft report, the *2016 Evaluation of the Benefits of Freeboard for Public and Nonresidential Buildings in Coastal Areas*, which had been added to the docket for the proposed rule (81 FR 64403).

On August 15, 2017, the President issued Executive Order 13807 (“Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects”) which revoked Executive Order 13690. *See* 82 FR 40463, Aug. 24, 2017. Accordingly, on March 6, 2018, in light of the revocation of Executive Order 13690, FEMA

<sup>33</sup> 77 FR 74341 (Dec. 14, 2012).

<sup>34</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* <https://www.fema.gov/glossary/freeboard> (last accessed July 12, 2023).

<sup>35</sup> HUD release entitled, “Federal Government Sets Uniform Flood Risk Reduction Standard for Sandy Rebuilding Projects,” April 4, 2013.

<sup>36</sup> Executive Office of the President, *The President’s Climate Action Plan* (2013), available at <https://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf>. (last accessed July 12, 2023).

<sup>37</sup> *See id.* at 15.

<sup>38</sup> President’s State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience, *Recommendations to the President*, (2014), available at [https://obamawhitehouse.archives.gov/sites/default/files/docs/task\\_force\\_report\\_0.pdf](https://obamawhitehouse.archives.gov/sites/default/files/docs/task_force_report_0.pdf) at 7 (last accessed July 12, 2023).

<sup>39</sup> 80 FR 6425, Feb. 4, 2015.

<sup>40</sup> 80 FR 6530, Feb. 5, 2015.

<sup>41</sup> FEMA 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>42</sup> 80 FR 64008 (Oct. 22, 2015); <https://www.regulations.gov/document/FEMA-2015-0006-0358> (last accessed July 12, 2023).

withdrew the August 22, 2016 NPRM and supplementary policy (83 FR 9473).

On May 20, 2021, the President issued Executive Order 14030 (“Climate-Related Financial Risk”)<sup>43</sup> reinstating Executive Order 13690, thereby reestablishing the FFRMS. Executive Order 14030 also states that the Revised Guidelines issued in 2015 were never revoked and remain in effect. As such, FEMA reviewed its prior NPRM and proposed policy and decided to revise its approach to implementation based on lessons learned during and since the 2016 rulemaking process. Specifically, FEMA first partially implemented the FFRMS by policy with respect to covered projects in existing floodplains in its Public Assistance and Hazard Mitigation Assistance programs.<sup>44</sup> FEMA next proposes to fully implement the FFRMS through this updated revision to its regulations and an updated supplementary policy.

#### F. Substantive Components of the FFRMS

The FFRMS is a flexible framework to increase resilience against flooding and help preserve the natural values of floodplains and wetlands.<sup>45</sup> Incorporating the FFRMS will expand the floodplain and require projects be built with higher resiliency. Applying the FFRMS will help ensure that Federally funded projects will last as long as intended. In addition, the

FFRMS and revised guidelines require the evaluation of natural features and nature-based approaches, where possible, in the analysis of practicable alternatives in Step 3 of the decision-making process for all Federal actions.

Under the FFRMS, a Federal agency may establish the floodplain for actions subject to the FFRMS using any of the following approaches:

- *Approach 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;
- *Approach 2: Freeboard Value Approach (FVA):* Freeboard (1 percent annual chance flood elevation + X, where X is 3 feet for critical actions and 2 feet for other actions);
- *Approach 3: 0.2-percent-annual-chance Flood Approach (0.2PFA):* 0.2 percent annual chance flood (also known as the 500-year flood); or
- *Approach 4: the elevation and flood hazard area that result from using any other method identified in an update to the FFRMS.*<sup>46</sup>

Each of the approaches is described in further detail below.

*FFRMS Approach 1: CISA.* The FFRMS and Revised Guidelines state that the CISA is the preferred approach, and that Federal agencies should use this approach when data to support such an analysis are available. CISA uses existing, sound science and engineering methods (e.g., hydrologic and hydraulic analysis and methods used to establish current flood elevations and floodplain maps), supplemented with best available and actionable climate science and consideration of impacts from projected land cover/land use changes, long-term erosion, and other processes that may alter flood hazards over the lifecycle of the Federal investment.<sup>47</sup> For areas vulnerable to coastal flood hazards, the CISA includes consideration of 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. 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, as amended, 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 and Revised Guidelines define freeboard values as an additional 2 feet added to the 1 percent annual chance flood elevation, or, for critical actions, an additional 3 feet added to the 1 percent annual chance flood elevation. In other words, the floodplain established by the 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, and 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 actions subject to the FFRMS 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 action. 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. FVA Illustration B reflects an area with steep topography on either side of the flooding 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 1 percent annual chance flood elevation applied to both example locations, the increase to the horizontal extent of the floodplain in FVA Illustration A is comparatively larger than the increase to the horizontal extent of the floodplain in 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

<sup>43</sup> 86 FR 27967 (May 25, 2021).

<sup>44</sup> See FEMA Policy 104–22–003, “Partial Implementation of the Federal Flood Risk Management Standard for Public Assistance (Interim),” June 3, 2022 found at [https://www.fema.gov/sites/default/files/documents/fema\\_fp-104-22-0003-partial-implementation-ffrms-pa-interim.pdf](https://www.fema.gov/sites/default/files/documents/fema_fp-104-22-0003-partial-implementation-ffrms-pa-interim.pdf) (last accessed July 12, 2023) and FEMA Policy 206–21–003–0001, “Partial Implementation of the Federal Flood Risk Management Standard for Hazard Mitigation Assistance Program,” Dec. 7, 2022 found at [https://www.fema.gov/sites/default/files/documents/fema\\_policy-fp-206-21-003-0001-implementation-ffrms-hma-program\\_122022.pdf](https://www.fema.gov/sites/default/files/documents/fema_policy-fp-206-21-003-0001-implementation-ffrms-hma-program_122022.pdf) (last accessed July 12, 2023).

<sup>45</sup> Although the FFRMS describes various approaches for determining the higher vertical flood elevation and corresponding horizontal floodplain for Federally funded projects, it is not meant to be an “elevation” standard. The FFRMS is a resilience standard. The vertical flood elevation and corresponding horizontal floodplain determined using the approaches in the FFRMS establish the level to which a structure or facility must be resilient. This may include using structural or non-structural methods to reduce or prevent damage; elevating a structure; or, where appropriate, designing it to adapt to, withstand, and rapidly recover from a flood event. See “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” (Oct. 8, 2015), found at [https://www.fema.gov/sites/default/files/documents/fema\\_implementing-guidelines-EO11988-13690\\_10082015.pdf](https://www.fema.gov/sites/default/files/documents/fema_implementing-guidelines-EO11988-13690_10082015.pdf) (last accessed July 12, 2023).

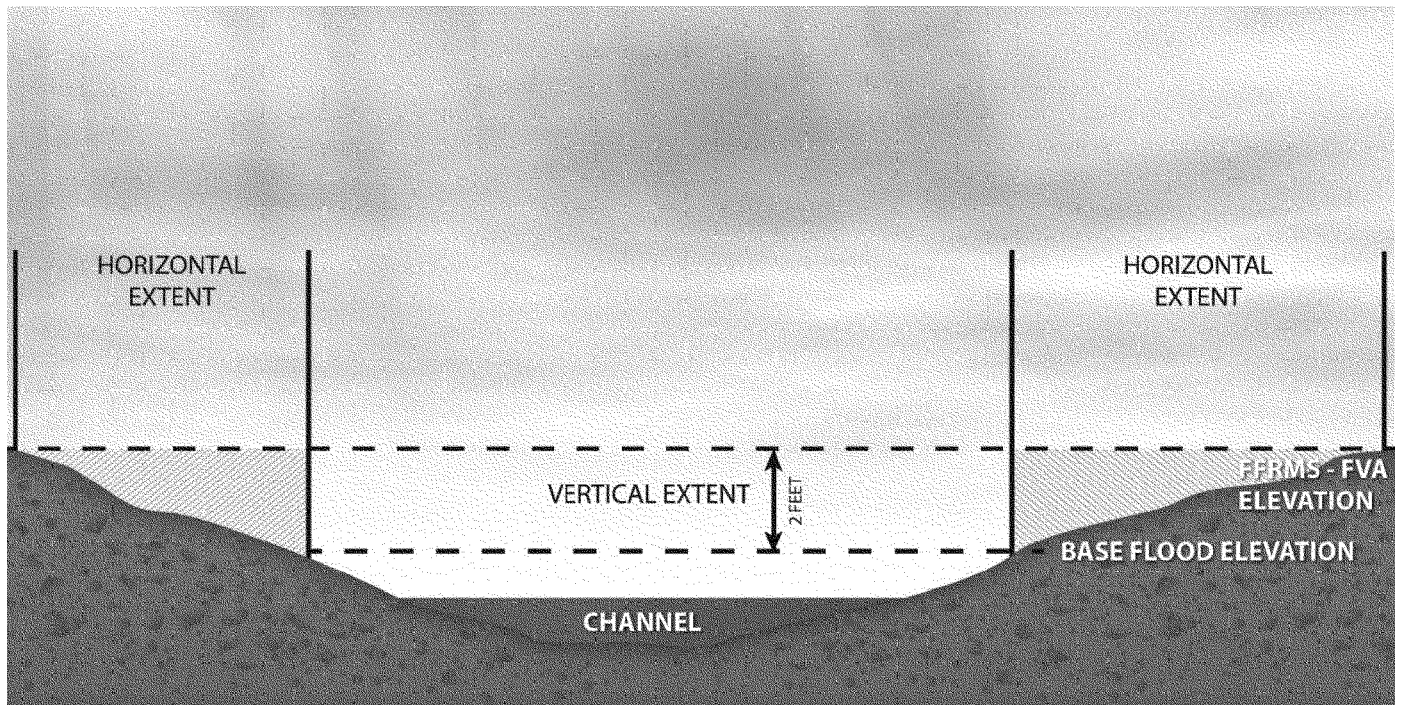
<sup>46</sup> See Executive Order 13690 Section 2(i), 80 FR 6425, 6426 (Feb. 4, 2015).

<sup>47</sup> See Guidelines, pgs. 36–37.

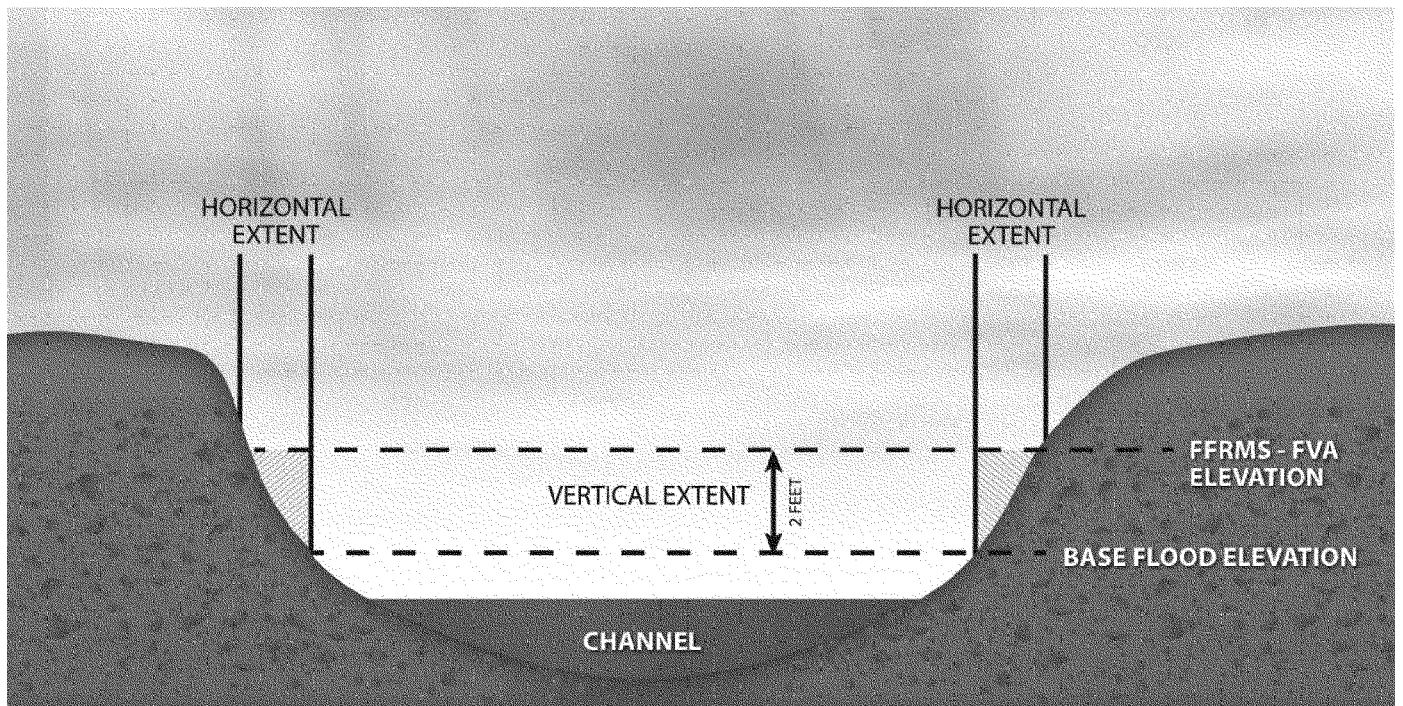
will vary depending on local topography.

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FVA Illustration A



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. Under this approach the same floodplain and elevation is used for critical and non-critical actions. The FFRMS and Revised Guidelines note that often the 0.2 percent annual chance flood elevation data provided 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 flood elevations. The FFRMS and Revised Guidelines encourage 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 or use the FVA approach instead for the proposed investment.

*FFRMS Approach 4: Update to FFRMS.* The Mitigation Framework Leadership Group in consultation with the Federal Interagency Floodplain Management Task Force must reassess the FFRMS annually after seeking stakeholder input, and provide recommendations to the WRC to update the FFRMS, if warranted. The WRC must issue an update to the FFRMS at least every 5 years. The updates ensure the floodplain determination process for actions subject to the FFRMS reflects current methodologies.

*Further Guidance on Application of the FFRMS Approaches To Establishing the Floodplain.* The FFRMS and Revised Guidelines state that when an agency does not use CISA in a coastal flood hazard area and where the FEMA 0.2 percent annual chance flood elevation does not include wave height, or a wave height has not been determined, the 0.2 percent annual chance elevation should not be used and the FVA should be used instead. The FFRMS and Revised Guidelines note that where the 0.2-percent-annual-chance-flood elevation does not consider wave action, the result will likely either be lower than the current base flood elevation or the base flood elevation plus applicable freeboard. Where wave action has been incorporated into the 0.2 percent annual chance elevation, the 0.2 percent annual chance elevation can be used.

The Guidelines state that for riverine flood hazard areas agencies may select either the FVA, or 0.2 percent annual chance flood elevation approach (or a combination of approaches, as appropriate) when actionable science is not available and an agency opts not to follow the CISA. It states that the agency

is not required to use the higher of the elevations but may opt to do so. The elevation standards of the FFRMS are not intended to supplant applicable State, Tribal, territorial, or local floodplain protection standards. If such standards exceed the FFRMS, an agency should apply those standards if the agency determines the application of the standards is reasonable in light of the goals of Executive Order 11988, as amended.<sup>48</sup>

#### *G. FEMA’s Implementation of the FFRMS and the Revised Guidelines*

When Executive Order 13690 was issued, and again when it was reinstated with Executive Order 14030, FEMA evaluated the application of 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. Between 1980 and 2021, the United States experienced 35 flooding disaster events, each with damages totaling over \$1 billion or more, and a total of \$164.2 billion in damages for those 35 flooding disasters.<sup>49</sup> FEMA, as a responsible steward of Federal funds, must ensure it does not needlessly repeat Federal investments in the same structures and/or facilities after flooding events. In addition, the FFRMS will help support the thousands of communities across the country recovering from disasters, seeking to mitigate future impacts of flooding and to strengthen infrastructure and other community assets to be more resilient to flood risk.<sup>50</sup> FEMA recognizes that the

<sup>48</sup> See Revised Guidelines at 53. The Revised Guidelines suggest that agencies should apply a reasonableness standard to higher State, Tribal, Territorial, or local (STTL) floodplain management standards. FEMA has historically deferred to higher local codes and standards from an STTL government in 44 CFR 9.11(d)(6) and will continue the practice through this rulemaking, rather than applying a case-by-case reasonableness analysis and believes this is appropriate because of program-specific controls that ensure higher standards are reasonable. Specifically, in the PA program, if an STTL government has adopted a code or standard that exceeds minimum standards set by FEMA, regulations at 44 CFR 206.226(d) require the code to be in place and adopted pre-disaster which guards against an STTL government’s adoption of unreasonably high codes and standards. With respect to mitigation projects, they are all required to be cost-effective as a minimum criteria of eligibility. See 42 U.S.C. 5170c(a); 42 U.S.C. 5133(b); 42 U.S.C. 4104c(c)(2)(A). This project-by-project cost-effectiveness analysis should guard against any STTL standards that are unreasonably high.

<sup>49</sup> See “Billion-Dollar Weather and Climate Disasters,” <https://www.ncdc.noaa.gov/billions>, DOI: 10.25921/stkw-7w73 (last accessed July 12, 2023).

<sup>50</sup> For example, FEMA data indicates approximately 18,068 eligible applicants for public

need to make structures resilient also requires an equitable and flexible approach to adapt to the needs of the Federal agency, local community, and the circumstances surrounding each project or action consistent with evolving science and engineering advancements that demonstrate a better understanding of flood risk and flood risk reduction.

The current floodplain policy was designed to accept a specific level of flood risk utilizing the 1 percent or 0.2 percent annual chance floodplains. However, these values do not incorporate changing future conditions caused by increasing severity of flooding and other associated issues such as coastal erosion. The result is that the current level of the 1 percent annual chance and 0.2 percent annual chance flood elevation can underestimate the flooding risk to a particular action and leave communities at higher risk to future flooding events.

Where CISA is available and actionable, the risk of flooding can be determined based on climate science to identify the appropriate level of risk protection for an action based on factors such as local flood characteristics, criticality of the action, and planned lifespan of the action. As CISA is based on the available and actionable science for a specific location and action, the result is a determination of the appropriate level of resiliency to design minimization measures. Other methods may lower the flood risk as they are above the current floodplain policy, but in some instances, projects may be built to a higher resiliency than required (overbuilt) or to a lower resiliency than needed (underbuilt).<sup>51</sup>

FEMA intends to implement 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 11988, as amended, and the Revised Guidelines to make them more accessible to stakeholders; (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 use natural features and nature-based approaches, where possible, when developing alternatives to the proposed action. These revisions also update other sections of the 8-step process to reflect current FEMA policies and

assistance have participated in the 8-step process required by 44 CFR part 9 between 2012 and 2021.

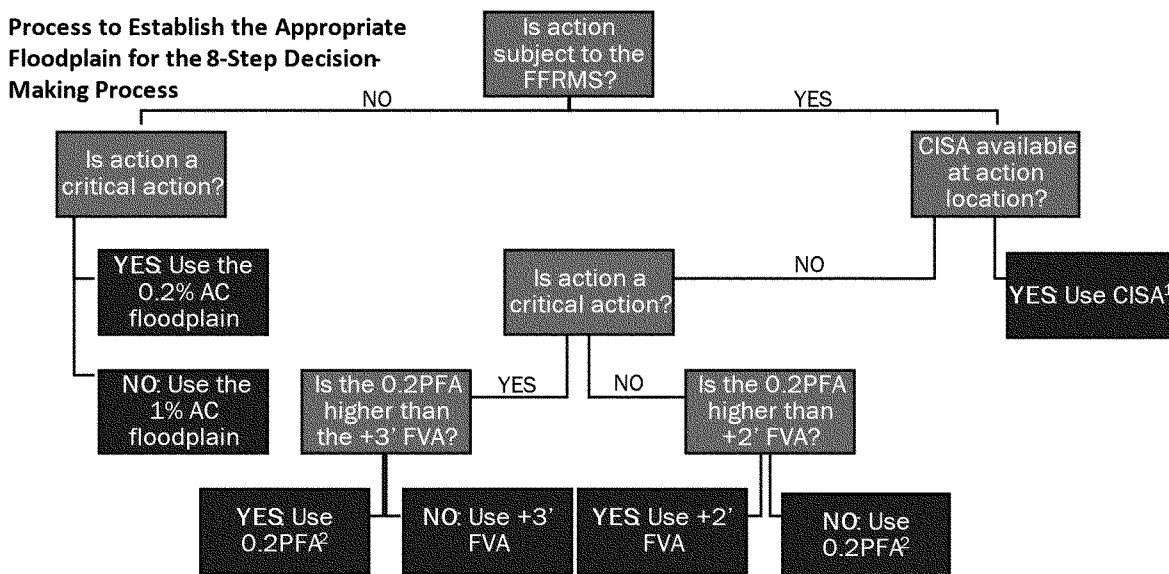
<sup>51</sup> See [http://www.asfpmfoundation.org/ace-images/forum/Meeting\\_the\\_Challenge\\_of\\_Change.pdf](http://www.asfpmfoundation.org/ace-images/forum/Meeting_the_Challenge_of_Change.pdf).

processes and provide additional clarity.

*Making the Initial Floodplain Determination.* As stated above, the FFRMS changed the definition of “floodplain” with respect to actions subject to the FFRMS (i.e., actions involving the use of FEMA 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 and take actions that are informed by the best available and actionable science. Agencies should use the CISA approach when the best available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding based on climate science are available for actions subject to the FFRMS.<sup>52</sup> For actions which do not meet the definition of an action subject

to the FFRMS, an agency should continue to use the historical definition of floodplain with minor clarifying revisions. This means that one of the first steps an agency must take is to determine the appropriate floodplain. Figure 1 illustrates the process by which FEMA would decide which floodplain would apply to an action subject to the FFRMS compared to an action that would not be subject to the FFRMS.



<sup>1</sup>When using CISA, the floodplain must be at least as restrictive as:

- For non-critical actions, the 1% AC floodplain
- For critical actions, the 0.2% AC floodplain

<sup>2</sup>In coastal areas, if 0.2% AC flood elevations do not account for wave action, the appropriate FVA must be used.

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

*Selection Between the FFRMS Approaches.* In selecting between the FFRMS approaches, FEMA sought to retain sufficient flexibility to account for updates to the FFRMS and yet also implement a framework that is sufficiently standardized to be easily understood and consistently applied to ensure an appropriate level of resilience

<sup>52</sup>FEMA considers data to be available and actionable based on the Revised Guidelines. Appendix H of the Revised Guidelines states that best available data and science are transparent—clearly outlines assumptions, applications, and limitations; technically credible—transparent subject matter or more formal external peer review, as appropriate, of processes and source data; usable—relevance and accessibility of the information to its intended users. For the climate-informed approach, usability can be achieved by placing climate-related scenarios into appropriate spatial, temporal, and risk-based contexts; legitimate—perceived by stakeholders to conform to

without overbuilding.<sup>53</sup> These considerations have led FEMA to propose a policy that considers the type and criticality of the action involved, the availability and actionability of the data, and equity concerns, as further explained in the current proposed supplementary policy.

recognized principles, rules, or standards. Legitimacy might be achieved through existing government planning processes with the opportunity for public comment and engagement; and flexible—scientific, engineering, and planning practices to address climate change-related information are evolving. To respond, agencies need to adapt and continuously update their approaches consistent with agency guidelines and principles. Also under Appendix H, actionable science consists of theories, data, analyses, models, projections, scenarios, and tools that are relevant to the decision under consideration; reliable in terms of its scientific or engineering basis and

FEMA proposes to implement the FFRMS by adopting the flexible framework detailed in the Revised Guidelines. Under this proposal, FEMA would provide additional guidance 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

appropriate level of peer review; understandable to those making the decision; supportive of decisions across wide spatial, temporal, and organizational ranges, including those of time-sensitive operational and capital investment decision-making; and co-produced by scientists, practitioners, and decision-makers, and meet the needs of and are readily accessible by stakeholders. See Appendix H at pgs. 5–6.

<sup>53</sup>For purposes of this rulemaking, overbuilding and underbuilding refers to building or protecting structures and facilities to a higher or lower resilience standard than necessary to reduce flood risks.

the best available information to inform current and future flood risk, the type and criticality of the action, and equity. FEMA's 2016 supplementary policy proposed to use the FVA to establish the elevation and associated floodplain for non-critical actions. For critical actions, FEMA's 2016 supplementary policy proposed to allow the use of the FVA or the CISA, but only if the elevation established under the CISA was higher than the elevation established under the FVA.<sup>54</sup>

For the reasons stated below, FEMA's current proposed supplementary policy proposes a different approach. Specifically, FEMA's current proposed supplementary policy prefers the CISA floodplain where data is available and actionable. Where CISA data is not available and actionable, the supplementary policy selects Where CISA data is not available and actionable, the supplementary policy selects either the FVA or 0.2PFA to establish the floodplain. Specifically, for critical actions, the supplementary policy requires use of the higher of the FVA+3 or 0.2PFA. For non-critical actions, the supplementary policy requires the use of the lower of the FVA+2 or 0.2PFA. For actions not subject to the FFRMS, the floodplain would continue to be the 0.2 percent annual chance floodplain for critical actions and the 1 percent annual chance floodplain for non-critical actions. Other FEMA requirements to follow consensus codes and standards<sup>55</sup> and to meet NFIP and State, local, Tribal, and territorial standards will continue to apply.<sup>56</sup> In doing so, FEMA believes the 8-step process with FFRMS implementation will result in a level of resiliency that is effective for the action and also equitable for the community by utilizing available and actionable scientific data to tailor the future flooding risk to the action.

*The FVA Considered.* FEMA considered using the FVA as the default approach for both critical and non-critical actions subject to the FFRMS. A choice to use the FVA as a default would reflect the practical need for standardization in the earlier stages of implementation. The FVA elevation is computed using the base flood elevation, and FEMA may use the same sequence it has followed to determine

the base flood elevation for the purposes of establishing the FVA elevation. This would still allow for the use of widely available FEMA regulatory products, such as Flood Insurance Rate Maps and Flood Insurance Study Reports.<sup>57</sup> By following the same sequence that FEMA has historically used for determining the appropriate elevation 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 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. Additionally requiring the use of the 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>58</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>59</sup> Consistent with FEMA's Community Rating System (CRS) policy, 1,380 of the 1,740 CRS-participating localities have adopted freeboard requirements that exceed current Federal standards within 50 states.<sup>60</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>61</sup>

The FVA, however, is not without challenges. First, while application of the FVA relies on data that is more available and readily accessible, it is not always the most suitable information to inform flood risk. Although FVA uses a fixed freeboard value across the nation, the FVA results in widely varying impacts to the current and future risk to the project. In some locations, applying the FVA+3 reduces the chance of being impacted by current flooding conditions

by 2 times, while in other cases applying the FVA might reduce such chances by 10 times or more.<sup>62</sup> This wide variation in risk reduction using the FVA approach may result in underbuilding or overbuilding in some areas. Without data narrowly tailored to the location's specific risks, the FVA may result in building or protecting structures and facilities to a higher or lower resilience standard than necessary to reduce flood risks. This potential for overbuilding or underbuilding may raise equity concerns for underserved communities seeking to rebound quickly and effectively from a disaster. Those communities may struggle to pay the additional costs required to build to a higher resilience standard than might be necessary if FEMA were to instead apply the CISA, thus unnecessarily delaying disaster recovery.<sup>63</sup> Alternatively, communities may be more vulnerable to future flooding and therefore repair expenses where building to a lower resilience standard under the FVA than if FEMA were to apply CISA.

*The 0.2PFA Considered.* FEMA considered using the 0.2PFA, as the horizontal extent of the 0.2PFA floodplain is already mapped in some locations. Further, the 0.2PFA results in a much more consistent reduction in the chances of being impacted by a flood for projects in different areas. This is because the 0.2PFA floodplain and elevation are calculated to have the same probability of occurrence everywhere.<sup>64</sup> The 0.2PFA may result in a higher elevation than the FVA in some circumstances and lower elevations in other areas. FEMA is challenged by the limited national availability of information on the 0.2 percent annual chance flood elevation and the additional costs associated with producing this information where it is not yet available. While most areas of the country have 1 percent annual chance floodplain information and the necessary topographical information to determine the horizontal extent under

<sup>62</sup> See National Research Council, "Risk Analysis and Uncertainty in Flood Damage Reduction Studies," Table 7-1 pg. 144, found at <https://nap.nationalacademies.org/catalog/9971/risk-analysis-and-uncertainty-in-flood-damage-reduction-studies> (last accessed July 12, 2023). Note that when downloaded in portable document format, table 7-1 is cut off. When viewed in the web version, Column 14 provides the return period for a 3 foot freeboard value.

<sup>63</sup> See Jeremy Martinich, James Neumann, Lindsay Ludwig, and Lesley Jantarasami, "Risks of sea level rise to disadvantaged communities in the United States" *Mitig Adapt Strateg Glob Change* (2013) 18:169-185, found at <https://link.springer.com/article/10.1007/s11027-011-9356-0> (last accessed July 12, 2023).

<sup>64</sup> See Guidelines at pg. 6.

<sup>54</sup> 81 FR 56558.

<sup>55</sup> See "Consensus-Based Codes, Specifications, and Standards for Public Assistance (Version 2)" found at <https://www.fema.gov/assistance/public-policy-guidance-fact-sheets/section-1235b-consensus-based-codes-and-standards> (last accessed July 12, 2023).

<sup>56</sup> See 44 CFR part 60.3 for the NFIP minimum floodplain management standards.

<sup>57</sup> FEMA Flood Map Products. See <https://www.fema.gov/flood-maps/products-tools/products>. (Last accessed July 27, 2023).

<sup>58</sup> See 44 CFR 60.1(d).

<sup>59</sup> See 44 CFR 59.1.

<sup>60</sup> See <https://www.fema.gov/floodplain-management/community-rating-system#participating> (last accessed July 12, 2023).

<sup>61</sup> See 44 CFR 9.11(d)(6).

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 20 percent of effective flood zones have detailed floodplain boundaries of the 0.2 percent annual chance floodplain.<sup>65</sup> There is some additional 0.2 percent annual chance floodplain mapping coverage available from FEMA products that are in preliminary or draft stages, and from other Federal, state, and local agencies. Data showing the boundaries and elevations for the 0.2 percent annual chance flood, however, is far less available than information for the 1 percent annual chance flood. Additionally, in coastal areas, the FFRMS requires Federal agencies to use the FVA as the minimum elevation when not using the CISA, if the 0.2 percent annual chance flood information depicted on FEMA's regulatory products considers storm-surge hazards but not wave action, and wave action data cannot be obtained from other sources.<sup>66</sup> This requirement is essential to ensure the effectiveness of this resilience standard. Only some areas have 0.2PFA with wave action information. Finally, there could also be equity concerns related to underbuilding or overbuilding to this standard, as again communities seeking to rebound quickly and effectively from a disaster may struggle to pay the additional costs required to build to a higher resilience standard than might be necessary if FEMA were to instead apply the CISA, thus unnecessarily delaying disaster recovery. Given the challenges with information availability, costs, and certainty for stakeholders, FEMA is not proposing the 0.2PFA for all actions subject to the FFRMS. However, the consistency provided by the 0.2PFA when the data is available provides a check against the variability of the FVA approach, so FEMA plans to use the two approaches together.

