Section II: Vulnerability Assessment and Mitigation

1. Hazard Vulnerability Analysis (updated December 2009)

_____ (*facility name*) should conduct a thorough Hazard Vulnerability Analysis to help determine what events or incidents may negatively impact its operations. While it is impossible to forecast every potential threat, it is important to identify as many potential threats as possible to adequately anticipate and prepare to manage a crisis or disaster situation.

_____ (*facility name*) should utilize a quantitative tool, the Hazard Vulnerability Assessment (HVA), which was developed by the American Society of Healthcare Engineering (ASHE) of the American Hospital Association (©2001). The HVA utilizes a rating system for the probability, risk, and preparedness for various hazards and situations.

Assumptions: For the purpose of this *All Hazards Emergency Plan*, it is assumed that the following threats may potentially impact all facilities:

- Fire/Explosion
- Flood
- Bomb Threat
- Tornado/Hurricane/Severe Weather
- Power Failure/Utility Disruption
- Workplace Violence/Security Threat
- Law Enforcement Activity
- Missing Resident
- Internal Hazardous Materials Spill/Leak
- Pandemic Episode
- Unknown Acts of Terrorism

Unique Threats: Based on the facility's geographic location, past history, proximity to other structures and operations, proximity to transportation corridors, as well as other unique factors, it is essential to identify all threats that can potentially impact the facility.

_____ (*facility name*) should utilize http://www.ncem.org/ (*Divisions, Emergency Management Division, Recovery Operations, Hazard Mitigation, Risk Assessment*) in determining hazards and vulnerabilities for its County and surrounding areas. The North Carolina Division of Emergency Management website provides valuable information regarding hazard mitigation and assessment of risks specific to North Carolina.

The _____ (*county name*) County Emergency Management Coordinator will be contacted for guidance and assistance in determining the hazards and vulnerabilities for the facility.

The following is a tool that will aid in completing the Hazard Vulnerability Assessment, as it takes into consideration the proximity that _____ (*facility name*) is within specific probable hazardous areas. (The bolded terms in the Geographic Hazardous Areas column pertain to events that could potentially pose as dangers, if the hazardous areas are close to the facility.)

Geographic Hazardous Areas	Proximity to Facility:	Potential Hazard (Y/N)
Busy Roadways—**Elopement, Haz Mat**		
Wooded Areas—**Elopement, Fire**		
Bodies of Water—**Elopement**		
Designated Truck Routes—**Haz Mat**		
Railroad—**Elopement, Haz Mat**		
Airport—**Terrorism Target, Mass Casualty**		
Dam—**Terrorism Target Mass Casualty**		
Military Bases/Installations—**Explosion, Haz-Mat, Terrorism Target**		
Pipelines—**Explosion, Haz Mat**		
Gas Stations—**Explosion, Haz Mat**		
Industrial Areas/Distribution Centers/Trucking Terminals—**Explosion, Haz Mat**		
Chemical Plants—**Explosion, Haz Mat, Terrorism Target, Mass Casualty**		
Nuclear Plants—**Explosion, Haz Mat, Terrorism Target, Mass Casualty**		
Bulk Fuel Storage/Tank Farms (Oil, Gasoline, Propane, Natural Gas, etc,)—**Explosion, Haz Mat, Terrorism Target, Mass Casualty**		
Refineries—**Explosion, Haz Mat, Terrorism Target, Mass Casualty**		
Sewage Treatment Plants—**Haz Mat, Terrorism Target, Mass Casualty**		
Agricultural Processing Plants/Storage Facilities (Grain Silos)—**Haz Mat, Explosion**		
Public Swimming Pools—**Elopement, Haz Mat**		
Schools—**Law Enforcement Activity**		
Jails/Prisons—**Civil Unrest, Law Enforcement Activity**		
Any Immediately Adjacent Operation posing a threat: _____		
Any Operation in the general area posing a threat: _____		

The Hazard Vulnerability Tool should be completed to identify hazards and the direct/indirect effect these hazards could have for _____ (*facility name*):[1]

Instructions to Complete the Hazard Vulnerability Analysis Tool

1. Evaluate every potential event in each of the categories for probability, risk, and preparedness. Add events as necessary.

   Probability: Evaluate each event as the likelihood of it occurring. Issues to consider in determining probability are:

   - Known risk
   - Historical data
   - Manufacturer/vendor statistics

   Risk: Evaluate the potential impact that any given hazard may have on the facility. Issues to consider are:

   - Threat to life and/or health
   - Disruption of services
   - Damage/failure possibilities
   - Loss of community trust
   - Financial impact
   - Legal issues

   Preparedness: Evaluate the current level of preparedness to manage each disaster. Issues to consider are:

   - Status of current plans
   - Training status
   - Insurance
   - Availability of backup systems
   - Community resources

2. Multiply the ratings for each event in the area of probability, risk, and preparedness to give a total score for each hazard. A hazard that does not have a probability of occurring is scored zero and will result in a zero for the total score.
3. List the hazards in descending order of the total scores will prioritize the hazards most in need of attention and resources for emergency planning.

