Guidance Document Part 2, Section 3 – RISK ASSESSMENT

REQUIREMENT: IFR §201.6(c)(2) - of the Rule outlines specific information that local jurisdictions must consider when completing the risk assessment portion of the plan. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards. This includes detailed descriptions of all the hazards that could affect the jurisdiction along with an analysis of the jurisdiction's vulnerability to those hazards. Specific information about numbers and types of structures, potential dollar losses, and an overall description of land use trends in the jurisdiction must be included in this analysis. For multi-jurisdictional plans, any risks that affect only certain sections of the planning areas must be assessed separately in the context of the affected area.

This section includes the following subsections:

3.1 ***Identifying Hazards***
3.2 ***Profiling Hazard Events***
3.3 ***Assessing Vulnerability: Identifying Assets***
3.4 ***Assessing Vulnerability: Estimating Potential Losses***
3.5 ***Assessing Vulnerability: Analyzing Development Trends***
3.6 ***Multi-Jurisdictional Risk Assessment***

FEMA's GUIDANCE: A Satisfactory Risk Assessment must include the following (according to FEMA), for all relevant hazards:

1. Review of past hazard events.
2. Discussion of all hazards threatening the community (type, location, extent).
3. Probability of future hazard events.
4. Jurisdiction's vulnerability to each hazard identified.
5. Summary of each hazard and its impacts

In addition, each relevant hazard must be analyzed as follows:

1. Causes
2. Characteristics
3. Critical Assets
4. Vulnerability
5. Special Populations

Problem Statements

7. Goals and Objectives
8. Mitigation Actions

STATE & LOCAL PERSPECTIVE: A Local government is likely to identify a number of hazards which may reasonably be expected to affect a community in the future. It is recommended that Sub-Sections 3.1-3.6 be worked through, separately, for each hazard rather that continue to attempt to refer back throughout this section. An example would be: Section 3.1a – ***Identifying Flood Hazards***, 3.2a - ***Profiling Flood Hazard Events***, 3.3a – ***Assessing Flood Vulnerability***, etc. followed by Section 3.1b – ***Identifying Wildland Fire Hazards***, 3.2b - ***Profiling Wildland Fire Hazard Events***, 3.3b – ***Assessing Wildland Fire Vulnerability,*** and so on through each hazard as a separate group.

Section 3.1 *Identifying Hazards*

REQUIREMENT: IFR §201.6(c)(2)(i) - The risk assessment shall include a description of the type … of all natural hazards that can affect the jurisdiction

Guidance for Section 3.1 – *Identifying Hazards*

EXPLANATION: The local risk assessment should identify what hazards are likely to affect the area. The plan should describe the sources used to identify hazards, noting any data limitations, and provide an explanation for eliminating any hazards from consideration. The process for identifying hazards could involve one or more of the following:

- Reviewing reports, plans, flood ordinances, and land use regulations among others;
- Talking to experts from federal, State, and local agencies and universities;
- Searching the Internet and newspapers; and
- Interviewing long-time residents.

FEMA's GUIDANCE: A Satisfactory submittal will include information that indicates how or why specific hazards were identified. It will also be clear that all relevant hazards have been identified.

The summary of each relevant hazard **Should** include:

1. Maps outlining all hazard areas within the community.
2. Estimate of types and numbers of structures at risk, including residences, businesses, critical facilities and infrastructure.
3. Map and discussion of repetitive loss properties and potential mitigation activities.
4. Estimate of potential losses, including dollar losses, for each hazard type.
5. General description of land uses and development trends.

STATE PERSPECTIVE: Local government knows its inherent risks through repetitive loss history. They can identify their vulnerabilities from past disaster events. Developing a process to identify these areas of risk can be useful, especially for multi hazard areas. Since earthquakes and other natural hazards tend to sometimes have long recurrence intervals between events, expert opinion should be sought in determining the level of seismic risk and other risks due to natural hazards.

The Interim Final Rules which published the criteria for the development of a Local

Hazard Mitigation Plan do specify "natural hazards" for the hazard analysis section of a LHMP. So technically the answer to this question is "yes." However, it would be difficult to ignore a major technological, human created, or potential terrorist target within a community and still have a comprehensive hazard analysis for the community.

