8 June, 2015

MEMO TO WHOM TO MAY CONCERN

FROM: James L. Gleason, Director of Purchasing


Addendum #1 dated June 8, 2015:

Opening date is Monday, June 29, 2015.

Enclosed is the Steuben County, New York Hazard Analysis Report, prepared April 1, 2014 as quoted in the Multi-Jurisdictional Multi-Hazard Mitigation Plan, page 16, under the paragraph labeled “Existing and Available Information/Research/Data”.

Background: On April 1, 2014 the Steuben County Office of Emergency Management conducted a hazard analysis using the automated program, HAZNY (Hazards New York). HAZNY was developed by the American Red Cross and the New York State Emergency Management Office.

The results of this hazard analysis are presented in this report.

HAZNY and Steuben County: HAZNY is an automated interactive spreadsheet that asks specific questions on potential hazards in a community and records and evaluates the responses to these questions. HAZNY also includes historical and expert data on selected hazards. HAZNY is designed specifically for groups, rather than individual use. Steuben County assembled a group of representatives from various County, State, and Local agency officials to
consider and discuss the questions and issues raised by the HAZNY program. New York State Emergency Management Office facilitated the meeting and recorded the results.

The Results: The Group analyzed hazards potentially affecting Steuben County and its local jurisdictions. HAZNY rated each hazard based on the Group's assessment and assigned a numerical value.

These values are categorized as follows:

<table>
<thead>
<tr>
<th>Rating Range</th>
<th>Hazard Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>321 to 400</td>
<td>HIGH HAZARD</td>
</tr>
<tr>
<td>241 to 320</td>
<td>MODERATELY HIGH HAZARD</td>
</tr>
<tr>
<td>161 to 240</td>
<td>MODERATELY LOW HAZARD</td>
</tr>
<tr>
<td>44 to 160</td>
<td>LOW HAZARD</td>
</tr>
</tbody>
</table>

The Group rated the following 18 hazards:

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLOOD</td>
<td>338</td>
</tr>
<tr>
<td>HAZMAT TRANSIT</td>
<td>316</td>
</tr>
<tr>
<td>WILDFIRE</td>
<td>296</td>
</tr>
<tr>
<td>TORNADO</td>
<td>293</td>
</tr>
<tr>
<td>UTILITY FAILURE</td>
<td>291</td>
</tr>
<tr>
<td>SEVERE STORMS</td>
<td>268</td>
</tr>
<tr>
<td>FIRE</td>
<td>265</td>
</tr>
<tr>
<td>TRANS ACCIDENT</td>
<td>260</td>
</tr>
<tr>
<td>WINTER STORM (SEVERE)</td>
<td>246</td>
</tr>
<tr>
<td>DAM FAILURE</td>
<td>245</td>
</tr>
<tr>
<td>LANDSLIDE</td>
<td>236</td>
</tr>
<tr>
<td>EXTREME TEMPS</td>
<td>232</td>
</tr>
<tr>
<td>CIVIL UNREST</td>
<td>228</td>
</tr>
<tr>
<td>ICE STORM</td>
<td>197</td>
</tr>
<tr>
<td>RADI OLOGICAL (TRANSIT)</td>
<td>186</td>
</tr>
<tr>
<td>HAZMAT (FIXED SITE)</td>
<td>176</td>
</tr>
<tr>
<td>EPIDEMIC</td>
<td>164</td>
</tr>
<tr>
<td>RADI OLOGICAL (FIXED SITE)</td>
<td>117</td>
</tr>
</tbody>
</table>

All other hazards listed in the HAZNY program were deem by the group to be in the “Low Hazard” category and therefore were not rated. Those hazards are: Air Contamination, Avalanche, Blight, Drought, Earthquake, Explosion, (Considered under Fire), Food Shortage, Fuel Shortage, Hurricane (Considered under Flooding for Inland Flooding), Ice Jams (Considered under Flooding), Infestation, Mine Collapse, Oil Spill (Considered under
Haz Mat), Structural Collapse, Terrorism, Tsunami-Wave Action, Water Supply Contamination (Considered under Utility Failure).

Hazard(s) rated as high: FLOOD

Flash Flood and River Flood was determined to be a High Hazard. The Group determined that flooding is likely to continue as a frequent event, occurring more than once a year. Steuben County has had twelve Federally declared flooding disasters between 1972 and this assessment. Although mitigation actions, such as channel cleanup has proven positive throughout the county, the potential for additional flooding continues to be a high threat for the county.