_____ (*Facility)* will evaluate the final prioritization and determine a cutoff value, where no action will be taken for particular hazards. There will be some risk for those hazards.

The Hazard Vulnerability Assessment should be reviewed at least annually.

[1] *Healthcare Facilities Management Series*, February 2001, American Society for Healthcare Engineering of the American Hospital Association, page 5.

Hazard Vulnerability Assessment

EVENT	PROBABILITY				RISK					PREPAREDNESS			TOTAL
	HIGH	MEDIUM	LOW	NONE	LIFE THREAT	HEALTH/ SAFETY	HIGH DISRUPTION	MODERATE DISRUPTION	LOW DISRUPTION	POOR	FAIR	GOOD	
SCORE	**3**	**2**	**1**	**0**	**5**	**4**	**3**	**2**	**1**	**3**	**2**	**1**	
NATURAL EVENTS													
Hurricane													
Tornado													
Severe thunderstorm													
Snow fall													
Blizzard													
Ice storm													
Earthquake													
Tidal wave/tsunami													
Temperature extremes													
Drought													
Flood, external													
Wild fire													
Landslide													
Volcano													
Epidemic/pandemic													
Dam failure													
Explosion/munitions													
Nuclear power plant incident													
HUMAN EVENTS													
Elopement													
Work place violence													
Security threat													

EVENT	PROBABILITY				RISK					PREPAREDNESS			TOTAL
	HIGH	MEDIUM	LOW	NONE	LIFE THREAT	HEALTH/ SAFETY	HIGH DISRUPTION	MODERATE DISRUPTION	LOW DISRUPTION	POOR	FAIR	GOOD	
SCORE	**3**	**2**	**1**	**0**	**5**	**4**	**3**	**2**	**1**	**3**	**2**	**1**	
Hazmat exposure, external													
Terrorism, chemical													
Terrorism, biological													
Hostage situation													
Civil disturbance/ community violence													
Labor action													
Bomb threat													
TECHNOLOGICAL EVENTS													
Electrical failure													
Generator failure													
Transportation failure													
Fuel shortage													
Natural gas failure													
Water failure													
Sewer failure													
Steam failure													
Fire alarm failure													
Communications failure													
Medical gas failure													
Medical vacuum failure													
HVAC failure													
Information systems failure													

EVENT	PROBABILITY				RISK					PREPAREDNESS			TOTAL
	HIGH	MEDIUM	LOW	NONE	LIFE THREAT	HEALTH/ SAFETY	HIGH DISRUPTION	MODERATE DISRUPTION	LOW DISRUPTION	POOR	FAIR	GOOD	
SCORE	**3**	**2**	**1**	**0**	**5**	**4**	**3**	**2**	**1**	**3**	**2**	**1**	
Fire, internal													
Flood, internal													
Hazmat exposure, internal													
Unavailability of supplies													
Structural damage													
Other													

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2. Facility Disaster Preparedness Assessment

_____ (*facility name*) should conduct a thorough Disaster Preparedness Assessment on an annual basis to determine the readiness of the physical plant and associated supplies/provisions within the facility that will be utilized to manage a crisis or disaster situation.

A continual supply of emergency items and equipment should be maintained in quantities that can accommodate the needs of the resident census, staff members, and their family members in the situation of a **shelter-in-place or evacuation situation.** The supplies should be stored in a clearly designated location.

Sealed Emergency Water Supply

	Number of Supplies Needed (Residents and Employees)	**Total Number of Supplies on _____ (date)**	**Total Number of Supplies on _____ (date)**	**Total Number of Supplies on _____ (date)**	**Total Number of Supplies on _____ (date)**
Location of Emergency Water Supply:					
One Gallon of Potable Water per Person per Day is the Suggested Minimum	*Example: 1 x 110 residents + 90 employees =* ***200 gallons needed per day***				
Seven-Day Supply of One-Gallon Jugs of Water (Seven days is the suggested minimum)	*Example: 7 days x 200 gallons =* ***1,400 gallons needed for 7 days***				
Bulk Water Storage (Five Gallon Jugs or Greater)					

Emergency Provision Forms can be found in Appendix F.