As an example, the large propane storage tanks in the city of Elk Grove have been looked at by criminals as a possible anti-government target. Also to consider concerning these large, non-natural storage tanks, would be the effects of natural hazards (such as fire or earthquake) on these storage tanks.
These additional considerations should be part of a comprehensive evaluation of the hazards facing a community.

The planning object should be to create safer, disaster resistant communities by identifying the real hazards and to mitigate those hazards, not to pick hazards that meet only the exact "letter" of the rule or regulations.

SUGGESTED RESOURCES: For more information on identifying hazards, see:

Federal: 1. FEMA "How To Guide" #386-1): ***Getting Started:*** For information on beginning the local mitigation planning process. Order a copy: FEMA Publication Warehouse 1-800-480-2520 or
(**available on the Web at <http://www.fema.gov/fima/planresource.shtm>)**

2. FEMA "How To Guide" #386-2, Step 2: ***Understanding Your Risks - identifying hazards and estimating losses****: P*rovides step-by-step guidance on how to accomplish a risk assessment and identifying hazards, which is the first phase of the planning process. Order a copy from the FEMA Publication Warehouse at 1-800-480-2520 or
(**available on the Web at <http://www.fema.gov/fima/planresource.shtm>)**

3. FEMA "How To Guide" #386-7: ***Integrating Human-Caused Hazards Into Mitigation Planning- September 2002:*** Other Agency Resources & Guidance for Protecting Building Environments from Airborne Chemical, Biological, or Radiological Attacks. Order a copy: FEMA Publication Warehouse 1-800-480-2520 or
(**available on the Web at <http://www.fema.gov/fima/planresource.shtm>)**

State: 1. Interagency Hazard Mitigation Team Reports from past, declared disasters.
2. Natural Hazards Mitigation Planning Guide from
<http://www.colorado.edu/hazards/intro.html>
3. Maps and reports from the State of Calif. Geological Survey located in Sacramento with regional offices in Los Angeles and San Francisco; and the U.S. Geological Survey with offices in Menlo Park and Pasadena.

Local: 1. General Plan, especially the Safety Element for Hazards.

Tools:

EXAMPLE TEXT: To complete the criteria of Section 3.1 – *Identifying Hazards*

NOTE: The following example of text for Section 3.1 is considered satisfactory by FEMA. Similar content, tailored for local circumstances, should be considered by a Local Government for their LHMP.
OES intends to replace the FEMA provided example text provided below, with examples from approved California Local Government Plans, at the earliest opportunity.

FEMA TEXT: Friendly County identified several hazards that are addressed in the County's Hazard Mitigation Plan. These hazards were identified through an extensive process that utilized input from Planning Committee members (comprised of representatives from FEMA Region XX, County agencies, City governments, local businesses, community groups, State Emergency Management Offices, and the State University), public input, researching past disaster declarations in the County, a review of current FIRMs, and risk assessments completed by the County Emergency Management Agency.

In addition, the County Planning Agency is developing a GIS database that will map the County's infrastructure, critical facilities, and land uses. Initial data from this study was also used to determine those hazards that present the greatest risk to the County

The following table identifies the hazards.

Hazard	*How identified*	*Why identified*
Hurricanes	• Review of past disaster declarations • Input from County Department of Natural Resources • Input from residents • Risk Assessments	• The County is hit almost every year by a hurricane • Hurricanes have caused damage (personal and property), flooding, and evacuation situations
Flooding	• Review of FIRMs • Input from County Planning Office • Risk Assessments • Public input • Review of past disaster declarations • Identification of NFIP repetitive loss properties in the County	• Associated with the effects of hurricanes, which hit the County frequently • Several repetitive loss properties are located in the County • The County contains many rivers and streams, and is located along the coast

Coastal Erosion	• Input from County Planning Office • Input from County Department of Natural Resources • Input from the State University (conducting shoreline research) • Public input	• The County is undergoing development pressure along the coast • Coastline stabilization measures have been implemented in the past year • Related to hurricane frequency
Terrorism	• Input from local utility company • Public input	• Nuclear power plant is located in the County • Heightened sense of security since September 2001