Flooding would be expected to cover a large region, and would likely cause cascade effects, such as landslides, power failures, traffic accidents and hazardous chemicals releases. Several hours warning is expected with flooding starting in the western part of the county (Hornell area) and then continuing toward the east (Corning area). It was determined by those involved in the county health care system that serious injury or death is likely but not in large numbers. This may tax the local healthcare system but not overloading the system in a worse case event.

In a flood similar to that caused by Tropical Storm Agnes in 1972, severe damage to both private property and public structures could be expected, including extreme damage to crops during the growing season. Emergency operations would likely continue for more than two weeks following a worst case flood event.

FLOOD: 338, High Hazard

<table>
<thead>
<tr>
<th>Potential Impact</th>
<th>Throughout a Large Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cascade Effects:</td>
<td>Highly Likely</td>
</tr>
<tr>
<td>Frequency:</td>
<td>A Frequent Event</td>
</tr>
<tr>
<td>Onset:</td>
<td>Several Hours Warning</td>
</tr>
<tr>
<td>Hazard Duration:</td>
<td>Two to Three Days</td>
</tr>
<tr>
<td>Recovery Time:</td>
<td>More Than Two Weeks</td>
</tr>
<tr>
<td>Impact:</td>
<td></td>
</tr>
<tr>
<td>• Serious Injury or Death is Likely, but not in Large Numbers</td>
<td></td>
</tr>
<tr>
<td>• Severe Damage to Private Property</td>
<td></td>
</tr>
<tr>
<td>• Severe Structural Damage to Public Facilities</td>
<td></td>
</tr>
</tbody>
</table>
Hazard(s) rated as moderately high include: HAZMAT TRANSIT, WILDFIRE, TORNADO, UTILITY FAILURE, SEVERE STORMS, FIRE, TRANS ACCIDENT, WINTER STORM (SEVERE), DAM FAILURE

HAZMAT TRANSIT: 316, Moderately High Hazard

Hazardous Materials in Transit, rated at 316, based upon the fact that Hazardous Materials accidents in transit are frequent events occurring more than once a year on average. Steuben County has an East/West Interstate as well as a rail line, which runs through the County and carries a significant amount of hazardous material traffic. An accident can occur anywhere within this large region of the County.

The worst case scenario would be a release occurring without warning, and cause serious injury or death, but not in large numbers, which could potentially overtax the local EMS system if the event occurs within proximity to populated areas, such as the City of Corning, Hornell or one of the thirteen other incorporated Villages. The plume resulting from a worst case event on a major highway or rail line could be expected to cover a small region. The group determined that a large incident involving railcars might take four days to one week to stabilize and three days to one week in recovery time. This evaluation did not take into consideration the extended period of environmental clean up that could be associated with such an incident.

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Cascade Effects</td>
<td>Highly Likely</td>
</tr>
<tr>
<td>Frequency</td>
<td>A Frequent Event</td>
</tr>
<tr>
<td>Onset</td>
<td>No Warning</td>
</tr>
<tr>
<td>Hazard Duration</td>
<td>Four days to One Week</td>
</tr>
<tr>
<td>Recovery Time</td>
<td>Three Days to One Week</td>
</tr>
<tr>
<td>Impact</td>
<td>Serious Injury or Death is Likely, but not in Large Numbers</td>
</tr>
<tr>
<td></td>
<td>Moderate Damage to Private Property</td>
</tr>
<tr>
<td></td>
<td>Moderate Structural Damage to Public Facilities</td>
</tr>
</tbody>
</table>

WILDFIRE: 296, Moderately High Hazard

Wildfire, rated at 296, is defined as an uncontrollable combustion of trees, brush, or grass involving a substantial land area which may have the potential for threatening human life and property. Wildfires are a frequent event in the
county, occurring more than once a year. Usually these fires occur during the spring and late fall. Wildfires are also a potential threat because there are large regions of the county covered by forestland.

**Potential Impact:** Throughout a Large Region  
**Cascade Effects:** Highly Likely  
**Frequency:** A Frequent Event  
**Onset:** No Warning  
**Hazard Duration:** One Day  
**Recovery Time:** One to Two Days  
**Impact:**  
- Serious Injury or Death Unlikely  
- Severe Damage to Private Property  
- Little or No Structural Damage to Public Facilities

**TORNADO: 293, Moderately High Hazard**

**Tornado**, rated at 293, can occur anywhere within the County. The National Weather Service reports that between 1996 and 2013 there have been six confirmed tornadoes in Steuben County ranging from F0-F1. The committee has listed this as regular event occurring between once a year and once every seven years. The main reason for this is that over the past few years, Steuben County has had several confirmed tornados. The committee determined that a worst case event, an F2 or F3 located in a residential area, could cause moderate damage to private and public property, with the likelihood of triggering additional hazards, such as power failures, fires, and structural collapse. Based on past experience, the committee determined that there would not be any warning of an impending tornado.