*The CISA Considered.* Consistent with the Revised Guidelines, FEMA is proposing the use of CISA as the preferred approach where data is available and actionable for both critical and non-critical actions as CISA uses a more site-specific approach to predict flood risk based on future conditions. FEMA believes CISA has the potential to be the best and most well-informed approach to building resilience in an

equitable manner and ensuring a reduction in disaster suffering. While all three approaches consider the effects of changing conditions on current and future flood risk, CISA is the only approach that uses climate science data to determine the appropriate floodplain for actions subject to the FFRMS. The FVA is a standard of protection set within a margin of error and can result in underbuilding or overbuilding because the data is not tailored to consider the flood risk in a specific location. The 0.2PFA provides a consistent reduction in flood risk but the data is often not available. Neither approach uses climate science to determine future flood risk for specific locations. CISA is the only approach that ensures projects are designed to meet current and future flood risks unique to the location and thus ensures the best overall resilience, cost effectiveness, and equity. CISA provides a forward-looking assessment of flood risk based on likely or potential climate change scenarios, regional climate factors, and an advanced scientific understanding of these effects. CISA allows FEMA to make this assessment specific to the communities involved and to tailor the assessment to their specific resilience needs, factoring in cost-effectiveness of resilience efforts and equity. As explained above, the FVA approach presents a uniform solution that is not sufficiently tailored to meet specific community needs and lacks full consideration of future conditions. With a mandate to expand the floodplain and elevate to a specific height without additional considerations, the FVA approach can result in a community's project being built to a higher or lower standard than necessary for the community's intended use and result in additional expense to the community. Similarly, the 0.2PFA may result in a community's project being built to a higher or lower standard than necessary for the community's intended use and result in additional expense to the community because the 0.2PFA lacks full consideration of future conditions. Where available, CISA presents the best data available on current and future conditions to help FEMA work with communities to implement resilient, cost-effective projects.

For critical actions, FEMA is proposing to utilize elevations determined by applying CISA so long as that elevation is at least the elevation of the 0.2PFA. Under this proposal, FEMA could choose to allow use of the CISA, even if the resulting elevation is lower than the application of the FVA. This

approach would give FEMA and its recipients more flexibility in implementing the standard, would enable FEMA and its recipients to build to an elevation based on the best available science taking criticality into account, would ensure adequate protection in those areas that are projected to experience future flood elevations beyond those identified using the FVA or 0.2PFA, and would provide a pathway to relief for those areas that experience declining flood risks.<sup>67</sup>

Similarly, for non-critical actions, FEMA is proposing to utilize elevations determined by applying CISA so long as that elevation is at least the elevation of the 1 percent annual chance flood elevation. Combined, these options would balance the objectives that applicants are building in an equitable manner to the most protective level based on the best available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding based on climate science without overbuilding and would eliminate the potential for a scenario where an applicant was allowed to build to a lower elevation than previously required for critical and non-critical actions under FEMA's current implementation of Executive Order 11988.<sup>68</sup>

As explained above, FEMA understands that the availability and actionability of data is a key factor in completing this analysis in a consistent, equitable manner. Since the introduction of the CISA in 2015, additional data has become available to better inform CISA.<sup>69</sup> FEMA believes data availability and actionability will continue to advance for CISA in the future. However, as actionable climate data are not currently available for all locations, FEMA is proposing the FVA and 0.2PFA alternatives in the absence of actionable CISA data.

For coastal floodplains, one of the primary considerations associated with CISA is determining what the projected

<sup>67</sup> While FEMA believes that the average flood risk will generally continue to increase nationwide due to changing conditions, 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>68</sup> See 44 CFR 9.7(a)(1) detailing the current floodplain for critical and non-critical actions.

<sup>69</sup> See Fourth National Climate Assessment, Volume II, found at <https://nca2018.globalchange.gov> (last accessed July 12, 2023) and the "Federal Flood Risk Management Standard Climate-Informed Science Approach (CISA) State of the Science Report," found at <https://www.whitehouse.gov/wp-content/uploads/2023/03/Federal-Flood-Risk-Management-Standard-Climate-Informed-Science-Approach-CISA-State-of-the-Science-Report.pdf> (last accessed Aug. 14, 2023).

<sup>65</sup> FEMA riverine flood hazard data inventory information comes from the Coordinated Needs Management Strategy dataset.

<sup>66</sup> See Revised Guidelines at 57.

future sea level rise will be for the area in which the project will be completed. There are currently multiple interagency reports and agency tools that provide scenario-based projections of sea level rise for coastal floodplains.<sup>70</sup> Sea level rise projections are just one potential factor in a climate-informed science approach. FEMA expects that more data will be developed supporting broader-based application of CISA as agencies implement the FFRMS and that this data will be considered and incorporated into future updates of the FFRMS and FEMA's implementation thereof. FEMA requests comment on the availability of actionable, planning-scale and/or project-scale climate data with respect to coastal and riverine floodplains.

In addition to the data challenges, there are a number of factors in deciding how to apply the 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 CISA methodology account for project-specific factors such as the criticality of the action, the risk to which the action will be exposed, the anticipated level of investment, and the lifecycle of the action.<sup>71</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 50 years. The most aggressive projection might indicate that the project should be elevated 10 feet above the base flood elevation for a critical action. However, the applicant may determine that this project is not intended to be functional for 50 years, the action is not critical, and justify a lesser projection based on criticality and expected lifespan. FEMA anticipates these types of decisions may be more standardized and accessible with a suite of Federal tools under development to assist FEMA and stakeholders in establishing the CISA floodplain. Further, FEMA's proposed approach focuses on leveraging the best available data to inform flood risk, generally

allowing communities that have actionable data specific to their locations to utilize that information in the 8-step process. FEMA requests comment regarding how FEMA could implement the CISA using a publicly accessible, standardized, predictable, flexible, and cost-effective methodology. FEMA also seeks comment on whether the agency should accept locally available CISA data and methods.

*Other Options Considered.* FEMA also considered whether it should alter its proposal for preferring use of the CISA in relation to the FVA (or 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 CISA, FVA, and the 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 protecting these critical assets to the highest protective level. However, as explained above, this approach may lead to overbuilding and thus not be the most cost-effective or equitable approach. FEMA believes that its proposed approach is sufficiently protective of critical action and would be less expensive and complex to administer and implement than the alternative approach described above as the alternative approach would require a determination of elevation under all three approaches before a project could proceed; nonetheless, FEMA welcomes comment on this alternative approach.

Alternatively, FEMA could choose to require use of the highest standard for all actions, regardless of criticality. As explained above, while this approach would ensure that applicants were building all actions to the most protective level, this approach may lead to overbuilding and thus not be the most cost-effective, equitable approach particularly for non-critical actions. FEMA believes that its proposed approach is sufficiently protective of all actions and would be less expensive and complex to administer and implement than the alternative approach described above as this alternative approach would always require a determination of elevation under all three approaches before a project could proceed; nonetheless, FEMA welcomes comment on this alternative approach.

FEMA also considered requiring the use of the 0.2PFA when CISA is not available for non-critical actions rather than the lower of the 0.2PFA or FVA. As explained above, FEMA notes the challenges with 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 yet available. Additionally, in coastal areas, the FFRMS requires Federal agencies to use the FVA as the minimum elevation when not using the CISA, if the 0.2 percent annual chance flood information depicted on FEMA's regulatory products considers storm-surge hazards but not wave action, and wave action data cannot be obtained from other sources. This requirement is essential to ensure the effectiveness of this resilience standard. Only some areas have 0.2PFA with wave action information. Finally, there could also be equity concerns related to underbuilding or overbuilding to this standard, as again communities seeking to rebound quickly and effectively from a disaster may struggle to pay the additional costs required to build to a higher resilience standard than might be necessary if FEMA were to instead apply the CISA, thus unnecessarily delaying disaster recovery. Alternatively, communities may be more vulnerable to future flooding and therefore repair expenses where building to a lower resilience standard under the FVA than if FEMA were to apply CISA. Given the challenges with information availability and costs, FEMA is not proposing the 0.2PFA as the exclusive alternative for non-critical actions when CISA is not available and actionable; nonetheless, FEMA welcomes comment on this alternative approach.

Based on the foregoing, FEMA proposes to focus on the best available and actionable information to inform current and future flood risk, the type and criticality of the action, and equity when determining the approach to utilize for the floodplain determination. Where available and actionable, FEMA proposes to leverage the CISA to establish the floodplain for both critical and non-critical actions. Where the CISA is not available and actionable, the agency proposes to use the lower of the FVA or 0.2PFA to establish the floodplain for non-critical actions and the higher of the FVA floodplain or the 0.2PFA for critical actions. Where the 0.2PFA is not available, or where wave action is not addressed in the 0.2PFA, the FVA is proposed for critical actions. This proposal balances flexibility with standardization, is consistent with FEMA's encouragement to communities to adopt more resilient floodplain management standards and reflects the priority that FEMA places on ensuring adequate planning for critical actions

<sup>70</sup> See generally "Interagency Sea Level Rise Scenario Tool" found at [https://sealevel.nasa.gov/data\\_tools/18](https://sealevel.nasa.gov/data_tools/18) (last accessed July 12, 2023); "2022 Sea Level Rise Technical Report" found at <https://oceanservice.noaa.gov/hazards/sealevelrise/sealevelrise-tech-report.html> (last accessed July 12, 2023); "Global and Regional Sea Level Rise Scenarios for the United States" found at <https://aambpublicoceanservice.blob.core.windows.net/oceanserviceprod/hazards/sealevelrise/noaa-nos-technrpt01-global-regional-SLR-scenarios-US.pdf> (last accessed July 12, 2023); "Sea Level Rise Viewer," found at <https://coast.noaa.gov/digitalcoast/tools/slr.html> (last accessed July 12, 2023).

<sup>71</sup> See Revised Guidelines at 55.

while balancing cost and equity considerations.

Requiring the use of the higher of the FVA floodplain or the 0.2PFA floodplain for critical actions where CISA is not available and actionable is consistent with the Revised Guidelines' direction that agencies use higher standards for actions that they determine to be critical actions.<sup>72</sup> The continued emphasis on the importance of making critical actions more resilient demonstrates an ongoing concern that the risks of flooding for many critical actions cannot be minimized without higher standards. The criticality of the action makes the risk of flooding too great, and a higher resilience standard is appropriate to best reduce that risk.

The Revised Guidelines further recognize the importance of consideration of impacts to vulnerable populations, including those at risk to impacts of flooding due to their location or because they are overburdened, lack resources, or have less access to resources.<sup>73</sup> Consistent with these concerns, FEMA's proposed supplementary policy would require the lower of the FVA floodplain or the 0.2 PFA floodplain for non-critical actions. FEMA believes the lower approach would help reduce the burden on communities by addressing concerns related to overbuilding, particularly in underserved communities seeking to rebound quickly and effectively from a disaster. Selecting the lower approach for non-critical actions will still result in a higher level of resilience than the current requirements under part 9 while also taking equity and cost-effectiveness considerations into account.

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<sup>74</sup> 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 could have a negative impact on affected communities' disabled and elderly populations if appropriate accommodations are not made. Also, even if the homes of people with disabilities are elevated and made accessible, other elevated single- and multi-family housing stock in the community may become inaccessible if appropriate accommodations are not made. It is crucial for community sustainability and integration of people with disabilities that buildings impacted by FFRMS requirements be made to comply with all accessibility requirements.

In light of the potential 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 ensure accessibility requirements are met for properties that would be impacted by this rulemaking. 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.* To make the floodplain determination and establish the proper resilience standard under each approach, FEMA intends to leverage its existing processes in each of its grant programs for ensuring compliance with Executive Order 11988, as amended. 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 or affects the floodplain and whether it is necessary to apply the 8-step process. FEMA is available to assist applicants with the 8-step process and reviews the

located outside of High-Risk Flood Hazard Areas, Coastal High Hazard Areas and Coastal A Zones). Consistent with the NFIP regulations and other FEMA policies, the agency generally does not fund floodproofing of residential structures as a flood minimization measure to meet current 44 CFR 9.11 requirements.

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 the FFRMS and Revised Guidelines. Once FEMA has made the determination that an action is subject to the FFRMS that requires a determination on which FFRMS approach to apply, the agency must then decide where the floodplain lies. FEMA, in conjunction with other Federal agencies, will work to maximize the availability of data showing the horizontal extent of the expanded horizontal floodplain that can be used for the CISA, the FVA, and the 0.2PFA for use on FFRMS following the approach detailed in § 9.7 below. Determination of the FFRMS floodplain will generally require data on current conditions and floodplains, future sea level rise or other changes expected to impact future flood conditions, and ground elevations. All of these data are relevant to determining additional areas that may be inundated by increased flooding in the future. FEMA's approach to determining the floodplain will also utilize available, actionable non-FEMA data from other sources, including other Federal agencies, State, Tribal, territorial, and local governments.

*Establishing the FFRMS Resilience Standard Under Each Approach.* FFRMS is a resilience standard requiring Federal investments to be more resilient against future flood conditions. FFRMS provides methods for determining a flood elevation to use in minimizing current and future flood risk for many actions in or affecting the floodplain, particularly for elevation of structures. However, other types of projects, including non-structure facilities, cannot reasonably be elevated above the FFRMS flood elevation and must achieve resilience through other minimization measures.<sup>75</sup>

The CISA 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>76</sup> In particular, FEMA will use Appendix H of the Revised Guidelines titled

<sup>75</sup> For example, see *Low-Water Crossings: Geomorphic, Biological, and Engineering Design Considerations* at [https://www.fs.usda.gov/t-d/pubs/pdf/LowWaterCrossings/Lo\\_pdf/1\\_Intro.pdf](https://www.fs.usda.gov/t-d/pubs/pdf/LowWaterCrossings/Lo_pdf/1_Intro.pdf) (last accessed July 12, 2023) and *Best Practice: Construction design saves money, prevents future damage* at <https://www.fema.gov/blog/best-practice-construction-design-saves-money-prevents-future-damage> (last accessed July 12, 2023).

<sup>76</sup> See the Revised Guidelines at Appendix H "Climate-Informed Science Approach and Resources."

<sup>72</sup> See Guidelines at pg. 4.

<sup>73</sup> See Guidelines at pg. 67.

<sup>74</sup> Floodproofing of areas below the BFE in residential buildings is generally not permitted under the NFIP unless communities have been granted an exception to permit floodproofed basements. See 44 CFR 60.3. The NFIP restriction against floodproofing of residential structures reflects FEMA's longstanding policy position that residential structures require a higher standard of resilience due to the increased potential for loss of human life. Floodproofing is also not recommended for residential structures under other FEMA programs. See Hazard Mitigation Assistance Technical Review Job Aid Series "Dry Floodproofing Technical Review," at pg. 7 found at [https://www.fema.gov/sites/default/files/documents/fema\\_technical-job-aid-dry-floodproofing.pdf](https://www.fema.gov/sites/default/files/documents/fema_technical-job-aid-dry-floodproofing.pdf) (last accessed July 12, 2023) (referencing ASCE24—Flood Resistant Design and Construction Section 6.2, which limits the use of dry floodproofing to non-residential structures and non-residential areas of mixed-use structures

“Climate-Informed Science Approach and Resources” to guide its decision-making.

FEMA recognizes that the CISA is a developing process and that there is uncertainty in the considerations and factors that will come up during an CISA analysis. As such, FEMA is not able to develop an exhaustive set of regulatory criteria for determining whether a given methodology is appropriate. However, FEMA recognizes that regulatory transparency reduces uncertainty for its recipients, and it will provide further guidance and information in the future, as appropriate, as the agency’s experience in implementing 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 and Revised Guidelines describe the 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 proposed § 9.7(c) 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 regulatory products to information which approximates the geographic area of the floodplain, to areas with no information. Where FEMA has issued a regulatory product, FEMA could obtain the flood

elevation from the regulatory product. FEMA may also seek detailed information from the list of sources in proposed § 9.7(c)(3)(i)–(x).

The 0.2PFA is the elevation of the 0.2 percent annual chance flood. Where FEMA proposes to use this approach, the agency would 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, utilizing the best available information. FEMA would first rely on the 0.2 percent annual chance flood elevation from the best available information, including information reported in a FEMA regulatory product, then seek information from additional sources, before finally seeking the assistance of an engineer.

#### IV. Discussion of the Proposed Rule

As noted above, this proposed rule would implement Executive Order 11988, as amended, the FFRMS, and the Revised Guidelines as part of FEMA’s floodplain management regulations while also updating FEMA’s 8-step process. 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

###### Severability

FEMA proposes to amend § 9.3 to remove the authorities section as redundant, and to replace it with a severability section. In the event that any portion of the proposed rule is declared invalid, FEMA intends that the remaining provisions of 44 CFR part 9 be severable. A severability clause is a standard legal provision. It indicates FEMA’s intent that if a court finds that a specific provision of a rule is unlawful, the court should allow the remainder of the rule to survive. Those provisions that are unaffected by a legal ruling can be implemented by an agency without requiring a new round of rulemaking simply to promulgate provisions that are not subject to a court ruling.

###### Conforming Changes to Definitions

FEMA proposes to amend § 9.4 to reflect the new definitions required by the FFRMS and Revised Guidelines while also updating other definitions to clarify terms and leverage common usage that has evolved since the regulation was issued. As noted above, the most significant definitional change introduced by 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 “Actions Subject to the FFRMS” 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 11988, as amended, and the 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 an “action subject to the FFRMS.” Under the proposed rule, if FEMA determines that the action is a 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 an action subject to the FFRMS and if the action is considered non-critical, the 1 percent annual chance floodplain applies. If the action is considered critical, the 0.2 percent annual chance floodplain applies.

##### Emphasis on Nature-Based Approaches

Executive Order 11988, as amended, 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. FEMA also proposes to add a definition of “natural features” meaning the characteristics of a particular environment that are created by physical, geological, biological, and chemical processes and exist in dynamic equilibrium.

The use of natural features and nature-based approaches in consideration of alternatives within floodplains and wetlands is consistent with the agency's priorities to promote the use of nonstructural flood protection methods, minimize the impact of its actions on the floodplain, and restore and preserve the natural and beneficial values served by floodplains as well as preserve and enhance the natural values of wetlands. In applying the 8-step process to its actions, FEMA has integrated factors into its impact analysis and minimization measures (Step 4 and Step 5) to identify those opportunities for beneficial floodplain and wetland values, to include natural values related factors that prioritize water resource values, living resource values, and agricultural, aquacultural, and forestry resource values. Applying natural features or nature-based approaches as alternatives furthers the goals in 44 CFR part 9 and allows for FEMA to further encourage those actions that increase the natural and beneficial function of the floodplain.

### Section-by-Section Analysis

#### A. Authority Citation

FEMA proposes to revise the authorities section to reflect appropriate statutory and other authorities underlying the regulation.

#### B. Section 9.1—Purpose of Part

FEMA proposes to add references to the National Flood Insurance Act of 1968, the Flood Disaster Protection Act of 1973, the National Environmental Policy Act of 1969, and other relevant statutory authorities, and to add “as amended” to reflect amendments made to Executive Order 11988.

#### C. Section 9.2—Policy

FEMA proposes to add language to paragraph (b) to reflect the policy 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 changing conditions into account. FEMA also proposes to restructure paragraph (b)(2) by adding §§ 9.2(c) and 9.2(d). In § 9.2(c), FEMA proposes edits for clarity, while in § 9.2(d), FEMA proposes to reorder the agency's actions to prioritize minimizing the impact of floods on

human health, safety, and welfare in this part.

#### D. Section 9.3—Severability

In Section 9.3, FEMA proposes to remove the authorities as redundant because the authorities are cited at the beginning of Part 9. Instead, FEMA proposes to include a severability section.

FEMA believes that its authority to require an 8-step decision making process and incorporate the FFRMS into it is well-supported in law and policy and should be upheld in any legal challenge. However, in the event that any portion of the proposed rule is declared invalid, FEMA intends that the various provisions of 44 CFR part 9 be severable. The provisions are not so interconnected that the rule's efficacy depends on every one of them remaining in place—implementation of the different provisions is sufficiently distinct that FEMA's aim of updating the 8-step process and incorporating the FFRMS would still be furthered by maintaining the other provisions. For example, if a court were to find unlawful FEMA's inclusion of the FFRMS approaches in § 9.7(c), FEMA intends to retain the inclusion of consideration of nature-based approaches in the appropriate steps of the 8-step decision making process and all other amendments to the 44 CFR part 9 not affected by the court decision. Similarly, if a court were to find unlawful FEMA's chosen approach in the proposed policy, FEMA intends to retain the regulatory changes implementing the FFRMS.

#### E. Section 9.4—Definitions

In Section 9.4, FEMA proposes to add terms for “0.2 Percent Annual Chance Flood Elevation,” “0.2 Percent Annual Chance Floodplain,” “1 Percent Annual Chance Flood Elevation,” “1 Percent Annual Chance Floodplain,” “Action Subject to the FFRMS,” “Base Flood Elevation,” “Federal Flood Risk Management Standard (FFRMS),” “Federal Flood Risk Management Standard Floodplain,” “Federally Funded Project,” “FEMA Resilience,” “National Security,” “Nature-Based Approaches,” “Natural and Beneficial Values of Floodplains and Wetlands,” “Natural Features,” and “Support of Floodplain and Wetland Development.” FEMA proposes to remove the definitions of “Base Flood,” “Base Floodplain,” “Five Hundred Year Floodplain,” “Flood Fringe,” “Flood Hazard Boundary Map,” “Flood Insurance Rate Map,” “Flood Insurance Study,” “Mitigation Directorate,” “Natural Values of Floodplains and

Wetlands,” “New Construction in Wetlands,” and “Support.” Lastly, FEMA proposes to revise the definitions of “Coastal High Hazard Area,” “Critical Action,” “Emergency Action,” “Flood,” “Floodplain,” “Functionally Dependent Use,” “Mitigation,” “New Construction,” “Orders,” “Practicable,” “Regulatory Floodway,” “Restore,” “Structures,” “Substantial Improvement,” and “Wetlands.”

**0.2 Percent Annual Chance Flood Elevation.** FEMA proposes to define the term “0.2 percent annual chance flood elevation” to mean the elevation to which floodwater is anticipated to rise during the 0.2 percent annual chance flood (also known as the 500-year flood). FEMA generally 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 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 probability of flooding in the area. FEMA is proposing to update other definitions that reference the term “500-year flood” and related terms where appropriate to ensure an effective long-term transition away from this terminology.

**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 (also known as the 500-year floodplain).

**1 Percent Annual Chance Flood Elevation.** FEMA proposes to refer to the definition of “Base Flood Elevation” to define this term to help transition to this terminology going forward and more accurately reflect the flood probability associated with that elevation.

**1 Percent Annual Chance Floodplain.** FEMA proposes to define the term “1 percent annual chance floodplain” to mean the area subject to flooding by the 1 percent annual chance flood (also known as the 100-year floodplain or base floodplain). This definition would describe the minimum area that FEMA looks at when it determines whether an action will take place in a floodplain under this part.

**Action.** FEMA proposes to remove the word “action” from the definition of “Action” because including the term being defined in the definition creates confusion and redundancy.<sup>77</sup>

<sup>77</sup> See Office of the Federal Register, Writing Resources for Federal Agencies, Regulatory Drafting Guide, Definitions found at <https://www.federalregister.gov/documents/2023/09/27/writing-resources-for-federal-agencies-regulatory-drafting-guide>.

*Actions Affecting or Affected by Floodplains or Wetlands.* FEMA proposes edits to these definitions consistent with formatting requirements.

*Action Subject to the FFRMS.* FEMA proposes to define an action subject to the FFRMS as an action where FEMA funds are used for new construction, substantial improvement, or to address substantial damage to a structure or facility. This term would define those actions subject to the FFRMS listed in the Revised Guidelines as a “Federally Funded Project” by narrowing the term to apply only to actions that use FEMA funds for these specific activities.

*Base Flood.* FEMA proposes to remove the definition of the “base flood” as FEMA proposes to incorporate it into the definition of “flood or flooding.”

*Base Floodplain.* FEMA also proposes to remove the definition of “base floodplain” as FEMA proposes to incorporate it into the definition of “1 percent annual chance floodplain.”

*Base Flood Elevation.* FEMA proposes to define the term “base flood elevation” to mean the elevation to which floodwater is anticipated to rise during the 1 percent annual chance flood (also known as the base or 100-year flood). The terms “base flood elevation,” “1 percent annual chance flood elevation,” and “100-year flood elevation” are synonymous and are used interchangeably. FEMA 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 to protect it from the risk of flooding in a 1 percent annual chance flood.

*Coastal High Hazard Area.* FEMA proposes to revise the definition of “coastal high hazard area” to mean an area of flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. FEMA is proposing to change this definition to more closely reflect the term as used in the NFIP and avoid the use of specific mapping zones for ease of use and reference for stakeholders.

*Critical Action.* FEMA proposes to revise the definition of “critical action” to mean any activity for which even a slight chance of flooding is too great. This revised definition is consistent with the definition of this term in the Orders and Revised Guidelines the agency is implementing with this rule. Additionally, FEMA proposes to remove the requirement that the minimum floodplain of concern for critical actions 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 utilize the floodplain established by part 9. FEMA would be required to determine whether the project meets the new definition of “action subject to the FFRMS” in § 9.4. If the project is an action subject to the FFRMS, then FEMA would establish the floodplain by using one of the approaches (which require the applicant to consider whether an action is a critical action) explained in proposed § 9.7(c). If the project is not an action subject to the FFRMS, 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. FEMA further proposes to revise this definition with updated formatting.

*Emergency Actions.* The current definition of “emergency actions” does not correctly cite to the appropriate sections of statutory authority. FEMA proposes to correct citations to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) and remove FEMA regulations citations.

*Federal Flood Risk Management Standard (FFRMS).* FEMA proposes to add a definition of “FFRMS,” which is the Federal flood risk management standard to be incorporated into existing processes used to implement Executive Order 11988, as amended. 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” generally consistent with the definition in the Order and Revised Guidelines being implemented, which is the floodplain that is established using one of the approaches described in proposed § 9.7(c). The four approaches detailed in proposed § 9.7(c) include 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.

*Federally Funded Project.* FEMA proposes to add a definition of “Federally Funded Project” to reference the definition of “action subject to the FFRMS.” FEMA is incorporating this definition for consistency with the Revised Guidelines.

*Federal Insurance Administration.* FEMA proposes to remove the definition of the “Federal Insurance Administration” as it is now included in the definition of “FEMA Resilience.”

*FEMA Resilience.* FEMA proposes to delete the definition of Federal Insurance Administration and the definition of Mitigation Directorate and add the definition of FEMA Resilience to reflect the current organizational structure within the agency.

*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 “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.

*Flood or Flooding.* FEMA proposes to add definitions of the “0.2 Percent Annual Chance Flood,” and the “1 Percent Annual Chance Flood” to the definition of flood to incorporate all flood definitions in one location. FEMA would further clarify the use of the 500-year flood as interchangeable with the 0.2 percent annual chance flood, and the base flood or 100-year flood as interchangeable with the 1 percent annual chance flood.

*Flood Fringe.* FEMA proposes to eliminate this definition as the term is no longer used in the regulatory text.

*Flood Hazard Boundary Map (FHBM).* FEMA proposes to eliminate this definition as the term is no longer used in the regulatory text. FEMA offers a range of flood risk products under the NFIP and categorizes these products as “regulatory” or “non-regulatory.” Regulatory flood risk products are created subject to procedural due process requirements, contain basic flood information, and are used for official actions such as identifying properties subject to mandatory flood insurance purchase requirements, or enforcing minimum building standards for construction in a floodplain in NFIP participating communities.<sup>78</sup> Non-regulatory flood risk products are not tied to mandatory enforcement or compliance requirements for the NFIP

[www.archives.gov/federal-register/write/legal-docs/definitions.html#:~:text=If%20a%20term%20is%20used%20only%20once%20or,term%20being%20defined%20as%20part%20of%20the%20definition.](http://www.archives.gov/federal-register/write/legal-docs/definitions.html#:~:text=If%20a%20term%20is%20used%20only%20once%20or,term%20being%20defined%20as%20part%20of%20the%20definition.) (last accessed July 12, 2023).

<sup>78</sup> See “Flood Risk Products: Using Flood Risk Products in Hazard Mitigation Plans,” found at [https://www.fema.gov/sites/default/files/2020-07/fema\\_using\\_flood\\_risk\\_products\\_guide.pdf](https://www.fema.gov/sites/default/files/2020-07/fema_using_flood_risk_products_guide.pdf) (last accessed July 12, 2023).

and expand upon basic flood hazard information. References to FEMA's regulatory products under the NFIP, such as the Flood Hazard Boundary Map, Flood Insurance Rate Map, and Flood Insurance Study are being eliminated in the proposed regulatory text to allow flexibility to encompass the full range of NFIP products (both regulatory and non-regulatory) available for use with the 8-step process. For example, the existing section 9.7(c) prescribes a sequence of steps to obtaining the floodplain, flood elevation, and other information needed. Current section 9.7(c)(i) only includes use of the FIRM, FBFM and FIS if they exist whereas 9.7(c)(ii) includes options to seek data from other sources if the available NFIP maps do not provide the necessary information. There are cases where a FIRM, FBFM, or FIS exist for the location, but do not provide the necessary information to determine the relevant floodplain and/or elevation. This section is being proposed to be rewritten to allow use of other data sources whenever the information is not available on the NFIP maps or when better information is available.

Streamlining the references to FEMA's regulatory products would also align the regulatory language with the core statutory language that authorizes FEMA to publish determinations of Special Flood Hazard Areas (SFHAs) and flood elevations.<sup>79</sup> These determinations are published in several different products. Rather than itemize and attempt to prioritize the different products, the proposed text would focus instead on whether official determinations of the SFHA or flood elevations are available.

*Flood Insurance Rate Map (FIRM).* FEMA proposes to eliminate this definition as the term is no longer used in the regulatory text. As explained above, references to FEMA's regulatory products are being eliminated in the proposed regulatory text to allow flexibility to encompass the full range of NFIP products available for use with the

8-step process. There are cases where a FIRM, FBFM, or FIS exist for the location, but do not provide the necessary information to determine the relevant floodplain and/or elevation. This section is being proposed to be rewritten to allow use of other data sources whenever the information is not available on the NFIP maps or when better information is available.

*Flood Insurance Study (FIS).* FEMA proposes to eliminate this definition as the term is no longer used in the regulatory text. As explained above, references to FEMA's regulatory products are being eliminated in the proposed regulatory text to allow flexibility to encompass the full range of NFIP products available for use with the 8-step process. There are cases where a FIRM, FBFM, or FIS exist for the location, but do not provide the necessary information to determine the relevant floodplain and/or elevation. This section is being proposed to be rewritten to allow use of other data sources whenever the information is not available on the NFIP maps or when better information is available.

*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 mean any land area that is subject to flooding to more accurately reflect the broad definition of this term. The term "floodplain" refers to geographic features with undefined boundaries and the proposed revised regulation will establish a specific floodplain through the process described in proposed § 9.7(c).

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(c) when making the floodplain determination. FEMA must determine whether the project meets the new definition of an "action subject to the FFRMS" in § 9.4. If the project is an action subject to the FFRMS, 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 an action subject to the FFRMS (*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 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 an action subject to the FFRMS and whether it is a critical action.

*Functionally Dependent Use.* FEMA proposes to remove references to examples in this definition to reduce confusion around the definition and avoid any misinterpretation that the term's usage is limited to the current examples. FEMA plans to provide more specific, relevant examples in guidance to better assist stakeholders with particularly nuanced situations.

*Mitigation.* FEMA proposes to remove the term "all" from the definition of mitigation as mitigation would be defined more broadly consistent with the requirements of the Orders and Revised Guidelines being implemented. By removing "all," FEMA would clarify that the agency's goal, consistent with current law and Executive Orders 11988, as amended, and 11990 is to minimize the potentially adverse impacts of the proposed action to the extent possible, including consideration of practicality, rather than to take all mitigation actions.

