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October 21, 2016

Regulatory Affairs Division  
Office of Chief Counsel  
Federal Emergency Management Agency  
8NE-1604  
500 C Street, S.W.  
Washington, DC 20472-3100

**Re: AGC's Comments on Updates to Floodplain Management and Protection of Wetlands Regulations to Implement Executive Order 13690 and the Federal Flood Risk Management Standard; Docket ID FEMA-2015-0006**

Dear Docket Clerk:

The Associated General Contractors of America (AGC)<sup>1</sup> appreciates the opportunity to provide comments on the proposal by the Federal Emergency Management Agency (FEMA) to update its regulations on "Floodplain Management and Protection of Wetlands" as published in the *Federal Register* on Aug. 22, 2016,<sup>2</sup> to implement the 2015 Federal Flood Risk Management Standard (FFRMS or "Standard"). AGC members regularly undertake activities that FEMA would consider "'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)"<sup>3</sup> and are therefore subject to the updated definition of "floodplain" contained in the FFRMS. AGC seeks to ensure that new or updated floodplain management requirements provide cost-effective, clear, and consistent provisions necessary for the construction industry to continue to improve upon and restore areas damaged by disasters. As such, we note our concerns with this proposed rule herein.

For communities struck by disaster, the ability to rebuild quickly and with confidence is of utmost importance. AGC is concerned the proposed changes would expand the floodplain, raise costs for actions involving the use of FEMA federal funds, and add confusion and regulatory

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<sup>1</sup> AGC represents more than 26,000 firms engaged in building, heavy, civil, industrial, utility and other construction for both public and private property owners and developers. AGC members construct commercial buildings, shopping centers, factories, warehouses, highways, bridges, tunnels, airports, waterworks facilities, and multi-family housing units; and they prepare sites and install the utilities necessary for housing development. AGC and its nationwide network of 92 chapters have sought to improve and advance the interests of the construction industry for nearly a century.

<sup>2</sup> 81 *Fed. Reg.* 57,402 (Aug. 22, 2016).

<sup>3</sup> *Ibid.*

disparity on projects that require cooperation amongst multiple agencies that may establish the floodplain using different methods. These types of changes would not improve the effectiveness of our nation's rebuilding after disasters.

By way of reference, and attachment, AGC incorporates herein its comments on the then proposed "Revised Guidelines for Implementing Executive Order 11988, Floodplain Management" (January 28, 2015; Docket No. FEMA-2015-006), jointly submitted with the American Petroleum Institute, the Independent Petroleum Association of America, and the US Oil and Gas Association to the docket on May 5, 2015. The concerns put forth in those comments remain significant and applicable in context of this proposed rule. Therefore, we urge the agency to review and respond to those concerns as required under the notice and comment requirements of the Administrative Procedures Act.

## **I. Background and Summary of the Proposed Changes**

On Aug. 22, 2016, FEMA proposed updates to its regulations on Floodplain Management and Protection of Wetlands to align with the 2015 FFRMS. FEMA admits that the proposed changes would lead, in many cases, to a larger floodplain than the historical definition.

In brief, the historical definition would continue to apply to actions that do not meet the definition of a FEMA federally funded project. For projects that do meet that definition, FEMA proposes two options, depending on whether an action is non-critical or critical to establish whether the project is in a "floodplain" for the purposes of that action. The proposal would also lead to a requirement to design projects to a higher vertical elevation – which, the agency concedes, can pose a challenge to accessibility and add costs. Another noteworthy change is that it would require the use of "nature-based" or "green infrastructure" approaches in the development of alternatives or mitigation for Federal actions in the floodplain.

FEMA estimates that the total additional grants costs, as a result of the proposed rule, would be between \$906,696 and \$7.8 million per year for FEMA and between \$301,906 and \$2.6 million per year for grant recipients due to the increased elevation or flood-proofing requirements of FEMA federally funded projects.

