

EvCC Emergency Management Plan

ANNEX #11 – Hazard Assessment

1. INTRODUCTION

The “risk and vulnerability assessment” process detailed here identifies the hazards the Evict Campus faces and assesses the level of vulnerability to these potential events.

Conducting a risk assessment will allow the EvCC campus to determine

- Which natural, manmade, and technological hazards could affect the campus
- What areas of the campus are vulnerable to the hazards
- What assets will be affected
- To what degree these assets will be affected

This crucial examination of the impact of the risks and hazards identified will serve as the foundation for the EvCC future emergency plans.

2. RISK ASSESSMENT MODEL

- A. The risk Assessment model is designed to quantify and document the probability and overall severity of various types of threat events or hazards (natural, technological, and terrorism).
- B. For each threat event, the probability and impact estimates are combined (probability x impact) to quantify the relative risk of each threat event.
- C. The relative risk provides a basis to identify and evaluate existing mitigation and recovery efforts to determine if there are significant campus vulnerabilities.
- D. For each threat event, the EvCC Emergency Manager will determine the probability of occurrence.
- E. Campus participants will then evaluate six impact questions across three different categories (human impact, facilities impact, and institutional impact). All six estimates for impact are averaged to produce an overall severity score.
- F. The overall severity score and the probability are then combined to create a relative risk score for each threat event.

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- G. Once all the threat events have been evaluated the results are sorted from high too low to produce a relative risk ranking of threat exposures.
- H. The results will then be discussed with a representative group to determine reasonableness and validity.
- I. The results of this risk assessment should provide a basis to evaluate adequacy of campus mitigation measures and recovery planning for the most significant campus threats.

3. HAZARD / EVENT DESCRIPTIONS

This section lists specific hazards and provides a brief description of each. Unless otherwise specified all events occur during the middle of a “typical” academic instruction weekday while classes are in session and all staff are present.

A. Natural Hazards / Events

1. Flood	Flooding on the EvCC campus can be the result of a natural event or manmade event such as the rupture of a main water distribution line.
2. Landslide/mudslide	Localized land/mudslide can occur on unstable hillside during severe rainstorm event. Consider campus vulnerability based on facilities located on or near potentially unstable hillsides.
3. High Winds	High winds may topple large trees on the central campus, cause damage to structures and power lines adjacent to the trees.
4. Wildfire	Wild land fires may start upwind of some campus facilities during high fire danger conditions during peak fire season. Consider campus layout (number of vulnerable campus facilities adjacent to wild land areas), local topography, and adjacent wild land vegetation fuel loading.

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<p>5. Catastrophic Earthquake</p>	<p>Maximum credible earthquake (“the big one”) occurs on a nearby fault. Assume there is structural collapse of some buildings and significant structural and non-structural damage to other campus buildings. Consider vulnerability of campus buildings (based on extent of structural and non-structural mitigation). Casualties are commensurate with size and scope of predicted earthquake.</p>
<p>6. Tsunami—Coastal</p>	<p>Consider campus layout and locally predicted maximum event.</p>

B. Technological Hazards

<p>1. Power Failure</p>	<p>Widespread campus power failure for minimum of 12 hours. Consider vulnerability of campus electrical distribution system. Damages and overall impacts commensurate with past campus power outages.</p>
<p>2. Water Supply Disruption</p>	<p>Widespread campus water supply disruption for minimum of 12 hours. Consider vulnerability of campus water distribution system. Damages and overall impacts commensurate with past major water main breaks or other disruption of campus water supply.</p>
<p>3. Telecommunications System Failure</p>	<p>Widespread campus voice communications systems failure for minimum of 12 hours. Consider vulnerability of campus telecommunications systems. Impacts commensurate with past campus telecommunications failures.</p>
<p>4. Information Technology Infrastructure Disruption</p>	<p>Centrally managed campus IT systems (network mainframe/servers) disrupted for minimum of 12 hours due to hacking activity or technical malfunction. Consider vulnerability of central campus IT systems. Damages and overall impacts commensurate with similar past campus IT failures.</p>
<p>5. Residential Building Fire</p>	<p>Consider vulnerability of campus associated residential buildings (sprinkler protection, building age and construction, etc.).</p>