*Mitigation Directorate.* FEMA proposes to remove the definition of the "Mitigation Directorate" as it is now included in the definition of "FEMA Resilience."

*National Security.* FEMA proposes to add a definition for "national security" consistent with the definition used in the Revised Guidelines. The proposed definition would define national security as a condition that is provided by either (1) a military or defense advantage over any foreign nation or group of nations; (2) a favorable foreign relations position; or (3) a defense posture capable of successfully resisting hostile or destructive action from within or without, overt or covert. Incorporating this definition would help stakeholders better understand the 8-

<sup>79</sup> Section 201 of the Flood Disaster Protection Act of 1973, 42 U.S.C. 4105 and the National Flood Insurance Act of 1968, as amended, 42 U.S.C. 4001 *et seq.* Specifically, 42 U.S.C. 4101(a) states that the Administrator is authorized to consult with other Federal agencies, State or local government agencies, or contract to obtain information "so that he may identify and publish information with respect to all flood plain areas, including coastal areas located in the United States, which has special flood hazards. . . ." Further, 42 U.S.C. 4104(a) states "In establishing projected flood elevations for land use purposes with respect to any community pursuant to section 4102 of this title, the Director shall first propose such determinations by publication for comment in the **Federal Register** . . . ."

step process and the actions to which each Step applies.

*Nature-Based Approaches.* FEMA proposes to add a definition of “nature-based approaches.” Executive Order 11988, as amended, now contains a provision requiring agencies consider nature-based approaches, where possible, in developing alternatives for consideration to meet the purpose of a proposed action within a floodplain or wetland 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 and nature-based solutions 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 Revised Guidelines.

*Natural and Beneficial Values of Floodplains and Wetlands.* FEMA proposes to remove the definition of “natural values of floodplains and wetlands” and add the definition of “natural and beneficial values of floodplains and wetlands” to mean the features or resources that provide environmental and societal benefits. FEMA proposes adding additional clarification that water and biological resources are often referred to as “natural functions of floodplains and wetlands” and also proposes to incorporate additional clarifying examples of water resource values, living resource values, cultural resource values, and cultivated resource values for more consistency with the Revised Guidelines and Executive Order 11988, as amended.

*Natural Features.* FEMA proposes to add a definition of “natural features” to mean characteristics of a particular environment that are created by physical, geological, biological, and chemical processes and exist in dynamic equilibrium. Consistent with the Revised Guidelines, natural features are self-sustaining parts of the landscape that require little or no maintenance to continue providing their ecosystem services (functions).

*New Construction.* FEMA proposes to remove the parenthetical “including the placement of a mobile home” from the

definition of new construction and instead add that “new construction” includes permanent installation of temporary housing units. This change narrows the scope of FFRMS applicability to only those temporary housing units that FEMA permanently installs rather than all placements of temporary housing units. The temporary nature of initial housing unit placements generally does not provide an opportunity to improve community resilience or floodplain management long term, which is the intent of the FFRMS. 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. Finally, it would not always be feasible to elevate these units to the required flood elevation when placed for temporary housing. Given these concerns, FEMA seeks to apply the FFRMS requirements only to those temporary housing units that the agency permanently installs, becoming permanent housing solutions rather than all temporary housing units placed by the agency. FEMA further proposes to delete the current definition of “new construction in wetlands” and incorporate it into the definition of “new construction” to reduce confusion and eliminate references to specific dates that no longer apply to current and future actions subject to part 9. The application of the FFRMS is required for any action which meets the definition of an “action subject to the FFRMS.” “Action subject to the FFRMS” 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 temporary housing unit. As described further in the discussion of § 9.13, FEMA does not intend to require the application of the FFRMS in the placement of temporary housing units for the purpose of temporary housing.

*Orders.* FEMA proposes to revise the definition of “orders” to include amendments made to Executive Order 11988.

*Practicable.* FEMA proposes to revise the definition of “practicable” to update the factors considered in the practicability analysis for consistency with the existing regulatory text and the Revised Guidelines, and for clarity. Specifically, FEMA proposes to add “natural” to clarify the environmental factor. FEMA also proposes to incorporate into the definition of

“practicable” references to social concerns, economic aspects, and legal constraints. These concepts are currently included in the description of practicability analysis in § 9.11. As discussed below, the “economic aspects” refers to, among other things, cost and technology factors and to add “legal constraints” and “agency authorities” to specifically reflect additional constraints on the agency’s ability to act as a factor in the practicability analysis. By making these changes, FEMA would define practicability in a manner that is generally consistent with the long-standing regulatory text while incorporating updates for additional clarity and consistency with the Revised Guidelines.

*Regulatory Floodway.* FEMA proposes to clarify the definition of “regulatory floodway.” FEMA proposes to eliminate the reference to a specific amount set by the NFIP and instead define the term to mean the area regulated by Federal, State, or local requirements to provide for the discharge of the base flood so that the cumulative rise in water surface is no more than a designated amount above the base flood elevation. These edits more accurately encompass situations where communities have adopted more restrictive floodway definitions than the minimum specified by the NFIP. The changes are intended to help stakeholders better understand what a regulatory floodway is and how it is determined without tying the term to a specific amount that can change under the NFIP.

*Restore.* FEMA proposes to update the definition of “restore” to mean to reestablish a setting or environment in which the natural functions of the floodplain can operate. This change eliminates the redundancy of requiring the floodplain to “again” operate.

*Structures.* FEMA proposes to update the definition of “structures” to require that the buildings be both walled and roofed rather than walled or roofed to be considered a “structure,” consistent with the definition of “structure” in 44 CFR Subchapter B, Insurance and Hazard Mitigation.<sup>80</sup> This change is also consistent with current FEMA practice under the NFIP which designates areas that are not both walled and roofed as facilities.<sup>81</sup> Additionally, FEMA is proposing a change from the term “mobile homes” to “temporary housing units” to reflect a range of housing units the agency may provide after a disaster while also referencing “manufactured housing” to ensure that the public

<sup>80</sup> See 44 CFR 59.1.

<sup>81</sup> *Id.*

understand that temporary housing units are regulated as manufactured housing in the NFIP.

**Substantial Improvement.** FEMA proposes to update the reference to the Stafford Act because the citation is outdated in the current definition. FEMA also proposes to add a sentence stating that substantial improvement includes work to address substantial damage to a structure or facility. This change is for clarity and for consistency with part 59.

**Support.** FEMA proposes to eliminate the definition of “support” and replace it with a new definition of “support of floodplain and wetland development” to further clarify the term and ensure consistency of its usage in part 9.

**Support of Floodplain and Wetland Development.** FEMA proposes to define this term to mean to, directly or indirectly, encourage, allow, serve, or otherwise facilitate development in floodplains or wetlands. Development means any man-made change to improved or unimproved real estate, including but not limited to, new construction; mining; dredging; filling; grading; paving; excavation or drilling operations; or storage of equipment or materials. Direct support results from actions within floodplains or wetlands, and indirect support results from actions outside of floodplains or wetlands. By providing this clarifying definition, FEMA would help eliminate confusion regarding the use of the term “support” in the regulatory text and ensure that actions taken under part 9 are done with the intent not to support floodplain and wetland development consistent with Executive Order 11988, as amended, and Executive Order 11990.

**Wetlands.** FEMA proposes minor edits for clarity and to delete references to the U.S. Fish and Wildlife Service publication in the current definition of “wetlands” as the reference is now out of date and rather generally reference the definition utilized by that agency for consistency in the future.

#### 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 11988, as amended, the FFRMS, and Revised Guidelines, would apply to new actions for which assistance is made available pursuant to declarations under the Stafford Act that are commenced on or after the effective date of the final rule, and new actions for which assistance is made available pursuant to notices of funding opportunity that publish on or after the

effective date of the final rule. This is to clarify that current part 9, including use of the 1 percent annual chance floodplain (or 0.2 percent annual chance floodplain for critical actions), would still apply to actions relating to declarations and funding opportunities issued prior to the effective date. Only new actions would be subject to revised part 9 so that the changes would not be applied to projects which have already been reviewed for compliance with Executive Order 11988 and may have incurred design expenses to meet the current floodplain management standards. Any actions associated with declarations under the Stafford Act that begin on or after the effective date of the final rule or any actions for which the notice of funding opportunity publishes on or after the effective date of the final rule would be subject to revised part 9, including the changes required under Executive Order 11988, as amended, the FFRMS, and the Revised Guidelines, such as determining the floodplain for the action and requiring the use of nature-based approaches, where possible, to mitigate harm when development in the floodplain is not avoidable. In paragraph 9.5(b)(1), FEMA proposes to add “as amended” to reflect amendments to Executive Order 11988.

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 and reorganize the section for clarity and readability. FEMA proposes to eliminate current paragraph (c)(3) as unemployment assistance would not constitute an “action” under this part (see § 9.4). FEMA proposes to revise current paragraph (c)(6) to clarify that actions involving fire management assistance that include hazard mitigation assistance under sections 404 and 420(d) of the Stafford Act are subject to the 8-step process. Similar to the revision to § 9.7(c)(1), FEMA seeks to clarify where some actions may still be required to complete the 8-step process. FEMA also proposes to update current paragraph (c)(8) as it refers to a defunct title for the Individuals and Households Program and includes programs that no longer exist and restructure the paragraph to reflect current categories of assistance under this program that are not subject to the 8-step process. FEMA proposes to further update this section by removing private bridges from the 8-step process consistent with other exceptions to that process in the Individual Assistance program in current paragraph (c)(8)(i). This change aligns with the existing exemptions for all other forms of home

repair and replacement under section 408 of the Stafford Act. FEMA will only provide funding for privately-owned access bridges damaged as a result of a Presidentially-declared disaster in cases where a FEMA inspection determines repairs are necessary to provide drivable access to a primary residence.<sup>82</sup> In addition to this requirement, FEMA will only provide funding when at least one of the following additional conditions exist: (1) the bridge provides the only access to the property; (2) the home cannot be accessed due to damage caused to other infrastructure; or (3) the safety of the occupants or residence would be adversely affected because emergency services and equipment could not reach the residence.<sup>83</sup> As these private bridge projects are small in scale and subject to local review and permitting requirements that otherwise consider local floodplain management concerns, FEMA believes they are unlikely to result in significant impacts to the floodplain and requiring the 8-step process for these projects would not necessarily result in improved community resiliency, a key goal of the FFRMS. FEMA, however, seeks comment on whether removing private bridge projects from the 8-step process would adversely impact the floodplain.

FEMA also proposes to revise current § 9.5(c)(12) to further provide that debris clearance and removal under section 502 of the Stafford Act is not subject to the 8-step process. FEMA is also proposing to add a citation to section 407 of the Stafford Act to accompany the reference to non-emergency disposal of debris in this same provision. In current paragraph (c)(13), FEMA proposes to make revisions to update the current monetary thresholds from \$5,000 to \$18,000 for actions under sections 406 and 407 of the Stafford Act.<sup>84</sup> This change would reflect the current value of the existing threshold dollar amount, which was set in 1980.<sup>85</sup> Additionally, FEMA proposes language to require adjustment of the threshold based on the Consumer Price Index for All Urban Consumers published by the

<sup>82</sup> See Individual Assistance Program and Policy Guide Version 1.1 found at <https://www.fema.gov/assistance/individual/policy-guidance-and-fact-sheets> (last accessed July 12, 2023) pg. 89.

<sup>83</sup> See Individual Assistance Program and Policy Guide Version 1.1 found at <https://www.fema.gov/assistance/individual/policy-guidance-and-fact-sheets> (last accessed July 12, 2023) pg. 89.

<sup>84</sup> Section 406 of the Stafford Act involves the repair, restoration, and replacement of damaged facilities while section 407 relates to debris removal.

<sup>85</sup> See 45 FR at 59529.

Department of Labor.<sup>86</sup> This proposed language provides for future changes to the applicability of the 8-step process based on inflationary increases in the cost of actions and helps ensure equitable, cost-effective outcomes by

limiting this process to actions of a higher dollar amount. Note FEMA is also proposing to add the Stafford Act sections 406 and 407 for repairs or replacements to § 9.5(c). FEMA’s current and proposed dollar value thresholds to

determine the applicability of the 8-step decision-making process to certain FEMA actions are updated below as follows:

TABLE 4—FEMA’S CURRENT AND PROPOSED DOLLAR VALUE THRESHOLD TO DETERMINE THE APPLICABILITY OF THE 8-STEP DECISION-MAKING PROCESS

	Current threshold	Proposed threshold
Exempt from the 8-step decision making process .....	Projects under \$5,000 .....	Projects under \$18,000.
Minimal 8-step decision making process (subject to steps 1, 4, 5, and 8).	Projects between \$5,000 and \$25,000.	Projects between \$18,000 and \$91,000.
Abbreviated 8-step decision making process (subject to steps 1, 2, 4, 5, and 8).	Projects above \$25,000 and up to \$100,000.	Projects above \$91,000 and up to \$364,000.
Full 8-step decision making process .....	Projects above \$100,000 .....	Projects above \$364,000.

FEMA proposes to relocate current paragraph (g) and redesignate it as paragraph (d), restructuring current paragraphs (d)–(f) to (e)–(g) respectively. FEMA believes this restructuring will make the section more readable and easier for stakeholders to understand. FEMA is also proposing to revise the structure and language in current paragraphs (d) and (g) to better explain the exceptions to the full 8-step process detailed in each paragraph. FEMA proposes to update the current monetary thresholds set in current paragraphs (d) and (g) similar to changes proposed to current paragraph 9.5(c)(13), described above, to reflect the current value of these dollar amounts and also require future changes to these amounts based on the Consumer Price Index for All Urban Consumers as published by the Department of Labor. As explained above, FEMA believes these edits would result in limiting applicability of the 8-step process appropriately based on inflationary increases in the cost of actions. FEMA is proposing the increase and future updates as smaller projects offer little, if any, opportunity for mitigation and the agency believes floodplain management resources are best devoted in areas where they will be most effective. By keeping actions under a certain amount either exempt or with a more streamlined/expedited floodplain management process, FEMA would maintain the intent of the Executive Orders to protect floodplains and wetlands while also ensuring appropriately streamlined, cost-effective, and equitable assistance to communities with smaller projects. FEMA is proposing to revise current

paragraph (g)(2) to address actions subject to the FFRMS by changing the current text, which refers to new or substantially improved structures or facilities, to instead refer to new construction, substantial improvement, or repairs to address substantial damage of structures or facilities. FEMA is also proposing to revise current paragraph (g)(3) to include facilities or structures on which a flood insurance claim has been paid. This addition would provide consistency with language existing in current paragraph (d)(4)(iii) and ensure that facilities or structures which have previously sustained damage from flooding on which a flood insurance claim has been paid will be subject to the full 8-step process. As FEMA has already provided funding to recover from prior flood damage on these facilities and structures, the agency believes the full 8-step process is required to ensure any additional funds provided increase resilience against flooding.

FEMA proposes to delete current paragraph (d)(1), consistent with the proposed change above to exempt private bridges from the 8-step process entirely. FEMA also proposes to delete current paragraph (d)(2). The current regulatory language allows for an abbreviated 8-step process for small project grants under the PA program<sup>87</sup> unless those projects fell into certain categories. FEMA proposes to remove this language because it is no longer applicable; FEMA stopped applying the abbreviated 8-step process to the small project threshold under the PA program after it increased beyond the \$100,000 threshold set in current paragraph

9.5(d)(4)(i). FEMA also proposes minor revisions to current paragraph (d)(4)(iii) (proposed (e)(2)(iii)) for clarity and readability.

In current paragraph (e), FEMA proposes to update the responsible official from Director to Regional Administrator as this authority has been delegated to Regional Administrators and make other clarifying edits to reflect current agency terminology in that paragraph as well as current paragraphs (f)(1) and (f)(2). FEMA also proposes clarifying edits in current § 9.5(f)(1) for readability and to eliminate the prime two example references. As explained above in the definitions, FEMA believes that these types of specific examples are best addressed in guidance that can evolve as issues arise and better assist stakeholders with particularly nuanced situations. Further, these specific examples relate to regulatory provisions (current §§ 9.9(e)(6) and 9.11(e)) that FEMA proposes to remove from this rule.

*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, as amended, and 11990 to its actions. FEMA proposes a clarifying edit to § 9.6(a) that would delete redundancy. Paragraph (b) of § 9.6 lays out the 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

threshold that applies to emergency work (sections 403 or 502), debris removal (section 407) and permanent work (section 406) which is all funded under the PA program.

<sup>86</sup> The U.S. Department of Labor publishes the Consumer Price Index for All Urban Consumers at <https://www.bls.gov/cpi/>. A calculation to determine the impact of CPI-U increases can be made at [https://www.bls.gov/data/inflation\\_calculator.htm](https://www.bls.gov/data/inflation_calculator.htm).

<sup>87</sup> The current outdated regulatory text refers to section 419 of the Stafford Act in identifying what constituted a small project grant under PA. As a result of updates to the Stafford act, section 419 can now be found in section 422 (42 U.S.C. 5189) which sets forth the authority to create a small project

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” and refer the reader to § 9.7, which describes (1) the flexible framework that FEMA would apply to actions subject to the FFRMS, as well as (2) the historical framework that FEMA would continue to apply to actions that do not qualify as actions subject to the FFRMS. Additionally, in Step 3, FEMA proposes to add references to natural features and nature-based approaches consistent with the Revised Guidelines to ensure that natural features and nature-based approaches are fully considered when identifying and evaluating practicable alternatives to locating the action in a floodplain or wetland. As changing conditions elevate the threats posed by natural hazards, FEMA is proposing to incorporate nature-based solutions to help bolster resilience. Nature-based solutions are sustainable planning, design, environmental management, and engineering practices that weave natural features or processes into the built environment to promote adaptation and resilience. These solutions use natural features and processes to combat changing conditions, reduce flood risk, improve water quality, protect coastal property, restore, and protect wetlands, stabilize shorelines, reduce urban heat, and add recreational space. Nature-based solutions offer significant monetary and non-monetary benefits and often come at a lower cost than traditional infrastructure.<sup>88</sup>

Requiring the use of natural features and nature-based approaches, where possible, in consideration of alternatives within or affecting floodplains and wetlands is consistent with the agency’s priorities to promote the use of nonstructural flood protection methods, minimize the impact of its actions on the floodplain, and restore and preserve

the natural and beneficial values served by floodplains as well as preserve and enhance the natural values of wetlands (44 CFR 9.2). In applying the 8-step process to its actions, FEMA has integrated factors into its impact analysis and minimization measures (Step 4 and Step 5; 44 CFR 9.10 and 9.11) to identify those opportunities for beneficial floodplain and wetland values, to include natural values related factors (44 CFR 9.10(d)(2)) that prioritize water resource values, living resource values, and agricultural, aquacultural, and forestry resource values. Requiring natural features or nature-based solutions as alternatives, where possible, furthers the goals in 44 CFR part 9 and allows for FEMA to further encourage those actions that increase the natural and beneficial function of the floodplain.

FEMA also proposes revisions to Step 5 to clarify that the agency must minimize potential adverse impacts within floodplains and wetlands under Step 4, including minimizing the potential direct and indirect support of floodplain and wetland development identified under Step 4. While not a new requirement, revising this language would help clarify that direct or indirect support of floodplain or wetland development is an adverse impact the agency must consider as part of minimization. FEMA believes these edits would help ensure consistency of use throughout part 9 and reduce stakeholder confusion. Finally, FEMA proposes a minor edit for readability in Step 6 (removing the word “the” in the phrase, “the hazards to others”).

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

Current § 9.7 establishes FEMA’s procedures for determining whether any action as proposed is located in or affects a floodplain or a wetland. FEMA is proposing to revise this section to add procedures for identifying the FFRMS floodplain and corresponding elevation. FEMA is also proposing to revise this section’s paragraph structure for clarity.

In current and proposed paragraph (a), FEMA proposes minor conforming edits. As in § 9.6, FEMA proposes to simply refer to “floodplain” rather than the current regulatory text’s “base floodplain” or “500-year floodplain” references and direct the reader to paragraph (c), because the Revised Guidelines and the FFRMS’s flexible framework for 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).

FEMA proposes to reorganize current paragraph (b) for clarity. In proposed paragraph (b)(1), FEMA proposes to replace a reference to “the Orders” with a reference to “this part,” for clarity. In proposed paragraph (b)(1)(i), FEMA proposes to add the words “Federal action” to make clear that the goal is to avoid Federal action, specifically, in a floodplain or wetland location unless they are the only practicable alternatives consistent with the agency’s requirements under part 9. This proposed change would reiterate that the focus of the 8-step process is on Federal actions.

FEMA is also proposing to relocate to § 9.7(c) the statement that 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. FEMA proposes this change for clarity. In addition, Paragraph (b) of § 9.7 currently states that information about the 1 percent annual chance (100-year) and 0.2 percent annual chance (500-year) floods may be needed to comply with the regulations in part 9. In proposed paragraph (b)(2), FEMA proposes to update this statement for simplicity, referencing the floodplain determination process in § 9.7(c) in revised paragraph (b)(2) instead of referencing the 100-year and 500-year floods.

Current paragraph (b) includes a list of “flooding characteristics” that the Regional Administrator “shall” identify, “as appropriate.” For clarity, FEMA proposes in new paragraph (b)(3) that the Regional Administrator “may” identify “current and future” flooding characteristics, “as applicable.” These proposed changes are consistent with the Revised Guidelines. FEMA prefers to avoid the use of the term “shall,” which suggests a mandatory requirement for the Regional Administrator to identify all of the additional flooding characteristics listed. FEMA’s current practices do not require this level of rigidity and FEMA proposes the identification of these characteristics to be within the discretion of the Regional Administrator. FEMA is also proposing to add language for the agency to consider both current and/or future flooding characteristics by adding “current and future” to the additional flooding characteristics that may be considered. This addition clarifies the Regional Administrator’s discretion to consider both current and future flooding characteristics consistent with the goals of FFRMS to improve the resilience of communities and Federal assets against the impacts of flooding

<sup>88</sup> See generally Coastal Resilience Assessment (Suriname), December 2017 published by the World Bank at <https://naturebasedsolutions.org/knowledge-hub/63-coastal-resilience-assessment-suriname> (last accessed June 8, 2022); Environmental and Energy Study Institute Fact Sheet “Nature as Resilient Infrastructure: An Overview of Nature-Based Solutions” at [https://www.eesi.org/files/FactSheet\\_Nature\\_Based\\_Solutions\\_1016.pdf#:~:text=These%20nature-based%20solutions%20are%20often%20higher-quality%2C%20lower-cost%2C%20more,avenue%20for%20rethinking%20and%20remodeling%20our%20nations%20infrastructure](https://www.eesi.org/files/FactSheet_Nature_Based_Solutions_1016.pdf#:~:text=These%20nature-based%20solutions%20are%20often%20higher-quality%2C%20lower-cost%2C%20more,avenue%20for%20rethinking%20and%20remodeling%20our%20nations%20infrastructure) (last accessed July 12, 2023); and Andrea Bassi, Emma Cutler, Ronja Bechauf, and Liesbeth Casier, “How Can Investment in Nature Close the Infrastructure Gap?” at <https://www.iisd.org/publications/investment-in-nature-close-infrastructure-gap> (last accessed July 12, 2023).

which are anticipated to increase over time. Further, FEMA proposes to add to the list of flooding characteristics a new item for “[a]ny other applicable flooding characteristics” to signal flexibility as flood risks are further studied and developed and allow for local jurisdictions to utilize their own information to support requirements specific to their community’s needs.

Paragraph (c) of § 9.7 outlines the process for determining if the proposed action is in the floodplain. As explained above, FEMA proposes to move language regarding previously flooded facilities and structures from the current paragraph (b) to proposed paragraph (c). FEMA also proposes to add the word “previously” to this provision for clarity. By moving this language to paragraph (c), FEMA would group this provision with the other floodplain determination provisions. If a proposed action does not involve a previously flooded facility or structure, FEMA would then begin the process set forth in the rest of paragraph (c) to determine whether the proposed action is in the floodplain. FEMA would determine whether the action is an action subject to the FFRMS as defined in § 9.4. If the action is an action subject to the FFRMS, FEMA would establish the floodplain and corresponding flood elevation<sup>89</sup> using one of the four approaches outlined in proposed paragraph (c)(1). For example, FEMA would likely be required to apply one of those four approaches to establish the FFRMS floodplain to projects involving new construction or substantial improvement or addressing substantial damage to a structure or facility. However, FEMA-funded projects that do not rise to the level of new construction or substantial improvement and do not address substantial damage to a structure or facility would not be required to apply any of the four approaches to establish the FFRMS floodplain.<sup>90</sup>

<sup>89</sup> Although the FFRMS describes various approaches for determining the higher vertical flood elevation and corresponding horizontal floodplain for Federally funded projects, it is not meant to be an “elevation” standard. The FFRMS is a resilience standard. The vertical flood elevation and corresponding horizontal floodplain determined using the approaches in the FFRMS establish the level to which a structure or facility must be resilient. This may include using structural or non-structural methods to reduce or prevent damage; elevating a structure; or, where appropriate, designing it to adapt to, withstand, and rapidly recover from a flood event. See Revised Guidelines at 4.

<sup>90</sup> Under proposed § 9.7(c)(2), FEMA would retain discretion to apply the FFRMS to other actions as appropriate. For instance, under the accompanying proposed policy, FEMA would require that all structure elevation, mitigation reconstruction, and

FEMA proposes to implement the FFRMS by adopting the flexible framework identified in Executive Order 11988, as amended by 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 generally 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, while also considering the availability of actionable data, costs, and equity.

Consistent with Executive Order 11988 as amended by Executive Order 13690 and the Revised Guidelines, proposed § 9.7(c)(1)(iii) would allow FEMA to except from the FFRMS an action that is in the interest of national security, an emergency action, or a mission-critical requirement related to a national security interest or an emergency action. For example, if FEMA proposed to construct an underground bunker at one of its locations for national security reasons, to require the bunker to be elevated pursuant to the FFRMS could run contrary to the purpose of the bunker. It is important to note that an exception to using the floodplain for actions subject to the FFRMS under any of the reasons listed in this section does not exempt the action from the requirements of part 9 and Executive Order 11988 altogether. Instead, if one of FEMA’s actions were excepted under this provision, FEMA would still be required to apply the appropriate floodplain established by proposed § 9.7(c)(3). FEMA does have the authority to exempt certain actions from any application of the requirements of Part 9 and Executive Order 11988, as amended, and those actions which are exempted are described in current §§ 9.5(c) and (e).

In proposed § 9.7(c)(2), consistent with existing requirements, FEMA proposes that if FEMA determines that the action is not an action subject to FFRMS, the proposed action would be evaluated using, at a minimum, the 1 percent annual chance floodplain for non-critical actions and, at a minimum, the 0.2 percent annual chance floodplain for critical actions.

In proposed § 9.7(c)(3), FEMA proposes to focus the analysis to establish the floodplain and corresponding elevation using the best

dry floodproofing actions under FEMA’s Hazard Mitigation Assistance programs comply with the proposed FFRMS policy.

available data and proposes that the floodplain and corresponding elevation determined using best available data must be at least as restrictive as FEMA’s regulatory determinations under the National Flood Insurance Program. Current § 9.7(c)(1) requires FEMA to first consult the FIRM, FBFM, and FIS which ends the analysis if those “detailed” products are available. There are cases where FIRM, FBFM, and FIS are available for an area but do not provide flood elevations, 0.2 percent annual chance floodplain information, or other floodplain information required. The proposed changes allow FEMA to seek additional information even when a “detailed” product is available at a location. If those “detailed” products are not available, FEMA will then consult the FFBM. If that information is insufficient FEMA will seek other data as part of the floodplain and elevation analysis.

FEMA proposes to update this paragraph to reflect the Revised Guidelines’ focus on the use of the best available information. While FEMA still intends to rely on FEMA products such as FIRMs, FBFMs, FISs, and FFBMs, FEMA understands that these products do not always provide all information needed for some locations and do not currently account for future conditions and other factors that better inform the floodplain determination for projects under part 9. In obtaining the best available information, FEMA is proposing to consider other information from FEMA, as well as information in a proposed updated list of sources to reflect those sources suggested in the Revised Guidelines, as well as sources the agency knows may have relevant additional information. Some of the proposed changes to this list are updates to reflect current titles, while other changes reflect newly available resources. Finally, if none of these sources have the information necessary to comply with part 9, the Regional Administrator may seek the services of a professional registered engineer. FEMA proposes clarifying edits in paragraph (d)(3) and (d)(4) of § 9.7.

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

FEMA proposes clarifying edits in § 9.8(a) and § 9.8(c)(1)–(c)(4) for readability. FEMA is adding the use of the internet for notice in this process by inserting § 9.8(c)(4)(i) to allow for notice through the internet or another comparable method. This proposed change would codify FEMA’s current practice to incorporate notices on the agency’s website at [www.fema.gov](http://www.fema.gov) in connection with specific disaster relief

efforts. Currently, notices regarding other FEMA programs may be posted on other websites, such as websites belonging to state or local governments, but these notices are not currently posted on *www.fema.gov* if not tied to a specific disaster. This revision would allow FEMA to further expand the use of *www.fema.gov* for notices for other programs not tied to a specific disaster. By incorporating the use of the internet through FEMA's website and other sites as a means to provide notice, FEMA is seeking to modernize this part for consistency with current practice and to increase public visibility and accessibility of those notices that are not currently posted on *www.fema.gov*. FEMA proposes other edits to the notification process in paragraph (c)(4) to eliminate outdated terminology and incorporate newsletters into the "other local media" category as a means of providing notice to potentially interested persons. In addition to incorporating the use of the internet for notice, FEMA proposes to clarify in § 9.8(d)(5)(ii) that FEMA may include in the notice a link to access a map of the area of the proposed action. A link may help the public more easily access information associated with the notice. FEMA also proposes to correct a typographical error. FEMA proposes other clarifying edits in § 9.8(c)(5)(i)–(iv) for readability.

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

FEMA proposes clarifying edits in § 9.9(a) for readability. In § 9.9(b)(2), FEMA proposes to add the requirement to use natural systems, ecosystem processes, and nature-based approaches, where possible, in the development of alternatives to the proposed actions in or affecting the floodplain and/or wetland. 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 an alternative using natural systems, ecosystem processes, and nature-based approaches might have less of an effect on the floodplain.

For consistency with the Revised Guidelines and the agency's use of the term in the current regulations, FEMA is proposing to add the cost of technology to the list of economic factors that FEMA considers under § 9.9(c)(3). By

adding technology to this list, FEMA would clarify that the cost of technology is a factor to consider in determining practicability of alternatives and also emphasize the importance of the cost of technology and technological advancements in the analysis. FEMA is proposing to add § 9.9(c)(5) to reflect consideration of agency authorities in the practicability analysis, again for consistency with the Revised Guidelines. Additionally, FEMA is proposing clarifying edits throughout paragraph 9.9(c) for readability.

FEMA proposes to remove paragraph (d)(2) of § 9.9, which prohibits FEMA from locating a proposed critical action in the 500-year floodplain, as the language is redundant given the proposed changes to paragraph (d)(1) which explain that FEMA would utilize § 9.7(c) when making the floodplain determination. As noted above, FEMA would determine whether the project meets the new definition of an "Action subject to the FFRMS" in proposed § 9.4. If FEMA determined that the project is an action subject to the FFRMS, then FEMA would establish the floodplain by using one of the approaches detailed in proposed § 9.7(c)(1) (which requires the applicant to consider whether an action is a critical action). If FEMA determined that the project is not an action subject to the FFRMS, 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, at a minimum, for critical actions as explained in proposed § 9.7(c)(2). 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), eliminate current paragraph (d)(2) as it is redundant, and redesignate current paragraph (d)(3) as new paragraph (d)(2).