**Potential Impact:** Throughout a Large Region  
**Cascade Effects:** Highly Likely  
**Frequency:** A Regular Event  
**Onset:** No Warning  
**Hazard Duration:** Less Than One Day  
**Recovery Time:** Three Days to One Week  
**Impact:**  
- Serious Injury or Death is Likely, but not in Large Numbers  
- Severe Damage to Private Property  
- Severe Structural Damage to Public Facilities

**UTILITY FAILURE: 291, Moderately High Hazard**

**Utility Failure**, rated at 291, is described as an regular event by the committee, based on Steuben County’s rural area, power is often lost several times throughout the year but for large periods of time. The potential for a utility failure could cover a large region in a worst case event and could last four days.
to one week. It was determined that credible worst case scenario could impact those in the population who rely on electrically operated lifesaving devices, secondarily the elderly if the failure occurs during the winter heating season and lasted more than several hours. Serious injuries or death is unlikely and the committee felt that there is potential for cascading effects.

**Potential Impact:** Throughout a Large Region  
**Cascade Effects:** Highly Likely  
**Frequency:** A Regular Event  
**Onset:** No Warning  
**Hazard Duration:** Four days to One Week  
**Recovery Time:** One to Two Days  
**Impact:**  
- Serious Injury or Death is Likely, but not in Large Numbers  
- Moderate Damage to Private Property  
- Severe Structural Damage to Public Facilities

**SEVERE STORMS: 268, Moderately High Hazard**

Severe Storms was rated 268 because it would impact a large region and was listed as highly likely to cause cascade effects, such as power outages and traffic accidents. Storms that produce winds with speeds in excess of 60 miles per hour are a frequent event, according to the National Weather Service, occurring on average more than thirteen times per year in Steuben County. A major effect of these storms is the onset with limited to no warning. Although the committee felt in the worst case scenario there would be injuries or death to small numbers, the most vulnerable event would occur during one of the county’s numerous outdoor events. Damage would be moderate to both public and private infrastructure.

**Potential Impact:** Throughout a Large Region  
**Cascade Effects:** Highly Likely  
**Frequency:** A Frequent Event  
**Onset:** Several Hours Warning  
**Hazard Duration:** Less Than One Day  
**Recovery Time:** One to Two Days  
**Impact:**  
- Serious Injury or Death is Likely, but not in Large Numbers  
- Moderate Damage to Private Property  
- Moderate Structural Damage to Public Facilities

**FIRE: 265, Moderately High Hazard**

Fire, was described as a frequent event occurring more than once a year and was rated at 265. Fires requiring the activation of multiple county agencies
occur more than once a year but usually not on a severe level. The committee
felt that there is a potential in any given year to have a severe event occur.
A credible worse case event could occur anywhere within the County involving a
large manufacturing facility, residential apartment complex, or critical facility
could cause severe damage to private property and potential injury or death but
not in large numbers.

It was also considered by the committee that many municipalities in the County
have older historic Business Districts, which also house apartments on the upper
levels. A fire in one of these occupancies could cause serious injury or death to
residents, and cause economic hardships to the involved community.

<table>
<thead>
<tr>
<th>Potential Impact:</th>
<th>Several Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cascade Effects:</td>
<td>Some Potential</td>
</tr>
<tr>
<td>Frequency:</td>
<td>A Frequent Event</td>
</tr>
<tr>
<td>Onset:</td>
<td>No Warning</td>
</tr>
<tr>
<td>Hazard Duration:</td>
<td>Less Than One Day</td>
</tr>
<tr>
<td>Recovery Time:</td>
<td>Less Than One Day</td>
</tr>
<tr>
<td>Impact:</td>
<td></td>
</tr>
<tr>
<td>• Serious Injury or Death is Likely, but not in Large Numbers</td>
<td></td>
</tr>
<tr>
<td>• Severe Damage to Private Property</td>
<td></td>
</tr>
<tr>
<td>• Little or No Structural Damage to Public Facilities</td>
<td></td>
</tr>
</tbody>
</table>