The FFRMS allows agencies to establish the floodplain using any of three approaches. FEMA proposes to use the Freeboard Value Approach (FVA) for non-critical actions, which relies on raising the elevation. Even though the Climate-Informed Science Approach (CISA) is the preferred approach per the Standard, FEMA is proposing to use CISA to define a floodplain only for critical actions in cases where the CISA elevation is higher than the elevation established under the FVA. (A "critical action" is any activity for which even a slight chance of flooding would be too great.) In AGC's prior comments last year (see attached) on the proposed guidance for federal agencies to implement the Standard, AGC expressed its concern with the CISA approach saying that it "lacks regulatory certainty" without extensive guidelines for the "length of the data series, the quality of the data, and the degrees of uncertainty determined acceptable."

AGC is pleased to offer the following comments in response to FEMA's proposal to amend its "Floodplain Management and Protection of Wetlands" rules and implement the FFRMS.

## II. Concerns

While AGC appreciates that FEMA, along with other agencies, must "issue or amend their existing regulations and procedures to comply with Executive Order 13690 and the FFRMS,"<sup>4</sup> the association still has serious underlying concerns with the FFRMS that have not been assuaged by FEMA's proposed changes in order to implement the Standard. (See attached AGC's prior comments last year on the proposed guidance for federal agencies to implement the Standard.) If there remains no means to address those concerns now, then stakeholders are left with no other course than to take *ad hoc* measures within the implementation process. FEMA is the first agency to undertake this effort and other agencies will likely look to FEMA's final rules for direction.

AGC's prior comment letter summarizes the focus of our concerns — that are not alleviated by FEMA's proposed changes — with the Implementing Guidance on:

"...the following items which reduce certainty and therefore threaten to create regulatory conflict, delays, and additional costs for stakeholders: 1) the ambiguous regulatory scope of the Implementing Guidelines due to conflicting language within the Federal Register and the 1977 Executive Order; 2) a plethora of "choose-your-own" floodplain definitions left to the discretion of individual government agencies, potentially determined on a program-by-program or even project-by-project basis; and 3) lack of guidance or meaningful metrics for agencies as they develop the "climate-informed science approach."

Given the expansion of the floodplain for federal projects and far-ranging consequences on potentially impacted programs, such as the Endangered Species Act among others, AGC is concerned that the FFRMS permits multiple agency paths to define a floodplain using differing methods, creating uncertainty for stakeholders. Instead of seeking to alleviate confusion by setting a clear path for other agencies to follow, FEMA's proposal only adds to this potential confusion by asserting differing methods for different actions the agency undertakes, e.g., FVA for non-critical actions and the CISA only for critical actions under certain conditions. AGC is especially concerned how this patchwork of methodologies across agencies may impact critical infrastructure projects where often several agencies must collaborate during the planning and permitting process — such as those that fall under the reach of the National Environmental Policy Act.

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<sup>4</sup> *Supra* note 2.

That stated, however, AGC is encouraged that FEMA chose not to require the use of the CISA, the “preferred” option in the FFRMS, as the proposed default approach for establishing the floodplain in all FEMA Federally Funded projects. AGC’s May 2015 joint comment letter points out some of the challenges with using climate models to predict future regional conditions much less the possible conditions on a given project site. More importantly, FEMA acknowledges that the data currently are not available for all locations and that applying that methodology could cause unnecessary delays. Specifically, the agency writes in regard to the CISA as a site-specific approach to predict flood risk based on future conditions—

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

... Second, in addition to the data challenges, there are a number of factors to be considered in deciding how to apply the FFRMS-CISA that may result in a decision-making process that could unnecessarily delay recovery in the wake of a disaster event for non-critical actions.<sup>5</sup>

FEMA goes on to discuss how some projects may not be designed or intended to last for 100 years nor can all project budgets justify the immediate costs and may choose to plan for subsequent upgrades. However, despite admitting the deficiencies and unwieldy nature of the CISA, the FEMA proposal does not strike out that option completely and instead relies on it for certain critical actions and solicits comments on how they could apply it more broadly for non-critical actions.

At this time, FEMA proposes to use the Freeboard Value Approach (FVA) for non-critical actions. AGC remains cautious of this approach, as well. A widespread, nationwide use of the FVA could lead to a significant increase in burden on the applicants, costs to projects, and also administration delays — as the approach would be applied to more areas across the country. Elevation also would immediately add significant cost for recovery projects in areas that have not been considered traditionally in the floodplain. FEMA also admits that requirements for elevation may be at odds with community or neighborhood accessibility — and could exclude persons with limited mobility from living within those areas.