FEMA proposes clarifying edits in paragraphs (e)(1)(i), (e)(1)(iii), and (e)(1)(iv) for readability and to eliminate specific references to the Orders in paragraphs (e)(3) and (e)(4). FEMA proposes to eliminate paragraph (e)(6). Paragraph (e)(6) of § 9.9 prohibits FEMA Resilience 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 implement this

provision and does not intend to do so now; therefore, FEMA is proposing to remove it from the regulation.

#### *K. Section 9.10—Identify Impacts of Proposed Actions*

FEMA proposes minor clarifying edits in paragraphs (a), (b), and (d) for readability and seeks to remove the reference to contacting regional offices of U.S. Fish and Wildlife Service from section 9.10(c) as this process will be further detailed in guidance. FEMA also proposes edits to paragraph 9.10(d)(2) for consistency with edits made in section 9.4 defining the natural and beneficial values of floodplains and wetlands.

#### *L. Section 9.11—Mitigation*

FEMA proposes minor clarifying edits in paragraph (a). In paragraph (c)(1), FEMA proposes to clarify that the minimization provisions require the agency to minimize potential harm to lives and the investment at risk from flooding based on flood elevations established by § 9.7(c). This change first helps further explain that the potential harm to be minimized must be from flooding and that the potential harm is based on flood elevations established by § 9.7(c). This proposed revision removes the reference to the base flood and the 500-year flood from paragraph 9.11(c) and instead references the floodplain as established in § 9.7(c) consistent with other changes in the regulation to reflect the revised process described in § 9.7 when making the floodplain determination.

In paragraph (d), FEMA proposes to revise the text to reflect that the minimization standards are applicable to all of FEMA's grant programs. Currently, § 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 (d)(2) and (d)(3)(i), FEMA proposes to specifically require elevation of the lowest floor of a structure to the floodplain established under § 9.7(c) during the construction of new or substantially improved structures. As described above, FEMA must follow the revised process described in § 9.7 when making the floodplain determination. FEMA must determine whether the project meets the new definition of an "action subject to the FFRMS" in § 9.4. The definition of "action subject to the FFRMS" 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 (d)(2) and (d)(3)(i) 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) as detailed in § 9.7(c). FEMA is proposing to remove current § 9.11(d)(3)(ii) as it becomes redundant with changes proposed to § 9.11(d)(3)(i) and redesignate current § 9.11(d)(3)(iii) as new § 9.11(d)(3)(ii). FEMA 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>91</sup> FEMA proposes to revise current paragraph (d)(3)(iii) to eliminate references to the 100-year or 500-year level consistent with other proposed changes in the regulation to avoid confusion around the use of these terms given the revised process for the floodplain analysis set forth in proposed § 9.7(c). FEMA is also proposing clarifying edits in current paragraph (d)(3)(iv) consistent with proposed changes to § 9.4 definitions by changing “Federal Insurance Administration” to reflect organizational changes to “FEMA Resilience” and other technical citation edits as well as replacing “FIRM” with “FEMA regulatory product” consistent with other proposed changes.

In paragraph (d)(4), FEMA proposes minor clarifying edits and to add clarifying terminology consistent with changes proposed to § 9.4 definitions of the base flood and base floodplain. FEMA also proposes to provide that encroachments or other development within a floodway that would result in an increase in flood elevation, rather than in flood levels, are prohibited. FEMA also proposes two further changes to help better address the concern of flood elevation increase because of such development. As revised, paragraph (d)(4) would provide that the increase in elevation must not be more than the amount designated by the NFIP or, as indicated later in this paragraph, the community, whichever is most restrictive. The current designated height of the elevation is no more than one foot at any point, which effectively restates the existing minimum standard

under the NFIP.<sup>92</sup> FEMA’s proposed changes would remove reference to a one-foot standard, because this minimum standard is subject to change under the NFIP.<sup>93</sup> Further, FEMA’s proposed changes would provide that the appropriate elevation is set by either the NFIP or the community, whichever results in the more restrictive standard.

FEMA proposes to update terminology from “disaster proofing” to “flood proofing and/or elevation” for clarity in paragraph (d)(9). For the same reasons as stated above for §§ 9.11(d)(2) and (d)(3)(i), in paragraph (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 (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 remove § 9.11(e) as the section’s requirements are no longer required. At the time § 9.11(e) was promulgated, FEMA had discrepancies in coastal studies data that resulted in an underrepresentation of flood risk in some areas and this paragraph was meant to address the issues associated with those data discrepancies.<sup>94</sup> Since 1981, FEMA has updated the FIRMS for all coastal high hazard areas to address the earlier data issues and the program no longer maintains these special procedures for insurance or floodplain improvements. The V Zone Risk Factor Rating Form was discontinued by the agency on October 16, 2019, based on a lack of use<sup>95</sup> and, given the effectiveness of FEMA’s updated data resolving the initial discrepancies, resulted in little to no impact on an individual’s actual flood insurance premium. Given the updated data available and FEMA’s reliance on the best available information to determine the floodplain in § 9.7(c), this paragraph is no longer relevant. Additionally, the provision found in paragraph (e)(4) 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 implement this provision and does not intend to do so now. Therefore, FEMA proposes to remove it from the regulation, and redesignate paragraph (f) as paragraph (e).

#### M. Section 9.12—Final Public Notice

FEMA proposes a minor edit to paragraph (d)(6) to update language to reflect current program terminology. Specifically, FEMA proposes to change the term “Damage Survey Report” to “project application” to reflect the current document utilized by FEMA’s grant programs.

#### N. Section 9.13—Particular Types of Temporary Housing

FEMA proposes to revise this section to clarify that this part applies to certain specified types of temporary housing at private, commercial, and group site. Currently, this section only applies to private and commercial sites. FEMA is proposing to incorporate group sites into this section so that all of the temporary housing requirements under this part will fall within the same section, promoting ease of use and consistency in the application of the relevant steps of the 8-step process to each type of temporary housing site. Group sites are generally a more intensive action for the agency, as they involve the development of a new site on which to place housing and these actions are currently subject to the normal 8-step process required for most FEMA actions under current § 9.13(b) and (c)(2). However, FEMA’s experience with group sites has demonstrated the importance of applying the considerations of Steps 3 (practicable alternatives) and 5 (minimization) to group sites as outlined in proposed § 9.13, rather than the full 8-step process. Group sites share the same need for expedited review as private and commercial sites given the urgent need for shelter after a disaster and the same consideration of other factors such as cost effectiveness, potential flood risk to a temporary housing occupant in a temporary housing situation, and a location close enough to the occupant’s former residence to make it possible for the occupant to recover quickly. Given these same considerations, FEMA is proposing to add group sites to coverage under this section. *See* proposed §§ 9.13(a) and (b).

Throughout this section, FEMA proposes to update the terminology from “mobile home” to “temporary housing unit”<sup>96</sup> and to eliminate references to “other readily fabricated dwellings” that are redundant as a result of the change to clarify the types

<sup>91</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/emergency-managers/risk-management/building-science/publications> (last accessed July 12, 2023).

<sup>92</sup> 44 CFR 60.3.

<sup>93</sup> *See* 42 U.S.C. 4102(c).

<sup>94</sup> *See* 45 FR 59520, 59525 (Sept. 9, 1980).

<sup>95</sup> *See* 85 FR 31202 (May 22, 2020) and <https://nripservices.floodsmart.gov/sites/default/files/w-19014%20.pdf> (last accessed July 2023).

<sup>96</sup> Temporary Housing Unit is defined as “[a] house, apartment, cooperative, condominium, manufactured home, or other dwelling acquired by FEMA and made available to eligible applicants for a limited period of time.” *See* [https://www.fema.gov/sites/default/files/documents/fema\\_iappg-1.1.pdf](https://www.fema.gov/sites/default/files/documents/fema_iappg-1.1.pdf) (last accessed July 28, 2023).

of temporary housing units covered under this section. The statutes and regulations associated with the Individual Assistance Program use the term “temporary housing unit.” FEMA believes this proposed change will help eliminate confusion. Examples of temporary housing units include a readily fabricated dwelling such as recreational vehicles, manufactured housing units, travel trailers, yurts, and tiny houses.<sup>97</sup>

In proposed § 9.13(c)(1), FEMA proposes to specifically designate the use of the 1 percent annual chance (base) floodplain when evaluating whether to take a temporary housing action. In proposed § 9.13(c)(3), consistent with the aforementioned proposed changes to § 9.13(c)(1), FEMA proposes to revise the prohibition against housing an individual or family in the “floodplain” (which applies unless Regional Administrator has complied with the provisions in proposed § 9.9 to determine that the site is the only practicable alternative), by instead referring to the “1 percent annual chance (base) floodplain.” 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.

Consistent with the proposed change to incorporate group sites into this section, FEMA proposes to add § 9.13(c)(4) to clarify that Step 4 of the 8-step process continues to apply to group sites. As explained above, group sites are generally a more intensive action for the agency, as they involve the development of a new site on which to place housing. By adding this paragraph, FEMA is proposing to ensure that step 4 of the 8-step process is applied to group sites in accordance with § 9.10 and that the effects of proposed actions are identified. FEMA

is making this proposal because developing a new group site frequently involves development of infrastructure that could result in future development in the floodplain, to a greater extent than actions taken in existing private or commercial sites.

In the 2016 NPRM, FEMA proposed the addition of language to current paragraph (d)(4)(i) to require that actual elevation levels of temporary housing units would be based on manufacturer specifications and applicable Agency guidance. Specifically, the 2016 NPRM stated that it was not always practicable to elevate mobile homes to a given level and that the proposed rule would require that such homes be elevated to the fullest extent practicable. 81 FR at 57419. This NPRM does not seek to add that language because the current regulatory text in paragraph (d)(4)(i) requires these homes to be elevated “to the fullest extent practicable.” FEMA believes that what constitutes the fullest extent practicable will vary by location, temporary housing unit type, and a range of other variables not suited for comprehensive identification in the regulation. While FEMA’s current practice is to consider manufacturer specifications, the agency is no longer seeking to codify that sole variable into the regulation and will instead clarify the variables to consider in agency procedures.

FEMA seeks to clarify that the agency will not temporarily place a housing unit unless the placement is consistent with the criteria of the NFIP or any more restrictive Federal, State, or local floodplain management standards. The NFIP requires that these units be elevated to at least the base flood elevation, absent a variance.<sup>98</sup> See proposed § 9.13(c)(5)(ii). FEMA also proposes to substitute “44 CFR parts 59–60” for “44 CFR part 59 *et seq.*” (which currently appears in paragraph 9.13(d)(4)(ii)), to clarify the specific sections of the regulations the language references. In addition, although not directly stated in current part 9, it is current FEMA practice to complete Step 8 for temporary housing units. FEMA seeks to add proposed § 9.13(c)(7) to clarify that the agency must complete Step 8, ensuring that the requirements and decision-making process are fully integrated into the provision of temporary housing and current practices are codified in regulation.

In proposed § 9.13(d)(2), FEMA also proposes to require the elevation of temporary housing units to at least the level of the FFRMS floodplain if FEMA intends to permanently install a unit

that the agency is selling or otherwise disposing of that is located in the FFRMS floodplain.<sup>99</sup> This proposal is consistent with other proposed changes in section 9.4 to the definition of new construction, which now includes permanent installation of a temporary housing unit, and the definition of an action subject to the FFRMS as new construction is subject to the FFRMS. Any sale or disposal of a temporary housing unit that includes permanent installation of a temporary housing unit for residential purposes no longer constitutes temporary housing; FEMA believes that any unit that is permanently installed 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 permanent installation of a temporary housing unit would also be required meet NFIP requirements of residential structures by elevating the lowest floor to or above the base flood elevation, absent a variance.<sup>100</sup> See proposed § 9.13(d)(2).

The proposed requirement to elevate to the FFRMS floodplain when permanently installing these units as part of a sale may result in fewer temporary housing units being sold by FEMA as it will not always be practicable or feasible to elevate a temporary housing unit to the FFRMS requirement. However, this condition is not the only condition placed on the sale to applicants of temporary housing units that will be permanently installed. FEMA already places eligibility and sale conditions on these units to applicants. The sale of a temporary housing unit to an applicant currently requires the unit to be sold only to an individual or household occupying the unit, and requires that the site of the permanent placement comply with local codes and ordinances, and also complies with 44 CFR part 9.<sup>101</sup> FEMA also places a condition of sale on these units to include requirements for those units

<sup>99</sup> By contrast, temporary housing units 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(c)(5)(ii).

<sup>100</sup> 44 CFR 206.118(a)(1)(i) and (iii) requires, as a condition of sale, the applicant to agree to purchase flood insurance on the unit (if it is or will be in a special flood hazard area) and have a site that complies with 44 CFR part 9. The NFIP requires communities to elevate manufactured housing units to or above the base flood elevation. See 44 CFR 60.3(c)(6)(iv) and 44 CFR 60.3(c)(12)(i).

<sup>101</sup> See 44 CFR 206.118(a)(1)(i).

<sup>97</sup> Tiny homes are typically between 100 and 400 square feet and rarely exceed 500 feet. See <https://www.realtor.com/advice/buy/what-is-a-tiny-house/> (last accessed July 12, 2023).

<sup>98</sup> 44 CFR 60.3.

located in a special flood hazard area to purchase flood insurance.<sup>102</sup> Given the current conditions that apply to the sale of these units to applicants, FEMA does not believe the additional FFRMS floodplain requirement will overly burden applicants as FEMA currently intends to cover the costs of any additional elevation required for permanent installation when selling to an applicant.

Because this permanent installation constitutes a permanent housing solution for applicants as opposed to a temporary one lasting 18–24 months on average,<sup>103</sup> the agency believes these mitigation actions are necessary to minimize the long-term risk to human health, safety, and welfare associated with flooding and to meet the agency's obligation to lessen the impacts of our actions that relate to development in and occupancy of the floodplain. These units are generally sold for permanent installation in communities where individuals lack other permanent housing options through no fault of their own.<sup>104</sup> Not requiring the higher resilience standard for these units would make the units more susceptible to future flood risks. Permanent installation of these units by sale to an applicant increases the housing stock in the community and FEMA seeks to ensure that new housing in these communities meets these higher resilience standards. Communities with less resilient housing become more susceptible to future flood risks. A more resilient and equitable nation requires that resilience standards be applied to protect life, health, and safety of all communities. FEMA believes the FFRMS requirement for permanent installation of housing units will improve community resilience and floodplain management long term, consistent with the intent of the FFRMS. By promoting safer permanent housing placement, FEMA can mitigate future flood risks particularly for those individuals and communities that have been historically disadvantaged.

Additionally, FEMA is proposing to change the paragraph structure of § 9.13.

No substantive changes are intended as a result of this restructuring.

#### *O. Section 9.14—Disposal of Agency Property*

FEMA proposes minor clarifying edits consistent with other proposed changes throughout this part. In § 9.14(b)(4), FEMA proposes clarifying edits consistent with other changes in the regulatory text, replacing the term “support” with the term “support of floodplain and wetland development.” These edits would be made for clarity and would be consistent with the proposed definition of “Support of Floodplain and Wetland Development” found in proposed § 9.4. As previously explained, this clarification helps further delineate the agency's requirement to consider the impacts to floodplains and wetlands and how decisions made in this part could directly or indirectly result in increased development in a floodplain or wetland. These edits would help eliminate confusion regarding the use of the term “support” in the regulatory text and ensure that actions taken under part 9 were done with the intent not to support floodplain and wetland development consistent with Executive Order 11988, as amended, and Executive Order 11990.

In paragraph 9.14(b)(5), which currently directs FEMA to focus on minimization through floodproofing and restoration of natural values where improved property is involved, FEMA proposes to also require consideration of elevation. Elevation may be an appropriate focus of the minimization analysis depending on the nature of the improved structure; the current text's emphasis on floodproofing and restoration of natural values, to the exclusion of elevation, is unwarranted. FEMA proposes to make changes to paragraph (b)(7)(ii) to eliminate reference to the “flood fringe” and instead explain this concept in terminology more consistently used throughout part 9. This change would reduce the overall technical terminology used in the regulation, making it easier for stakeholders to understand the key concepts around flood risk and the application of part 9.

#### *P. Section 9.16—Guidance for Applicants*

FEMA proposes clarifying edits in § 9.16(b) to eliminate examples. The examples provided in current paragraph (b) do not necessarily reflect current agency terminology and, rather than limit the agency to current nomenclatures, FEMA proposes to eliminate references to the examples

here. FEMA proposes edits in paragraph (b)(2) to clarify that the decision-making process set out in § 9.6 relates to the determination of whether to take action in floodplains or wetlands. FEMA is proposing this change to clarify that the decision made in § 9.6 is the decision to act (or not take action) in the floodplain or wetland, not a decision generally on eligibility for assistance. FEMA recognizes that the decision to take no action may result in no assistance being provided, but that decision is not the only decision point in § 9.6. FEMA also proposes additional clarifying edits in § 9.16(b)(3)–(5) and § 9.16(c) for readability.

#### *Q. Section 9.17—Instructions to Applicants*

FEMA proposes clarifying edits throughout this section for readability. Additionally, in paragraph (a), FEMA proposes to add “as amended” to reflect amendments to Executive Order 11988 and in paragraph (b), FEMA proposes to update the reference to the 1978 Guidelines to the full title for the Revised Guidelines. FEMA also proposes additional clarifying edits in § 9.17(b)(3)–(5) to stay consistent with § 9.16(b)(3)–(5).

#### *R. Section 9.18—Responsibilities*

FEMA also proposes clarifying edits throughout this section, including updating the references to the Assistant Administrator to refer to FEMA Resilience as the office within FEMA that will review Regional Administrator decisions that are appealed and adding “as amended” to reflect amendments to Executive Order 11988.

#### *S. 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 the amendments to Executive Order 11988 and the Revised Guidelines, there is no utility to including the appendix in regulation. Instead, FEMA would include a revised version of the appendix, including the new decision-making process and the definition of the floodplain, in its policy implementing the FFRMS.

### **V. Comments Received Associated With Part 9 Revisions**

As explained above, FEMA previously sought to revise part 9 to incorporate the FFRMS. On November 17, 2015, FEMA released for public comment FEMA's Overview of FEMA's Intent to

<sup>102</sup> See 44 CFR 206.118(a)(1)(iii).

<sup>103</sup> The Robert T. Stafford Disaster Relief and Emergency Assistance Act § 408(c)(1)(B)(iii), 42 U.S.C. 5174(c)(1)(B)(iii), 44 CFR 206.110(e), and Individual Assistance Program Policy and Guide (IAPPG) Version 1.1, pgs. 41, 98, found at <https://www.fema.gov/assistance/individual/policy-guidance-and-fact-sheets> (last accessed July 12, 2023).

<sup>104</sup> See Individual Assistance Program Policy and Guide (IAPPG) Version 1.1, pg. 119, found at [https://www.fema.gov/sites/default/files/documents/fema\\_iappg-1.1.pdf](https://www.fema.gov/sites/default/files/documents/fema_iappg-1.1.pdf) (last accessed July 12, 2023).

Implement the FFRMS (Intent).<sup>105</sup> Continuing our commitment to an open, collaborative, stakeholder-focused process in implementing the FFRMS, FEMA shared this framework for public comment on FEMA's website 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>106</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. The adverse comment 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 actual historical climate data to measure the confidence of the models' abilities to accurately predict future climate conditions.<sup>107</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>108</sup> These studies provide confidence in accuracy of climate models' projections of future climate conditions. Within the 10 supportive comments, the commenters provided suggestions and asked questions concerning FEMA's proposed framework. FEMA took these comments and questions into consideration during the drafting process for this proposed rule.

<sup>105</sup> Available on the public docket for FEMA–2015–0006 at FEMA–2015–0006–0359.

<sup>106</sup> The comments are available on *regulations.gov* under docket ID FEMA–2015–0006.

<sup>107</sup> Risbey et al. 2014. Well-estimated global surface warming in climate projections selected for ENSO phase. "Nature Climate Change," 4, 835–840, at <https://www.nature.com/articles/nclimate2310> (last accessed July 12, 2023).

<sup>108</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.

On August 22, 2016, FEMA issued a Notice of Proposed Rulemaking "Updates to Floodplain Management and Protection of Wetlands Regulations To Implement Executive Order 13690 and the Federal Flood Risk Management Standard." 81 FR 57401. In response to the NPRM, FEMA received submissions from 78 commenters. Eighty percent of the comments were favorable. Favorable commenters noted the NPRM represented working "smarter, not harder," and emphasized the importance of protecting taxpayer investments in areas that are vulnerable to recurring damage, considering future flooding from a sustainability point of view, and harmonizing Federal requirements with efforts already underway in States and local communities. FEMA also received comments that were unfavorable and suggestions for changes to the proposed rule. FEMA considered these comments and suggestions in drafting this new proposed rule. Specifically, FEMA is incorporating suggestions received to (1) resolve concerns in the definitions section by adding a definition for "actions subject to the FFRMS" and retaining the definition of "emergency actions" (as opposed to changing the defined term "emergency work," as FEMA had proposed in 2016); (2) set the effective date of the rule's changes and 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 while only new actions would be subject to revised part 9 ensuring the changes would not be applied to projects which have already been reviewed for compliance with Executive Order 11988 and may have incurred design expenses to meet the current floodplain management standards in § 9.5(a)(3); and (3) update § 9.7(c) to provide additional clarity in the floodplain determination process and incorporate additional relevant sources of available information for the floodplain determination. FEMA is also incorporating suggestions to ensure flexibility in the implementation of FFRMS while also leveraging the best available and actionable data to enhance resilience by utilizing the CISA where data is available and actionable and providing options for the use of the FVA or 0.2PFA depending on the type of action involved and data availability and actionability for each of the remaining approaches, while also addressing equity and cost concerns.

In April 2021, FEMA issued a Request for Information (RFI) on FEMA's Programs, Regulations, and Policies. 86 FR 21325 (Apr. 22, 2021). The RFI sought input from the public on specific FEMA programs, regulations, collections of information, and policies for the agency to consider modifying, streamlining, expanding, or repealing in light of recent Executive Orders.<sup>109</sup> FEMA issued two additional RFIs associated with the National Flood Insurance Program<sup>110</sup> in 2021. FEMA received comments related to 44 CFR part 9 as a result of each of these requests. FEMA received eight comments that discussed the FFRMS. One comment suggested confusion exists between the FFRMS and the floodplain management standards under the National Flood Insurance Program. The remaining seven comments were supportive of implementing the FFRMS and/or incorporating the FFRMS into the National Flood Insurance Program's floodplain management standards to increase resilience for communities. While changes to the floodplain management standards are outside this scope of this rulemaking, FEMA is considering a rulemaking to revise the NFIP minimum standards and will assess the expression of support from these comments in that future effort.

## VI. Regulatory Analyses

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

Executive Orders 12866 (Regulatory Planning and Review), as amended by Executive Order 14094 (Modernizing Regulatory Review) and 13563 (Improving Regulation and Regulatory Review) 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

<sup>109</sup> See Executive Order 13985, "Advancing Racial Equity and Support for Underserved Communities Through the Federal Government," 86 FR 7009 (Jan. 25, 2021); Executive Order 13990 "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis," 86 FR 7037 (Jan. 25, 2021); and Executive Order 14009, "Tackling the Climate Crisis at Home and Abroad," 86 FR 7619 (Feb. 1, 2021).

<sup>110</sup> "Request for Information on the National Flood Insurance Program's Community Rating System," 86 FR 47128 (Aug. 23, 2021) and "Request for Information on the National Flood Insurance Program's Floodplain Management Standards for Land Management and Use, and an Assessment of the Program's Impact on Threatened and Endangered Species and Their Habitats," 86 FR 56713 (Oct. 12, 2021).

equity). Executive Order 13563 emphasizes the importance of quantifying both costs and benefits, of reducing costs, of harmonizing rules, and of promoting flexibility.

The Office of Management and Budget (OMB) has designated this rule a “significant regulatory action” as defined under section 3(f) of Executive Order 12866, as amended by Executive Order 14094, but it is not significant under section 3(f)(1) because its annual effects on the economy do not exceed \$200 million in any year based on the analysis conducted. Accordingly, OMB has reviewed it.

This Regulatory Impact Analysis (RIA) provides an assessment of the potential costs, benefits, and transfer payments from the Updates to Floodplain Management and Protection of Wetlands Regulations to Implement the Federal Flood Risk Management Standard (FFRMS) Notice of Proposed Rulemaking (NPRM). This analysis does not attempt to replicate the regulatory language of the proposed rule or any other supporting documentation. FEMA urges the reader to review the NPRM before reviewing this report.

The FFRMS is a flood resilience standard that is required for “Federally funded projects” and provides a flexible framework to increase resilience against flooding and to help preserve the natural values of floodplains and wetlands. A floodplain is any land area that is subject to flooding and refers to geographic features with undefined boundaries. FEMA proposes to incorporate the FFRMS into its existing processes, to ensure that the floodplain for an action subject to the FFRMS is expanded from the current base flood elevation to a higher vertical elevation and corresponding horizontal floodplain and that, where practicable, natural systems, ecosystem processes, and nature-based approaches would be considered when developing alternatives to locating Federal actions in the floodplain.

Under current FEMA regulations set out in 44 CFR part 9, the floodplain is defined as the 100-year floodplain (1 percent annual chance) for non-critical actions and as the 500-year floodplain (0.2 percent annual chance) for critical actions. New construction or substantial improvement of structures located in a floodplain must be elevated to or above the 1 percent annual chance flood level or base flood elevation (BFE). For critical actions, the new construction or substantial improvement of structures must be elevated to or above the 0.2 percent annual flood level. Non-residential structures may be appropriately floodproofed rather than

elevated to meet the applicable flood level.

This rule proposes to implement the FFRMS policy in the expanded floodplain and codify implementation of the FFRMS policy in the current floodplain. FEMA has already implemented partial interim policies for PA and HMA, discussed in further detail below. Depending on the program, these programs apply the FFRMS policy either to the base floodplain, or to both the 100-year (base floodplain) and 500-year floodplain (for critical actions). Following guidance in OMB Circular A–4, FEMA assessed each impact of this rule against a pre-guidance baseline. The pre-guidance baseline is an assessment against what the world would be like if the relevant guidance (*i.e.*, the partial interim policies for PA and HMA) had not been implemented.

At the time this RIA was conducted, these partial implementation policies had been in place for less than 6 months, which is an insufficient period to provide adequate data for analysis. Therefore, FEMA was unable to complete an in-depth analysis of the impact of these interim policies. Accordingly, FEMA used a pre-guidance baseline for this proposed rule to measure the impacts of the rule against the world without the interim PA and HMA policies.

Under the proposed rule, the Climate Informed Science Approach (CISA) would result in a flood elevation and corresponding horizontal expansion floodplain determination utilizing the best-available, actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding based on climate science. CISA is FEMA’s preferred policy approach as FEMA believes it has the potential to be the best and most well-informed approach to building resilience in an equitable manner and ensuring a reduction in disaster suffering. CISA is the only approach that ensures projects are designed to meet current and future flood risks unique to the location and thus ensures the best overall resilience, cost effectiveness, and equity. The FFRMS considerations require FEMA to consider the type of criticality of the action involved, the availability and actionability of data, and equity concerns, as further explained in the current proposed supplementary policy. As actionable climate data are not currently available for all locations, FEMA is proposing the Freeboard Value Approach (FVA) and 0.2 Percent Annual Chance Flood Approach (0.2PFA) alternatives in the absence of actionable CISA data. Specifically:

- *For critical actions:*<sup>111</sup> FEMA proposes the higher of the +3-foot FVA floodplain or the 0.2PFA floodplain.<sup>112</sup> Where the 0.2PFA data are not available, the +3-foot FVA will be utilized.

- *For non-critical actions:* FEMA proposes the lower of the +2-foot FVA or 0.2PFA.

The floodplain established by the FVA is the equivalent of the 1 percent annual chance floodplain (also known as the 100-year flood), plus either 2- or 3-ft of vertical elevation, as applicable based on criticality, and a corresponding increase in the horizontal extent of the floodplain. The increased horizontal extent will not be the same in every case. When the same vertical increase is applied in multiple actions subject to the FFRMS 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 action.

Projects that are located near the SFHA, but not in it, may be in the expanded FFRMS floodplain. Currently, there are no FEMA products depicting the boundary of the FFRMS floodplain. For this reason, FEMA and its interagency partners are developing various tools, like a FFRMS floodplain determination job aid and a web-based decision support tool, that would provide the agency a guide to determining the FFRMS floodplain and flood elevation levels to use for the projects. The web-based decision support tool would take into account the best available and actionable data. However, if this tool is not available to determine the FFRMS floodplain, FEMA would likely utilize the FFRMS floodplain determination job aid.

FEMA believes that the benefits of the rule—quantified and unquantified—would justify its costs. Flooding is the most common type of natural disaster in the United States,<sup>113</sup> and floods are expected to be more frequent and more severe over the next century due to the projected effects of changing conditions.<sup>114</sup><sup>115</sup> The ocean has

<sup>111</sup> A critical action is any activity for which even a slight chance of flooding would be too great. A non-critical action is any activity not considered a critical action.

<sup>112</sup> For all projects in coastal areas, if the 0.2 percent annual chance flood elevations do not account for the effects of wave action, the appropriate FVA must be used to determine the FFRMS floodplain.

<sup>113</sup> Department of Homeland Security. Natural Disasters. <https://www.dhs.gov/natural-disasters> (last accessed July 12, 2023).

<sup>114</sup> Climate change impacts. National Oceanic and Atmospheric Administration. U.S. Department of Commerce. <https://www.noaa.gov/education/>

warmed, polar ice has melted, and porous landmasses have subsided.<sup>116</sup> Global sea level has risen by about 8 inches since reliable record keeping began in 1880. While a conservative scenario projects a sea level rise under a meter (or 3.3-ft) by 2100,<sup>117</sup> it is projected to rise upwards of 8 feet by 2100 in an extreme scenario.<sup>119</sup> Floods are costly natural disasters; between 1980 and 2021, the United States suffered more than \$1.7 trillion (in 2021 dollars) in flood-related damages.<sup>120</sup> This proposed rule would help protect Federal investments from future floods and would help minimize harm in floodplains by changing the standards used to determine future risk for FEMA-funded new construction and substantial improvement or to address substantial damage (*i.e.*, “Federally funded projects”).

The requirements of this rule would apply to grants for projects funding the new construction, substantial improvement, or repair of substantial damage under FEMA programs such as Individual Assistance (IA), Public Assistance (PA), Hazard Mitigation Assistance (HMA) programs, and grants processed by FEMA’s Grants Programs

*resource-collections/climate/climate-change-impacts* (last accessed July 12, 2023).

<sup>115</sup> 1 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/J0KW5CXT. Page 20. [https://nca2014.globalchange.gov/downloads/low/NCA3\\_Climate\\_Change\\_Impacts\\_in\\_the\\_United%20States\\_LowRes.pdf](https://nca2014.globalchange.gov/downloads/low/NCA3_Climate_Change_Impacts_in_the_United%20States_LowRes.pdf) (last accessed July 12, 2023).

<sup>116</sup> *Id.* at pg. 21.