Sealed Food Supply

	Number of Supplies Needed (Residents and Employees)	Total Number of Supplies on _____ (date)	Total Number of Supplies on _____ (date)	Total Number of Supplies on _____ (date)	Total Number of Supplies on _____ (date)
Location of Emergency Food Supply for Seven Days:					
Ready-to-Eat Canned Meats					
Ready-to-Eat Canned Soups/Stews					
Ready-to-Eat Canned Vegetables					
Ready-to-Eat Canned Fruits					
Juices/Gatorades					
Powdered Drinks (Kool-Aid, Tang, etc.)					
Carnation Instant Breakfast					
Dry Cereals					
Peanut Butter					
Crackers					
Coffee and Tea					
Powdered Milk					
Evaporated Milk					
Instant Potatoes					
Instant Puddings					
Macaroni and Cheese					
Nonfood Items: Paper Plates, Cups, Napkins, and Plastic Utensils					
Plastic Bags					
Ice					

Emergency Equipment and Medical Supplies

	Number of Supplies Needed	Total Number of Supplies on _____ (date)	Total Number of Supplies on _____ (date)	Total Number of Supplies on _____ (date)	Total Number of Supplies on _____ (date)
Wheelchairs					
Walkers & Canes					
Portable/Folding Chairs (for Staging Area)					
Oxygen Concentrators					
IV Poles					
Feeding Pumps					
Suction Machines					
Bedside Commodes					
Adaptive Devices					
A Five-Seven Day Supply Should be Maintained:					
First Aid Supplies					
Band-Aids					
Gauzes and Bandages					
Alcohol/Hydrogen Peroxide					
Neosporin					
Disposable gloves					
Disposable gowns					
Surgical masks					
Eyewash Saline Solution					
Incontinence Products					
Barrier Cream					
Sanitizing Wipes					
Hand Sanitizer					
Medication Cups/Straws					
Nutritional supplements					
Catheter supplies					
Ostomy supplies					

	Number of Supplies Needed	Total Number of Supplies on _____ (date)	Total Number of Supplies on _____ (date)	Total Number of Supplies on _____ (date)	Total Number of Supplies on _____ (date)
Sterile 4X4s					
Alcohol/Peroxide					
First Aid Tape					
Syringes					
Kling/Ace Bandages					
Glycerine swabs					
Normal saline					
Insulin supplies					

Emergency Equipment and Supplies

	Number of Supplies Needed (Residents and Employees)	Total Number of Supplies on _____ (date)	Total Number of Supplies on _____ (date)	Total Number of Supplies on _____ (date)	Total Number of Supplies on _____ (date)
Location of Emergency Supplies:					
Flashlights and Batteries					
Whistles					
Portable Radio, NOAA Radio, and Batteries					
Mechanics Tool Box					
Utility Knife					
Non-Electric Can Openers					
Blenders/Food Processors					
Coolers					
Digging Tools (Shovels, Picks, etc.)					
Supply of Duct Tape					
Heavy-Duty Plastic Sheeting					
Tarps					
Garbage Bags for Sanitation					
Cleaning Disinfectant Solutions					
Extra Supply of Bleach					
Approved Heavy-Duty Extension Cords					
Fire Extinguishers					
Fire Blankets					
Extra Sleeping Provisions (Pillows, Blankets, etc.)					
Matches in Waterproof Container					
Sewing Kit					
Portable Emergency Generators					
Fans					

	Number of Supplies Needed (Residents and Employees)	Total Number of Supplies on _____ (date)	Total Number of Supplies on _____ (date)	Total Number of Supplies on _____ (date)	Total Number of Supplies on _____ (date)
Toilet Paper					
Hand Washing Soap					
Wind-up Alarm Clock					
Two-way Radios					
Storage Bags–Red Bags					
Chemical Light Sticks (breakable light sticks)					
Box Cutters, Packing Tape, and String					
Hardhats and Work Gloves					
Caution Tape and Caution Cones					
Chainsaw (s)					
Reflective Vests					
Resident Identification Bracelets					
Writing Utensils, Note Pads, Scissors, and Tape					
Spools of Twine					
Portable Cots					
Air Mattresses					
Cleaning Materials, including bleach, sponges, mops, rags, etc.					
Analog Telephone					
Cell Phone Battery Charger					
Minimum of Three Days of Fuel for Generator					
Minimum of Three Days of Fuel for Vehicles					

Emergency provisions forms can be found in Appendix F.

Emergency "Go Box"

_____ (*facility name*) should establish an Emergency "Go Box" and place it in secure locations throughout the facility, so that the Administrator and/or Incident Commander can grab it in an emergency situation. The "go-box" should contain at least the following items:

Emergency Go Box Items for Facility **Boxes are located:** _____	
✓	**Item**
	Cell phone & phone charger
	Two-way radios
	Cash/credit cards
	Additional keys for the facility
	Emergency key contacts list
	List of employees with information for payroll purposes
	List of employees contact/emergency numbers
	Copies of facility floor plans (enlarged)
	Badges for visitors/Pens/Pads/Blank Avery labels/ Colored Sharpe Markers
	Incident Command Structure (ICS) Facility Action Cards **(See Appendix U)**
	N95 Masks/Latex gloves
	Working gloves/duct tape
	Colored t-shirts or reflective vests/incident commander vest
	Restraints for emergency purposes ONLY

3. Alternate Facility (Relocation Site) Assessment

_____ (*facility name*) should establish at least two alternate facility sites when a complete evacuation of the facility is required. In some cases and depending on the situation, relocation may occur to a suitable facility within the same region for a short-term basis.

