



Emergency Management and Response Information Sharing and Analysis Center (EMR-ISAC)

INFOGRAM 11-09

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NOTE: This INFOGRAM will be distributed weekly to provide members of the Emergency Services Sector with information concerning the protection of their critical infrastructures. For further information, contact the Emergency Management and Response- Information Sharing and Analysis Center (EMR-ISAC) at (301) 447-1325 or by e-mail at emr-isac@dhs.gov.

Tritium Exit Signs

Several open forums recently reported the possible theft of thousands of tritium exit signs (TES). According to the U.S Nuclear Regulatory Commission (NRC), tritium is a low-level radioactive isotope that enables TES to glow in the dark. When used in signs, the radioactive strength is similar to that of a smoke alarm. Nevertheless, the reports raised some concern that the radioactive material may have been accumulated for use in an inappropriate manner.

With the assistance of the Homeland Infrastructure Threat and Risk Analysis Center (HITRAC), the Emergency Management and Response—Information Sharing and Analysis Center (EMR-ISAC) examined the reports of theft to establish their credibility and ascertain any risk to the Emergency Services Sector. The EMR-ISAC learned that the NRC was aware of the missing TES, because the material used in the self-luminous signs is regulated by the NRC.

In response to inquiries, NRC documentation confirmed the missing signs were the result of “a loss of accountability that occurred over a few years.” Furthermore, the NRC determined that the signs are “inherently safe, pose little or no threat to public health and safety, and do not constitute a security risk.” The NRC also acknowledged that this accountability incident is “a non-issue from a threat standpoint.”

More information about tritium exit signs can be seen in the NRC Fact Sheet at <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/fs-tritium.pdf>.

Lightning Awareness

As Emergency Services Sector (ESS) departments and agencies and emergency managers plan and prepare for tornado season to conclude, and hurricane season to begin, the peak season for another dangerous weather hazard approaches. At 54,000 degrees, and with the capability to strike up to 10 miles outside of a storm, lightning has proved to be one of nature's most deadly forces. The National Weather Service (NWS) estimates that 100,000 thunderstorms occur annually in the United States, and NWS statistics show that lightning typically kills as many, if not more, people than tornadoes and hurricanes combined. For each death caused by lightning, roughly 10 more people are injured.

The Emergency Management and Response—Information Sharing and Analysis Center (EMR-ISAC) understands that many jurisdictions rely on emergency managers and public safety officials for severe weather management. City and town managers are responsible for numerous activities that pose a particularly high lightning risk, including swimming pools, park, and recreation activities, city-operated golf courses, and civic outdoor events. Civic events that attract large crowds, such as July 4 events or concerts, create additional challenges. Picnic shelters, dugouts, sheds, and other partially open or small structures often found in these settings are not safe shelter during thunderstorms. When lightning occurs, citizens need to be warned and moved to a safe place. Depending on the type of event and location, the time needed to evacuate varies.

When researching lightning hazards, the EMR-ISAC found information that could assist ESS personnel:

- A subscription to a “real time” lightning detection/alert service is vital for key decision-makers to issue warnings and evacuation orders. (Various commercial customizable services can be found online that offer monthly or yearly subscriptions.)
- The NWS cautions that not all weather information sources are created equal. While the typical length of a thunderstorm cell is 20 minutes, some weather services provide lightning information that is delayed anywhere from 30 minutes to an hour.
- The NWS warns emergency personnel that relying on radar is not an adequate guide to tell when lightning is approaching or when it is out of the area. Lightning can strike up to 10 miles away from a thunderstorm, and depending on radar alone could lead to erroneous warnings to stop and/or resume outdoor activities.
- Knowing when to resume activity is as important as the evacuation phase. Investigations have shown that one-third of lightning deaths occur when activities are resumed prematurely.
- Advanced lightning detection and notification systems enable emergency managers to monitor real-time conditions, receive an alert when lightning risk has passed, and make a sound decision about when to resume activity.

The National Oceanic and Atmospheric Administration (NOAA) provides numerous resources at its web site (<http://www.lightningsafety.noaa.gov>) including information for Lightning Safety Awareness Week, scheduled for June 21–27, 2009. Available at <http://www.nws.noaa.gov/alerts-beta/> is access to NWS watches, warnings, advisories, and other similar products in various formats. Users can select a state or product name to view a list of active alerts in their web browser. These files are updated about every two minutes. The NWS Storm Ready Toolkit for Emergency Managers can be accessed at <http://www.stormready.noaa.gov/resources/toolkit.pdf>.