<sup>117</sup> Supplementary Material for the Regulatory Impact Analysis for the Supplemental Proposed Rulemaking, “Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review. Environmental Protection Agency (EPA). [https://www.epa.gov/system/files/documents/2022-11/epa\\_scghg\\_report\\_draft\\_0.pdf](https://www.epa.gov/system/files/documents/2022-11/epa_scghg_report_draft_0.pdf). Page 36. Last accessed: September 14, 2023.

<sup>118</sup> EPA uses the Framework for Assessing Changes To Sea-level (FACTS) and Building Blocks for Relevant Ice and Climate Knowledge (BRICK) sea-level rise models for their projections.

<sup>119</sup> Payne, J., Sweet, W., Felming, E., Craghan, M., Haines, J., Hart, J., Stiller, H., Sutton-Frier, A., Kruk, M., 2018. Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume I. Ch 8: Coastal Effects. National Climate Assessment. [https://nca2018.globalchange.gov/downloads/NCA4\\_Ch08\\_Coastal-Effects\\_Full.pdf](https://nca2018.globalchange.gov/downloads/NCA4_Ch08_Coastal-Effects_Full.pdf). Page 329. Last accessed September 14, 2023.

<sup>120</sup> U.S. billion-dollar weather and climate disasters. *Climate.gov*. <https://www.ncei.noaa.gov/access/billions/summary-stats/US/1980-2021> (last accessed July 12, 2023). Flood related damages are from flooding, severe storms, and tropical cyclones. Data are CPI adjusted.

Directorate (GPD) (involving grants for preparedness activities). The primary focus of this analysis is to estimate the costs and benefits resulting from a higher vertical elevation and associated horizontal expansion of the floodplain for specific projects paid for with Federal funds. The expected impacts of this proposed rule primarily result from the cost for the increased elevation or floodproofing requirements of structures in the FFRMS floodplain. The majority of these costs would be funded by FEMA through several grant programs. For the grant programs that have a cost-share requirement, FEMA grant recipients typically would bear about 25 percent of the elevation and floodproofing project costs. Additionally, FEMA expects to incur costs for administration of the proposed requirements, including training FEMA personnel.

To estimate how many projects would be subject to the requirements of this rule, FEMA used historical PA, IA, and HMA data. First, FEMA estimated the number of past new construction, substantial improvement, or repairs to substantial damage projects were in the existing floodplain. Next, FEMA relied upon data from samples of floodplain expansion at varying levels of freeboard in inland and coastal areas to estimate an average percentage expansion of the floodplain under each of the three FFRMS approaches. FEMA then multiplied the expansion percentages by the estimated number of projects in the current floodplain to estimate the number of projects that would be in the expanded floodplain under each of the FFRMS approaches.

To estimate the cost of the proposed elevation requirements, FEMA used reports from the National Flood Insurance Program (NFIP) to determine the increased cost per square foot associated with elevation and floodproofing. FEMA presents the costs as a range because of uncertainty about whether new construction projects would choose to floodproof or elevate.

Finally, to present the total impacts of the proposed rule, FEMA analyzed the impact of the FVA, 0.2PFA, and CISA for each of the programs, PA, IA, and HMA, as if each approach were the only FFRMS expansion option. This is because it is unknown exactly how many projects would be subject to the FVA, 0.2PFA, or CISA requirements under the proposed rule as this will continue to change with the addition of CISA data over time. Accordingly, FEMA estimated the costs of the proposed requirements for each of the approaches separately. This allowed FEMA to create a range for each

approach. FEMA opted to use this methodology because it would allow FEMA to estimate the highest and lowest probable costs, transfers, and benefits associated with each of the FFRMS expansion options for each of the programs.

FEMA examined the number of projects that would be subject to the proposed requirements in the first 10 years after the rule’s publication.<sup>121</sup> FEMA’s analysis focused on the costs, benefits, and transfer payments (*i.e.*, impacts on FEMA grants), that would result over a 50-year period from applying the requirements of the proposed rule to those projects, for a total period of analysis spanning 60 years. For example, if a structure is built in Year 10, the analysis covers 50 years of costs, benefits, and transfers for that structure starting in Year 10. However, if a structure is built in Year 11, that is outside of the first 10 years and so the analysis does not consider the costs, benefits, or transfers of the proposed requirements on that structure.<sup>122</sup> The costs and transfers occur in the first 10 years of the 60-year period because that is when the initial investment to elevate or floodproof those projects take place. This is an upfront cost that occurs when the project is constructed. However, the benefits of the proposed rule are estimated over the 50-year useful life of the affected structures.

The table below provides the estimated number of structures and facilities affected by the proposed rule over the first 10 years, assuming that each approach is the only expansion option. Structures, which are walled and roofed buildings, would comply with the proposed FFRMS through elevating or floodproofing to the required height. Facilities, which are any human-made or human-placed items other than a structure such as roads and bridges, would require different mitigation measures in order to

<sup>121</sup> FEMA used an average of the number of affected projects during the prior 10-year period to estimate the average annual impacts of the future 10-year period.

<sup>122</sup> If FEMA limited the analysis to only 10 years of impacts, it would consider all of the costs and transfers but only a small portion of the benefits from additional protection from flood events because the life of the structure is more than 10 years. After year 10, the proposed rule would continue to impact FEMA projects funding new construction, substantial improvements or repairs to fix substantial damage, but FEMA chose to limit the analysis to 10 years of affected structures because FEMA believes the number of structures affected in this 10-year period is enough to provide a reasonable estimate of the costs, benefits, and transfers resulting from the proposed rule. Accordingly, FEMA’s analysis focuses on the 50-year impacts of the rule on projects that take place in the nearest 10-year period, for a total period of analysis spanning 60 years.

comply with the increased resiliency standard of the proposed rule. The monetized impacts of this rule are representative of the floodproofing and

elevation mitigation measures that would be required of structures. However, for reasons explained in more detail later, FEMA was unable to

monetize the impacts of the rule for facilities.

TABLE 5—ESTIMATED NUMBER OF STRUCTURES AND FACILITIES AFFECTED BY THE PROPOSED RULE IN YEARS 1–10

FFRMS approach	Structures			Total structures	Facilities		Total facilities	Total projects
	PA	IA	HMA		PA	HMA		
FVA .....	1,090	2,650	9,492	13,232	20,120	841	20,961	34,193
0.2PFA .....	840	2,650	9,447	12,937	20,120	841	20,961	33,898
CISA .....	1,173	2,903	10,351	14,427	20,120	841	20,961	35,388

The proposed rule would increase construction and resiliency standards for FFRMS-affected structures and facilities. Implementing these standards, through higher vertical elevation or floodproofing, or other mitigation measures, is new economic activity that would result from this rule. Accordingly, these compliance activities are a cost of this rule.

Using CISA as the primary approach, FEMA estimates that this proposed rule would affect 14,427 PA, IA, and HMA structures over the first 10 years, which would result in a total cost of between \$142.1 million and \$156.3 million, undiscounted, over the 60-year period of analysis. Discounted, the low estimate cost would be between \$121.3 million and \$100 million, using 3 and 7 percent respectively, with a 60-year annualized cost between \$4.4 million and \$7.1 million, using 3 and 7 percent. Discounted, the high estimate cost would be between \$133.4 million and \$109.9 million, using 3 and 7 percent respectively, with a 60-year annualized cost between \$4.8 million and \$7.8 million, using 3 and 7 percent respectively. These costs include additional training for FEMA staff as well as the total cost for additional elevation and floodproofing.<sup>123</sup> FEMA was unable to quantify the cost for increased resiliency standards for an estimated 20,961 affected facility projects over the 10-year period of analysis. Additionally, FEMA was unable to quantify the cost for projects that may be diverted out of the floodplain, impacts to projects with existing basements, project delays, or forgone projects that may result from this rule.

Because the cost to implement the proposed mitigation measures would be shared between FEMA and grant recipients according to the statutory cost

share, there are also important distributional impacts. The majority of these costs would be borne by FEMA through additional grants (a transfer from FEMA to grant recipients). Grant recipients would bear the remaining cost. Using CISA as the primary approach, FEMA estimated that this proposed rule would affect 14,427 structures in the first 10 years, which would result in an increase in transfers from FEMA to grant recipients of between \$109.2 million and \$119.6 million, undiscounted, over the 60-year period of analysis. FEMA presents the change in transfer payments as a range because of uncertainty regarding whether new construction projects would be floodproofed or elevated. Discounted, the low estimate would be \$93.2 million and \$76.7 million, using 3 and 7 percent respectively, with a 60-year annualized increase in transfers between \$3.4 million and \$5.5 million, at 3 and 7 percent respectively. Discounted, the high estimate would be \$102.1 million and \$84.0 million, using 3 and 7 percent respectively, with a 60-year annualized increase in transfers between \$3.7 million and \$6.0 million, at 3 and 7 percent respectively. Grant recipients would be responsible for between \$29.2 million and \$31.7 million, undiscounted. Discounted, the low estimate would be \$24.9 million and \$20.5 million, using 3 and 7 percent respectively, with a 60-year annualized amount between \$0.9 million and \$1.5 million, at 3 and 7 percent respectively. Discounted, the high estimate would be \$27.0 million and \$22.2 million, using 3 and 7 percent respectively, with a 60-year annualized amount of \$1.0 million and \$1.6 million, at 3 and 7 percent respectively. Not included in these estimates are the additional grants FEMA would provide, and additional costs recipients would incur for their

portion of the cost share, for any of the elevation and floodproofing costs that FEMA was unable to monetize.

FEMA was able to quantify benefits for a portion of projects affected by the rule. Using CISA as the primary approach, FEMA estimated that 1,173 PA Category E (Public Buildings and Contents) projects would be subject to the FFRMS in the first 10 years. Assuming a 59-inch Sea Level Rise,<sup>124</sup> FEMA estimated that the present value benefits of one additional foot of freeboard for the 50-year useful life of projects undertaken during the 10-year period of analysis would be between \$55.2 million and \$62.0 million, undiscounted. The low estimate would range between \$47.1 million and \$38.8 million, discounted at 3 and 7 percent respectively, with a 60-year annualized benefit between \$1.7 million and \$2.8 million. The high estimate would range between \$52.9 million and \$43.5 million, discounted at 3 and 7 percent respectively, with a 60-year annualized benefit between \$1.9 million and \$3.1 million. These quantified benefits include estimates of avoided physical damage, avoided displacement, and avoided loss of function for the 1,173 PA Category E projects over their 50-year useful life. In addition, unquantified benefits of this proposed rule include the reduction in damage to 13,254 affected IA and HMA structures and their contents from future floods, 20,961 PA and HMA facilities, potential lives saved, public health and safety benefits, reduced recovery time from floods, and increased community resiliency to flooding.

Tables 6 and 7 show the estimated low and high costs, transfer payments, and benefits by FFRMS approach (assuming each approach is the only expansion option used), as well as by program for FEMA’s primary approach.

<sup>123</sup> To obtain total costs using tables 6 and 7, please see rows CISA Total (primary) (+5-ft) and FEMA admin.

<sup>124</sup> For FEMA’s primary estimate, FEMA used 59 inches of SLR due to it being the closest SLR option to CISA+5-ft. CISA is the preferred approach for FFRMS if the data are available. Since 5 ft is

equivalent to 60 inches (5 × 12 inches per foot), 59-inch SLR would be the closest SLR option that FEMA has available to use for this portion of the analysis.

TABLE 6—SUMMARY OF 60-YEAR COSTS, TRANSFERS, AND BENEFITS BY APPROACH AND PROGRAM FOR AFFECTED PROJECTS IN YEARS 1–10  
[Low estimate, 2021\$]

Costs *	Undiscounted	3% Discount rate		7% Discount rate	
		Present value	Annualized	Present value	Annualized
CISA Total (primary) (+5-ft) .....	\$138,393,786	\$118,052,707	\$4,265,594	\$97,202,003	\$6,923,623
PA .....	102,794,460	87,685,759	3,168,346	72,198,527	5,142,645
IA .....	1,421,690	1,212,730	43,820	998,537	71,125
HMA .....	48,908,310	41,719,781	1,507,459	34,351,150	2,446,806
FVA Total .....	61,994,588	52,882,642	1,910,806	43,542,402	3,101,492
0.2PFA Total .....	53,397,625	45,549,257	1,645,829	37,504,256	2,671,399
FEMA Admin .....	3,741,680	3,267,150	118,052	2,776,613	197,776
Not Quantified .....	<i>Not Estimated:</i> Increased resiliency standard for approximately 20,961 facility projects over 10 years, Additional costs for Adding Requirements to Buildings with Basements, Diversion of Projects Out of the Floodplain, Lifecycle maintenance costs for floodproofing, and Project Delays and Forgone Projects.				
<b>Transfer Payments from FEMA to Grant Recipients</b>					
CISA Total (primary) (+5-ft) .....	109,216,359	93,163,768	3,366,283	76,709,000	5,463,923
PA .....	82,955,130	70,762,410	2,556,855	58,264,212	4,150,115
IA .....	1,421,690	1,212,730	43,820	998,537	71,125
HMA .....	36,681,233	31,289,834	1,130,594	25,763,363	1,835,104
FVA Total .....	48,898,424	41,711,348	1,507,154	34,344,206	2,446,311
0.2PFA Total .....	41,973,888	35,804,576	1,293,725	29,480,702	2,099,888
<b>Benefits</b>					
PA (CISA, primary) (+1-ft) .....	55,180,000	47,069,660	1,700,766	38,756,122	2,760,569
Not Quantified .....	<i>Not Estimated:</i> Damage Avoidance for approximately 13,254 IA and HMA structure projects and 20,961 PA and HMA facility projects over 10 years, Potential Lives Saved, Increased Public Health and Safety, Decreased Cleanup Time, Protection of Critical Facilities, Reduction of Personal and Community Impacts.				

\*FEMA focused its analysis on the projects impacted in the first 10 years after the rule’s publication. FEMA considered the resulting costs, benefits, and transfer payments of the proposed rule on those projects over a 50-year period, for a total of 60 years. The costs and transfers occur in the first 10 years of the 60-year period because that is when the initial investment to elevate or floodproof them to meet the proposed requirements takes place. This is an upfront cost that occurs when the project is constructed. However, the benefits of the proposed rule are realized over the 50-year useful life of the affected structures.

TABLE 7—SUMMARY OF 60-YEAR COSTS, TRANSFERS, AND BENEFITS BY APPROACH AND PROGRAM FOR AFFECTED PROJECTS IN YEARS 1–10  
[High estimate, 2021\$]

Costs *	Undiscounted	3% Discount rate		7% Discount rate	
		Present value	Annualized	Present value	Annualized
CISA Total (primary) (+5-ft) .....	\$151,319,537	\$129,078,635	\$4,663,993	\$106,280,511	\$7,570,278
PA .....	120,722,020	102,978,331	3,720,912	84,790,095	6,039,533
IA .....	1,421,690	1,212,730	43,820	998,537	71,125
HMA .....	48,908,310	41,719,781	1,507,459	34,351,150	2,446,806
FVA Total .....	68,035,769	58,035,891	2,097,008	47,785,478	3,403,723
0.2PFA Total .....	57,766,400	49,275,911	1,780,484	40,572,701	2,889,962
FEMA Admin .....	4,942,430	4,291,414	155,061	3,619,968	257,848
Not Quantified .....	<i>Not Estimated:</i> Increased resiliency standard for approximately 20,961 facility projects over 10 years, Additional costs for Adding Requirements to Buildings with Basements, Diversion of Projects Out of the Floodplain, Lifecycle maintenance costs for floodproofing, and Project Delays and Forgone Projects.				
<b>Transfer Payments from FEMA to Grant Recipients</b>					
CISA Total (primary) (+5-ft) .....	119,647,439	102,061,693	3,687,791	84,035,355	5,985,773
PA .....	97,422,670	83,103,514	3,002,776	68,425,607	4,873,903
IA .....	1,421,690	1,212,730	43,820	998,537	71,125
HMA .....	36,681,233	31,289,834	1,130,594	25,763,363	1,835,104
FVA Total .....	53,773,657	45,870,019	1,657,420	37,768,366	1,657,420
0.2PFA Total .....	45,499,493	38,811,991	1,402,392	31,956,941	2,276,268

TABLE 7—SUMMARY OF 60-YEAR COSTS, TRANSFERS, AND BENEFITS BY APPROACH AND PROGRAM FOR AFFECTED PROJECTS IN YEARS 1–10—Continued  
[High estimate, 2021\$]

Costs *	Undiscounted	3% Discount rate		7% Discount rate	
		Present value	Annualized	Present value	Annualized
<b>Benefits</b>					
PA (CISA, primary) (+1-ft) .....	61,985,720	52,875,076	1,910,533	43,536,175	3,101,048
Not Quantified .....	<i>Not Estimated:</i> Damage Avoidance for approximately 13,254 IA and HMA structure projects and 20,961 PA and HMA facility projects over 10 years, Potential Lives Saved, Increased Public Health and Safety, Decreased Cleanup Time, Protection of Critical Facilities, Reduction of Personal and Community Impacts.				

\* FEMA focused its analysis on the projects impacted in the first 10 years after the rule’s publication. FEMA considered the resulting costs, benefits, and transfer payments of the proposed rule on those projects over a 50-year period, for a total of 60 years. The costs and transfers occur in the first 10 years of the 60-year period because that is when the initial investment to elevate or floodproof them to meet the proposed requirements takes place. This is an upfront cost that occurs when the project is constructed. However, the benefits of the proposed rule are realized over the 50-year useful life of the affected structures.

Quantified estimates of the benefits of this rule are available for only PA Category E projects. Tables 6 and 7 show that the total 60-year benefits for PA Category E projects in the first 10 years is \$43.5 million (7 percent, high). This benefit is for adding one foot of freeboard, assuming a 59-inch SLR. Although the cost for PA Category E projects is \$84.8 million, this cost represents 5 feet of freeboard (FEMA’s assumption for CISA).<sup>125</sup> FEMA does not have data to quantify the benefits of additional freeboard and thus the quantified benefits represent only a portion of the increased risk reduction that would be achieved through this rule. Ensuring projects are built to the height necessary to avoid additional loss scenarios would provide additional unquantified benefits of avoided damages to the structure, decreased cleanup time and disruption to the community, and increased public health and safety. Moreover, FEMA’s use of CISA as its preferred approach would use the best available and actionable scientific data to tailor future flooding risk to each project ensuring that projects are built only to the height necessary and thus maximizing net benefits. Accordingly, FEMA believes the benefits of the rule—quantified and unquantified—would justify its costs.

PA Projects

FEMA provides PA grants to public and certain non-profit entities for rebuilding, replacement, or repair of public and non-profit structures and facilities damaged by disasters. PA projects that involve new construction,

<sup>125</sup> Costs for the FVA may be a better comparison because they represent 2 or 3 feet of freeboard, depending on criticality. However, the number of projects using FVA and CISA differ, making such a comparison difficult.

substantial improvement, or repairs to address substantial damage would be affected by this rule.<sup>126</sup> FEMA divides its PA work into categories A–G. Projects funded under PA Categories C (Roads and Bridges), D (Water Control Facilities), E (Public Buildings), F (Utilities), and G (Parks, Recreational Areas, and Other Facilities) would be affected by the rule, but FEMA is only able to provide estimates of costs associated with Category E (Public Buildings). The reason FEMA was only able to provide estimates of costs for Category E projects is that Category E projects are for structures whereas projects funded under the remaining categories are for facilities.

FEMA 44 CFR part 9 classifies projects as either structures or facilities. Under this proposal, a structure is a walled and roofed building, including mobile homes and gas or liquid storage tanks. Structures are subject to freeboard requirements to floodproof or elevate to a certain level above the BFE. Freeboard is the additional height above the BFE

<sup>126</sup> FEMA’s PA program requires the use of the American Society of Civil Engineers Standard (ASCE) 24 that establishes minimum requirements for flood-related design and construction of structures that are located in whole or in part in flood hazard areas for PA projects. FEMA was unable to account for these additional baseline requirements since FEMA databases do not identify projects that were built to ASCE standards as these databases were not designed for data analysis. Additionally, these standards are based on the flood zone where the project is located, and FEMA was unable to identify the flood zones where individual projects were located. Instead, FEMA measures the effects of this rule against the current requirements of 44 CFR part 9. Accordingly, the estimated costs of compliance for PA structures may be overstated. See FEMA Recovery Interim Policy FP–104–009–11 Version 2, Consensus-Based Codes, Specifications and Standards for Public Assistance (December 2019) *FEMA Recovery Interim Policy FP–104–009–11 Version 2* (last accessed July 12, 2023) (referencing FEMA’s Public Assistance Program and Policy Guide, FP104–009–2 (April 2018)).

to which the structure is floodproofed or elevated for the purpose of reducing the risk of flood damage.

In contrast, facilities are any human-made or human-placed item other than a structure, such as roads and bridges. Facility mitigation measures are more varied and highly project-specific. For example, damage to roads during flood events can be caused by numerous events, such as erosion and scour, inundation by floodwater, or debris blockage. Likewise, the mitigation measures to address the damages can include a variety of approaches, such as installing low water crossings, increasing culvert size, installing a relief culvert, adding riprap to a road embankment, and many others.<sup>127</sup>

Due to the vast diversity of facilities, the highly project-specific nature of facilities projects, and numerous options for making them resilient, FEMA could not estimate the costs of improving flood resiliency of facilities. Where facilities are new construction, substantial improvement, or substantially damaged, they will incorporate minimization measures that will consider the FFRMS flood elevation. However, floodproofing and elevation to a specific height would likely not be appropriate. FEMA cannot estimate the cost due to the variability of those measures, which may include a variety of approaches, such as installing low water crossings, increasing culvert size, installing a relief culvert, and many others. Facilities that are already located in the Special Flood Hazard Area (SFHAs) or 0.2 percent annual chance floodplain for critical actions must take resilience measures

<sup>127</sup> See FEMA, “FEMA B–797 Hazard Mitigation Field Book: Roadways,” (2010), available at [https://www.fema.gov/sites/default/files/2020-07/b797\\_hazmit\\_handbook.pdf](https://www.fema.gov/sites/default/files/2020-07/b797_hazmit_handbook.pdf) (last accessed July 12, 2023).

under current regulations. Based on 2012–2021 data, FEMA estimates that about 1,181 Category C projects, 131 Category D projects, 254 Category F projects, and 446 Category G projects might be affected by the FFRMS each year.

For PA Category E projects, if FVA were the only expansion option, FEMA estimates the proposed rule would affect 1,090 projects over the first 10 years, which would result in a total cost of between \$44.3 million and \$53.2 million, undiscounted, over the 60-year period of analysis. The costs are incurred in the first 10 years of the 60-year period because that is when the investment in those projects takes place. Accordingly, FEMA estimates average annual costs in years 1–10 would range between \$3.9 million and \$5.9 million. The average Federal cost share for PA projects from 2012–2021 was 80.7 percent. Accordingly, FEMA estimates that it would cover 80.7 percent of the cost to elevate or floodproof PA projects,

for a total of between \$3.2 million and \$3.7 million in additional grants per year for the first 10 years. Grant recipients would bear the remaining cost of between \$0.9 million and \$1.0 million per year for the first 10 years.

For PA Category E projects, if 0.2PFA were the only expansion option, FEMA estimates the proposed rule would affect 840 projects over the first 10 years, which would result in a total cost of between \$39.5 million and \$46.0 million, undiscounted, over the 60-year period of analysis. Because these costs are incurred in the first 10 years, FEMA estimates the average annual costs in years 1–10 would range between \$3.2 million and \$3.6 million. Using the historical average 80.7 percent Federal cost share, FEMA estimated that it would cover 80.7 percent of the cost to elevate or floodproof PA projects, for a total of between \$3.2 million and \$3.7 million in additional grants per year for the first 10 years. Grant recipients would bear the remaining cost

approximately \$0.8 million and \$0.9 million per year for the first 10 years.

For PA Category E projects, if CISA were the only expansion option, FEMA estimates the proposed rule would affect 1,173 projects over the first 10 years, which would result in a total cost of between \$88.9 million and \$101.8 million, undiscounted, over the 60-year period of analysis. Because these costs are incurred in the first 10 years, FEMA estimates the average annual costs in years 1–10 would range between \$8.9 million and \$10.2 million. Using the historical average 80.7 percent Federal cost share, FEMA estimated that it would cover 80.7 percent of the cost to elevate or floodproof PA projects, for a total of between \$7.2 million and \$8.2 million in additional grants per year for the first 10 years. Grant recipients would bear the remaining cost of between \$1.7 million and \$2.0 million per year for the first 10 years.

TABLE 8—SUMMARY OF FFRMS PA CATEGORY E PROJECT COSTS AND DISTRIBUTIONAL IMPACTS BY APPROACH

	FVA	0.2PFA	CISA
<i>Low Estimate:</i>			
Annual cost (Years 1–10) .....	\$3,990,396	\$3,153,882	\$8,887,014
FEMA's portion (grants from FEMA to recipients) .....	3,220,250	2,545,183	7,171,820
Recipients' portion .....	770,150	608,700	1,715,190
<i>High Estimate:</i>			
Annual cost (Years 1–10) .....	4,594,514	3,590,760	10,179,589
FEMA's portion (grants from FEMA to recipients) .....	3,707,773	2,897,743	8,214,928
Recipients' portion .....	886,740	693,020	1,964,660

*Unquantified:* Increased resiliency standard for structures that would affect an estimated 1,181 Category C projects, 131 Category D projects, 254 Category F projects, and 446 Category G projects per year.

IA Projects

IA grants are provided to individuals who, as a direct result of a disaster, have necessary expenses and serious needs that they are unable to meet through other means. IA is divided into housing assistance and other needs assistance. Other Needs Assistance under IA provides a financial assistance for medical, dental, childcare, funeral, personal property, transportation, or other necessary expenses or serious needs. Under Housing Assistance, FEMA may provide temporary housing assistance (financial assistance or direct assistance in the form of temporary housing units); a capped amount of financial assistance for the repair or replacement of disaster-damaged private residences; and, in rare circumstances, financial or direct assistance to construct permanent or semi-permanent housing.

The financial caps on housing repair or replacement assistance means IA

grants generally do not fund new construction or substantial improvements. However, there are two types that would be affected by this proposed rule: IA Permanent Housing Construction (PHC) projects and sales and disposal of temporary housing units (THUs). PHC is Federal assistance that FEMA provides under IA for the purpose of constructing permanent housing where alternative housing resources are unavailable or scarce. IA also includes the sale and disposal of THUs, such as mobile housing units and recreational vehicles, and THUs located in the FFRMS floodplain would be subject to the requirements of this rule. FEMA regulations prohibit the floodproofing of residential structures at or below the BFE: elevation is the only option.<sup>128</sup> FEMA calculated the cost of elevating PHC structures, depending on

FFRMS approach and location and type of project.<sup>129</sup> 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 rule, so costs and benefits for these areas were reduced based on existing requirements.<sup>130</sup>

<sup>129</sup> Projects outside of the 1 percent annual chance floodplain, but below the required level would need to be elevated to the required level. These projects require elevations of different levels, depending on the structure's current elevation. FEMA assumed that half of the projects would need to be elevated 1-ft and the other half or projects would need to be elevated 2-ft. This assumption was made because FEMA is unsure of the actual number of projects that would need to be elevated by 1-ft or 2-ft and so assumed that it would be an even proportion for each height. IA projects are all considered non-critical actions and would not require a 3-ft level.

<sup>130</sup> FEMA estimated that about 43.75 percent of the U.S. population lives in areas with no existing freeboard requirements, while 37.63 percent of the

Continued

<sup>128</sup> See 44 CFR 60.3. See also Floodproofing, FEMA, available at: <https://www.fema.gov/glossary/floodproofing> (last accessed July 12, 2023).

For IA, if FVA were the only expansion option, FEMA estimates the proposed rule would affect 2,650 structures over the first 10 years, which would result in a total cost of \$511,822, undiscounted, over the 60-year period of analysis. The costs are incurred in the first 10 years of the 60-year period because that is when the investment in those projects takes place. Accordingly, FEMA estimates average annual costs of \$51,182 in years 1–10. Since there is no cost share for IA, FEMA would fund the

entire cost of elevating IA projects through grants.

For IA, if 0.2PFA were the only expansion option, FEMA estimates the proposed rule would affect 2,650 structures over the first 10 years, which would result in a total cost of \$511,822, undiscounted, over the 60-year period of analysis. Because these costs are incurred in the first 10 years of the analysis, FEMA estimates the average annual cost in years 1–10 is \$51,182. Since there is no cost share for IA, FEMA would fund the entire cost of elevating IA projects through grants.

For IA, if CISA were the only expansion option, FEMA estimates the proposed rule would affect 2,903 projects over the first 10 years, which would result in a total cost of \$1,421,690, undiscounted, over the 60-year period of analysis.<sup>131</sup> Because these costs are incurred in the first 10 years of the analysis, FEMA estimates the average annual cost in years 1–10 is \$142,169. Since there is no cost share for IA, FEMA would fund the entire cost of elevating IA projects through grants.

TABLE 9—SUMMARY OF FFRMS IA PROJECT COSTS AND DISTRIBUTIONAL IMPACTS BY APPROACH

	FVA	0.2PFA	CISA
Annual cost (Years 1–10) .....	\$51,182	\$51,182	\$142,169
FEMA's portion (grants from FEMA to recipients) .....	51,182	51,182	142,169
Recipients' portion .....	0	0	0

HMA Projects

FEMA provides HMA grants to States, territories, Federally-recognized Tribes, and local communities for the implementation of hazard mitigation measures to increase resiliency to disasters. HMA projects relating to flood mitigation mainly include elevation of structures, floodproofing of structures,<sup>132</sup> and acquisition of properties that are at a high risk of damage from flooding. HMA also funds various other types of projects, such as minor flood control, property acquisition, and generators, but FEMA was unable to estimate the potential costs associated with these projects because the manner in which each applicant meets the resiliency standards would be fact-specific and dependent upon the nature of the design and purpose of the project. Between 2010 and 2019, FEMA funded a total of 841 minor flood controls and generators projects, for an average of 84 such projects per year. Additional minor mitigation measures would have to be

taken for these projects, if located in the expanded FFRMS floodplain.

FEMA used data from HMA grant approvals for projects that include the elevation or floodproofing of structures from 2010–2019 and a multi-step process to estimate the range of costs for elevating or floodproofing these structures to the FFRMS.<sup>133</sup>

For HMA, if FVA were the only expansion option, FEMA estimates the proposed rule would affect 9,492 structures over the first 10 years, which would result in a total cost of \$21.6 million, undiscounted, over the 60-year period of analysis. These costs are incurred in the first 10 years of the 60-year period because that is when the investment in those projects takes place. Accordingly, FEMA estimates average annual costs in years 1–10 of \$2.2 million. Using the 75 percent Federal cost share, FEMA estimated that it would cover 75 percent of the cost to elevate or floodproof HMA projects, for a total of \$1.6 million in additional grants per year in years 1–10. Grant

recipients would bear the remaining cost of \$0.5 million per year.

For HMA, if 0.2PFA were the only expansion option, FEMA estimates the proposed rule would affect 9,447 structures in the first 10 years, which would result in a total cost of \$21.3 million, undiscounted, over the 60-year period of analysis. Because these costs are incurred in the first 10 years of the analysis, FEMA estimates the average annual cost in years 1–10 would be \$2.1 million. Using the 75 percent Federal cost share, FEMA estimated that it would cover 75 percent of the cost to elevate or floodproof HMA projects, for a total of \$1.6 million in additional grants per year in years 1–10. Grant recipients would bear the remaining cost of \$0.5 million per year.