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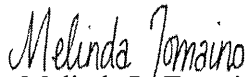
<sup>5</sup> *Supra* note 2.

Lastly, AGC would like to request more information on the proposed rule's requirement for natural and nature-based approaches for all actions proposed in a floodplain where possible. The proposal gives little direction on how to define a nature-based approach nor what the agency intends by "where possible." These "green infrastructure" types of projects can include vegetated roofs, rain gardens, and pervious pavings that may help reduce localized runoff from the roofs and sidewalks on your property but would be ineffective against a storm surge or flooding. The cost associated with these projects likewise ranges widely, for example, constructed wetlands that can absorb overflows and treat runoff/effluent are very costly and take time to establish fully. In addition, green infrastructure requires upkeep to maintain any of its effectiveness. Without more information on what FEMA intends related to the types of green infrastructure required, the efficacy of those nature-based approaches, costs and maintenance programs necessary — it is impossible to offer constructive public comment. Without that information, AGC would encourage FEMA to remove this as a requirement and, instead, the agency should educate stakeholders and promote the voluntary use of green infrastructure.

AGC appreciates the opportunity to offer its comments and recommendations on FEMA's proposed changes. We encourage FEMA to set a clear and cost-effective course not only for stakeholders and applicants but also for the other Federal agencies to follow when determining how they will establish whether their projects are located in the floodplain.

Thank you for your consideration.

Respectfully,



Melinda I. Tomaino

Director, Environmental Services  
Associated General Contractors of America

Attachment



**US Oil & Gas Association**  
ADVOCATE FOR THE OIL & GAS INDUSTRY  
Since 1917



May 5, 2015

Mitigation Framework Leadership Group  
c/o FEMA Regulatory Affairs Division, Office of Chief Counsel  
Federal Emergency Management Agency, DHS  
8NE, 500 C Street SW  
Washington, DC 20472-3100.

**Attention: Docket No. FEMA-2015-0006**

**Re: Comments on proposed “Revised Guidelines for Implementing Executive Order 11988, Floodplain Management” (January 28, 2015)**

Please find enclosed the comments of the American Petroleum Institute (“API”), the Independent Petroleum Association of America (“IPAA”), the U.S. Oil and Gas Association (“USOGA”) and the Associated General Contractors of America (“AGC”) to the Revised Guidelines for Implementing Executive Order 11988, Floodplain Management of 28 January, 2015 (“Implementing Guidelines”), issued by the Mitigation Framework Leadership Group (“MitFLG”) of the Federal Emergency Management Agency of the Department of Homeland Security (“FEMA”). We share FEMA’s goals for effective floodplain management, but we are concerned that the current proposal does not provide the clear, consistent guidelines necessary to create certainty in the process and maintain the full benefits of domestic energy production and economic development for consumers and workers. A more specific and targeted approach will help to achieve the agency’s goals without stifling investments and development.

API is a national trade association representing over 600 member companies involved in all aspects of the oil and natural gas industry. API’s members include producers, refiners, suppliers, pipeline operators, and marine transporters, as well as service and supply companies that support all segments of the industry. API members have a substantial interest in Federal water and related land resources planning, regulating, and licensing activities, which are in scope of the Executive Order covered by these Implementing Guidelines, as further explained below.

Since 1929, the Independent Petroleum Association of America (“IPAA”) has served as a voice for the exploration and production segment of America’s oil and natural gas industry, and advocates its members’ views before the Congress, the Administration, and federal agencies. Today, IPAA represents more than 10,000 independent oil and natural gas producers and service companies across the United States. Independent producers develop 95 percent of the nation’s oil and natural gas wells, produce 54 percent of American oil, and produce 85 percent of American natural gas. The typical independent has been in business for twenty-three years and employs

twelve full-time and two part-time employees. IPAA's members support more than two million direct jobs in the United States.