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<p>6. Central Administration Building Fire</p>	<p>Main campus administration building heavily damaged by fire. Alternatively, major fire in a lab building—hazardous materials complicate response and fire suppression (choose the scenario that has greatest campus-wide impact).</p>
<p>7. Accidental Hazmat Release</p>	<p>Airborne toxic gas plume spreads out of a laboratory into other areas of a major lab building, and then escapes into the outside air.</p>

B. Human – Related Events

<p>1. Public Health Emergency</p>	<p>An outbreak of a highly contagious disease occurs in the campus community, resulting in significant widespread illness (greater than a typical flu outbreak).</p>
<p>2. Sports/Public Event Disturbance</p>	<p>A significant disturbance occurs following a scheduled campus public event. Impacts commensurate with past campus experiences.</p>
<p>3. Workplace Violence</p>	<p>Violence against an employee by another employee, student or the general public. May also be the result of a domestic violence incident.</p>
<p>4. Bomb on campus</p>	<p>Detonation of a bomb on campus.</p>
<p>5. Active Shooter</p>	<p>A gunman on campus actively shooting or threatening to shoot students, faculty, or staff members.</p>
<p>6. Intentional Biological Agent Release</p>	<p>An infectious agent is intentionally released inside a campus building, resulting in a limited number of illnesses. There are limited casualties but many “worried well” persons. There is no physical damage to facilities, although decontamination may be required.</p>
<p>4. Civil Disturbance</p>	<p>A spontaneous “riot” breaks out and spreads onto the central campus. Impacts commensurate with past campus experiences.</p>

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TABLE: Probability & Severity Metrics

<p><u>1. Probability Metric</u></p> <p>Consider the number of occurrences on the EvCC campus over the past 25 years, the number of similar events at other Universities, and any changes or trends that could affect the frequency of this event on EvCC.</p>	<p>Estimate the likelihood this event will occur in next 25 years.</p> <ol style="list-style-type: none"> 1. Not applicable (will not occur) 2. Doubtful (not likely) 3. Possible (could occur) 4. Probable (very likely to occur) 5. Inevitable (will occur)
<p><u>2. Human Impact – Question #1</u></p> <p>Consider the number of occurrences on the EvCC campus over the past 25 years what were the extent of injuries and deaths that occurred?</p>	<p>Evaluate the extent of injuries and deaths that occurred.</p> <ol style="list-style-type: none"> 1. None, or this event has never occurred on campus 2. Few minor injuries 3. Multiple minor injuries or a major injury 4. Multiple major injuries or a death 5. Multiple deaths and major injuries
<p><u>3. Human Impact - Question #3</u></p> <p>Consider the potential for injuries or deaths from this event on EvCC or from similar events at other universities, and any changes or trends that would affect future injuries and deaths from this type of event.</p>	<p>Estimate the number of injuries and deaths that could result from this event.</p> <ol style="list-style-type: none"> 1. None 2. Few minor injuries 3. Multiple minor injuries or possible major injury 4. Multiple major injuries or possible death 5. Multiple deaths and major injuries
<p><u>4. Facilities Impact - Question #1</u></p> <p>Consider the vulnerability of EvCC facilities to this event.</p>	<p>Estimate the extent of damage to central campus facilities.</p> <ol style="list-style-type: none"> 1. Little or no damage 2. Mild damage to several facilities 3. Moderate damage to multiple facilities 4. Severe damage to multiple facilities 5. Extensive damage to most facilities

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<p><u>5. Facilities Impact - Question #2</u></p> <p>Considering the extent of damage to the EvCC central campus facilities, estimate the total cost to respond to the event and repair or replace damaged facilities</p>	<p>Estimate the cost to respond to the event and repair or replace all damaged facilities.</p> <ol style="list-style-type: none">1. Less than \$1 million2. Between \$1 million and \$10 million3. Between \$10 million and \$100 million4. Between \$100 million and \$1 billion5. More than \$1 billion
<p><u>6. Institutional Impact - Question #1</u></p> <p>Consider the duration of interruption to campus-wide teaching, research activities, and business operations.</p>	<p>Estimate the duration of interruption to campus-wide teaching and research activities and business operations.</p> <ol style="list-style-type: none">1. Hours2. Days3. Weeks4. Months5. Year or longer
<p><u>7. Institutional Impact - Question #2</u></p> <p>Consider the extent that this event would negatively impact the EvCC campus reputation or public image over the long term.</p>	<p>Evaluate the extent this event would negatively impact the campus reputation or public image over the long term?</p> <ol style="list-style-type: none">1. None2. Minor3. Moderate4. Significant5. Severe