For HMA, if CISA were the only expansion option, FEMA estimates the proposed rule would affect 10,351 structures over the first 10 years, which would result in a total cost of \$48.1 million, undiscounted, over the 60-year period of analysis. Because these costs are incurred in the first 10 years, FEMA

U.S. population lives in area with a 1-ft freeboard requirement and 12.87 percent lives with a 2-ft requirement. A further 5.25 percent of the population is subject to a 3-foot existing freeboard requirement and 0.50 percent to a 4-foot requirement.

<sup>131</sup> For analysis purposes, FEMA calculated the expanded floodplain using the mid-point +5-ft CISA by expanding the floodplain by 26 percent. FEMA opted for the mid-point level for CISA because this is the best approach with available data. Please see further explanation in the appropriate CISA sections: 6.4.3, 6.5.3, and 6.6.3.

<sup>132</sup> FEMA's HMA program requires the use of the American Society of Civil Engineers Standard (ASCE) 24 that establishes minimum requirements for flood-related design and construction of structures that are located in whole or in part in

flood hazard areas for structure elevation, mitigation reconstruction, and floodproofing projects for HMA. FEMA was unable to account for these additional baseline requirements since the database does not identify projects that were built to ASCE standards as this database was not designed for data analysis. Additionally, these standards are based on the flood zone where the project is located, and FEMA was unable to identify the flood zones where individual projects were located. Instead, FEMA measures the effects of this rule against the current requirements of 44 CFR part 9. Accordingly, the estimated costs of compliance for HMA structures may be overstated. See FEMA Policy–203–074–1; issued April 21, 2014. [https://www.fema.gov/sites/default/files/2020-07/asce24-14\\_highlights\\_jan2015.pdf](https://www.fema.gov/sites/default/files/2020-07/asce24-14_highlights_jan2015.pdf) (last accessed July 12, 2023).

<sup>133</sup> To estimate the HMA costs to this section of the proposed rule, FEMA reviewed their HMA database to identify projects over a 10-year period (2010–2019) that would be subject to the FFRMS. FEMA was unable to obtain a 10-year of historical data from 2012–2021 for HMA due to changes within the program's database. From 2010 to 2019, HMA used the Pre-Disaster Mitigation (PDM) grant program. Starting in 2020, HMA used the Building Resilient Infrastructure and Communities (BRIC) grant program. BRIC would only be able to provide limited data over the last 2 years of which would not be sufficient for this analysis. Additionally, PDM and BRIC databases are not compatible with each other. Therefore, FEMA analyzed the best available data from PDM for years between 2010–2019.

estimates the average annual cost in years 1–10 is \$4.8 million. Using the 75 percent Federal cost share, FEMA

estimates that it would cover 75 percent of the cost to elevate or floodproof HMA projects, for a total of \$3.6 million in

additional grants per year. Grant recipients would bear the remaining cost of \$1.2 million per year.

TABLE 10—SUMMARY OF FFRMS HMA STRUCTURE PROJECT COSTS AND DISTRIBUTIONAL IMPACTS BY APPROACH

	FVA	0.2PFA	CISA
<i>Quantified Estimates:</i>			
Annual cost (Years 1–10) .....	\$2,157,881	\$2,134,698	\$4,810,196
FEMA's portion (grants from FEMA to recipients) .....	1,618,411	1,601,024	3,607,647
Recipients' portion .....	539,470	533,675	1,202,549

*Unquantified:* Increased resiliency standard for an estimated 84 minor flood controls and generators projects per year.

Total Costs

The proposed rule would increase costs for certain IA, PA, and HMA program projects, as well as result in administrative costs for FEMA. FEMA expects minimal effects on grants processed by FEMA's GPD because these programs involve grants for preparedness activities and generally do not fund new construction or substantial improvement projects. Future FEMA facilities that may be located within the FFRMS floodplain would also be subject to the requirements of the proposed rule.

FEMA was unable to quantify the cost for increased resiliency standards for the 20,961 facility projects estimated to be affected in the first 10 years after the rule's publication. Additionally, FEMA was unable to quantify the cost for

projects that may be diverted out of the floodplain, impacts to projects with existing basements, project delays, or forgone projects that may result from this rule.

Using CISA as the primary approach, FEMA estimates that the proposed rule would affect 14,427 PA, IA, and HMA structures over the first 10 years, which would result in a total cost of between \$142.1 million and \$156.3 million, undiscounted, over the 60-year period of analysis. The costs are incurred in the first 10 years of the 60-year period because that is when the investment in those projects takes place.<sup>134</sup> Discounted over 60 years, the low estimate cost would be between \$121.3 million and \$100 million, using 3 and 7 percent respectively, with a 60-year annualized cost of \$4.4 million and \$7.1 million, using 3 and 7 percent

respectively (see Table 11). Discounted over 60 years, the high estimate cost for would be between \$133.4 million and \$109.9 million, using 3 and 7 percent respectively, with a 60-year annualized cost of \$4.8 million and \$7.8 million, using 3 and 7 percent (see Table 12). Monetized costs include additional training for FEMA staff as well as the cost for the additional elevation or floodproofing. FEMA was unable to quantify the cost for increased resiliency standards for an estimated 20,961 affected facility projects over the 10-year period of analysis. Additionally, FEMA was unable to quantify the cost for projects that may be diverted out of the floodplain, impacts to projects with existing basements, project delays, or forgone projects that may result from this rule.

TABLE 11—PRIMARY APPROACH (CISA) ESTIMATED COSTS OVER THE 60-YEAR PERIOD OF ANALYSIS

[Low estimate, 2021\$]

Year	FEMA admin costs	Elevation and floodproofing costs	Undiscounted annual costs	Annual costs discounted at 3%	Annual costs discounted at 7%
1 .....	\$950,132	\$13,839,379	\$14,789,511	\$14,358,748	\$13,821,973
2 .....	310,172	13,839,379	14,149,551	13,337,309	12,358,765
3 .....	310,172	13,839,379	14,149,551	12,948,843	11,550,248
4 .....	310,172	13,839,379	14,149,551	12,571,692	10,794,624
5 .....	310,172	13,839,379	14,149,551	12,205,527	10,088,434
6 .....	310,172	13,839,379	14,149,551	11,850,026	9,428,443
7 .....	310,172	13,839,379	14,149,551	11,504,879	8,811,629
8 .....	310,172	13,839,379	14,149,551	11,169,786	8,235,167
9 .....	310,172	13,839,379	14,149,551	10,844,452	7,696,418
10 .....	310,172	13,839,379	14,149,551	10,528,594	7,192,914
11–60* .....	0	0	0	0	0
Total .....	3,741,680	138,393,786	142,135,466	121,319,856	99,978,615
Annualized .....				4,383,645	7,121,399

\* After year 10, the proposed rule would continue to impact FEMA projects funding new construction, substantial improvements or repairs to fix substantial damage, but FEMA chose to limit the analysis to 10 years of affected structures because FEMA believes the number of structures affected in this 10-year period is enough to provide a reasonable estimate of the costs, benefits, and transfers resulting from the proposed rule. Accordingly, FEMA's analysis focuses on the 50-year impacts of the rule on projects that take place in the nearest 10-year period, for a total period of analysis spanning 60 years.

<sup>134</sup> FEMA focused its analysis on the projects impacted in the first 10 years after the rule's publication. FEMA considered the resulting costs, benefits, and transfer payments of the proposed rule on those projects over a 50-year period, for a total

of 60 years. The costs and transfers occur in the first 10 years of the 60-year period because that is when the initial investment to elevate or floodproof them to meet the proposed requirements takes place. This is an upfront cost that occurs when the project is

constructed. However, the benefits of the proposed rule are realized over the 50-year useful life of the affected structures.

TABLE 12—PRIMARY APPROACH (CISA) ESTIMATED COSTS OVER THE 60-YEAR PERIOD OF ANALYSIS  
[High estimate, 2021\$]

Year	FEMA admin costs	Elevation and floodproofing costs	Undiscounted annual costs	Annual costs discounted at 3%	Annual costs discounted at 7%
1	\$1,070,207	\$15,131,954	\$16,202,161	\$15,730,253	\$15,142,206
2	430,247	15,131,954	15,562,201	14,668,867	13,592,629
3	430,247	15,131,954	15,562,201	14,241,618	12,703,391
4	430,247	15,131,954	15,562,201	13,826,814	11,872,328
5	430,247	15,131,954	15,562,201	13,424,091	11,095,634
6	430,247	15,131,954	15,562,201	13,033,098	10,369,751
7	430,247	15,131,954	15,562,201	12,653,493	9,691,356
8	430,247	15,131,954	15,562,201	12,284,945	9,057,342
9	430,247	15,131,954	15,562,201	11,927,131	8,464,806
10	430,247	15,131,954	15,562,201	11,579,739	7,911,034
11–60 *	0	0	0	0	0
Total	4,942,430	151,319,537	156,261,967	133,370,049	109,900,477
Annualized				4,819,054	7,828,126

\* After year 10, the proposed rule would continue to impact FEMA projects funding new construction, substantial improvements or repairs to fix substantial damage, but FEMA chose to limit the analysis to 10 years of affected structures because FEMA believes the number of structures affected in this 10-year period is enough to provide a reasonable estimate of the costs, benefits, and transfers resulting from the proposed rule. Accordingly, FEMA’s analysis focuses on the 50-year impacts of the rule on projects that take place in the nearest 10-year period, for a total period of analysis spanning 60 years.

Total Transfer Payments

Because the cost to implement the proposed mitigation measures would be shared between FEMA and grant recipients according to the statutory cost share, there are also important distributional impacts. The majority of elevation and floodproofing costs would be borne by FEMA through additional grants (a transfer from FEMA to grant recipients). Grant recipients would bear the remaining cost. The below section

shows the additional transfers from FEMA to grant recipients. Using CISA as the primary approach, FEMA estimated that this proposed rule would affect 14,427 structures in the first 10 years, which would result in an increase in transfer payments (*i.e.*, grants) from FEMA to grant recipients, of between \$109.2 million and \$119.6 million, undiscounted, over the 60-year period of analysis. Discounted using 3 and 7 percent respectively, FEMA’s low estimate of the increase in transfer

payments is between \$93.2 million and \$76.7 million, with a 60-year annualized transfer between \$3.4 million and \$5.5 million, at 3 and 7 percent respectively (see Table 13). Discounted using 3 and 7 percent respectively, FEMA’s high estimate of the increase in transfer payments would be between \$102.1 million and \$84.0 million, with a 60-year annualized transfer between \$3.7 million and \$6.0 million, at 3 and 7 percent respectively (see Table 14).

TABLE 13—PRIMARY APPROACH (CISA) ESTIMATED TRANSFERS OVER THE 60-YEAR PERIOD OF ANALYSIS  
[Low estimate, 2021\$]

Year	Transfers from FEMA to recipients	Total transfers discounted at 3%	Total transfers discounted at 7%
1	\$10,921,636	\$10,603,530	\$10,207,136
2	10,921,636	10,294,689	9,539,380
3	10,921,636	9,994,844	8,915,308
4	10,921,636	9,703,732	8,332,064
5	10,921,636	9,421,099	7,786,975
6	10,921,636	9,146,698	7,277,547
7	10,921,636	8,880,289	6,801,446
8	10,921,636	8,621,640	6,356,492
9	10,921,636	8,370,524	5,940,646
10	10,921,636	8,126,723	5,552,006
11–60 *	0	0	0
Total	109,216,359	93,163,768	76,709,000
Annualized		3,366,283	5,463,923

\* After year 10, the proposed rule would continue to impact FEMA projects funding new construction, substantial improvements or repairs to fix substantial damage, but FEMA chose to limit the analysis to 10 years of affected structures because FEMA believes the number of structures affected in this 10-year period is enough to provide a reasonable estimate of the costs, benefits, and transfers resulting from the proposed rule. Accordingly, FEMA’s analysis focuses on the 50-year impacts of the rule on projects that take place in the nearest 10-year period, for a total period of analysis spanning 60 years.

TABLE 14—PRIMARY APPROACH (CISA) ESTIMATED TRANSFERS OVER THE 60-YEAR PERIOD OF ANALYSIS  
[High estimate, 2021\$]

Year	Transfers from FEMA to recipients	Total transfers discounted at 3%	Total transfers discounted at 7%
1 .....	\$11,964,744	\$11,616,256	\$11,182,004
2 .....	11,964,744	11,277,919	10,450,471
3 .....	11,964,744	10,949,436	9,766,795
4 .....	11,964,744	10,630,520	9,127,846
5 .....	11,964,744	10,320,893	8,530,697
6 .....	11,964,744	10,020,285	7,972,614
7 .....	11,964,744	9,728,432	7,451,041
8 .....	11,964,744	9,445,079	6,963,590
9 .....	11,964,744	9,169,980	6,508,028
10 .....	11,964,744	8,902,893	6,082,269
11–60 * .....	0	0	0
Total .....	119,647,439	102,061,693	84,035,355
Annualized .....		3,687,791	5,985,773

\* After year 10, the proposed rule would continue to impact FEMA projects funding new construction, substantial improvements or repairs to fix substantial damage, but FEMA chose to limit the analysis to 10 years of affected structures because FEMA believes the number of structures affected in this 10-year period is enough to provide a reasonable estimate of the costs, benefits, and transfers resulting from the proposed rule. Accordingly, FEMA's analysis focuses on the 50-year impacts of the rule on projects that take place in the nearest 10-year period, for a total period of analysis spanning 60 years.

#### Total Benefits

FEMA believes that the benefits of the proposed rule would justify the costs. FEMA has identified 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 has also analyzed quantified benefits of one additional foot of freeboard for PA projects.

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 recovery time. In addition, higher elevations would help to protect people, leading to increased safety. FEMA is unable to quantify these benefits.

In support of these benefits, FEMA uses the 2022 Benefits Analysis of Increased Freeboard for Public and Nonresidential Buildings in Riverine and Coastal Floodplains<sup>135</sup> (2022 report), which analyzed potential benefits, such as reduction in damages, displacement, and loss of function, from increased flood protection requirements for public and nonresidential use buildings located in riverine and coastal SFHAs. This report's scope included six construction methods in coastal and riverine areas: Elementary School 1-Story, Hospital 2–3 Stories, Police Station 2-Stories, Office Building

(Business) 1-Story, Office Building (Business) 3-Story, and Office Building (Government office) 1-Story. The riverine analysis considered locations along 14 rivers, while the coastal analysis considered 12 different locations along a hypothetical coastal transect, and both only considered scenarios based on future conditions.

Future conditions for the riverine analysis included two climate change scenarios: the Representative Concentration Pathways (RCP) 4.5 scenario and 8.5 scenario, which represent medium and low efforts to curb emissions, respectively. The study used these two climate change scenarios to evaluate the amount of increase or decrease in riverine flood elevations over the next 50 years. For the coastal analysis, the study included the impact of various sea level rise conditions in areas with wave heights less than 1.5-ft (flood zone A) that are subject to coastal storm surge. The sea level rise conditions replicated a 2016 evaluation considering 8-, 20-, 39- and 59-inch sea level rise by 2100. FEMA evaluates benefits associated with the rule using both RCP 4.5 and 8.5 scenarios, and three of the four sea level rise conditions: 8-, 39-, and 59-inches.

The 2022 report used FEMA's BCA Toolkit to calculate benefits for each year between 2023 and 2072 and then used these projections to calculate the present value benefits for each scenario.<sup>136</sup> The Toolkit used standard

depth-damage functions (curves) to estimate damages from inundation and to calculate the benefits of mitigation, which included avoided physical damage, avoided displacement (costs incurred while staying in a temporary location following an event), and avoided loss of function (the economic impact to a community due to a lack of critical services). The study considered the potential avoided losses (or benefits) associated with either dry floodproofing or elevation of nonresidential and public use buildings.<sup>137</sup> It compared existing freeboard requirements against one additional foot of freeboard; that is, the study evaluates the benefits of elevating or floodproofing to the BFE+2 from a current assumed height of BFE+1 for non-critical actions and to BFE+3 from a current assumed height of BFE+2 for critical actions.

According to this report, for critical facilities in coastal SFHAs, such as police stations and hospitals, inclusion of one additional foot of freeboard will provide increased protection and continuity of operations and would result in a quantifiable benefit. Elevating buildings would help to maintain community resiliency further into the future. The riverine analysis indicated that despite the large variation in the flood data for the 14 sites, inclusion of

tools to complete a benefit-cost analysis. The tool can be found here: <https://www.fema.gov/grants/tools/benefit-cost-analysis#toolkit> (last accessed July 12, 2023).

<sup>137</sup> 2016 Evaluation of the Benefits of Freeboard for Public and Nonresidential Buildings in Coastal Areas. <https://www.regulations.gov/document/FEMA-2015-0006-0379> at page 7 (last accessed July 12, 2023).

<sup>135</sup> This report is available on [regulations.gov](https://www.regulations.gov) under Docket ID FEMA–2023–0026.

<sup>136</sup> FEMA developed the BCA Toolkit to perform an analysis of cost-effectiveness of mitigation projects. The BCA Toolkit uses Office of Management and Budget cost-effectiveness guidelines and FEMA-approved methodologies and

one additional foot of freeboard would result in quantifiable average benefits. Critical actions and schools had the highest benefits across various riverine locations.

FEMA used this study to estimate the benefits of an additional foot of freeboard for non-residential PA projects. FEMA was unable to use the benefits study to estimate the benefits for HMA and IA projects since HMA data could not be broken out by building types and IA data were limited to residential-related projects.

For FEMA’s primary estimate, FEMA used 59 inches of SLR due to it being the closest SLR option to CISA+5-ft. CISA is the preferred approach for FFRMS if the data are available. Since 5 ft is equivalent to 60 inches (5 × 12 inches per foot), 59-inch SLR would be the closest SLR option that FEMA has available to use for this portion of the

analysis. If FEMA used CISA for all PA Category E projects that were subject to the FFRMS with the assumption that there would be a 59-inch SLR, FEMA estimated that the present value benefits of one additional foot of freeboard for the 50-year useful life of 1,173 PA Category E projects undertaken during the first 10 years after the rule’s publication would be between \$55.2 million and \$62.0 million, undiscounted. The low estimate would range between \$47.1 million and \$38.8 million, discounted at 3 and 7 percent respectively, with a 60-year annualized benefit of \$1.7 million and \$2.8 million, at 3 and 7 percent (See Table 15). The high estimate would range between \$52.9 million and \$43.5 million, discounted at 3 and 7 percent respectively, with a 60-year annualized benefit of \$1.9 million and \$3.1 million, at 3 and 7 percent. (See Table 16).

In Tables 15 and 16 below, FEMA shows the number of projects constructed each year (column 2), the present value of the benefits as of the year in which they were constructed (column 3), and the present value of the benefits as of the beginning of Year 1 using a 3 percent and 7 percent discount rate (columns 3 and 4, respectively). For example, the benefits shown in Year 1 represent the present value of the benefits for the 117 Category E projects constructed in Year 1 over their 50-year useful life (i.e., in Years 1–50 of the analysis). The analysis does not account for any benefits for Year 1 projects after their 50-year useful life. The benefits shown in Year 10 represent the present value of the benefits for projects constructed in Year 10 over their 50-year useful life, (i.e., in Years 11–60 of the analysis).

TABLE 15—PRIMARY APPROACH (CISA) ESTIMATED 50-YEAR BENEFITS FOR PA CATEGORY E PROJECTS UNDERTAKEN DURING YEARS 1–10 [Low estimate, 2021\$]

Year	Number of PA Category E projects	Total 50-year present value benefit for projects constructed in each year*	Discounted 3%	Discounted 7%
1	117	\$5,518,000	\$5,357,282	\$5,157,009
2	117	5,518,000	5,201,244	4,819,635
3	117	5,518,000	5,049,752	4,504,332
4	117	5,518,000	4,902,672	4,209,656
5	117	5,518,000	4,759,875	3,934,258
6	117	5,518,000	4,621,238	3,676,876
7	117	5,518,000	4,486,639	3,436,333
8	117	5,518,000	4,355,960	3,211,526
9	117	5,518,000	4,229,088	3,001,426
10	117	5,518,000	4,105,910	2,805,071
60-Year Total*	1,173	.....	47,069,660	38,756,122
Annualized**	.....	.....	1,700,766	2,760,569

\* The benefits in this column represent the present value of the benefits for structures constructed in that year over their 50-year useful life, as of the year in which they were constructed.  
 \*\* The total benefits represent the total present value of benefits as of the beginning of Year 1.

TABLE 16—PRIMARY APPROACH (CISA) ESTIMATED 50-YEAR BENEFITS FOR PA CATEGORY E PROJECTS UNDERTAKEN DURING YEARS 1–10 [High estimate, 2021\$]

Year	Number of PA Category E projects	Total 50-year present value benefit for projects constructed in each year*	Discounted 3%	Discounted 7%
1	117	\$6,198,572	\$6,018,031	\$5,793,058
2	117	6,198,572	5,842,749	5,414,073
3	117	6,198,572	5,672,571	5,059,881
4	117	6,198,572	5,507,351	4,728,861
5	117	6,198,572	5,346,943	4,419,496
6	117	6,198,572	5,191,206	4,130,370
7	117	6,198,572	5,040,006	3,860,159
8	117	6,198,572	4,893,210	3,607,625
9	117	6,198,572	4,750,689	3,371,612

TABLE 16—PRIMARY APPROACH (CISA) ESTIMATED 50-YEAR BENEFITS FOR PA CATEGORY E PROJECTS UNDERTAKEN DURING YEARS 1–10—Continued  
[High estimate, 2021\$]

Year	Number of PA Category E projects	Total 50-year present value benefit for projects constructed in each year*	Discounted 3%	Discounted 7%
10 .....	117	6,198,572	4,612,320	3,151,040
60-Year Total* .....	1,173	.....	52,875,076	43,536,175
Annualized** .....	.....	.....	1,910,533	3,101,048

\* The benefits in this column represent the present value of the benefits for structures constructed in that year over their 50-year useful life, as of the year in which they were constructed.  
\*\* Annualized over the 60-year period of analysis.

For more in-depth review of these costs and benefits, please see the Regulatory Impact Analysis, 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**

The President issued Executive Order 11988 in 1977 in furtherance of the National Flood Insurance Act of 1968, as amended; the Flood Disaster Protection Act of 1973, as amended; and the National Environmental Policy Act of 1969 (NEPA). 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. Executive Order 11988 requires agencies to prepare implementing procedures in consultation with the Water Resources Council (WRC), FEMA, and the Council on Environmental Quality (CEQ). The WRC issued “Floodplain Management Guidelines” (1978 Guidelines or Implementing Guidelines), the authoritative interpretation of Executive Order 11988. 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.

After Hurricane Sandy it became clear to the Federal Government that there should be a reevaluation of the current flood risk reduction standards. The President issued Executive Order 13632, which created the Federal Interagency Hurricane Sandy Rebuilding Task Force (Sandy Task Force). Pursuant to direction from Executive Order 13632 to remove obstacles to resilient rebuilding, the Sandy Task Force reevaluated the 1 percent annual chance/100-year standard. In April 2013, the Sandy Task Force announced a new Federal flood risk reduction standard that required elevation or other floodproofing to one-foot above the best available and most recent base flood elevation and applied

that standard to all investments in Sandy-affected communities. The Sandy Task Force called for all major Sandy rebuilding projects in Sandy-affected communities using Federal funding to be elevated or otherwise floodproofed according to this new flood risk reduction standard.

In June 2013, the President issued a Climate Action Plan 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.” 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 States, Local, Tribal, Territorial (SLTT) 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 changing conditions, 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.

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 11988, as amended, 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). It required FEMA to publish 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. Finally, Executive Order 13690 required the WRC to issue final Guidelines to agencies on the implementation of Executive Order

11988, as amended, consistent with the FFRMS.

On February 5, 2015, FEMA, on behalf of the Mitigation Framework Leadership Group, published a **Federal Register** notice for a 60-day notice and comment period seeking comments on a draft of the Revised Guidelines. The final Revised Guidelines were issued on October 8, 2015. 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 FFRMS.

On August 22, 2016, FEMA issued a Notice of Proposed Rulemaking, “Updates to Floodplain Management and Protection of Wetlands Regulations To Implement Executive Order 13690 and the Federal Flood Risk Management Standard.” On August 15, 2017, Executive Order 13807 revoked Executive Order 13690. On March 6, 2018, FEMA withdrew its Notice of Proposed Rulemaking and proposed supplementary policy in light of the revocation of the Executive Order 13690. FEMA wrote that it would continue to seek more effective ways in its programs to assess and reduce the risk of current and future flooding and increase community resilience.

On May 25, 2021, Executive Order 14030 subsequently revoked Executive Order 13807 and reinstated Executive Order 13690, thereby reestablishing the FFRMS. The E.O. also states that the Revised Guidelines issued in 2015 were never revoked and remain in effect.

The FFRMS is a flexible framework to increase resilience against flooding and help preserve the natural and beneficial values of floodplains. Incorporating the FFRMS into FEMA regulations would ensure that FEMA expands flood risk management from the current base flood elevation to a higher vertical elevation and corresponding horizontal floodplain to address current and future flood risk and ensure that projects funded with taxpayer dollars last as long as intended. Several programs exist in order to assist with flood mitigation or recovery efforts after a flood.<sup>138</sup> IA and PA are disaster relief programs and primarily provide assistance after a disaster. HMA Grants are provided in order to increase resilience to hazards, and these have been shown to be very effective. By requiring recipients of FEMA funding to consider an expanded floodplain and

build a higher level of flood resilience into their projects, the rule would reduce the likelihood of further damage and help prevent the loss of life in future flooding events. This would compel public recipients of Federal funds to build to higher flood resiliency standards and avoid repetitive loss situations.

## 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 actions subject to the FFRMS 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, where possible, of natural features and nature-based approaches when developing alternatives for consideration that would accomplish the same purpose as a considered action, but which have less potential to affect or be affected by the floodplain. Common examples of a nature-based approach would be replacing concrete drainage systems with natural drainage or covering an area with plants to absorb water and 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

<sup>138</sup> In addition to the FEMA-administered grant programs discussed in this analysis (IA, PA, HMA, and programs administered by GPD), FEMA also provides flood insurance through the NFIP. FEMA does not apply 44 CFR part 9 to non-grant site specific actions under the NFIP.

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 E (public buildings) because Category E projects are for structures whereas projects funded under the remaining categories are for facilities. Facilities would not be required to floodproof or elevate but would instead need to be made resilient to the appropriate flood levels, which is highly project-specific nature and lack of data for such projects makes it exceedingly difficult to estimate costs. IA and GPD are not discussed in this analysis. IA provides grants directly to individuals, who 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.

FEMA has estimated that the FFRMS requirements would expand the floodplain between 5 percent and 43 percent based on a study<sup>139</sup> conducted in 800 square miles of mapped flood zone areas. FEMA developed floodplain expansion estimates for two distinct areas of the country: coastal and riverine. The first estimate is for coastal areas where FEMA anticipates implementing the CISA approach using currently actionable sea level rise data. The second estimate is for the area that represents the rest of the country where the 0.2PFA or FVA approaches will likely be applied. A total of 400 square miles of mapped flood zones was used as the baseline estimate for each of the two areas of the country. FEMA selected 40 random samples of the coastal and riverine areas since these are the areas where the FFRMS would apply, with various topography, with at least 10 square miles in each sampled area. FEMA calculated the floodplain expansion in each sample at various levels of freeboard so that there was a total of 400 square miles of expansion information for each area.

FEMA selected CISA as its primary approach to evaluate the impacts of this proposed rule. FEMA's accompanying policy proposes use of CISA as the preferred approach because it is the only approach that would ensure projects are designed to meet current and future flood risks unique to the location and thus would ensure the best

overall resilience, cost effectiveness, and equity. FEMA does not have data detailed enough to estimate the average CISA level within the United States for this analysis. For CISA, FEMA evaluated a range from 1 to 10 feet of freeboard based on anticipated interagency tools that are currently in development and are projected to apply CISA in those rounded amounts as "climate-informed freeboard." The 10-foot ceiling would account for the highest levels of anticipated sea level rise along the Gulf and Atlantic coasts. Depending on location, under CISA, some places may be required to elevate or floodproof to +1-ft above the 1 percent annual chance plain while other places may be required to use +10-ft above the 1 percent annual chance plain. However, there is no data or research to know what the required levels are or how many structures would be subject to the requirements. For this analysis, FEMA calculated the expanded floodplain using the mid-point +5-ft freeboard level, which FEMA estimates expands the floodplain by 26 percent, on average, in coastal areas.

FEMA considered using the minimum and maximum levels as alternatives to the mid-point level, but the minimum and maximum would not reflect the impacts of the rule accurately. FEMA did not use the minimum level because it would reflect a large number of structures not elevated or floodproofed to a high enough standard, when in reality, the rule would require them to be subject to a higher standard. If FEMA modeled all structures at the minimum standard, the costs would be underestimated compared to the true impact of the rule. The benefits of protecting the structures from flood would also be underestimated because at the minimum level, many structures would be left vulnerable to devastating flood damage. Likewise, FEMA did not use the maximum level because it would reflect a large number of structures elevated or floodproofed to a standard too high compared to what the rule would require. If FEMA modeled all structures at the maximum standard, the costs would be overestimated compared to the true impact. The benefits of protecting the structures from flood could potentially be overestimated, as well, and not reflect the true impact of the rule.

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. From 2012–2021, 930 individual PA Category E grant recipients received FEMA funding for substantial improvement floodproofing<sup>140</sup> or new construction. Under the CISA approach, with the 26 percent expansion of the floodplain, an additional 242 PA Category E projects (930 × 26 percent), for a total of 1,172 (930 + 242) projects, would be located in the 1 percent annual chance floodplain or expanded FFRMS floodplain over the 10-year period. FEMA randomly sampled 92 projects.<sup>141</sup> Of the 92 projects, 40 projects, or 43 percent (40 ÷ 92), would meet the definition of small entities under the Regulatory Flexibility Act.

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. FEMA proposes to apply the FFRMS to all actions subject to the FFRMS, and all structure elevation, mitigation reconstruction, and dry floodproofing projects. As noted in the Regulatory Evaluation, FEMA funded an average of about 84 HMA elevation, mitigation reconstruction, and floodproofing structure projects per year from 2010–2019.<sup>142</sup> Unlike PA grants, the majority of HMA grants are for projects located in the floodplain, so for this analysis FEMA assumes that all HMA elevation, mitigation reconstruction and dry floodproofing projects are in the floodplain. FEMA cannot estimate what projects might be considered actions subject to the FFRMS in addition to structure elevation, mitigation reconstruction, and dry floodproofing projects because HMA data does not distinguish whether projects are

<sup>140</sup> The cost of elevating an existing structure is significantly higher than the cost of retrofitting the structure to be floodproofed, so FEMA assumed that substantial improvement projects would elect to floodproof rather than elevate.

<sup>141</sup> The population of PA Category E projects includes all "Public Buildings" grants from 2012–2021 that received substantial improvement floodproofing or new construction funding. Because of the large population, FEMA used Slovin's formula and a 90 percent confidence interval to determine the sample size. Slovin's formula:  $n = N / (1 + N * e^{-2})$ . Therefore,  $1,172 / (1 + 1,172 * 0.1^{-2}) = 92$  (rounded).

<sup>142</sup> FEMA was unable to obtain 10-years of historical data from 2012–2021 for HMA due to changes within the program's database and used the best available data for years 2010 through 2019 instead.