The U.S. Oil & Gas Association (originally the Mid-Continent Oil & Gas Association) was founded in October 1917 in Tulsa, Oklahoma following the United States' entry into World War I. A principal purpose of the Association's foundation was to provide essential supplies of petroleum and petroleum product to the allied forces, helping the Allies "...to float to victory upon a wave of oil." The U.S. Oil & Gas Association's contribution to that success helped establish it as an Association in which individuals working cooperatively could resolve mutual problems and achieve great results. For more than nine decades, in good times and bad, the Association has been a strong advocate for the individuals who built and sustain the U.S. petroleum industry. The Association's long history is one of distinguished service to the petroleum industry and to our country's economic and strategic stability. It is recognized today as "...a proven and respected advocate for producers of domestic oil and gas."

AGC is the leading association for the construction industry, representing both union and non-union prime and subcontractor/specialty construction companies. AGC represents more than 26,000 firms including over 6,500 of America's leading general contractors and over 9,000 specialty-contracting firms. More than 10,500 service providers and suppliers are also associated with AGC, all through a nationwide network of chapters. AGC contractors are engaged in the construction of the nation's commercial buildings, shopping centers, factories, warehouses, highways, bridges, tunnels, airports, pipelines, waterworks facilities, waste treatment facilities, dams, water conservation projects, defense facilities, multi-family housing projects, site preparation/utilities installation for housing development.

This comment package is divided into our concerns and recommendations for tailoring protections to the lower probability of flood on the expanded floodplain.

## **I. Concerns**

Concerns focus on the following items which reduce certainty and therefore threaten to create regulatory conflict, delays, and additional costs for stakeholders: 1) the ambiguous regulatory scope of the Implementing Guidelines due to conflicting language within the Federal Register and the 1977 Executive Order; 2) a plethora of "choose-your-own" floodplain definitions left to the discretion of individual government agencies, potentially determined on a program-by-program or even project-by-project basis; and 3) lack of guidance or meaningful metrics for agencies as they develop the "climate-informed science approach.

- A. The regulatory scope of the Implementing Guidelines lacks clarity, with the limiting language in the Federal Register conflicting with the broader regulatory scope of the 1977 Executive Order, which remains unchanged by the 2015 Executive Order. This unnecessary ambiguity should have been clarified prior to public comment.**

At the present time, it is unclear whether the scope of the Implementing Guidelines will apply uniquely to the narrow purposes expressed in the Federal Register or to the far broader regulatory scope of the 1977 Executive Order, which was revised but unchanged by EO 11988.

As stated in the Federal Register, the rationale for promulgating the Implementing Guidelines focuses on tenets of the President's Climate Action Plan, directing Federal agencies to take appropriate actions to reduce risks to Federal investments and citing recommendations of the Hurricane Sandy Rebuilding Task Force. However, the 1977 Executive Order itself (E.O.11988 of 24 May 1977) has a significantly broader reach, and its scope has not been changed by the revisions introduced in Executive Order 13690 of 30 January 2015 "Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input." E.O.11988, as revised by E.O.13690, applies to *all* Federal actions, including:

- (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, regulatory and licensing activities.*

Thus the Federal floodplain definition has had (and presumably will continue to have) a regulatory dimension.

In its most basic form there is a clear admonition to Agencies to avoid the direct and indirect support of floodplain development whenever there is a practical alternative. To the extent that this E.O. and its Implementing Guidance achieve the stated objective of "expanding the area in which agencies must assess impacts of proposed actions" (Implementing Guidance, 913), this will subject API member companies to new, additional and burdensome Agency reviews of proposed activities and siting alternatives (which for oil and gas development may be constrained by subsurface geological characteristics). Presumably these responsibilities may be imposed retroactively on "projects with long-term operation, maintenance and repair programs such as reservoirs or waste treatment facilities" (*ibid.*, 2081-2082), a category which is likely to include many facilities owned and/or operated by API member companies. When multiple definitions of appropriate flood elevation may be critical to a siting decision, it may be incumbent upon the project proponent to undertake costly local climate projections. In short, while the value of preventative flood risk management is clearly recognized, it comes with a cost to those economic activities located within the designated floodplain, and it is the responsibility of an Administration undertaking to expand this floodplain to justify that the additional costs are commensurate with the benefit of reduced risk. It is not clear that such analysis has been done. In fact it is not even clear from the Implementing Guidance what the impacted area will be, or how to unambiguously determine it (discussed further below).