Warning Signs of Building Collapse

Writing for FireRescue1, Jason Poremba, an experienced fire service trainer, explained that the threat of a building collapse is one of the greatest hazards in firefighting. The Emergency Management and Response—Information Sharing and Analysis Center (EMR-ISAC) verified that U.S. Fire Administration (USFA) statistics indicate the number of firefighters lost annually due to residential collapses has tripled since the 1980s.

Lieutenant Poremba reminded that structural collapses are difficult to predict and can occur without any warning. He cautioned that emergency personnel must be alert on the fire scene and aware of the signs of imminent collapse. Therefore, he recommended consideration of several factors when determining collapse potential, which have been summarized by the EMR-ISAC as follows:

- Structural inadequacy, poor construction, illegal or non-professional renovations.
- Fire size and location, and condition on arrival.
- Age of building and history of previous fire.
- Fire load to structural members.
- Backdraft or explosions.
- Engineered lumber, truss joints, and nail plates.
- Load increase as a result of water, snow, or load.
- Cutting structural members during venting operations.
- Cracks or bulges in wall.
- Water or smoke that pushes through solid masonry wall.
- Unusual noises from building or dwelling.
- Soft or spongy footing.
- Weather extremes.

The EMR-ISAC found that the National Institute for Occupational Safety and Health (NIOSH) recommends an initial “size-up” and risk assessment before any interior attack occurs, and to establish and enforce a “collapse zone.” According to NIOSH, a “collapse zone” is “the distance from the fire building equal to the height of the wall,” but also includes “an extra safety margin to allow for flying debris from a falling wall.” More NIOSH recommendations to fire departments can be seen at <http://www.cdc.gov/niosh/99-146.html#5commendations>.

Environmental Health Training in Emergency Response

A new training course for environmental health specialists that reinforces their role in interacting with and supporting the Emergency Services Sector (ESS) was rolled out recently at the Center for Domestic Preparedness (CDP) in Anniston, Alabama. “Environmental Health Training in Emergency Response” (EHTER) was delivered through the CDP’s partnership with the Centers for Disease Control and Prevention (CDC) and funded by the Department of Homeland Security. The three-day EHTER course incorporates presentations by environmental experts from across the U.S., such as specialists from the U.S. Public Health Service and Food and Drug Administration (FDA).

According to the CDC, environmental health practitioners have important roles and perform critical functions during emergency response, including assessing shelters, testing drinking water, determining food safety, and controlling disease. In addition to increasing the readiness of environmental health practitioners, another course objective is to articulate how they can work collaboratively with responders at emergency scenes.

The Emergency Management and Response—Information Sharing and Analysis Center (EMR-ISAC) learned that environmental health practitioners are not always included during emergency response. An environmental health director who attended the course explained that it showed him “how we can interact with responders on scene and the support we can offer.” A fire chief who participated offered his observations: “Firefighters normally worry about putting water on fires. Until a few years ago, we were never concerned that the water we’re drinking or cooking with could be contaminated. Public health can help us plan on things we hadn’t thought about, advise us about problems we’re facing, and problems we may face in the next 12 hours. Then those events don’t become another emergency—they become another part of the operation that needs to be addressed.”

The CDP offers 39 courses, designed for all emergency response disciplines. Its training for state, local, and tribal responders is fully funded by the Federal Emergency Management Agency. Round-trip air and ground transportation, lodging, and meals are provided at no cost to responders, their agency, or jurisdiction. Additional information is available by visiting <http://cdp.dhs.gov>, or calling 866-213-9553.

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REPORTING NOTICE

The National Infrastructure Coordinating Center (NICC) within the Department of Homeland Security (DHS) Office of Infrastructure Protection is the central point for notifications regarding infrastructure threats, disruptions, intrusions, and suspicious activities. Emergency Services Sector personnel are requested to report any incidents or attacks involving their infrastructures using at least the first and second points of contact seen below:

- 1) NICC - Voice: 202-282-9201, Fax: 703-487-3570, E-Mail: nicc@dhs.gov
- 2) Your local FBI office - Web: <http://www.fbi.gov/contact/fo/fo.htm>
- 3) EMR-ISAC - Voice: 301-447-1325, E-Mail: emr-isac@dhs.gov, fax: 301-447- 1034,
Web: www.usfa.dhs.gov/subjects/emr-isac, Mail: J-247, 16825 South Seton Avenue,
Emmitsburg, MD 21727