

NIOSH Interim Guidelines for Fire Fighting Operations in a Hurricane Response

The National Institute for Occupational Safety and Health (NIOSH) provides the following interim guidelines for preventing injury, illness, and death among fire fighters working in hurricane response. These materials were originally developed for Hurricane Katrina but the information is applicable for hurricane fire fighting operations generally. Potential problems in responses to hurricanes, floods, and other largescale natural disasters include lapses in command and operating procedures, and lack of or shortages in communication, fire fighting tools and equipment, and personal protective equipment (PPE).

The hazards to professional and volunteer fire fighters who are mobilized to fight structural fires in the wake of hurricanes include but are not limited to structural collapse, electrical hazards, helicopter operations, and heat stress. The following are good basic safety precautions for protecting fire fighters involved in structural fire fighting within the flooded disaster areas affected by a hurricane. The interim guidelines are designed to be revised or updated as needed.

- Standard operating procedures should be followed in setting up an organized command center at the site, ensuring that fire fighters follow proper precautions, and identifying potential hazards. Ensure good communications between fire fighters and the Incident Commander. Follow a strategic plan of operations in which potential risks are identified (such as structural instabilities) and addressed. Provide proper personal protective equipment to minimize risks of injury. If the fire involves an industrial site, potential risks from exposures to chemicals or the combustion products of chemicals will require personal protective equipment and other precautions appropriate for those risks.
- Electrical hazards from downed power lines or other sources should be identified and addressed. Assume that all lines are energized, call the utility company to cut power to the lines or verify that the lines are not energized, and control the scene. Ensure protective shields, barriers, or alerting techniques are used to protect fire fighters from contacting energized electrical conductors.
- In areas where helicopters are flying or hovering near the ground, fire fighters should be aware of potential hazards associated with the effects of air turbulence from the helicopter's spinning blades. The turbulence could raise debris and could cause flames from a fire to behave erratically.
- Precautions should be followed to reduce risks of emotional and physical stress, fatigue, or physical demands from extreme environmental conditions. In particular, heat stress is a common problem. To prevent heat stress, educate fire fighters to recognize the early signs of heat stress, have proper medical evaluation, provide proper fluids and nourishment, and provide rest areas (rehabilitation units) to recover from the heat.
- As needed, provide and use NIOSH-certified respirators and other personal protective equipment that meets Occupational Safety and Health Administration (OSHA) standards.

Additional information can be found at the following websites:

<http://www.cdc.gov/niosh/firehome.html>

<http://www.nvfc.org/>

<http://www.osha.gov/SLTC/emergencypreparedness/guides/floods.html>

<http://www.cdc.gov/niosh/emhaz2.html>

<http://www.cdc.gov/niosh/topics/flood/>

For more information, visit www.cdc.gov/niosh/topics/flood/, or www.bt.cdc.gov/disasters, or call CDC at 800-CDC-INFO (English and Spanish) or 888-232-6348 (TTY).