<sup>139</sup> FEMA conducted a study in 2022 in regard to the FFRMS Horizontal Floodplain Expansion Data (also referred to as the "FFRMS Expansion Study"). Further information can be found in Appendix A to the FFRMS Regulatory Impact Analysis, available on [regulations.gov](https://www.regulations.gov) under Docket ID FEMA-2023-0026.

considered new construction, substantial improvement, or repairs to address substantial damage. However, structure elevation, mitigation reconstruction, and dry floodproofing are the primary HMA projects relating to flood mitigation.<sup>143</sup>

With the 26 percent expansion of the floodplain, an additional 22 HMA projects per year ( $84 \times 26$  percent), for a total of 106 ( $84 + 22$ ) projects, would be located in the 1 percent annual chance floodplain or expanded FFRMS floodplain. Assuming 43 percent<sup>144</sup> of HMA grant recipients are small entities, approximately 46 small entities receiving HMA grants would be affected per year ( $106 \text{ projects} \times 43 \text{ percent}$ ).

Facilities would not be required to floodproof or elevate but would instead need to be made resilient to the appropriate flood levels, which is highly project-specific nature and lack of data for such projects makes it exceedingly difficult to estimate costs. FEMA could not estimate the cost of this rule on small entities for facilities. However, FEMA conducted an analysis to estimate the number of small entities for affected facility projects based on historical data.

In an average year, FFRMS would impact about 1,181 PA Category C facilities. Based on a random sample of 92 projects,<sup>145</sup> FEMA found that grant recipients for 71 of the projects, or 77.2 percent ( $71 \div 92$ ), were small entities that would meet the definition of small entities under the Regulatory Flexibility Act.

In an average year, FFRMS would impact about 131 PA Category D facilities. Based on a random sample of 57 projects,<sup>146</sup> FEMA found that grant

recipients for 38 of the projects, or 66.7 percent ( $38 \div 57$ ), were small entities that would meet the definition of small entities under the Regulatory Flexibility Act.

In an average year, FFRMS would impact about 254 PA Category F facilities. Based on a random sample of 72 projects,<sup>147</sup> FEMA found that grant recipients for 52 of the projects, or 72.2 percent ( $52 \div 72$ ), were small entities that would meet the definition of small entities under the Regulatory Flexibility Act.

In an average year, FFRMS would impact about 446 PA Category G facilities. Based on a random sample of 82 projects,<sup>148</sup> FEMA found that grant recipients for 38 of the projects, or 46.3 percent ( $38 \div 82$ ), were small entities that would meet the definition of small entities under the Regulatory Flexibility Act.

In an average year, FFRMS would impact about 84 HMA grant recipients received FEMA funding per year for minor flood controls and generator projects. Based on a random sample of 46 projects,<sup>149</sup> FEMA found that grant recipients for 24 of the projects, or 52.1 percent ( $24 \div 46$ ), were small entities that would meet the definition of small entities under the Regulatory Flexibility Act.

#### 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 for the increased elevation or floodproofing requirements of structures in the FFRMS floodplain would be funded by FEMA through several grant programs. Small entities, like all entities, would be subject to additional costs not covered by these grants for the 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 all projects would choose to elevate because of the additional level of safety elevation provides over floodproofing and a historically higher number of HMA projects that involved elevation as opposed to floodproofing.<sup>150</sup> FEMA uses an NFIP report to estimate the cost of the proposed elevation requirements.<sup>151</sup> The report provides estimates for the cost of elevating structures as a percentage of total construction cost.

The cost of elevating an existing structure is considerably higher than the cost of retrofitting the structure to be floodproofed. 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 existing 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. New buildings would be evaluated for both dry floodproofing (preventing the intrusion of floodwaters into the building by using a system of waterproofing and shields) and elevation (constructing higher), while existing buildings would only be evaluated for dry floodproofing. FEMA requests comments on these assumptions.

As established above, FEMA estimates this rule would impact 40 small entity PA Category E projects annually. Using CISA as the primary approach, FEMA estimates that the total cost for the elevation and floodproofing requirements of this proposed rule for all PA Category E projects would be between \$8,887,014 ( $\$88,870,138 \div 10$  years) and \$10,179,589 ( $\$101,795,889 \div 10$  years) annually for 117 (1,173 PA Total FFRMS action Category E projects  $\div 10$  years) projects annually. Therefore,

<sup>150</sup> According to historical HMA data, there have been an average of 63 elevation projects and only 4 floodproofing projects per year.

<sup>151</sup> FEMA, "2008 Supplement to the 2006 Evaluation of the National Flood Insurance Program's Building Standards" Table 3. (last accessed July 12, 2023).

<sup>143</sup> The other project type related to flood mitigation is acquisition. Generally, acquisition projects are for open space purposes and restore the natural and beneficial functions of the floodplain. Property acquisitions that result in relocated structures would be subject to FFRMS elevation and floodproofing requirements if the structure is relocated within the FFRMS floodplain. HMA data does not break out relocation costs from acquisition costs, so FEMA is unable to estimate additional relocation expenses for acquisition projects.

<sup>144</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>145</sup> Because of the large population, FEMA used Slovin's formula and a 90 percent confidence interval to determine the sample size. Slovin's formula:  $n = N / (1 + N * e^{-2})$ . Therefore,  $1,181 / (1 + 1,181 \times 0.1^{-2}) = 92$  (rounded).

<sup>146</sup> Because of the large population, FEMA used Slovin's formula and a 90 percent confidence interval to determine the sample size. Slovin's

formula:  $n = N / (1 + N * e^{-2})$ . Therefore,  $131 / (1 + 131 \times 0.1^{-2}) = 57$  (rounded).

<sup>147</sup> Because of the large population, FEMA used Slovin's formula and a 90 percent confidence interval to determine the sample size. Slovin's formula:  $n = N / (1 + N * e^{-2})$ . Therefore,  $254 / (1 + 254 \times 0.1^{-2}) = 72$  (rounded).

<sup>148</sup> Because of the large population, FEMA used Slovin's formula and a 90 percent confidence interval to determine the sample size. Slovin's formula:  $n = N / (1 + N * e^{-2})$ . Therefore,  $446 / (1 + 446 \times 0.1^{-2}) = 82$  (rounded).

<sup>149</sup> Because of the large population, FEMA used Slovin's formula and a 90 percent confidence interval to determine the sample size. Slovin's formula:  $n = N / (1 + N * e^{-2})$ . Therefore,  $84 / (1 + 84 \times 0.1^{-2}) = 46$  (rounded).

each project would cost between \$75,957 (\$8,887,014 ÷ 117 projects) and \$87,005 (\$10,179,589 ÷ 117 projects). There is an average of 40 small entity PA projects per year. Small entity projects would have a total average expected cost between \$3,038,280 (\$75,957 × 40 small entities PA projects) and \$3,480,200 (\$87,005 × 40 small entities PA projects) per year. The historical average cost share for PA Category E projects is 80.7 percent covered by FEMA and 19.3 percent covered by the recipients, with the majority of recipients receiving a 75 percent or a 90 percent cost share, depending on the type of disaster declaration. FEMA estimates that, for PA Category E projects, each small entity would have an average expected cost (*i.e.*, their portion of the cost share), of between \$13,141 (\$75,957 × 17.3 percent) and \$15,052 (\$87,005 × 17.3 percent) per project.

As established above, FEMA estimates that this rule would affect approximately 43 small HMA grant recipients per year. Using CISA as the primary approach, FEMA estimates that the total 10-year cost for the elevation and floodproofing requirements of this proposed rule for HMA projects would be \$4,810,196 (\$48,101,958 ÷ 10 years) annually for 1,035 (10,351 HMA Total FFRMS action projects ÷ 10 years) projects annually. There is an average of 43 small entities HMA projects per year. The average HMA project cost is \$4,648 (\$4,810,196 ÷ 1,035 HMA projects) per project. 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. Each small entity cost share would have an average expected cost is \$1,162 (\$4,648 × 25 percent).

Reporting and recordkeeping are not expected to change with the exception of minor changes to FEMA's Mitigation Grant Program/e-Grants system. FEMA would still make the determination if a project would take place in an FFRMS floodplain.

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

Situations may arise where multiple Federal agencies are conducting, supporting (including funding), or permitting actions in the same geographic area as FEMA actions subject to the FFRMS. In order to address this possibility, Sec. H of FEMA's policy will leverage the Unified Federal Review process. Because FEMA has a

coordination process in place for these occasions, the rule does not conflict with or duplicate the rules of other Federal agencies.

This rule proposes to modify existing FEMA regulations relating to compliance with Executive Order 11988, Floodplain Management are being modified to comply with Executive Order 11988, as amended.

## 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 11988, as amended, which establishes executive branch-wide policy in this area. Executive Order 13690 establishes the FFRMS. The policies established in these EOs do not consider exempting small entities from all or part of the standard; the purpose of the FFRMS is to ensure that agencies expand management from the current base flood level to a higher vertical elevation and corresponding horizontal floodplain to address current and future flood risk and ensure that projects funded with taxpayer dollars last as long as intended. Accordingly, FEMA proposes that the rule apply to all affected FEMA projects, including small entities.

As discussed previously, most of the cost of the mitigation standards required by this rule would be paid by FEMA in the form of additional PA, IA, or HMA grants. Cost sharing is required for most FEMA grant programs. For PA and HMA, affected small entities would be required to pay the recipient portion of the cost share, which is 25 percent in most cases. There are, however, some exceptions and cost shares can be waived or set at a different level by Congress. FEMA does not have the authority to adjust the cost share specifically for small entities.

Executive Order 11988, as amended, allows several approaches to determine the FFRMS floodplain. Section F of this NPRM, FEMA's Implementation of Executive Order 11988, as amended, and FFRMS, describes the FFRMS approaches allowed by Executive Order 11988, as amended, and FEMA's considerations when selecting between the FFRMS approaches. FEMA is proposing, in its accompanying policy, to use CISA as the preferred approach. FEMA has chosen CISA as its preferred approach because it is the only one that uses the best available climate science to ensure projects are designed to meet

current and future flood risks unique to the location and thus ensures the best overall resilience, cost effectiveness, and equity. Accordingly, FEMA believes its preferred approach will minimize the risk that affected small entities incur more costs than necessary because of overprotection or incur preventable costs from future damage because of under protection.

Small entities affected by the proposed rule, as with any entity affected by the rule, 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 FFRMS level in the floodplain, and the recipient has the ability to relocate.

FEMA requests public comment on alternatives to the proposed rule that it may not have considered, which accomplish the stated objectives of applicable statutes, and which minimize any significant economic impact of the rule on small entities. FEMA also invites all interested parties to submit data and information regarding the potential economic impact on small entities from adoption of 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 (Pub. L. 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 Federal agencies to evaluate the impact of a proposed major Federal action significantly affecting the human environment, consider alternatives to the proposed action, provide public notice and opportunity for comment, and properly document its analysis. 40 CFR parts 1501, 1502, 1506.6. DHS and its component agencies analyze proposed actions to determine whether NEPA applies and, if so, what level of analysis and documentation is required. 40 CFR 1501.3. DHS Directive 023–01, Rev. 01 and DHS Instruction Manual 023–01–001–01, Rev. 01 (Instruction Manual) establish the policies and procedures DHS and its component agencies use to comply with NEPA and the Council on Environmental Quality (CEQ) regulations for implementing the procedural requirements of NEPA codified in 40 CFR parts 1500 through 1508. The CEQ regulations allow Federal agencies to establish—in their NEPA implementing procedures with CEQ review and concurrence—categories of actions (“categorical exclusions”) that normally do not have a significant effect on the human environment. Therefore, these categorically excluded actions do not require preparation of an environmental assessment or environmental impact statement. 40 CFR 1501.4, 1507.3(e)(2)(ii), 1508.1(d). The Instruction Manual, Appendix A, lists the DHS categorical exclusions. Under DHS NEPA implementing procedures, for an action to be categorically excluded it must satisfy each of the following conditions: (1) the entire action clearly fits within one or more of the categorical exclusions; (2) the action is not a piece of a larger action; and (3) no extraordinary circumstances exist that create the potential for a significant environmental effect.

The proposed rule would update the Floodplain Management and Protection of Wetland requirements to adopt the approaches outlined in E.O. 11988, as amended. This involves establishing the floodplain, using the vertical elevation and corresponding horizontal extent, in the 8-step decision making process FEMA follows in applying E.O. 11988 to its actions. FEMA proposes to amend regulations codified at 44 CFR part 9 to revise the definition of the floodplain based on the approaches in E.O. 11988, as amended, consisting of the Climate-

Informed Science Approach, the freeboard value approach, the 0.2 percent annual chance flood approach, and any other method identified in updates. The proposed rule allows FEMA to select and prioritize among these approaches. The rule revises the 8-step decision making process to incorporate consideration of the approaches in determining if the project is in the floodplain. The rule would also add a requirement, where possible, to use natural systems, ecosystem processes, and nature-based approaches in the development of alternatives for Federal actions in a floodplain. The result of redefining the floodplain and applying the approaches outlined in Executive Order 11988, as amended, may be that structures determined to be in the floodplain (“the FFRMS floodplain”) would be elevated or floodproofed to a higher level, and more structures—due to the corresponding horizontal expansion of the floodplain—might be subject to an elevation requirement and/or other mitigation measures. Further, with the expanded horizontal floodplain, and application of the 8-step decision making process which allows for Federal actions in the floodplain only if there is no practicable alternative, it is possible some structures that otherwise would be constructed in a high-risk flood area, would be constructed elsewhere. This would result in better protection of people and their property, the floodplain and environment. When placing the action in the floodplain cannot be avoided, implementing mitigation measures to structures in the FFRMS floodplain will not only promote public safety and lessen flood risk, but may also reduce the impact of the action on the floodplain, and thereby contribute to preserving the natural and beneficial values of the floodplain per the mandate in E.O. 11988. Similarly, the requirement to use natural systems, ecosystem processes, and nature-based approaches, where possible, in alternatives to the proposed action would contribute to restoring and preserving the natural and beneficial values of the floodplain.

FEMA has determined that NEPA applies to the proposed rule because it fits the definition of a “major federal action.” CEQ’s NEPA regulations define “major federal action” to include “new or revised agency rules,” regulations and policies. 40 CFR 1508.1(q)(2). The proposed rule, involving revision of the regulations at 44 CFR part 9, and accompanying new policy, constitute a “major federal action.”

FEMA analyzed the proposed rule and finds that it meets the three DHS

criteria for a categorical exclusion. FEMA has determined that consistent with the first criterion, the rule clearly fits within the categorical exclusion found at A3 in the DHS Instruction Manual, Appendix A. Categorical exclusion A3 states that “promulgation of rules, issuance of rulings or interpretations, and the development and publications of policies” may be categorically excluded if such actions “interpret or amend an existing regulation without changing its environmental effect.” Instruction Manual, Appendix A, A3(d). The proposed rule may result in requiring a structure to have either higher elevation or floodproofing, or more resilient design. The rule, however, does not change the environmental impacts because the modifications do not expand the footprint of the structure. It is possible the expanded horizontal floodplain may discourage placing a “federal action” in the floodplain as under the 8-step decision making process, a structure may be located in the floodplain only if there is no practicable alternative. In the event there is a practicable alternative, and new construction is consequently located outside the floodplain, the effect of the proposed rule would be to benefit the environment by contributing to restoring and preserving the values of the floodplain as well as enhancing public safety.

If the Federal action must be located in the FFRMS floodplain, that is, there no practicable alternative, it will be subject to one of the three approaches or a combination of them. FEMA’s preferred approach is CISA. If the CISA approach is used, it could result in an estimated average of 5 feet of additional elevation for a structure (or floodproofing to that level). FEMA prefers the CISA approach because it perceives that using the best actionable and available climate informed science to determine the floodplain is the most effective way to make the structure resilient. If CISA is not available, the proposed rule provides alternatives for determining the floodplain for critical actions and non-critical actions: for non-critical actions, the lesser of the freeboard value approach (2 or 3 feet above base flood elevation) or the .2 percent annual flood; and for critical actions, the higher of the freeboard value approach or .2 percent annual flood. Given CISA or the combination of approaches may be used, the potential for the change in elevation (or floodproofing) levels varies. Further, if communities have stricter standards, which they are required to apply, the

communities will still apply that standard and thus application of the FFRMS would not require a change in elevation. If the “federal action” is substantial improvement or addresses substantial damage to a structure or facility, it would involve action in a pre-built environment, with the only change being that the structure or facility might be elevated or floodproofed to the appropriate higher level. If design rather than elevation or in addition to elevation is used to comply with the FFRMS resilience standard, it is not anticipated to change the footprint of the structure or to significantly impact the environment. As part of implementing the FFRMS resilience standard, nature-based solutions are required in alternatives to the proposed action, where possible. When applied, they will benefit the environment by contributing to restoring and preserving the natural and beneficial values of the floodplain.

None of the changes required by any of the combined FFRMS approaches are anticipated to change the environmental effects of application of the 8-step process. In addition to and apart from application of the decision process in this proposed rule, all Federal actions, new construction, substantial improvement, and actions addressing substantial damage, are subject to NEPA review and must comply with NEPA requirements. Each Federal action (or project) subject to the FFRMS will be evaluated on an individual basis under NEPA and related environmental laws, regulations, and executive orders. The Federal action will not be approved unless it meets all applicable environmental and historic preservation requirements. Further, the Federal actions subject to the proposed rule must comply with all applicable floodplain requirements. See 44 CFR 9.11(d)(6) (referring to requirement to be consistent with the criteria of the National Flood Insurance Program at 44 CFR part 59 *et seq.* or any more restrictive Federal, State, or local floodplain management standard).

FEMA therefore concludes the proposed rule clearly fits within categorical exclusion A3. FEMA also finds the proposed rule meets the second and third DHS criteria for applying a categorical exclusion. The proposed rule is not a piece of a larger action as it will be implemented independently of other FEMA actions and is a separate action unto itself. Furthermore, FEMA finds that adopting the floodplain management and protection approaches outlined in E.O. 11988 presents no extraordinary circumstances that increase the

potential for significant environmental effects to the environment. Accordingly, the proposed rule is categorically excluded, and no further NEPA analysis or documentation is required.

#### *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 OMB control number. See 44 U.S.C. 3506, 3507. This proposed rulemaking would call for no new collections of information under the PRA. This proposed rule includes information currently collected by FEMA and approved in OMB information collections 1660–0072 (FEMA Mitigation Grant Programs) and 1660–0076 (Hazard Mitigation Grant Program (HMGP) Application and Reporting). With respect to these collections, this proposed rulemaking would not impose any additional burden and would not require a change to the forms, the substance of the forms, or the number of recipients who would submit the forms to FEMA.

#### *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. See 5 U.S.C. 552a(a)(5). 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 rule is covered by the following PIAs: DHS/FEMA/PIA–006 FEMA National Emergency Management

Electronic Grants System, DHS/FEMA/PIA–025-Hazard Mitigation Grant Program (HMGP) System, DHS/FEMA/PIA–026 Operational Data Store and Enterprise Data Warehouse PIA, and DHS/FEMA/PIA–031 Authentication and Provisioning Services (APS). No updates to these PIAs are necessary. Further, this rule is covered under the following System of Records Notices (SORNs): DHS/FEMA–009 Hazard Mitigation, Disaster Public Assistance, and Disaster Loan Programs, 79 FR 16015, Mar. 24, 2014; DHS/ALL–004 General Information Technology Access Account Records System (GITAARS), 77 FR 70792, Nov. 27, 2012; and DHS/FEMA–008 Disaster Recovery Assistance Files. This proposed rule would not create a new system of records and no update to these SORNs are 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 would 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 would 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 would 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>152</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 that directed 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 changing

conditions, including sea level rise, more frequent and severe storms, and increasing river flood risks.

Executive Order 11988, as amended, 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 an updated draft version of the 1978 Guidelines<sup>153</sup> revised to incorporate the changes required by Executive Order 13690 and the FFRMS in the **Federal Register** for notice and comment. 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.

FEMA, acting on behalf of the Mitigation Framework Leadership Group, 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, again acting on behalf of the Mitigation Framework Leadership Group, wrote to Tribal Leaders specifically asking for their comments regarding the Executive Order establishing the FFRMS.

In response to multiple requests, the comment period was extended 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 the Guidelines. There were 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. Notice of these public listening sessions was posted 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 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 would 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.

#### I. Executive Order 12898, Environmental Justice; Executive Order 14096, Revitalizing Our Nation's Commitment to Environmental Justice for All

Under Executive Order 12898, "Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations," (59 FR 7629, Feb. 16, 1994); and Executive Order 14096, "Revitalizing Our Nation's Commitment to Environmental Justice for All (88 FR 25251, Apr. 26, 2023), FEMA incorporates environmental justice into its policies and programs. Executive Order 14096 charges agencies to make achieving environmental justice part of their missions consistent with statutory

<sup>152</sup> 77 FR 74341, Dec. 14, 2012.

<sup>153</sup> The 1978 Guidelines were the original interpretation of Executive Order 11988.

authority by identifying, analyzing, and addressing disproportionate and adverse human health and environmental effects and hazards of Federal activities, including those related to climate change and cumulative impacts of environmental and other burdens on communities with environmental justice concerns.

FEMA does not expect this rule to have a disproportionate and adverse human health or environmental effect on communities with environmental justice concerns 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 then-President Obama’s Climate Action Plan,<sup>154</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, 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:** 6 U.S.C. 101 *et seq.*; 42 U.S.C. 4001 *et seq.*; 42 U.S.C. 4321 *et seq.*; E.O. 11988 of May 24, 1977, 42 FR 26951, 3 CFR, 1977 Comp., p. 117; E.O. 11990 of May 24, 1977, 42 FR 26961, 3 CFR, 1977 Comp. p. 121; E.O. 13690, 80 FR 6425; E.O. 14030, 86 FR 27967.

- 2. Revise § 9.1 to read as follows:

##### **§ 9.1 Purpose.**

This part sets forth the policy, procedure, and responsibilities to implement and enforce relevant sections of the National Flood Insurance Act of 1968, as amended, and the Flood Disaster Protection Act of 1973, as amended, 42 U.S.C. 4001 *et seq.*, the National Environmental Policy Act of 1969, 42 U.S.C. 4321 *et seq.*, as amended, and other relevant statutory authorities in conjunction with Executive Order 11988, Floodplain Management, as amended, and Executive Order 11990, Protection of Wetlands.

- 3. Amend § 9.2 by revising paragraph (b) and adding paragraphs (c) and (d) to read as follows:

##### **§ 9.2 Policy.**

\* \* \* \* \*

(b) The Agency will provide leadership in floodplain management and the protection of wetlands, informed by the best available and

actionable science, to bolster the resilience of communities and Federal assets against the impacts of flooding, which are anticipated to increase over time due to the effects of changing conditions which adversely affect the environment, economic prosperity, public health and safety, and national security.

(c) The Agency shall integrate the goals of the Orders to the greatest possible degree into its procedures for implementing the National Environmental Policy Act (42 U.S.C. 4321 *et seq.*).

(d) The Agency shall:

(1) Minimize the impact of floods on human health, safety, and welfare;

(2) Avoid long- and short-term adverse impacts associated with the occupancy and modification of floodplains and the destruction and modification of wetlands;

(3) Avoid direct and indirect support of floodplain development and new construction in wetlands wherever there is a practicable alternative;

(4) Reduce the risk of flood loss;

(5) Promote the use of nonstructural flood protection methods to reduce the risk of flood loss;

(6) Minimize the destruction, loss, or degradation of wetlands;

(7) Restore and preserve the natural and beneficial values served by floodplains;

(8) Preserve and enhance the natural values of wetlands;

(9) Involve the public throughout the floodplain management and wetlands protection decision-making process;

(10) Adhere to the objectives of the Unified National Program for Floodplain Management; and

(11) Improve and coordinate the Agency’s plans, programs, functions, and resources so that the Nation may attain the widest range of beneficial uses of the environment without degradation or risk to health and safety.

- 4. Amend § 9.3 by revising to read as follows:

##### **§ 9.3 Severability.**

Any provision of this part held to be invalid or unenforceable as applied to any action should be construed so as to continue to give the maximum effect to the provision permitted by law, unless such holding is that the provision of this part is invalid and unenforceable in all circumstances, in which event the provision should be severable from the remainder of this subpart and shall not affect the remainder thereof.

- 5. Amend § 9.4 by:

■ a. Adding in alphanumeric order definitions for “0.2 Percent Annual Chance Flood Elevation,” “0.2 Percent

<sup>154</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 found at [https://obamawhitehouse.archives.gov/sites/default/files/docs/cap\\_progress\\_report\\_final\\_w\\_cover.pdf](https://obamawhitehouse.archives.gov/sites/default/files/docs/cap_progress_report_final_w_cover.pdf) (last accessed July 12, 2023).

- Annual Chance Floodplain,” “1 Percent Annual Chance Flood Elevation,” and “1 Percent Annual Chance Floodplain;”
- b. Revising the definitions of “Action” and “Actions Affecting or Affected by Floodplains or Wetlands;”
- c. Adding the definition of “Action Subject to the Federal Flood Risk Management Standard;”
- d. Removing the definitions of “Base Flood” and “Base Floodplain;”
- e. Adding the definition of “Base Flood Elevation;”
- f. Revising the definitions of “Coastal High Hazard Area,” “Critical Action” and “Emergency Actions;”
- g. Adding in alphabetical order definitions for “Federal Flood Risk Management Standard (FFRMS),” “Federal Flood Risk Management Standard Floodplain,” “Federally Funded Project,” and “FEMA Resilience;”
- h. Removing the definitions of “Five Hundred Year Floodplain” and “FIA;”
- i. Revising the definition of “Flood or Flooding;”
- j. Removing the definitions of “Flood Fringe,” “Flood Hazard Boundary Map (FHBM),” “Flood Insurance Rate Map (FIRM),” and “Flood Insurance Study;”
- k. Revising the definitions of “Floodplain,” “Functionally Dependent Use”, and “Mitigation;”
- l. Removing the definition of “Mitigation Directorate;”
- m. Adding in alphabetical order a definition for “National Security” and “Nature-Based Approaches,” “Natural and Beneficial Values of Floodplains and Wetlands,” and “Natural Features;”
- n. Removing the definition of “Natural Values of Floodplains and Wetlands;”
- o. Revising the definition of “New Construction;”
- p. Removing the definition of “New Construction in Wetlands;”
- q. Revising the definitions of “Orders”, “Practicable”, and “Regulatory Floodway”, “Restore”, “Structures”, and “Substantial Improvement;”
- r. Adding the definition of “Support of Floodplain and Wetland Development;”
- s. Removing the definition of “Support;” and
- t. Revising the definition of “Wetlands.”

The additions and revisions read as follows:

**§ 9.4 Definitions.**

*0.2 Percent Annual Chance Flood Elevation* means the elevation to which floodwater is anticipated to rise during the 0.2 percent annual chance flood (also known as the 500-year flood).

*0.2 Percent Annual Chance Floodplain* means the area subject to flooding by the 0.2 percent annual chance flood (also known as the 500-year floodplain).

*1 Percent Annual Chance Flood Elevation—see Base Flood Elevation.*

*1 Percent Annual Chance Floodplain* means the area subject to flooding by the 1 percent annual chance flood (also known as the 100-year floodplain or base floodplain).

*Action* means

(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.

*Actions Affecting or Affected by Floodplains or Wetlands* means actions which have the potential to result in the long- or short-term impacts associated with:

(1) The occupancy or modification of floodplains, and the direct or indirect support of floodplain development, or

(2) The destruction and modification of wetlands and the direct or indirect support of new construction in wetlands.

*Action Subject to the Federal Flood Risk Management Standard (FFRMS)* means any action where FEMA funds are used for new construction, substantial improvement, or to address substantial damage to a structure or facility.

\* \* \* \* \*

*Base Flood Elevation* means the elevation to which floodwater is anticipated to rise during the 1 percent annual chance flood (also known as the base flood or 100-year flood). The terms “base flood elevation,” “1 percent annual change flood elevation,” and “100-year flood elevation” are synonymous and are used interchangeably.

*Coastal High Hazard Area* means an area of flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources.

*Critical Action* means any 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 Actions* means emergency 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).

\* \* \* \* \*

*Federal Flood Risk Management Standard (FFRMS)* means the Federal flood risk management standard to be incorporated into existing processes used to implement Executive Order 11988, as amended.

*Federal Flood Risk Management Standard (FFRMS) Floodplain* means the floodplain established using one of the approaches described in § 9.7(c) of this part.

*Federally Funded Project—see Action Subject to the Federal Flood Risk Management Standard.*

*FEMA Resilience* means the organization within FEMA that includes the Federal Insurance and Mitigation Administration, the Grants Program Directorate, and the National Preparedness Directorate.

\* \* \* \* \*

*Flood or flooding* means the general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland and/or tidal waters, and/or the unusual and rapid accumulation of runoff of surface waters from any source.

*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 (also known as the 500-year flood). *1 Percent Annual Chance Flood* means the flood which has a 1 percent chance of being equaled or exceeded in any given year (also known as the 100-year flood or base flood). The terms “base flood,” “1 percent annual chance flood,” and “100-year flood” are synonymous and are used interchangeably.

\* \* \* \* \*

*Floodplain* means any land area that is subject to flooding. The term

“floodplain,” by itself, refers to geographic features with undefined boundaries. For the purposes of this part, the FFRMS floodplain shall be established using one of the approaches described in § 9.7(c) of this part. *See 0.2 Percent Annual Chance Floodplain, 1 Percent Annual Chance Floodplain, and Federal Flood Risk Management Standard Floodplain.*

\* \* \* \* \*

*Functionally Dependent Use* means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water.

\* \* \* \* \*

*Mitigation* means steps necessary to minimize the potentially adverse effects of the proposed action, and to restore and preserve the natural and beneficial floodplain values and to preserve and enhance natural values of wetlands.

\* \* \* \* \*

*National Security* means a condition that is provided by either (1) a military or defense advantage over any foreign nation or group of nations; (2) a favorable foreign relations position; or (3) a defense posture capable of successfully resisting hostile or destructive action from within or without, overt or covert. National security encompasses both national defense and foreign relations of the United States.

*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.

*Natural and Beneficial Values of Floodplains and Wetlands* means features or resources that provide environmental and societal benefits. Water and biological resources are often referred to as “natural functions of floodplains and wetlands.” These values include, but are not limited to:

(1) Water Resource Values (storing and conveying floodwaters, maintaining water quality, and groundwater recharge);

(2) Living Resource Values (providing habitats and enhancing biodiversity for fish, wildlife, and plant resources);

(3) Cultural Resource Values (providing open space, natural beauty, recreation, scientific study, historic and archaeological resources, and education; and

(4) Cultivated Resource Values (creating rich soils for agriculture, aquaculture, and forestry).

*Natural Features* means characteristics of a particular environment (e.g., barrier islands, sand dunes, wetlands) that are created by physical, geological, biological, and chemical processes and exist in dynamic equilibrium. Natural features are self-sustaining parts of the landscape that require little or no maintenance to continue providing their ecosystem services (functions).

*New Construction* means the construction of a new structure or facility or the replacement of a structure or facility which has been totally destroyed. New construction includes permanent installation of temporary housing units. New construction in wetlands includes draining, dredging, channelizing, filling, diking, impounding, and related activities.

\* \* \* \* \*

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

*Practicable* means capable of being done within existing constraints. The test of what is practicable depends on the situation and includes consideration of all pertinent factors, such as natural environment, social concerns, economic aspects, legal constraints, and agency authorities.

\* \* \* \* \*

*Regulatory Floodway* means the area regulated by Federal, State, or local requirements to provide for the discharge of the base flood so the cumulative rise in the water surface is no more than a designated amount above the base flood elevation.

*Restore* means to reestablish a setting or environment in which the natural functions of the floodplain can operate.

*Structure* means a walled and roofed building, including a temporary housing unit (manufactured housing) or a gas or liquid storage tank.

