



# IEMA 2008 Year in Review



## Director's Message

2008 was the busiest year on record for disasters in Illinois. Nearly 80 counties were declared state disaster areas, resulting in four federal declarations.

IEMA coordinated the state's response to these disasters, including historic flooding along a nearly 280 mile stretch of the Mississippi River. Working around the clock, IEMA supported local response and recovery efforts and was instrumental in securing federal assistance to aid suffering families and help communities recover.

IEMA also assisted with the response following the tragic shooting at Northern Illinois University and a 5.2 magnitude earthquake that caused minimal damage but served as a reminder that earthquakes are a very real hazard in our state.

While these disasters kept IEMA personnel very busy in 2008, emergency response is only part of IEMA's public safety mission. This "Year in Review" highlights several other noteworthy accomplishments during 2008 in the areas of nuclear safety, homeland security and emergency preparedness that have increased safety for people throughout Illinois.

## Agency Mission

The mission of the Illinois Emergency Management Agency (IEMA) is to protect the State of Illinois through integrated approaches in Emergency Management, Nuclear Safety, and Homeland Security and to prepare for, respond to, mitigate against, and recover from emergencies and disasters, or acts of terrorism.

## IEMA Responsibilities

The primary responsibility of the Illinois Emergency Management Agency (IEMA) is to better prepare the State of Illinois for response and recovery from any natural, manmade or technological disasters or acts of terrorism. During disasters, IEMA activates the State Emergency Operations Center (SEOC) in Springfield and brings together liaisons from more than two dozen state and federal agencies to coordinate response efforts. IEMA also serves as the State Emergency Response Commission and operates a 24-hour communication center and 14 agency worksites throughout Illinois.

IEMA's Division of Nuclear Safety (DNS) is responsible for protecting Illinois residents and the environment from the potentially harmful effects of ionizing radiation. DNS administers more than two dozen programs, including monitoring 11 nuclear power reactors at six nuclear power stations in Illinois, inspecting/escorting spent nuclear fuel shipments, and ensuring public and employee safety through inspection, licensing, accreditation and certification of radiologic technologists, radiation equipment and radioactive materials.

The Illinois Terrorism Task Force (ITTF) chairman and staff are also part of IEMA. The ITTF is responsible for developing and implementing the state's homeland security strategy and administration of federal preparedness funding received by Illinois. The ITTF includes various public and private stakeholders representing nearly 70 state and local agencies, organizations and associations from all response disciplines and regions of the state.

# 2008 State Conference

In September 2008, nearly 1,000 state and local law enforcement, fire, EMS, emergency management, public works, volunteer organizations and private industry personnel attended the 12th annual state conference. The three-day conference offered national and international speakers, as well as workshops and breakout sessions on timely and relevant emergency management issues. This conference set a record for the number of emergency responders in attendance.



## Illinois Statewide Communications Interoperability Plan

In April 2008, the U.S. Department of Homeland Security approved Illinois' first comprehensive interoperable communication plan, the Illinois Statewide Communications Interoperable Plan. The plan outlines a system for state and local public safety officials to communicate on a multi-jurisdictional, multi-discipline platform during emergencies. This plan sets a statewide communications strategy that focuses on establishing a single platform so all public agencies can share emergency information during a local, regional or statewide disaster.

## EMAP Accreditation

In 2006, Illinois became the nation's sixth state to be accredited by the Emergency Management Accreditation Program (EMAP). IEMA staff ensured that Illinois maintained its EMAP accreditation against 63 national standards. Illinois is one of approximately 20 states in the nation that have met the rigorous standards for EMAP accreditation.

As a result of EMAP accreditation and a strong position in national standards development, Illinois continues to be a leader in national emergency management and response. In addition, Director Velasquez has accepted a position as an EMAP Commissioner. That term will continue until 2011.

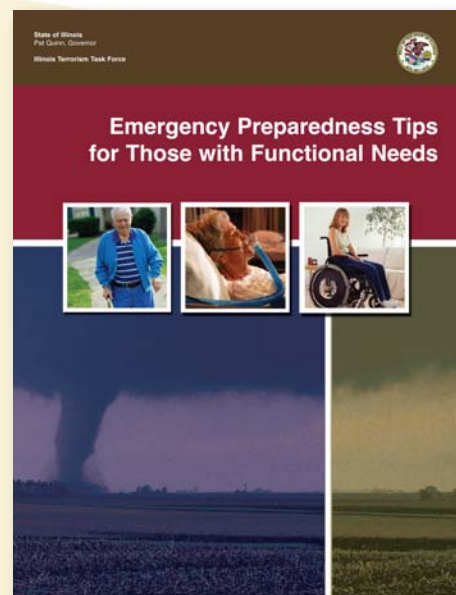
## Cyberstorm II Exercise

Illinois participated in the largest cyber security exercise ever organized in March 2008. The exercise included 18 federal departments and agencies, nine states, five countries and more than 40 private sector companies. Conducted by the U.S. Department of Homeland Security, Cyberstorm II simulated a coordinated cyber attack on information technology, communications, chemical industry and transportation systems and assets.

In addition, Illinois' October 2007 Cyber Security Exercise is being recognized by the U.S. Department of Homeland Security for "Best Practice." In October 2008, IEMA staff members were invited to be speakers at the State and Community Cyber Education and Training Conference, where staff spoke on the planning, execution and lessons learned from the state's Cyber Security Exercise. Illinois was commended by the 30 states that were represented and by the Regional FEMA representatives for innovative planning and strategies for ensuring cyber security within Illinois government.