E.O.11988 as revised is unchanged in this regard, and so unquestionably the floodplain definition will continue to exert direct impact upon economic activity that depends on Federal licenses and permits.



Potentially impacted programs include, but are not limited to the following:

- **Endangered Species Act of 1973** administered by the U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration. Under Section 7 of this Act, Federal agencies ensure that actions are unlikely to “destroy or adversely modify” designated critical habitat, which in many cases has been defined in terms of a riverine floodplain for certain fish and even some terrestrial species (e.g., Preble’s meadow-jumping mouse).
- **Waters of the U.S. Proposed Rule**, 79 Fed. Reg. 22188, April 21, 2014, promulgated by the U.S. Environmental Protection Agency and U.S. Army Corps of Engineers and now awaiting finalization. The version of this Rule presented for public comment identified waters “adjacent” to navigable waters as “categorically jurisdictional” under the Clean Water Act, and further defined “adjacent” in terms of waters within a floodplain. In testimony on 4 February, 2015 before the Senate Environment and Public Works and House Transportation and Infrastructure Committees Joint Hearing on Proposed Water Rules, US EPA Administrator Gina McCarthy in response to a question by Rep. Lou Barletta of Pennsylvania confirmed that the definition of floodplain used by the EPA in the Proposed Rule is FEMA’s Federal floodplain.
- **Federal Land Policy and Management Act**, FLPMA, 43 U.S.C. 1711-1712 requires land use plans as the basis for every on-the ground decision that BLM takes, including oil and gas-related surface occupancy and facility siting. The expansion of or uncertainly concerning potential designated flood plain areas will have a direct impact on access to mineral leases and resulting energy development. The range of flood plain alternatives now available for DOI use will impact energy resource development near or in some cases far distant from riparian areas on federal lands and overlying federal split estate minerals.
- **Water Resources Planning**, 42 U.S.C. 1962 et seq. Describes the policy of the United States that “all water resources projects should reflect national priorities, encourage economic development, and protect the environment by ... seeking to avoid the unwise use of floodplain and flood-prone areas and minimize adverse impacts and vulnerabilities in any case in which a floodplain or flood-prone area must be used....” This section provides no statutory definition of “floodplain,” however.
- **National Wetlands Inventory Project**, 16 U.S.C. 3931 et seq. Requires FWS to develop a “national wetlands inventory project” including floodplains of major rivers. This section does not define “floodplain.”
- **Watershed Protection and Flood Prevention**, 16 U.S.C. 1003. Provides for “cost share assistance” for project sponsors to acquire floodplain conservation easements. No definition of floodplain provided.

- **The National Flood Insurance Program**, 42 U.S.C., Chapter 50. Provides two definitions for “floodplain.” First, “100-year floodplain” is defined as floods with a 1% chance of occurrence. Second, a “500-year floodplain” is defined as floods with a .2% chance of occurrence.
- **Floodplain Management Requirements**, 33 U.S.C. 701b-12. Provides that if states want federal money for flood control projects, they have to comply with the floodplain management programs issued by the Army Corps of Engineers. No definition of floodplain.
- **National Levee Safety Program**, 33 U.S.C. 3301 et seq. Provides that if states want federal money for flood control projects, they have to comply with the floodplain management programs issued by the Army Corps of Engineers, and provides that the Secretary of the Army shall develop guidelines for preparation of floodplain management plans. This section does not define “floodplain,” however.

To the extent that the agency regulations included above do not provide floodplains, the choose-your-own definition of floodplain outlined in FEMA’s Implementing Guidance could be interpreted by some agencies in some contexts to expand the definition of floodplain for some of the statutory provisions above.

That even a small expansion of Federal jurisdiction can have an enormous economic impact may be seen in an analysis performed by API for its public comment to the Proposed Rule (included by reference). Proceeding from the EPA’s extremely conservative estimate of an increase of 2.7 percent in Federal jurisdiction, API projected a loss to the U.S. economy of \$8 billion in GDP, including 67,200 jobs, \$34.5 billion in labor income, and \$1.3 billion in government revenue, arising from permit delays on oil and gas production activities in the first year of implementation.