End of Section 3.1

3.2 *Profiling Hazard Events*

REQUIREMENT: IFR §201.6(c)(2)(i) - The risk assessment shall include a description of the … location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

Guidance for 3.2 *Profiling Hazard Events*

EXPLANATION: When appropriate, the hazard analysis should also identify on a map the areas affected by each identified hazard. Additionally, a composite map should be provided for hazards with a recognizable geographic extent (i.e., hazards that are known to occur in particular areas of the jurisdiction, such as floods, coastal storms, wildfires, tsunamis, and landslides). For those hazards not geographically determined, plans should indicate their applicable intensity. For example, in areas where tornadoes occur, plans should indicate their maximum wind speed.

The plan should provide a discussion of past occurrences of hazard events in or near the community in terms of their severity and resulting effects.

The plans should also describe the analysis used to determine the probability of occurrence and magnitude of future hazard events. The plans should characterize each hazard and include the following information:

- The probability or likelihood that the hazard event would affect an area;
- The magnitude or severity of the hazard events;
- The geographical extent or areas in the community that would be affected; and
- The conditions, such as topography, soil characteristics, meteorological conditions, etc., in the area that make it prone to hazards.

The analysis should be detailed enough to allow identification of the areas of the jurisdiction that are most severely affected by each hazard.

FEMA's GUIDANCE: For a satisfactory score, the plan should document the process used to determine differences in vulnerability to the hazard, differentiate the ways in which areas of the jurisdiction are affected, and provide a map or other tool to delineate hazard areas.

STATE PERSPECTIVE: History repeats itself and past disasters are an important part of future planning. Vulnerabilities can be determined through historical records. Weather patterns, severe precipitation history, flooding, Flood Insurance Rate Maps, seismic hazard maps, wildfire history through California Department of Forestry and Fire Protection (CDF)

SUGGESTED RESOURCES: For more information on profiling hazards, see:

Federal: 1. FEMA "How To Guide" #386-2, Step 2: ***Understanding Your Risks - identifying hazards and estimating losses****: P*rovides step-by-step guidance on how to accomplish a risk assessment and identifying hazards, which is the first phase of the planning process.
Order a copy from the FEMA Publication Warehouse at 1-800-480-2520 or (**available on the Web at <http://www.fema.gov/fima/planresource.shtm>)**

State:

- GIS mapping using repetitive loss history in relation to zip codes
- Insurance loss records vs. claims made
- Insurance actuarial records for your area
- OES
- FEMA
- http://www.colorado.edu/hazards/intro.html
- http://www.fire.ca.gov/
- http://www.consrv.ca.gov/cgs/
- http://www.gis.ca.gov/

Local:

Tools:

EXAMPLE TEXT: To complete the criteria of Section 3.2 – *Profiling Hazard Events*

NOTE: The following example of text for Section 3.2 is considered satisfactory by FEMA. Similar content, tailored for local circumstances, should be considered by a Local Government for their LHMP. OES intends to replace the FEMA provided example text provided below, with examples from approved California Local Government Plans, at the earliest opportunity.

FEMA TEXT: Sandy County is subject to riverine and flash flooding. The County Planning Department has reviewed the County's Flood Insurance Rate Maps (FIRMs) and Flood Insurance Study (FIS), and has worked with the local college to compile a profile of the flooding hazard in the County. The college provided support by completing research on flooding history in the County and entering this data into a GIS database. The GIS program shows the extent and areas affected by past flooding, and is overlain by County tax maps. This, along with the County's FIRMs and FIS, provides a clear picture of areas and structures most vulnerable to flooding. *(See attached Map X.X, Areas of Sandy County subject to Flood Hazards).*

Flash Flooding

The western section of the County is very mountainous with steep slopes and stream valleys. This area receives several large thunderstorms per year that cause intense rainfall for short periods of time, resulting in water flowing down from the mountains, collecting in, and sometimes overtopping the valley streams. There have also been issues with the maintenance and clearing of drainage channels in this area that have resulted in obstructions restricting the flow of water during a storm. Although this area is fairly rural, many of the residents live in the 100-year floodplain because of the steep slopes. These conditions make response and evacuation operations very difficult, adversely affecting the safety of residents.

