FEMA's New Risk Assessment Requirements

Excerpted from FEMA's State Mitigation Planning Policy Guide (2022)

3.2. Hazard Identification and Risk Assessment

Overall Intent. The hazard identification and risk assessment provides the factual basis for activities proposed in the mitigation strategy that will reduce losses from identified hazards. To meet requirements for the risk assessment, states must:

- Identify and describe all hazards that affect the state.
- Identify state assets, including state-owned or operated buildings, infrastructure, community lifelines, and critical facilities.
- Analyze, determine, and summarize the vulnerability of state assets to damage and loss from the identified hazards.
- Analyze and summarize vulnerability to local and tribal (as applicable) jurisdictions.

The risk assessment process allows the state to evaluate risk to people, infrastructure, structures, and critical facilities that are vulnerable to hazards, and the degree to which injuries or damage may occur. The evaluation must include the potential risk to socially vulnerable populations and

considerations for underserved communities, especially those who have been, or could be, disproportionately affected.

Representatives from departments, agencies, private, and quasi-governmental partners during the planning process described in Section 3.1, including community lifeline owner/operators, can provide expertise and insight on risks to critical facilities within the state, including those that are *not* state-owned. Compromised private-sector infrastructure and facilities could have a profound impact on the state's economy and its ability to recover from disasters.

The risk assessment evaluates where populations, infrastructure and critical facilities are vulnerable to hazards, and to what degree injuries or damage may occur.

The vulnerability analysis will serve as the basis to guide decisions and investments, and implement actions that will reduce risk, including impacts from climate change. The probability, location, intensity and impacts of hazards will change over time. Climate change, including changes in temperature, intensity, hazard distribution or frequency of weather events, may increase vulnerability to these hazards in the future. The mitigation planning regulation at 44 CFR § 201.4(c)(2)(i) requires consideration of the probability of future hazard events as part of the risk assessment to reduce risks and potential damage.

Past occurrences are important to establish a factual basis of hazard risk. However, the challenges posed by climate change, such as more intense storms, frequent heavy precipitation, heat waves, drought, extreme flooding, and higher sea levels, could significantly alter the types and magnitudes of hazards affecting states in the future. Because predicting future hazard events is inherently uncertain, states are expected to look across the whole community of partners (public, private, academic, non-governmental, etc.) to identify the most current and relevant data and select the most appropriate methodologies to assess risks and vulnerability.

State risk assessments characterize the impacts of natural hazards on state assets, populations, and jurisdictions statewide. The risk assessment allows the state to understand the impact to people and places, compare potential losses and determine priorities for mitigation measures. The state risk assessment also supports prioritizing jurisdictions for receiving technical and financial support to develop more detailed local risk assessments so communities can take mitigation actions. As part of this process, states must consider potentially disparate impacts on underserved communities in the risk assessment.

The vulnerabilities and impacts identified in the state risk assessment must connect to the mitigation strategy (see Section 3.4); mitigation goals should address vulnerabilities, and mitigation actions should aim to reduce or eliminate damage to state assets as well as risks to local jurisdictions.

To ensure the risk assessment is a strong basis for the mitigation strategy, it is essential to use the most accurate, current and relevant data in the risk assessments. FEMA encourages states to include summaries, evaluations and overviews resulting from the analysis of risk assessment data,

rather than the data itself, and to only include raw data, as needed, in support of summaries or conclusions.

ELEMENT	*REQUIREMENTS*
S3. Does the risk assessment include an overview of the type and location of all of the natural hazards that can affect the state? [44 CFR § 201.4(c)(2)(i); FMAG: 44 CFR § 204.51(d)(2)]	a. The plan must include a current overview of all natural hazards that can affect the state. In addition to listing the types of hazards, the summary must include the following: 1. Location: Information on where the hazards have occurred or could occur, using maps where appropriate and available. 2. Previous occurrences: Information about when hazards have occurred in the past, including information about the range of observed intensities of these hazards, using maps where appropriate and available. Information about the range of observed and anticipated intensities of the identified hazards are commonly expressed using various scientific scales. For example, the intensity of hurricane wind speeds is measured on the Saffir-Simpson scale, wind speed and damage from tornadoes is measured on the Enhanced Fujita Scale, and the peak ground acceleration indicates intensity of an earthquake.[16] b. *If the state is interested in FMAG program eligibility, the state mitigation plan must identify the state's wildfire hazards (See FMAG1 in Section 3.9).[17] However, note that if wildfire is a commonly recognized hazard in the state, it must be included in the plan regardless of the state's interest in pursuing FMAG grants. See note below.* ***Natural hazards*** are sources of harm or difficulty created by meteorological, environmental, or geological events. Natural hazards, such as flooding and earthquakes, affect the built environment, including dams and levees. ***Risk***, for the purpose of hazard mitigation planning, is the potential for damage or loss created by the interaction of natural hazards with assets, such as buildings, infrastructure or natural and cultural resources.

[16] For more information on describing hazard intensities in the hazard mitigation plan, see the State Mitigation Planning Key Topics Bulletin on Risk Assessment.