Similarly, in terms of flood protection, many permitting authorities already require advanced engineering studies and additional safeguards for pivotal infrastructure (e.g., installations placed a specified amount like 1 foot above the Base Flood Elevation for the 1 percent chance of flooding or security measures like pipe or cable fencing around tank batteries to protect from floating debris). In short, the new standard would likely require companies to:

- Restrict development plans to non-floodplain areas and/or flood proof more sites;
- Engage in additional time-consuming engineering studies (including potentially detailed hydrologic/hydraulic analysis if detailed studies are not already available);
- Install additional protective measures (e.g, closed pit systems)
- Bury more pipelines (e.g., 48” minimum and 72” under streams and creeks)
- Prove that there are not ESA considerations if forced to seek a permit.

Additionally, agencies are already contemplating regulatory changes based on their own interpretations of the Executive Order but without promulgating their own rules under notice and

comment. For example, the Federal Energy Regulatory Commission (FERC) has referenced the Executive Order as justification for requesting additional documentation from an applicant for use of the 1:100 year design criteria in the construction of a storm levee for LNG project as part of the NEPA process and asking for additional explanation if a 1:500 storm were to occur under the existing design and its impacts to surrounding communities. Applicants should have the benefit of being able to participate in notice and comment rulemaking prior to being subject to new requirements.

**B. Allowing Agencies to replace the traditionally accepted definition of floodplain with any one of multiple definitions promises to substantially decrease regulatory clarity, and potentially pit those differing definitions against each other where multi-agency analysis is required (e.g., during NEPA analyses).**

The only substantive change is that "...E.O.13690 *changes the definition of floodplain in E.O.11988, expanding* the area in which agencies must assess impacts of proposed actions... [t]he new definition describes three approaches to determine the flood elevation and flood hazard area..." (*ibid.*, 912-915, emphasis added). The 1-percent-annual-chance floodplain is now abolished and re-defined as "base flood" throughout the document.

Agencies instead would have broad discretion to establish any one of 4 different methodologies (leading to potentially limitless options) for floodplain definitions:

- 0.2-percent-annual-chance floodplain, which is broader than the projected 1-percent-annual-chance flood by definition (significantly so in lowland areas with moderate changes in elevation).
- "Freeboard" (projected 1-percent-annual-chance flood plus two or three feet). The amount which this is broader depends on an Agency's discretion in definition of criticality.
- Climate-informed science
- "Other" as listed Section 6 of E.O.11988, best described as "other," and some exceptions described for certain Federal facilities or structures.

From the foregoing it is clear that E.O.13690 and the Implementing Guidance simultaneously expand and obfuscate the definition of a floodplain, which will have far-ranging and perhaps unintended consequences arising from its regulatory use in Federal jurisdictions (and by extension, in many State and local/municipal jurisdictions).

As stated above, we remain concerned that giving federal agencies and departments broad discretion to implement any one of 4 different methods for determining flood risk would result in uncertainty, confusion and regulatory disparity across the government. In the case of a project that requires multiple agency permits, there is the strong potential for different agencies to require different methods.

What is more, the standard was issued without any public input on whether it provides an effective basis by which to achieve the stated goals of improving the Nation's preparedness and resilience against flooding. The standard was issued with neither consideration of a complete

understanding of the widespread impact of such changes, nor an assessment on the impact on local communities who will bear the burden of the standard.

This means **reduced regulatory transparency and broader regulatory overreach, based on or bounded by the definition of floodplain; all without any scientific or economic risk basis for that expanded reach.**

**C. The Climate-Informed Science Approach lacks regulatory certainty without specifying actionability, methodology, limits of errors, timeframes, or standards of data quality.**

Of the three, the “preferred” option is the Climate-informed Science Approach “when actionable climate science is available” (*ibid.*, 800-801).

Yet the Implementing Guidance offers no guidance as to what constitutes “actionable,” nor any idea as to methodology, limits of error, time frames or other standards of data quality to which this science must comply.