The most recent incident occurred in June of 2000. A severe thunderstorm produced significant localized rainfall. Two small bridges were washed out and many County residents were stranded. Although no one was injured, several structures were flooded and many residents were cut off from the rest of the County. This event was estimated at a 25-year flood elevation.

Riverine Flooding

The central and eastern sections of the County are subject to riverine flooding. This is usually caused by extensive rainfall over a period of several days and can be worsened by snowmelt conditions. The Mud River located in Sandy County has flooded 12 times in the past 75 years; one was a 200-year level, four were 100-year levels, three were 50-year levels, and four were 10-year levels. The 200-year flood occurred in 1952 and resulted in significant damage to Iron City and Silvertown. The most recent flood was a 100-year level flood that occurred in 1996.

The area surrounding the Mud River is subject to flood damage because of the large amounts of rainfall and snowmelt it receives; the wide, flat floodplain; and the large numbers of structures located in the floodplain.

End of Section 3.2

3.3 *Assessing Vulnerability: Identifying Assets*

REQUIREMENT: IFR §201.6(c)(2)(ii)(A) - The risk assessment shall include a description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community. The plan should describe vulnerability in terms of:

- The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas…

Guidance for Section 3.3 *Assessing Vulnerability: Identifying Assets*

EXPLANATION: This information list should be based on an inventory of existing and proposed structures within the community and/or an estimate of those located within identified hazard boundaries. The information should include critical facilities, such as shelters and hospitals, and infrastructure, such as roadways, water, utilities, and communication systems. The community should determine how far into the future they wish to go in considering proposed structures, including planned and approved development. It may be based on information in their comprehensive plan or land use plan. The community should determine how best to indicate structures that are vulnerable to more than one hazard

SPECIAL CONSIDERATIONS: While the Rule does not require a discussion about the number of people or special populations at risk, such as the elderly, disabled, or lower income, the risk assessment should include them to enable the development of appropriate actions to assist such populations during or after a disaster. However, a lack of inclusion or a less than thorough coverage will not penalize the applicant.

FEMA's GUIDANCE: A Satisfactory submittal will include the manner in which the critical facilities were identified and include a map showing the location of the facilities and the hazard(s) to which they are susceptible.

The vulnerability assessment should address future planned development. Although not a requirement, it would be useful for the plan to address the presence of any special populations.

STATE PERSPECTIVE: Critical facilities need to be in working order to perform their duties. These often include hospitals, law and fire agencies and their equipment. Their safety and well being directly affect those of the community they serve. GIS technology can aid in a succinct identification source to aid in this element.

SUGGESTED RESOURCES: For a discussion on identifying vulnerable structures, see:

Federal: 1. FEMA "How To Guide" #386-2, Step 3: ***Understanding Your Risks - identifying hazards and estimating losses****: P*rovides step-by-step guidance on how to accomplish a risk assessment and identifying hazards, which is the first phase of the planning process.
Order a copy from the FEMA Publication Warehouse at 1-800-480-2520 or (**available on the Web at <http://www.fema.gov/fima/planresource.shtm>)**

State:

- The county or city GIS department
- OES Hazard Identification and Analysis
- http://www.gis.ca.gov/
- Insurance industry actuarial studies
- Loss history

Local:

Tools: HAZUS (Hazards U.S.) is a loss estimation software tool that predicts loss from earthquake, flood, or hurricane. The tool is free from FEMA.

<u>EXAMPLE TEXT</u>: To complete the criteria of Section 3.3 - *Assessing Vulnerability: Identifying Assets*

<u>NOTE</u>: The following example of text for Section 3.3 is considered satisfactory by FEMA. Similar content, tailored for local circumstances, should be considered by a Local Government for their LHMP. OES intends to replace the FEMA provided example text provided below, with examples from approved California Local Government Plans, at the earliest opportunity.