[17] 44 CFR § 204.51(d)(2) "As a requirement of receiving funding under a Fire Management Assistance Grant, a State, or Tribal organization, acting as recipient, must: (i) Develop a Mitigation Plan in accordance with 44 CFR Part 201 that addresses wildfire risks and mitigation measures; or (ii) Incorporate wildfire mitigation into the existing Mitigation Plan developed and approved under 44 CFR Part 201 that also addresses wildfire risk and contains a wildfire mitigation strategy and related mitigation initiatives."

ELEMENT	*REQUIREMENTS*
	If any commonly recognized hazard(s) that could affect the state is omitted, the state must explain the rationale for not including the hazard(s). This rationale must be based on risk.
S4. Does the risk assessment provide an overview of the probabilities of future hazard events? [44 CFR § 201.4(c)(2)(i)]	a. The risk assessment must provide an overview of the probability of future hazard events that includes projected changes in the location, range of anticipated intensities, frequency, and/or duration of each natural hazard. b. Probability must include considerations of changing future conditions, including climate change (e.g., long-term weather patterns, average temperature, and sea levels) on the type, location, and range of anticipated intensities of identified hazards. ***Probability of future hazard events*** means the likelihood of the hazard occurring or reoccurring. It may be defined in historical frequencies, statistical probabilities, hazard probability maps and/or general descriptors (e.g., unlikely, likely, highly likely). If general descriptors are used, they must be quantified or defined in the plan. For example, "highly likely" could be defined as "100% chance of occurrence next year" or "one event every year."
S5. Does the risk assessment address the vulnerability of state assets located in hazard areas and estimate the potential dollar losses to these assets? [44 CFR §§ 201.4(c)(2)(ii) and 201.4(c)(2)(iii)]	The risk assessment must include an overview and analysis of the vulnerability to state assets from the identified hazards as well as a summary of the most vulnerable assets. These assets may be located in the identified hazard areas and could be affected by future hazard events. State assets include state-owned or operated critical facilities, buildings, infrastructure, and community lifelines. b. The risk assessment must estimate potential dollar losses to state assets located in identified hazard areas. Vulnerability and potential losses are not simply lists or inventories of state facilities, but a summary of the potential impacts to state assets from each of the identified hazards. Factors affecting vulnerability may include asset use and function as well as construction type, age or intended use.[18] ***Critical facilities*** are structures that the state determines must continue to operate before, during and after an emergency and/or hazard event and/or are vital to health and safety. ***Impacts*** are the consequences or effects of each hazard on the state's assets and jurisdictions identified in the vulnerability assessment.

[18] For more information on analyzing vulnerability for hazard mitigation planning, view the State Mitigation Planning Key Topics Bulletin on Risk Assessment.

ELEMENT	*REQUIREMENTS*
S6. Does the risk assessment include an overview and analysis of jurisdictions' vulnerability to the identified hazards and the potential losses? [44 CFR §§ 201.4(c)(2)(ii) and 201.4(c)(2)(iii)]	a. The risk assessment must provide an overview and analysis of vulnerable jurisdictions based on the state and local government risk assessments. Vulnerability must be analyzed in terms of: 1. Jurisdictions most threatened by the identified hazards based on type, location, range of anticipated intensities, and probability. Probability must include the potential impacts of climate change. 2. Jurisdictions most vulnerable to damage and loss from hazard events with respect to potential impacts to: i. Populations, including socially vulnerable and underserved communities. ii. Structures, including critical facilities. iii. Infrastructure and community lifelines servicing jurisdictions that could affect state resilience, including Safety and Security; Food, Water, Shelter; Health and Medical; Energy; Communications; Transportation; and Hazardous Material lifelines. b. The risk assessment must include an overview and analysis of the *potential losses* to the identified vulnerable structures based on estimates in the local risk assessments as well as the state risk assessment. c. *If the state is interested in HHPD funding eligibility, the risk assessment must address risks from high hazard potential dams in the risk assessment (see HHPD2 in Section 3.8.).* ***Community lifelines*** are the most fundamental services in the community that, when stabilized, enable all other aspects of society to function. An ***overview*** provides the results of the analysis and does not need to include the details from each local plan. Detailed analyses do not need to be placed in the body of the plan. They can be included as appendices. An example of an overview is a list of key issues or problem statements that clearly describes the greatest vulnerabilities and compares losses across the state, allowing the state to determine mitigation priorities.
S7. Was the risk assessment revised to reflect changes in development? [44 CFR § 201.4(d)]	a. The plan must provide a summary of recent development and potential or projected development in hazard-prone areas based on state and local government risk assessments including, but not limited to the following: 1. Changes in land use and the built environment and projected future growth or re-development areas. 2. Changes in population demographics that may affect vulnerability to hazard events, including socially vulnerable and underserved communities.

ELEMENT	*REQUIREMENTS*
	3. Changes to the vulnerability of state assets. 4. Changes in development that could impact jurisdictions most threatened by the identified hazards based on local risk assessments, including the potential impacts of climate change. ***Changes in development*** include conditions that may affect jurisdictions' risks from and vulnerabilities to hazards, such as changes in land use and development, including infrastructure development, declining populations, projected increases in population, or shifts in the needs of underserved communities or gaps in social equity.