*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 pre-disaster 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) (1) before the repair or improvement is started, or (2) if the structure or facility has been damaged and is proposed to be restored. Substantial improvement includes work to address substantial damage to a

structure or facility. If a facility is an essential link in a larger system, the percentage of damage will be based on the cost of repairing the damaged facility relative 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.

\* \* \* \* \*

*Support of Floodplain and Wetland Development* means to, directly or indirectly, encourage, allow, serve, or otherwise facilitate development in floodplains or wetlands. Development means any man-made change to improved or unimproved real estate, including but not limited to new construction, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials. Direct support results from actions within floodplains or wetlands, and indirect support results from actions outside of floodplains or wetlands.

*Wetlands* means those areas which are inundated or saturated by surface or ground water with a frequency sufficient to support, or that under normal hydrologic conditions does or would support, a prevalence of vegetation or aquatic life typically adapted for life in saturated or seasonally saturated soil conditions, including wetlands areas separated from their natural supply of water as a result of construction activities such as structural flood protection methods or solid-fill road beds, and activities such as mineral extraction and navigation improvements. Examples of wetlands include, but are not limited to, swamps, fresh and salt water marshes, estuaries, bogs, beaches, wet meadows, sloughs, potholes, mud flats, river overflows, and other similar areas. This definition is intended to be consistent with the definition utilized by the U.S. Fish and Wildlife Service.

■ 6. Amend § 9.5 by revising paragraph (a)(3), the first sentence of paragraph (b)(1), and paragraphs (c) through (g) to read as follows:

**§ 9.5 Scope.**

(a) \* \* \*

(3) The amendments to this part made on [EFFECTIVE DATE OF FINAL RULE] apply to new actions for which assistance is made available pursuant to declarations under the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 on or after [EFFECTIVE DATE OF FINAL RULE] and new actions for which assistance is

made available pursuant to notices of funding opportunities published on or after [EFFECTIVE DATE OF FINAL RULE]. For ongoing actions for which assistance was made available prior to that date, legacy program regulations set forth in guidance and available at <http://www.fema.gov> shall apply.

(b) \* \* \*

(1) Executive Order 11990, Protection of Wetlands, contains a limited exemption not found in Executive Order 11988, Floodplain Management, as amended. \* \* \*

\* \* \* \* \*

(c) *Decision-making involving certain categories of actions.* The provisions set forth in this part are not applicable to the actions enumerated in paragraphs (c)(1) through (10) of this section except that the Regional Administrators shall comply with the spirit of Executive Order 11988, as amended, and Executive Order 11990 to the extent practicable. For any action which is excluded from the actions enumerated below, the full 8-step process applies (see § 9.6) (except as indicated at paragraphs (d), (e), and (g) of this section regarding other categories of partial or total exclusion). The provisions of this part do not apply to the following (all references are to the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988, Pub. L. 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) Emergency Communications (section 418);

(4) Emergency Public Transportation (section 419);

(5) Fire Management Assistance (section 420), except for hazard mitigation assistance under sections 404 and 420(d);

(6) 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;

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

(i) Financial assistance for temporary housing (section 408(c)(1)(A));

(ii) Lease and repair of rental units for temporary housing (section 408(c)(1)(B)(ii)), except that Step 1 (§ 9.7) shall be carried out;

(iii) Repairs (section 408(c)(2));

(iv) Replacement (section 408(c)(3)); and

(v) Financial assistance to address other needs (section 408(e)).

(8) Debris clearance and removal (sections 403 and 502), except those grants involving non-emergency disposal of debris within a floodplain or wetland (section 407);

(9) Actions under sections 406 and 407 of less than \$18,000. Such \$18,000 amount will be adjusted annually to reflect changes in the Consumer Price Index for All Urban Consumers published by the Department of Labor;

(10) 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) *Abbreviated decision-making process applying steps 1, 4, 5, and 8.* The Regional Administrator shall apply steps 1, 4, 5, and 8 of the decision-making process (§§ 9.7, 9.10, and 9.11) to repairs under section 406 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988, Public Law 93–288, as amended, between \$18,000 and \$91,000. Such \$18,000 and \$91,000 amounts will be adjusted annually to reflect changes in the Consumer Price Index for All Urban Consumers published by the Department of Labor. For any action which is excepted from the actions listed below (except as otherwise provided in § 9.5 regarding other categories of partial or total exclusion), the full 8-step process applies (See § 9.6). The Regional Administrator may also require certain other portions of the decision-making process to be carried out for individual actions as is deemed necessary. Steps 1, 4, 5, and 8 of the decision-making process apply to actions under section 406 of the Stafford Act referenced above except for:

(1) Actions in a floodway or coastal high hazard area; or

(2) New construction, substantial improvement, or repairs to address substantial damage of structures or facilities; or

(3) Facilities or structures which have previously sustained damage from flooding due to a major disaster or emergency or on which a flood insurance claim has been paid; or

(4) Critical actions.

(e) *Abbreviated decision-making process applying steps 1, 2, 4, 5, and 8.* The Regional Administrator shall apply steps 1, 2, 4, 5, and 8 of the decision-making process (§§ 9.7, 9.8, 9.10, and 9.11, see § 9.6) to certain actions under Section 406 of the Robert T. Stafford

Disaster Relief and Emergency Assistance Act of 1988, Public Law 93–288, as amended, provided in paragraphs (1) and (2) below. Steps 3 and 6 (§ 9.9) shall be carried out except that alternative sites outside the floodplain or wetland need not be considered. After assessing impacts of the proposed action on the floodplain or wetlands and of the site on the proposed action, alternative actions to the proposed action, if any, and the “no action” alternative shall be considered. The Regional Administrator may also require certain other portions of the decision-making process to be carried out for individual actions as is deemed necessary. For any action which is excluded from the actions listed below (except as otherwise provided in § 9.5 regarding other categories of partial or total exclusion), the full 8-step process applies (see § 9.6). The Regional Administrator shall apply steps 1, 2, 4, 5, and 8 of the decision-making process (§§ 9.7, 9.8, 9.10, and 9.11, see § 9.6) to:

(1) Replacement of building contents, materials, and equipment (section 406).

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

(i) FEMA estimated cost of repairs is more than 50 percent of the estimated reconstruction cost of the entire facility or structure or is more than \$364,000. Such \$364,000 amount will be adjusted annually to reflect changes in the Consumer Price Index for All Urban Consumers published by the Department of Labor; or

(ii) The action is located in a floodway or coastal high hazard area; or

(iii) Facilities or structures which have previously sustained structural damage from flooding due to a major disaster or emergency or on which a flood insurance claim has been paid; or

(iv) The action is a critical action.

(f) *Other categories of actions.* Based upon the completion of the 8-step decision-making process (§ 9.6), the Regional Administrator may find that a specific category of actions either offers no potential for carrying out the purposes of the Orders and shall be treated as those actions listed in § 9.5(c), or has no practicable alternative sites and shall be treated as those actions listed in § 9.5(e), or has no practicable alternative actions or sites and shall be treated as those actions listed in § 9.5(d). This finding will be made in consultation with FEMA Resilience and the Council on Environmental Quality as provided in section 2(d) of Executive Order 11988, as amended. Public notice of each of these determinations shall

include publication in the **Federal Register** and a 30-day comment period.

(g) *The National Flood Insurance Program (NFIP)*. (1) FEMA Resilience shall apply the 8-step decision-making process to program-wide actions under the NFIP, including all regulations, procedures, and other issuances making or amending program policy, and the establishment of programmatic standards or criteria. FEMA Resilience shall not apply the 8-step decision-making process to the application of programmatic standards or criteria to specific situations. Thus, for example, FEMA Resilience 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.

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

(i) The issuance of individual flood insurance policies and policy interpretations;

(ii) The adjustment of claims made under the Standard Flood Insurance Policy;

(iii) The hiring of independent contractors to assist in the implementation of the NFIP;

(iv) The issuance of individual flood insurance maps, Map Information Facility map determinations, and map amendments; and

(v) The conferring of eligibility for emergency or regular program (NFIP) benefits upon communities.

■ 7. Revise § 9.6 to read as follows:

#### **§ 9.6 Decision-making process.**

(a) *Purpose*. This section sets out the floodplain management and wetlands protection decision-making process to be followed by the Agency in applying the Orders to its actions. The numbering of Steps 1 through 8 does not require that the steps be followed sequentially. As information is gathered through the decision-making process, and as additional information is needed, reevaluation of lower numbered steps may be necessary.

(b) *Decision-making process*. Except as otherwise provided in § 9.5 regarding categories of partial or total exclusion when proposing an action, the Agency shall apply the 8-step decision-making process. FEMA shall:

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

(2) *Step 2*. Notify the public at the earliest possible time of the intent to carry out an action in a floodplain or wetland, and involve the affected and interested public in the decision-making process (see § 9.8);

(3) *Step 3*. Identify and evaluate practicable alternatives to locating the proposed action in a floodplain or wetland (including alternative sites, actions, natural features, nature-based approaches, and the “no action” option) (see § 9.9). If a practicable alternative exists outside the floodplain or wetland FEMA must locate the action at the alternative site.

(4) *Step 4*. Identify the potential direct and indirect impacts associated with the occupancy or modification of floodplains and wetlands and the potential direct and indirect support of floodplain and wetland development that could result from the proposed action (see § 9.10);

(5) *Step 5*. Minimize the potential adverse impacts to or within floodplains and wetlands and minimize support of floodplain and wetland development identified under Step 4. Restore and preserve the natural and beneficial values served by floodplains, and preserve and enhance the natural and beneficial values served by wetlands. Integrate nature-based approaches where appropriate (see § 9.11);

(6) *Step 6*. Reevaluate the proposed action to determine first, if it is still practicable in light of its exposure to flood hazards, the extent to which it will aggravate hazards to others, and its potential to disrupt floodplain and wetland values; and second, if alternatives preliminarily rejected at Step 3 are practicable in light of the information gained in Steps 4 and 5. FEMA shall not act in a floodplain or wetland unless it is the only practicable location (see § 9.9);

(7) *Step 7*. Prepare and provide the public with a finding and public explanation of any final decision that the floodplain or wetland is the only practicable alternative (see § 9.12); and

(8) *Step 8*. Review the implementation and post-implementation phases of the proposed action to ensure that the requirements stated in § 9.11 are fully implemented. Oversight responsibility shall be integrated into existing processes.

■ 8. Amend § 9.7 by revising paragraphs (a), (b), (c), (d)(3) and (4) to read as follows:

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

(a) *Purpose*. This section establishes Agency procedures for determining whether any action as proposed is

located in or affects a floodplain established in paragraph (c) of this section or a wetland.

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

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

(ii) Minimize harm to and within floodplains and wetlands.

(2) In all cases, FEMA shall determine whether the proposed action is located in a floodplain or wetland. Information about the floodplain as established by § 9.7(c) and the location of floodways and coastal high hazard areas may also be needed to comply with this part, especially § 9.11.

(3) The following additional current and future flooding characteristics may be identified by the Regional Administrator as applicable:

(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.

(vi) Any other applicable flooding characteristics.

(c) *Floodplain determination*. In the absence of a finding to the contrary, FEMA will determine that a proposed action involving a facility or structure that has been flooded previously is in the floodplain. In determining if a proposed action is in the floodplain:

(1) FEMA shall determine whether the action is an action subject to the FFRMS as defined in § 9.4.

(i) If the action is an action subject to the FFRMS, FEMA shall establish the FFRMS floodplain area and associated flood elevation by using the process specified in (c)(3) of this section and one of the following approaches:

(A) *Climate-Informed Science Approach (CISA)*: 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): 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;

(C) 0.2 Percent Annual Chance Flood Approach (0.2PFA): The 0.2 percent annual chance flood; or

(D) Any other method identified in an update to the FFRMS.

(ii) FEMA may select among and prioritize the approaches in paragraph (c)(1) by policy.

(iii) FEMA may provide an exception to using the FFRMS floodplain and corresponding flood elevation for an action subject to the FFRMS 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, or where the action is a mission-critical requirement related to a national security interest or an emergency action.

(2) If the action is not an action subject to the FFRMS as defined in § 9.4, FEMA shall use, at a minimum:

(i) The 1 percent annual chance (base) floodplain and flood elevation for non-critical actions; and

(ii) The 0.2 percent annual chance floodplain and flood elevation for critical actions.

(3) FEMA shall establish the floodplain and corresponding elevation using the best available information. The floodplain and corresponding elevation determined using the best available information must be at least as restrictive as FEMA’s regulatory determinations under the NFIP where such determinations are available. In obtaining the best available information, FEMA may consider other FEMA information as well as other available information, such as:

(i) Department of Agriculture: Natural Resources Conservation Service, U.S. Forest Service;

(ii) Department of Defense: U.S. Army Corps of Engineers;

(iii) Department of Commerce: National Oceanic and Atmospheric Administration;

(iv) Department of the Interior: Bureau of Land Management, Bureau of Reclamation, U.S. Fish and Wildlife Service, United States Geological Survey;

(v) Tennessee Valley Authority;

(vi) Department of Transportation;

(vii) Environmental Protection Agency;

(viii) General Services Administration;

(ix) States and Regional Agencies; or

(x) Local sources such as Floodplain Administrators, Regional Flood Control Districts, or Transportation Departments.

(4) If the sources listed in paragraph (c)(3) of this section do not have or know of the information necessary to comply with the requirements in this part, the Regional Administrator may seek the services of a professional registered engineer.

(5) If a decision involves an area or location within extensive Federal or state holdings or a headwater area and FEMA’s regulatory determinations under the National Flood Insurance Program are not available, the Regional Administrator shall seek information from the land administering agency before information and/or assistance is sought from the sources listed in paragraph (c)(3).

(d) \* \* \*

(3) If the identified sources do not have adequate information upon which to base the determination, the Agency shall carry out an on-site analysis performed by a representative of the FWS or other qualified individual for wetlands characteristics based on the definition of a wetland in § 9.4.

(4) If an action constitutes new construction and is in a wetland but not in a floodplain, the provisions of this part shall apply. If the action is not in a wetland, the Regional Administrator shall determine if the action has the potential to result in indirect impacts on wetlands. If so, all potential adverse impacts shall be minimized. For actions which are in a wetland and the floodplain, completion of the decision-making process is required. (See § 9.6). In such a case, the wetland will be considered as one of the natural and beneficial values of the floodplain.

■ 9. Amend § 9.8 by revising paragraphs (a), (c)(1), the first sentence of paragraph (c)(2), the introductory text of paragraph (c)(3), paragraph (c)(3)(v), paragraphs (c)(4) and (5) to read as follows:

§ 9.8 Public notice requirements.

(a) Purpose. This section establishes the initial notice procedures to be followed when the Agency proposes any action in or affecting floodplains or wetlands.

\* \* \* \* \*

(c) \* \* \*

(1) For an action for which an environmental impact statement is being prepared, the Notice of Intent to File an EIS constitutes the early public notice if it includes the information required under paragraph (c)(5) of this section.

(2) For each action having national significance for which notice is being

provided, the Agency at a minimum shall provide notice by publication in the Federal Register and shall provide notice by mail to national organizations reasonably expected to be interested in the action. \* \* \*

(3) The Agency shall determine whether it has provided appropriate notices, adequate comment periods, and whether to issue cumulative notices (paragraphs (c)(4), (6), and (7) of this section) based on factors which include, but are not limited to:

\* \* \* \* \*

(v) Anticipated potential impact of the action.

(4) For each action having primarily local importance for which notice is being provided, notice shall be made in accordance with the criteria under paragraph (c)(3) of this section, and shall include, as appropriate:

(i) Notice through the internet or another comparable method.

(ii) Notice to Indian tribes when effects may occur on reservations.

(iii) Information required in the affected State’s public notice procedures for comparable actions.

(iv) Publication in local newspapers.

(v) Notice through other local media including newsletters.

(vi) Notice to potential interested community organizations.

(vii) Direct mailing to owners and occupants of nearby or affected property.

(viii) Posting of notice on and off site in the area where the action is to be located.

(ix) Public hearing.

(5) The notice shall:

(i) Describe the action, its purposes, and a statement of the intent to carry out an action affecting or affected by a floodplain or wetland;

(ii) Based on the factors in paragraph (c)(3) of this section, include a map of the area and other identification of the floodplain and/or wetland areas which is of adequate scale and detail;

alternatively, 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 or may provide a link to access the map online;

(iii) Based on the factors in paragraph (c)(3) of this section, describe the type, extent, and degree of hazard involved and the floodplain or wetland values present; and

(iv) Identify the responsible official or organization for implementing the proposed action, and from whom further information can be obtained.

\* \* \* \* \*

■ 10. Amend § 9.9 by:

- a. Revising paragraphs (a)(1), (b)(2), and (c)(1) through (4);
- b. Adding paragraph (c)(5);
- c. Revising paragraphs (d), (e)(1)(i), (e)(1)(iii), (e)(1)(iv); (e)(2) introductory text, (e)(3) introductory text, and (e)(4);
- d. Lifting the suspension of paragraph (e)(6) and removing the paragraph.

The addition and revisions read as follows:

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

(a) \* \* \*

(1) This section expands upon the directives set out in § 9.6 of this part in order to clarify and emphasize the requirements to avoid floodplains and wetlands unless there is no practicable alternative.

\* \* \* \* \*

(b) \* \* \*

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

\* \* \* \* \*

(c) \* \* \*

(1) Natural environment (including, but not limited to topography, habitat, hazards, when applicable);

(2) Social concerns (including, but not limited to aesthetics, historical and cultural values, land patterns, when applicable);

(3) Economic aspects (including, but not limited to costs of space, technology, construction, services, relocation, when applicable);

(4) Legal constraints (including, but not limited to deeds and leases, when applicable); and

(5) Agency authorities.

(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.

(2) If no practicable alternative exists outside the floodplain or wetland, in order to carry out the action the floodplain or wetland must itself be a practicable location in light of the review required in this section.

(e) \* \* \*

(1) \* \* \*

(i) The action is still practicable at a floodplain or wetland site, considering the flood risk and the ensuing disruption of natural values;

\* \* \* \* \*

(iii) The scope of the action can be limited to increase the practicability of

previously rejected non-floodplain or wetland sites and alternative actions; and

(iv) Harm to or within the floodplain can be minimized using all practicable means.

(2) Take no action in a floodplain unless the importance of the floodplain site clearly outweighs the requirements to:

\* \* \* \* \*

(3) Take no action in a wetland unless the importance of the wetland site clearly outweighs the requirements to:

\* \* \* \* \*

(4) In carrying out this balancing process, give the factors in paragraphs (e)(2) and (3) of this section great weight.

\* \* \* \* \*

■ 11. Amend § 9.10 by revising paragraph (a), the second sentence of paragraph (b), (c) and (d) to read as follows:

**§ 9.10 Identify impacts of proposed actions.**

(a) This section ensures that the effects of proposed Agency actions are identified.

(b) \* \* \* Such identification of impacts shall be to the extent necessary to comply with the requirements of this part to avoid floodplain and wetland locations unless they are the only practicable alternatives to minimize harm to and within floodplains and wetlands.

(c) This identification shall consider whether the proposed action will result in an increase in the useful life of any structure or facility in question, maintain the investment at risk and exposure of lives to the flood hazard or forego an opportunity to restore the natural and beneficial values served by floodplains or wetlands.

(d) In the review of a proposed or alternative action, the Regional Administrator shall consider and evaluate: impacts associated with modification of wetlands and floodplains regardless of its location; additional impacts which may occur when certain types of actions may support subsequent action which have additional impacts of their own; adverse impacts of the proposed actions on lives and property and on natural and beneficial floodplain and wetland values; and the three categories of factors listed below:

(1) *Flood hazard-related factors.* These include, but are not limited to, the factors listed in § 9.7(b)(3);

(2) *Natural values-related factors.* These include, but are not limited to: water resource values, as in storing and

conveying floodwaters, maintaining water quality, and groundwater recharge; living resource values, as in providing habitats and enhancing biodiversity for fish and wildlife and plant resources; cultural resource values, as in providing open space, natural beauty, recreation, scientific study, historical and archaeological resources, and education; and cultivated resource values, as in creating rich soils for agriculture, aquaculture, and forestry.

(3) *Factors relevant to a proposed action's effects on the survival and quality of wetlands.* These include, but are not limited to: Public health, safety, and welfare, including water supply, quality, recharge and discharge; pollution; flood and storm hazards; and sediment and erosion; maintenance of natural systems, including conservation and long term productivity of existing flora and fauna, species and habitat diversity and stability, hydrologic utility, fish, wildlife, timber, and food and fiber resources; and other uses of wetlands in the public interest, including recreational, scientific, and cultural uses.

■ 12. Amend § 9.11 by:

■ a. Revising paragraphs (a) and (c)(1);

■ b. Revising the first sentence of paragraph (d) introductory text, the introductory text of paragraph (d)(1), paragraphs (d)(2), (3) and (4), the introductory text of paragraph (d)(5), and paragraph (d)(9);

■ c. Lifting the suspension of paragraph (e)(4) and removing paragraph (e); and

■ d. Redesignating paragraph (f) as paragraph (e) and revising newly redesignated paragraph (e).

The revisions read as follows:

**§ 9.11 Mitigation.**

(a) *Purpose.* This section expands upon the directives set out in § 9.6 of this part and sets out the mitigative actions required if the preliminary determination is made to carry out an action that affects or is in a floodplain or wetland.

\* \* \* \* \*

(c) \* \* \*

(1) Potential harm to lives and the investment from flooding based on flood elevations as established by § 9.7(c);

\* \* \* \* \*

(d) *Minimization Standards.* 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). \* \* \*

(1) There shall be no new construction or substantial

improvement in a floodway and no new construction in a coastal high hazard area, except for: \* \* \*

(2) For a structure which is a functionally dependent use or which facilitates an open space use, the following applies: Any construction of a new or substantially improved structure in a coastal high hazard area must be 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 floodplain as established by § 9.7(c). The structure shall be anchored so as to withstand velocity waters and hurricane wave wash.

(3) *Elevation of structures.* The following applies to 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 elevation of the floodplain as established by § 9.7(c).

(ii) If the subject structure is nonresidential, instead of elevating the structure, FEMA may approve the design of the structure and its attendant utility and sanitary facilities so that the structure is water tight below the flood elevation 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.

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

(4) There shall be no encroachments, including but not limited to fill, new construction, substantial improvements of structures or facilities, or other development within a designated regulatory floodway that would result in any increase in flood elevation within the community during the occurrence of the 1 percent annual chance (base) flood discharge. Until a regulatory floodway is designated, no fill, new construction, substantial improvements, or other development shall be permitted within the 1 percent annual chance (base)

floodplain unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the 1 percent annual chance (base) flood more than the amount designated by the NFIP or the community, whichever is most restrictive.

(5) Even if an action is a functionally dependent use or facilitates open space uses (under paragraph (d)(1) or (2) of this section) and does not increase flood heights (under paragraph (d)(4) of this section), such action may only be taken in a floodway or coastal high hazard area if: \* \* \*

\* \* \* \* \*

(9) In the replacement of building contents, materials and equipment, the Regional Administrator shall require as appropriate, flood proofing and/or elevation 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 by § 9.7(c).

(e) *Restore and preserve.* (1) For any action taken by the Agency which affects the floodplain or wetland and which has resulted in, or will result in, harm to the floodplain or wetland, the Agency shall act to restore and preserve the natural and beneficial values served by floodplains and wetlands.

(2) Where floodplain or wetland values have been degraded by the proposed action, the Agency shall identify, evaluate, and implement measures to restore the values.

(3) If an action will result in harm to or within the floodplain or wetland, the Agency shall design or modify the action to preserve as much of the natural and beneficial floodplain and wetland values as is possible.

- 13. In § 9.12 amend paragraph (d) by:
  - a. Designating the introductory text as paragraph (d)(1);
  - b. Designating paragraphs (d)(1) through (6) as paragraphs (d)(1)(i) through (d)(1)(vi);
  - c. Designate the undesignated text after newly designated paragraph (d)(1)(vi) as paragraph (d)(2) and revise newly designated paragraph (d)(2) to read as follows:

**§ 9.12 Final public notice.**

\* \* \* \* \*

(d) \* \* \*

(2) When a damaged structure or facility is already being repaired by the State or local government at the time of the project application, the requirements of Steps 2 and 7 (§§ 9.8 and this 9.12) may be met by a single

notice. Such notice shall contain all the information required by both sections.

■ 14. Revise § 9.13 to read as follows:

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

(a) This section sets forth the procedures whereby the Agency will provide certain specified types of temporary housing at a private, commercial, or group site.

(b) Prior to providing the temporary housing described in paragraph (a) of this section, the Agency shall comply with the provisions of this section. For temporary housing not enumerated above, the full 8-step process (see § 9.6) applies.

(c) The actions described in paragraph (a) of this section are subject to the following decision-making process:

(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.

(2) No temporary housing unit may be placed on a site in a floodway or coastal high hazard area.

(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. The following factors shall be substituted for the factors in § 9.9(c) and (e)(2) through (4):

- (i) Speedy provision of temporary housing;
- (ii) Potential flood risk to the temporary housing occupant;
- (iii) Cost effectiveness;
- (iv) Social and neighborhood patterns;
- (v) Timely availability of other housing resources; and
- (vi) Potential harm to the floodplain or wetland.

(4) For temporary housing units at group sites, Step 4 of the 8-step process shall be applied in accordance with § 9.10.

(5) An individual or family shall not be housed in a floodplain or wetland (except in existing resources) unless the Regional Administrator has complied with the provisions of § 9.11 to minimize harm to and within floodplains and wetlands. The following provisions shall be substituted for the provisions of § 9.11(d) for temporary housing units:

(i) No temporary housing unit may be placed unless it is elevated to the fullest extent practicable up to the base flood elevation and adequately anchored.

(ii) No temporary housing unit may be placed if such placement is inconsistent with the criteria of the NFIP (44 CFR

parts 59 and 60) or any more restrictive Federal, State, or local floodplain management standard. Such standards may require elevation to the base flood elevation in the absence of a variance.

(iii) Temporary housing units shall be elevated on open works (walls, columns, piers, piles, etc.) rather than on fill where practicable.

(iv) To minimize the effect of floods on human health, safety and welfare, the Agency shall:

(A) Where appropriate, integrate all of its proposed actions in placing temporary housing units for temporary housing in floodplains into existing flood warning or preparedness plans and ensure that available flood warning time is reflected;

(B) Provide adequate access and egress to and from the proposed site of the temporary housing unit; and

(C) Give special consideration to the unique hazard potential in flash flood and rapid-rise areas.

(6) FEMA shall comply with Step 2 Early Public Notice (§ 9.8(c)) and Step 7 Final Public Notice (§ 9.12). In providing these notices, the emergency nature of temporary housing shall be taken into account.

(7) FEMA shall carry out the actions in accordance with Step 8, ensuring the requirements of this section and the decision-making process are fully integrated into the provision of temporary housing.

(d) *Sale or disposal of temporary housing.* The following applies to the permanent installation of a temporary housing unit as part of a sale or disposal of temporary housing:

(1) FEMA shall not permanently install temporary housing units in floodways or coastal high hazard areas. FEMA shall not permanently install a temporary housing unit in floodplains as established by 9.7(c) or wetlands unless there is full compliance with the 8-step process. Given the vulnerability of temporary housing units 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 temporary housing unit for permanent housing; and

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

(2) FEMA shall not permanently install temporary housing units in the floodplain as established by § 9.7(c) unless they are or will be elevated at least to the elevation of the floodplain as established by § 9.7(c).

(3) The Regional Administrator shall notify FEMA Resilience of each instance where a floodplain location has been

found to be the only practicable alternative for permanent installation of a temporary housing unit.

■ 15. In § 9.14, revise paragraphs (a), (b)(4), (5), (6), (b)(7)(ii) and (iii), and (b)(9) to read as follows:

**§ 9.14 Disposal of Agency Property**

(a) This section sets forth the procedures whereby the Agency shall dispose of property.

(b) \* \* \*

(4) Identify the potential impacts and support of floodplain and wetland development associated with the disposal of the property in accordance with § 9.10;

(5) Identify the steps necessary to minimize, restore, preserve and enhance in accordance with § 9.11. For disposals, this analysis shall address all four of these components of mitigation where unimproved property is involved, but shall focus on minimization through elevation or floodproofing and restoration of natural values where improved property is involved;

(6) Reevaluate the proposal to dispose of the property in light of its exposure to the flood hazard and its natural values-related impacts, in accordance with § 9.9. This analysis shall focus on whether it is practicable in light of the findings from §§ 9.10 and 9.11 to dispose of the property, or whether it must be retained. If it is determined that it is practicable to dispose of the property, this analysis shall identify the practicable alternative that best achieves the Agency's mitigation responsibility.

(7) \* \* \*

(ii) Properties located inside the floodplain but outside of the floodway and the coastal high hazard area; and

(iii) Properties located in a floodway, regulatory floodway, or coastal high hazard area.

\* \* \* \* \*

■ 16. In § 9.16, revise paragraph (b) introductory text, paragraphs (b)(2) through (b)(5), and paragraph (c) to read as follows:

**§ 9.16 Guidance for applicants.**

\* \* \* \* \*

(b) This shall be accomplished primarily through amendment of all Agency instructions to applicants, and also through contact made by agency staff during the normal course of their activities, to fully inform prospective applicants of:

\* \* \* \* \*

(2) The decision-making process to be used by the Agency in making the determination of whether to take an action in or affecting floodplains or wetlands as set out in § 9.6;

(3) The practicability analysis as set out in § 9.9;

(4) The mitigation responsibilities as set out in § 9.11;

(5) The public notice and involvement process as set out in §§ 9.8 and 9.12; and

\* \* \* \* \*

(c) Guidance to applicants shall be provided, where possible, prior to the time of application in order to minimize potential delays in the Agency's processing of the application due to failure of applicants to follow the provisions in this part.

■ 17. In § 9.17, revise paragraph (a), paragraph (b) introductory text, paragraphs (b)(3) through (b)(5), and paragraphs (c) and (d) to read as follows:

**§ 9.17 Instructions to applicants.**

(a) *Purpose.* 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. This section provides notice to applicants for Agency assistance of both the criteria that FEMA is required to follow, and the applicants' responsibilities under this part.

(b) *Responsibilities of Applicants.* Based upon the guidance provided by the Agency under § 9.16, the 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 part, applicants for Agency assistance shall recognize and reflect in their application:

\* \* \* \* \*

(3) The practicability analysis as set out in § 9.9;

(4) The mitigation responsibilities as set out in § 9.11;

(5) The public notice and involvement process as set out in §§ 9.8 and 9.12; and

\* \* \* \* \*

(c) *Provision of supporting information.* Applicants for Agency assistance may be required to provide supporting information relative to the various responsibilities set out in paragraph (b) of this section as a prerequisite to the approval of their applications.

(d) *Approval of applicants.* Applications for Agency assistance shall be reviewed for compliance with the

provisions in this part in addition to the Agency's other approval criteria.

■ 18. In § 9.18, revise paragraph (a)(1), the second sentence of paragraph (b)(1), and the first sentence of (b)(2) to read as follows:

**§ 9.18 Responsibilities.**

(a) \* \* \*

(1) Implement the requirements of the Orders and this part. Under §§ 9.2, 9.6 through 9.13, and 9.15 where a direction is given to the Agency, it is the

responsibility of the Regional Administrator.

\* \* \* \* \*

(b) \* \* \*

(1) \* \* \* When a decision of a Regional Administrator relating to disaster assistance is appealed, FEMA Resilience may make determinations under this part 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]**

■ 19. Remove appendix A to part 9.

**Deanne B. Criswell,**

*Administrator, Federal Emergency Management Agency.*

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