FEMA TEXT: The Hazard Mitigation Plan for Rocky County identifies critical facilities located in the County and the hazards to which these facilities are susceptible. A critical facility is defined as a facility in either the public or private sector that provides essential products and services to the general public, is otherwise necessary to preserve the welfare and quality of life in the County, or fulfills important public safety, emergency response, and/or disaster recovery functions.

The critical facilities identified in the County are storm shelters; hospitals and other health care facilities; gas, electric, and communication utilities; water and wastewater treatment plants; hazardous waste sites; and schools (see attached map XX Critical Facilities and Hazard Vulnerability).

The Rocky County Planning Department used GIS and other modeling tools to map the county's critical facilities and determine which are most likely to be affected by hazards. The two hazards most likely to impact the County are flooding and wildfires. The analysis revealed the following:

- Flooding Hazard: A 100-year flood would have an impact on five storm shelters, one hospital, one elderly housing project, the local communication utility company, one wastewater treatment plant, and an old industrial site containing hazardous waste.
- Fire Hazard: Brush fires could have an impact on one school and one hospital located in the rural, wooded portion of the County.

In addition to critical facilities, the County contains at risk populations that should be factored into a vulnerability assessment. These include a relatively large population of elderly residents with limited mobility.

An analysis of the County Comprehensive Plan indicates that there is a slight but constant increase in residents expected over the next 20 years. Most of the residential development is expected to occur in the already developed areas outside of the 100-year floodplain.

End of Section 3.3

3.4 *Assessing Vulnerability: Estimating Potential Losses*

REQUIREMENT: §201.6(c)(2)(ii)(B) - The plan should describe vulnerability in terms of an estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) of this section and a description of the methodology used to prepare the estimate…

Guidance for Section - 3.4 *Assessing Vulnerability: Estimating Potential Losses*

EXPLANATION: Describing vulnerability in terms of dollar losses provides the community and the State with a common framework in which to measure the effects of hazards on assets. The plan should include an estimate of losses for the identified vulnerable assets. An estimate should be provided for each hazard, and should include, when resources permit, structure, contents, and function losses to present a full picture of the total loss for each asset.

SPECIAL CONSIDERATIONS: While the Rule does not require it, the plan should include a composite loss map to show high potential loss areas.

FEMA's GUIDANCE: The plan must include an estimate for each structure and/or facility likely to be damaged. Although not a requirement, a map showing the assets likely to be damaged, along with estimates of damage, would be helpful.

STATE PERSPECTIVE: A well plotted GIS map will depict repetitive loss history by city, county or zip code. The county assessor is a good resource for identifying vulnerability and estimating potential loss.

SUGGESTED RESOURCES: For a step-by-step method for estimating losses, see:

Federal: 1. FEMA "How To Guide" #386-2, Step 4: ***Understanding Your Risks - identifying hazards and estimating losses****: P*rovides step-by-step guidance on how to accomplish a risk assessment and identifying hazards, which is the first phase of the planning process.
Order a copy from the FEMA Publication Warehouse at 1-800-480-2520 or (**available on the Web at <http://www.fema.gov/fima/planresource.shtm>)**

HAZUS - HAZUS stands for "Hazards U.S." This is a loss estimation computer software created by FEMA and the National Institute of Building Sciences. This software is based upon geographical information system (GIS). HAZUS was first developed for earthquake loss estimation, but versions other hazard versions are under development and soon to be released. HAZUS produces reports projecting losses in various assets categories based upon a user defined disaster scenario. HAZUS user groups have been created in areas of the nation, information about these groups can be obtained on the web from http://www.hazus.org/. OES Hazard Mitigation and GIS staffs are also available for technical support to local governments and state agencies interested in HAZUS. HAZUS may be accessed from the web at <http://www.fema.gov/hazus/hz_index.shtm>

State:

- County Assessor Parcel Maps
- http://www.colorado.edu/hazards/intro.html
- Insurance actuarial
- Repetitive Loss history

L**ocal:**

Tools: HAZUS (Hazards U.S.) is a loss estimation software tool that predicts loss from earthquake, flood, or hurricane. The tool is free from FEMA

EXAMPLE TEXT: To complete the criteria of Section 3.4 - *Assessing Vulnerability: Estimating Potential Losses*

NOTE: The following example of text for Section 3.4 is considered satisfactory by FEMA. Similar content, tailored for local circumstances, should be considered by a Local Government for their LHMP. OES intends to replace the FEMA provided example text provided below, with examples from approved California Local Government Plans, at the earliest opportunity.