This is not an unimportant consideration. It is known that projections of climate change effects postulated on the basis of complex global circulation models (computer simulations) become less reliable the smaller the spatial scale and the shorter the forecast period – i.e., at the spatial and temporal scale most useful for Agency decision-making for specific projects of a regional scale or smaller. Moreover, the global data itself is not unambiguous as regards flooding. The Intergovernmental Panel on Climate Change reports that “[p]rojected precipitation and temperature changes imply possible changes in floods, although overall there is low confidence in projections of changes in fluvial floods. Confidence is low due to limited evidence and because the causes of regional changes are complex...”<sup>1</sup> While local models may be updated to reflect more recent historical rainfall patterns and new built environment, and thus provide improved near-term projections, it is unclear how this differs significantly from FEMA’s current practice of updates (with public participation) of Flood Insurance Rate Maps, or indeed how this represents a “Climate-informed science approach” as opposed to standard engineering best practice.

Finally, the Implementing Guidance adds that “in some cases, this flood elevation could correspond to the projected 1-percent-annual-chance flood” (*ibid.*, 788-789 *et passim*). It is difficult to reconcile this with the stated objective of E.O.13690 and FFRMS to “use a higher flood elevation and expanded flood hazard area than the base flood previously described in the Order to ensure that climate change and other future changes are more adequately accounted for in agency decisions” (*ibid.*, 190-192); and with the observation that, “[w]ith very few exceptions, flooding at any site can be expected to reach higher levels than those previously recorded...” (*ibid.*, 1694-1695). In any case, it is optimistic to expect that climate science will provide unambiguous answers to these practical regulatory questions in the near-term, and were a permit

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<sup>1</sup> IPCC, 2012: Summary for Policymakers. In: Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK, and New York, NY, USA, pp. 1-19.

or license predicated on such science (rather than on a floodplain defined by, e.g., the FEMA FIRM consultative process), it would likely be made more rather than less vulnerable to dispute and litigation by the new floodplain definition in the Implementing Guidance.

It is significant to note that there is no indication of the sort of “climate-based science issued here” which offers far too little guidance and invites arbitrary and capricious application. Without clear guidelines as to what constitutes sufficiency, there is a real risk that an agency could interpret a handful of data-points of sea-level trending over the past several years as enough to extrapolate to a significantly larger floodplain. Guidelines are necessary for the length of the data series, the quality of the data, and the degrees of uncertainty determined acceptable. Unsupported climate assumptions or speculation should not form the basis of an expanded floodplain definition.

## **II. Recommendations**

To address the aforementioned concerns, we recommend that MitFLG: a) consider common-sense science-based alternatives to the approach indicated in the Executive Order; b) analyze and submit for public comment a thorough evaluation of the potential regulatory implications of the change in floodplain definitions and associated costs; and c) clarify points of uncertainty which include 1) the scope encompassing only federal investment activities (as opposed to any commercial land use activities), 2) provide data to support FEMA’s claims this initiative will not impact National Flood Insurance Rates, 3) specify sources for the floodplain, 4) the importance of applying the FEMA guidance only prospectively only once it has been finalized, 5) the need for agencies to use notice and comment rulemaking to adjust their definitions of floodplains, and 6) the need for Agencies to scale floodplain requirements to take into account the lower likelihood of flooding in the expanded floodplain.

### **A. MitFLG should consider common-sense science-based alternatives to the approach indicated in the Executive Order.**

Rather than effectively changing the existing definition of floodplain from a 1 percent chance floodplain to .2 percent chance floodplain, the government could instead update their required periodic re-evaluation of what those storm surges might look like for particular regions of the country. For example, if marine water levels are rising and coastlines are sinking and the frequency of more powerful storms is increasing, then the height of a levee designed to protect structures against 1:100 year storms may also need to be adjusted (and get higher) over time. There has been no experience with 1:500 year storms and the measures required to protect against such an event are essentially arbitrary guesses.

### **B. MitFLG should analyze and submit for public comment a thorough evaluation of the potential regulatory implications of the change in floodplain definitions and potential associated costs.**

MitFLG should undertake and seek public comment of an analysis of potential regulatory implications of the change in floodplain definition and costs thereof, in consultation with the

Federal Interagency Floodplain Management Task Force to determine how the floodplain definition is propagated through Agency rules and regulations; and to develop a comparison of the economic costs of this additional regulation and potential opportunity costs in unrealized economic activity vs. the potential benefits of decreased flood risk over the United States. If such analysis has already been done, it should be submitted in full for public notice and comment.