**TRANS ACCIDENT: 260, Moderately High Hazard**

**Transportation Accident**, rated at 260. This hazard includes highway, rail, air,
and marine vehicle accidents with mass casualties. The presence of two major
highways, Interstate 390 and 86, span the entire length of the County, and adds
to the potential for serious highway accidents. Although most areas of the
county see frequent motor vehicle accidents the committee described
transportation accidents using substantial mutual aid as a regular event,
occurring between once a year and every seven years. It was believed that a
credible worst case event would result in serious injury or death to extremely
large numbers of people with the potential to overwhelm the local hospital and
EMS system. The majority of the County’s EMS response personnel are
comprised of volunteer agencies that would become severely taxed during an
Mass Casualty Incident. In addition, the potential threat is increased when
considering the close proximity to the Elmira/Corning Regional Airport and the
approach paths. Several Steuben County Communities fall within these flight
paths. Adding to the problem was the determination that an accident could
occur without warning anywhere within the region.

<table>
<thead>
<tr>
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<th>Throughout a Large Region</th>
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</thead>
<tbody>
<tr>
<td>Cascade Effects:</td>
<td>Highly Likely</td>
</tr>
<tr>
<td>Frequency:</td>
<td>A Regular Event</td>
</tr>
</tbody>
</table>
**Onset:** No Warning  
**Hazard Duration:** Less Than One Day  
**Recovery Time:** Three Days to One Week  
**Impact:**  
- Serious Injury or Death to Large Numbers  
- Little or No Damage to Private Property  
- Little or No Structural Damage to Public Facilities

**WINTER STORM (SEVERE): 246, Moderately High Hazard**

**Winter Storm** is defined as a storm system that occurs during the winter months which deposits a wintry mix of precipitation such as snow, sleet, or freezing rain, with significant impact on transportation systems and public safety. The committee rated winter storms at 246 primarily because it is identified by the National Weather Service as a frequent event, occurring more than once a year. The committee felt that winter storms have the potential to affect the entire county or at least a large region of the county. Cascading effect such as power outages, downed trees and power lines and widespread traffic accidents are highly likely. Effect on the general public was considered to be moderate with death or serious injury is likely but not to large numbers of the population. Although the storm may only last about a day, it could take municipalities an additional one to two days to recover from the effects of a worst case scenario storm.

**Potential Impact:** Throughout a Large Region  
**Cascade Effects:** Highly Likely  
**Frequency:** A Frequent Event  
**Onset:** Several Days Warning  
**Hazard Duration:** One Day  
**Recovery Time:** One to Two Days  
**Impact:**  
- Serious Injury or Death is Likely, but not in Large Numbers  
- Moderate Damage to Private Property  
- Moderate Structural Damage to Public Facilities

**DAM FAILURE: 245, Moderately High Hazard**

**Dam Failure**, rated at 245. Although it is a rare event, the Group considered the impact of a dam failure to be catastrophic in terms of casualties and property damage. This is due to the fact that five dams affect the watersheds within Steuben County: the Arkport and Almond Dams, both located within the County, the Tioga-Hammond and Cowanesque Dams in Pennsylvania and the Bradford dam a low impact, privately owned dam located in the Town of Bradford at the south end of Lamoka Lake. A Dam Failure specifically to the Arkport or Almond Dam would bring the most significant threat to the population because of its effect on the large population to the City of Hornell, which is in close proximity to
the dam, causing little evacuation time. Failure of the Tioga-Hammond or Cowanesque Dams would provide severe damage to private and public infrastructure in Steuben County but would provide several hours of lead time for evacuations.

<table>
<thead>
<tr>
<th>Potential Impact</th>
<th>Cascade Effects</th>
<th>Frequency</th>
<th>Onset</th>
<th>Hazard Duration</th>
<th>Recovery Time</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Several Locations</td>
<td>Highly Likely</td>
<td>A Rare Event</td>
<td>No Warning</td>
<td>Less Than One Day</td>
<td>More Than Two Weeks</td>
<td>Serious Injury or Death to Extremely Large Numbers, Severe Damage to Private Property, Severe Structural Damage to Public Facilities</td>
</tr>
</tbody>
</table>

Hazard(s) rated as moderately low: LANDSLIDE, EXTREME TEMPS, CIVIL UNREST, ICE STORM, RADIOLOGICAL (TRANSIT, HAZMAT (FIXED SITE), EPIDEMIC