FEMA TEXT: The Rocky County Planning Department has used GIS modeling, field inspections, and historical data to estimate the potential dollar losses if the County were to experience flooding and wildfires, the two most likely hazards to occur in the County. The vulnerable structures and facilities were identified earlier in the planning process.

The County used the guidelines in the FEMA document *Understanding Your Risks: Identifying Hazards and Estimating Losses* to develop a cost estimate for damage. The estimated costs are as follows:

Potential flood losses:

- Residential properties (including senior citizens home): $2.5 million
- Local hospital: $3 million
- Schools: $2 million
- Communication utility company: $1 million
- Waste water treatment plant: $1.5 million

See attached map XX, Estimated Flood Losses by Location and Type of Asset.

Potential Wildfire losses:

- Residential properties: $1 million
- Hospital: $1.5 million
- Secondary school: $500,000

See attached map XY, Estimated Wildfire Losses by Location and Type of Asset.

End of Section 3.4

Section 3.5 - *Assessing Vulnerability: Analyzing Development Trends*

REQUIREMENT: IFR §201.6(c)(2)(ii)(C) - The plan should describe vulnerability in terms of providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

Guidance for Section 3.5 - *Assessing Vulnerability: Analyzing Development Trends*

EXPLANATION: The plan should provide a general overview of land uses and types of development occurring within the community. This can include existing and proposed land uses as well as development densities in the identified hazard areas and any anticipated future changes. This information provides a basis for making decisions on the type of mitigation approaches to consider, and the locations in which these approaches should be applied. This information can also be used to influence decisions regarding future development in hazard areas.

FEMA's GUIDANCE: A Satisfactory submittal will include specifics on the types on land uses along with locations and an indication if there are any planned or anticipated changes, particularly in or near hazard areas.

STATE PERSPECTIVE: Decision makers and planners often use General Plan and related development documents to chart their course. Being aware of your area's history, its past losses, land use directives and documents can provide an awareness to future vulnerabilities. By analyzing development plans, past, present and future, the local government can assess their vulnerability to loss.

SUGGESTED RESOURCES: For more information on development trends, see:

Federal: 1. FEMA "How To Guide" #386-2, Step 3: ***Understanding Your Risks - identifying hazards and estimating losses****: P*rovides step-by-step guidance on how to accomplish a risk assessment and identifying hazards, which is the first phase of the planning process.
Order a copy from the FEMA Publication Warehouse at 1-800-480-2520 or (**available on the Web at <http://www.fema.gov/fima/planresource.shtm>)**

State:

- GIS maps linked to repetitive loss history
- Local Agency Formation Commission (LAFCo)
- http://www.calafco.org/
- Insurance industry actuarial studies
- FIRMs
- Vulnerability Assessment Techniques (VAT) III
- http://www.csc.noaa.gov/
- State Office of Planning and Research (OPR)

L**ocal:** Local Planning Department

Tools:

EXAMPLE TEXT: To complete the criteria of Section 3.5 - *Assessing Vulnerability: Analyzing Development Trends*

NOTE: The following example of text for Section 3.5 is considered satisfactory by FEMA. Similar content, tailored for local circumstances, should be considered by a Local Government for their LHMP. OES intends to replace the FEMA provided example text provided below, with examples from approved California Local Government Plans, at the earliest opportunity.

FEMA TEXT: Golden county is centrally located in the State and is largely rural. A majority of the County's land use is designated as farmland. The largest city, Jasperville, is located along the northern boundary of the county along the Big River. The land uses within the county consist of: industrial and commercial areas, located in and around Jasperville; residential areas, located in the suburbs surrounding Jasperville; park land and open space, located largely in the eastern section of the county; farmland, which is a majority of the County; and specialized land use designations (institutional, mixed-use) located in the City.