**C. MitFLG should consider and recommend to the Water Resources Council and/or President's Council on Environmental Quality as appropriate, a further revision to E.O.11988 addressing a series of points for clarification.**

Necessary clarifications should include, but are not limited to the following:

- ***The scope should apply to federal investment activities, rather than any commercial land use activity.*** Recognizing the possibility of cascading effects through layers of regulations overseen by different agencies, MitFLG should clarify that the interpretation of the EO and accompanying FEMA guidance should not be expanded from federally-funded investment activities to any type of land use.
- ***Provide the data to support FEMA's claims that this initiative will not impact National Flood Insurance rates.*** Given actuarial reliance on federal floodplain definitions and accompanying regulatory requirements, it is unclear how the new "choose-your-own" floodplain definition could fail to substantially impact both National Flood Insurance Program rates and accompanying private rates for topics ranging from premiums to land values. FEMA's broad statements need to be properly substantiated for the stakeholder community.
- ***Sources for the floodplain determination should be specified.*** The conduct of Federal planning, regulatory and licensing activities affecting land and water use shall employ the 1-percent-flood-chance floodplain, as determined by FIRM or FHBM maps and FIS reports, or in remote areas not covered by these maps, the services of an experienced consulting engineer.
- ***The FEMA Guidance should only be applied prospectively once it is finalized.*** The guidance should apply only prospectively, once it is issued in its final format. Projects currently in the permitting process should not experience delays because the contents and scope of this developing adjustment is currently unclear.
- ***Any agency considering revising its own definition of floodplain should do so under proper notice and comment rulemaking.*** The floodplain definitions apply to agency regulations, and therefore should only be adjusted through notice and comment rulemaking.
- ***Risk-based mitigation measures should be scaled to a lower probability of flooding on an expanded floodplain.*** If an expanded floodplain is used, mitigation measures should

not just be extended but rather reviewed and scaled according to the lower probability of flood. A probability of flooding once in 500 years is significantly lower than a probability of once in 100 years. Requiring companies to conduct the same due diligence (e.g., engineering studies for hydraulics and hydrology) and to institute the same safeguards (e.g., securitization of equipment, specified depths for burying pipes or transmission wires, etc.) deemed necessary on the 100 year floodplain across the larger 500 year floodplain could lead to significant additional costs providing a disproportionately low degree of protection.

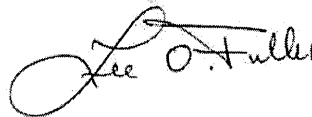
Following these recommendations should enable the appropriate balance of risk and limitations between the development of domestic energy and the U.S. economy, and the necessary protections from flood damage.

If you have any questions concerning these comments, please do not hesitate to contact us.

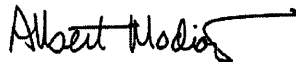
Sincerely,



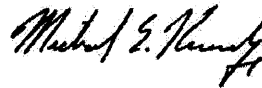
Amy Emmert  
Senior Policy Advisor  
American Petroleum Institute  
1220 L Street NW  
Washington, DC 20008  
Tel: (202) 682-8372  
Email: [emmerta@api.org](mailto:emmerta@api.org)



Lee Fuller  
Executive Vice President  
Independent Petroleum Association of America  
1201 15<sup>th</sup> Street NW Suite 300  
Washington, DC 20005  
Tel: (202) 857-4722  
Email: [lfuller@ipaa.org](mailto:lfuller@ipaa.org)



Albert Modiano  
President  
U.S. Oil and Gas Association  
1101 K Street NW, Suite 425  
Washington, DC 20005  
Tel: 202-638-4400  
Email: [amodiano@usoga.org](mailto:amodiano@usoga.org)



Michael E. Kennedy  
General Counsel  
Associated General Contractors of America  
2300 Wilson Blvd. Suite 300  
Arlington, VA 22201  
Tel: (703) 837-5335  
Email: [kennedym@agc.org](mailto:kennedym@agc.org)