LANDSLIDE: 236, Moderately Low Hazard

<table>
<thead>
<tr>
<th>Potential Impact</th>
<th>Cascade Effects</th>
<th>Frequency</th>
<th>Onset</th>
<th>Hazard Duration</th>
<th>Recovery Time</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Several Locations</td>
<td>Some Potential</td>
<td>An Infrequent Event</td>
<td>No Warning</td>
<td>One Day</td>
<td>Three Days to One Week</td>
<td>Serious Injury or Death is Likely, but not in Large Numbers, Severe Damage to Private Property, Severe Structural Damage to Public Facilities</td>
</tr>
</tbody>
</table>

EXTREME TEMPS: 232, Moderately Low Hazard

<table>
<thead>
<tr>
<th>Potential Impact</th>
<th>Cascade Effects</th>
<th>Frequency</th>
<th>Onset</th>
<th>Hazard Duration</th>
<th>Recovery Time</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Throughout a Large Region</td>
<td>Some Potential</td>
<td>A Frequent Event</td>
<td>Several Days Warning</td>
<td>Two to Three Days</td>
<td>One to Two Days</td>
<td></td>
</tr>
</tbody>
</table>

MODERATELY LOW HAZARDS
**Impact:**
- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**CIVIL UNREST:** 228, Moderately Low Hazard

**Potential Impact:** Several Locations
**Cascade Effects:** Highly Likely
**Frequency:** A Regular Event
**Onset:** Several Days Warning
**Hazard Duration:** More Than One Week
**Recovery Time:** One to Two Days

**Impact:**
- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Severe Structural Damage to Public Facilities

**ICE STORM:** 197, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region
**Cascade Effects:** Highly Likely
**Frequency:** An Infrequent Event
**Onset:** Several Days Warning
**Hazard Duration:** One Day
**Recovery Time:** Three Days to One Week

**Impact:**
- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Severe Structural Damage to Public Facilities

**RADIOLOGICAL (TRANSIT):** 186, Moderately Low Hazard

**Potential Impact:** Throughout a Small Region
**Cascade Effects:** Highly Unlikely
**Frequency:** A Rare Event
**Onset:** No Warning
**Hazard Duration:** More Than One Week
**Recovery Time:** More Than Two Weeks

**Impact:**
- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**HAZMAT (FIXED SITE):** 176, Moderately Low Hazard

**Potential Impact:** Several Locations
**Cascade Effects:** Some Potential
**Frequency:** An Infrequent Event

**Onset:** No Warning

**Hazard Duration:** Less Than One Day

**Recovery Time:** Less Than One Day

**Impact:**
- Serious Injury or Death is Likely, but not in Large Numbers
- Moderate Damage to Private Property
- Little or No Structural Damage to Public Facilities

**MODERATELY LOW HAZARDS**

**Epidemic:** 164, Moderately Low Hazard

**Potential Impact:** Throughout a Large Region

**Cascade Effects:** Some Potential

**Frequency:** More Than One Week Warning

**Onset:** More Than One Week Warning

**Hazard Duration:** More Than One Week

**Recovery Time:** Three Days to One Week

**Impact:**
- Serious Injury or Death is Likely, but not in Large Numbers
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities

**LOW HAZARDS**

**Hazard(s) rated as low:** RADIOLOGICAL (FIXED SITE)

**Radio logical (Fixed Site):** 117, Low Hazard

**Potential Impact:** Several Locations

**Cascade Effects:** Highly Unlikely

**Frequency:** A Rare Event

**Onset:** No Warning

**Hazard Duration:** Less Than One Day

**Recovery Time:** Less Than One Day

**Impact:**
- Serious Injury or Death Unlikely
- Little or No Damage to Private Property
- Little or No Structural Damage to Public Facilities
### Biggest Hazards

#### Hazards That Occur With No Warning
- Hazmat Transit
- Wildfire
- Tornado
- Utility Failure
- Fire
- Trans Accident
- Dam Failure
- Landslide
- Radiological (Transit)
- Hazmat (Fixed Site)
- Radiological (Fixed Site)

* No warning was selected from the Onset Tab.

#### Hazards That Occur Most Often
- Flood
- Hazmat Transit
- Wildfire
- Severe Storms
- Fire
- Winter Storm (Severe)
- Extreme Temps

*A frequent event was selected on frequency Tab.

#### Hazards That Present the Greatest Threat to Life
- Trans Accident
- Dam Failure

*Serious injury and death in extremely large numbers was selected from the Impact Tab.

Should you have any questions, please contact this office.

Thank you.

JG: aag

c: file