The suburbs of Jasperville have recently undergone residential development pressure as several large companies have opened offices in the City within the past year, attracting new residents to the area. The County Planning Office has indicated that the residential development pressure surrounding Jasperville is the largest concern with respect to future land use decisions and hazard mitigation planning. The Big River floods periodically and many of the newly developing residential areas are located in close proximity to the Big River.

The remainder of the County is not expected to undergo development pressure, and the Planning Office does not anticipate any significant changes in land use.

End of Section 3.5

Section 3.6 - *Multi-jurisdictional Risk Assessment*

REQUIREMENT: IFR §201.6(c)(2)(iii) - For multi-jurisdictional plans, the risk assessment section must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

Guidance for Section 3.6 - *Multi-jurisdictional Risk Assessment*

EXPLANATION: The multi-jurisdictional plan can present information for the general planning area as a whole as described in the previous paragraphs. However, where hazards and associated losses occur in only part of the planning area, this information should be attributed to the particular jurisdiction in which they occur. Further, where unique construction characteristics occur, they should be indicated on the plan so that appropriate mitigation measures are considered.

FEMA's GUIDANCE: To receive a satisfactory score, the plan must document if any particular jurisdictions are subject to additional risks or if they have unique situations that require special consideration.

STATE PERSPECTIVE: The more diversified the jurisdiction is, the more vulnerability planning may be warranted. A county may not suffer the same vulnerabilities that its incorporated cities do and the process should include assessments to include special circumstances particular to those entities.

SUGGESTED RESOURCES: For more information on creating a detailed risk assessment, see:

Federal: 1. FEMA "How To Guide" #386-2, ***Understanding Your Risks - identifying hazards and estimating losses****: P*rovides step-by-step guidance on how to accomplish a risk assessment and identifying hazards, which is the first phase of the planning process. Order a copy from the FEMA Publication Warehouse at 1-800-480-2520 or (**available on the Web at <http://www.fema.gov/fima/planresource.shtm>)**

State:

- GIS mapping using repetitive loss history in relation to zip codes
- Insurance loss records vs. claims made
- Insurance actuarial records for your area
- OES
- FEMA
- http://www.colorado.edu/hazards/intro.html
- http://www.fire.ca.gov/
- http://www.consrv.ca.gov/cgs/
- http://www.gis.ca.gov/

Local:

Tools:

EXAMPLE TEXT: To complete the criteria of Section 3.6 - *Multi-jurisdictional Assessment*

NOTE: The following example of text for Section 3.6 is considered satisfactory by FEMA. Similar content, tailored for local circumstances, should be considered by a Local Government for their LHMP. OES intends to replace the FEMA provided example text provided below, with examples from approved California Local Government Plans, at the earliest opportunity.

FEMA TEXT: Rumble County is a large county centrally located in the State. Within the County, there are several municipalities. All of these jurisdictions contributed to the risk assessment analyses performed for the County Hazard Mitigation Plan (see preceding Section XX). Riverine flooding was identified as the most significant risk to the County and is addressed in the Mitigation Plan. However, two jurisdictions within the County have unique situations that require additional mitigation measures. Separate risk assessments were performed for each jurisdiction.

Rocky Township, located in the southern section of the County, is subject to additional flooding hazards due to its history as a mining town. Rocky Township was heavily mined in the early 1900's and has several abandoned mines in the area. Heavy rainfall causes runoff from the mines, threatening the township's water supply with contamination from acid mine drainage. Therefore, the remediation of water contamination identified in the Mitigation Plan is limited to Rocky Township.

Rocky Township has been recognized by the State Historic Preservation Office as being a Heritage Preservation and Tourism Area because of its distinct, historic character. The township's downtown appears much as it did in the early 1900's. However, the township has several threatened historic structures, some of which lie in the town's 100-year floodplain. One such structure is the Rocky Mining Company Shipping Office, which now serves as a museum chronicling the township's mining past. The elevation of the structure's first floor lies five feet below the 100-year flood elevation.

Quartz City contains a nuclear power plant that supplies power to the entire County. This power plant presents additional risks due to terrorism or malfunction of the plant's safety controls. The increased security and radiation control measures identified in the Mitigation Plan are limited to Quartz City.

End of Section 3.6