In the event however, that a disastrous situation strikes an entire geographical area, an alternate facility must be located at least 50 miles away from the facility. (CMS proposed guidelines require at least two relocation sites with one being 50 miles away from the facility.)

It is essential that the alternate facilities meet basic requirements for safety and security of the residents and staff members. An alternate facility must provide the same level of care or higher to the residents, whether it be another nursing facility or hospital. A thorough evaluation of an Alternate Facility should be conducted to ensure that the facility meets the appropriate needs of the residents.

It will be assured that the alternate facility providers are trained to the needs of the chronic, cognitively impaired and frail population, as well as knowledgeable of methods to minimize transfer trauma (CMS proposed guidelines.)

4. Community College Initiative—Disaster Evacuations and Evaluation Sheltering Centers (DE2SC)

The North Carolina Division of Emergency Management, North Carolina Office of Emergency Medical Services, North Carolina Emergency Management Association and the North Carolina Health Care Facilities Association are collectively addressing the challenges of evacuating "special medical needs" populations, which would include nursing facilities. Relationships are being established with community colleges throughout North Carolina to serve as Disaster Evacuations and Evaluation Sheltering Centers (DE2SC) providing triage before sending individuals to the receiving facilities for temporary placement. Relationships are also being established with the designated receiving facilities.

The DE2SCs provided by Community Colleges will only be established during catastrophic events requiring mandatory evacuation of geographical areas. The North Carolina Office of Emergency Medical Services would make the call to evacuate to one of the community college locations.

The understanding is that the evacuated facility would provide staffing to its resident population at the community college shelter and the receiving facility(s.) The community college shelter will make provisions for staff members, families of staff members, and pets.

North Carolina Emergency Medical Services will not be able to transport all staff members, families, and pets, so arrangements will have to be made to assist in transporting everyone to the Community College Shelters.

5. Crisis Public Relations—Staff Members, Family of Residents, and Community

In advance of an impending crisis or disaster situation, it is important for _____ (*facility name*) staff members, residents, family members, and the community-at-large to understand that the facility has developed a relationship with local emergency responders as well as the _____ County Emergency Management Agency to properly plan, prepare, respond, and recover from such situations.

_____ (*facility name*) has designated an individual to adequately educate staff members, residents, family members, and other applicable members/organizations within the community to understand that the facility has initiated a comprehensive program to address issues pertaining to *All Hazards Emergency Management* in order to lessen its perceived burden on the community.

The following persons will be official spokesperson with alternates designated:

Name/Contact Information	Title	Department

In advance of a crisis or disaster scenario that may require the facility to evacuate or shelter-in-place (SIP) and present media and public relations issues/concerns, the following points should be considered:

- Identify standardized ways of disseminating information (regular briefings, scheduled press conferences, etc.), as well as what to release, when to release it, whom to release it to, and why to release information

- Appropriate training should be provided to anyone in the organization who may deal with the media or perform public relations duties, keeping in mind:
  - Residents want to know:
    - How will they be protected
    - How they will be kept informed
    - How they can help or be involved
    - How soon normalcy will be reestablished
  - Family Members/Responsible Parties want to know:
    - How their loved ones will be protected
    - Who is in charge
    - Who will be providing the most accurate information about the facility's status
    - Their own responsibility during an emergency event
    - The decision the facility is making that effect their loved ones
    - How their loved ones are doing
    - How they can help or be involved
    - How soon normalcy will be reestablished[2]
- Appropriate training should be provided to all employees to clearly define responsibilities and limitations regarding contact with the media and the release of information as part of the employees' conditions of employment
- Factors that should be considered when releasing information should balance:
  - Protection of the privacy, health, and welfare of the residents
  - When the information cannot be released, the release should be refused with an explanation. If delays are encountered, the media should be so advised
  - Addressing the public's need for information and reassurance, including:
    - Requesting that the public be advised not to come to the scene
    - Methods of apprising them of the situation
    - Anticipated "next steps"
    - Coordination of messages to residents, physicians, and staff members
    - Coordination of messages for handling the "worried well" (volunteers, separate locations, family members)
- North Carolina Health Care Facilities Association (NCHCFA) can assist with communications during times of disasters

[2] *Florida Health Care Association Emergency Guide for Nursing Homes, Part I Comprehensive Emergency Management Plan*, 2007, page 13.