## Emergency Preparedness Tips for Those with Functional Needs

A new ITTF publication developed by a team of emergency management and health professionals addresses the unique preparedness considerations of individuals with functional needs and their caregivers. "Emergency Preparedness Tips for Those with Functional Needs" offers preparedness tips for people with visual, cognitive, or mobility impairments; citizens who are deaf or hard of hearing; those who utilize service animals or life support systems; and seniors.



# 2008 Disaster Response

IEMA coordinated state response and assistance following several emergencies in 2008 that resulted in 75 counties being declared state disaster areas and four federal disaster declarations. These disasters included major flooding, ice and snow storms, an earthquake and the shootings at Northern Illinois University.



Earthquake damage

The disasters began in January when snow melt and heavy rains caused severe flooding in Livingston and Iroquois counties, which damaged or destroyed hundreds of homes and businesses. While waters soon receded, rivers rose again in February, flooding many of the same areas affected in January. The state was successful in its efforts to get a federal disaster declaration for people and businesses in the two counties.

A heavy snowfall in northern Illinois and an ice storm in southern Illinois kept IEMA personnel busy in February providing needed assistance to local governments. Because of the record snowfall in several areas, FEMA approved Illinois'

request for a federal snow emergency declaration. The declaration enabled local governments in seven counties to receive reimbursement for some of their snow removal and public safety measures.

The State Emergency Operations Center (SEOC) was activated during the southern Illinois ice storm to coordinate requests for assistance from the affected areas. Assistance provided included trucks and heavy equipment to help communities with post-storm debris removal.

The SEOC was also activated immediately following the deadly shootings on the Northern Illinois University (NIU) campus in February. IEMA regional personnel provided on-scene support to local responders following the incident, and DeKalb County was declared a state disaster area.

Heavy flooding struck southern Illinois in March, resulting in 19 counties being declared state disaster areas. Numerous state assets and personnel were deployed to the area to assist local officials with response and recovery efforts. Although the state requested a federal disaster declaration for 15 counties and appealed an initial denial from FEMA, no federal declaration was made for this disaster.

A 5.2 magnitude earthquake along the Wabash Valley seismic zone in

southeastern Illinois in April was felt by people in several states, but fortunately resulted in very little damage. The SEOC was activated as the state monitored the situation and roads and bridges were inspected to ensure public safety.

Major flooding in three regions of the state kept the SEOC activated for more than three weeks in June and early July. A large contingent of state resources, including more than 1,400 Illinois National Guard troops, were activated to help communities along the Mississippi River and other rivers in northern and southeastern Illinois battle floodwaters. The state's requests for federal disaster assistance for people and businesses in 18 counties and for local governments in 22 counties were approved by FEMA, bringing welcomed relief to many in these flood-battered areas.

Heavy rains, including precipitation from Hurricane Ike, caused extensive flooding in the northern and central regions of the state in September. The state was successful in getting federal assistance for people and businesses in nine counties, as well as federal reimbursement for some flood-related expenses incurred by local governments in 13 counties.



2008 Flooding

## Increased Controls for Radioactive Materials

The events of September 11, 2001, heightened the nation's awareness regarding the potential use of radioactive material for malevolent acts. With this in mind, certain radioactive materials are quite prevalent and necessary in medical, industrial, manufacturing and research facilities. These materials must continue to be made available to authorized persons in these fields, but they must also be protected from terrorist activities.

In September of 2005, IEMA's Bureau of Radiation Safety, Radioactive Material Section (BRS/RMS), began implementing increased control requirements for facilities that possess radioactive material in quantities that were determined to be at risk for acts of terrorism by the International Atomic Energy Agency (IAEA). This effort was a nationwide mandate to be implemented by the U. S. Nuclear Regulatory Commission (NRC), Department of Energy (DOE), and 35 Agreement States. The purpose of the increased controls for radioactive sources is to enhance security of radioactive material through access controls, prompt detection, assessment, and response in an effort to mitigate consequences that would be detrimental to public health and safety. In April 2008, fingerprinting and Federal Bureau of Investigation identification and criminal history records checks for all unescorted users was also required for these facilities. Pre-licensing reviews are a substantial part of this process, and BRS/RMS staff is tasked with determining that the applicant is a known entity and that material will be used as intended before material is ever received on-site. Inspections are also critical in enforcing the implementation of increased controls. The initial round of inspections was completed ahead of schedule, and these are now part of the routine health and safety inspections. Results indicate that Illinois

licensees are taking this matter very seriously and making a concerted effort to enhance security.

The National Source Tracking System (NSTS) is another security effort that has been developed. As of January 2009, certain sources identified by IAEA will now be tracked in real time from "cradle to grave" using a national database developed by NRC and maintained jointly by NRC, DOE and the Agreement States. This database will track all transfers, receipts, disposals and service activities involving these radioactive sources. This system is especially important as it now requires all manufacturers and service providers to obtain confirmation via the NSTS system from NRC and the Agreement States prior to transfer of sources. This feature should eliminate the possible use of falsified license documents or credentials.

Further developments in security are already on the horizon. BRS/RMS staff is committed to implementing the latest controls for radioactive material in Illinois while also allowing those persons in our industry to provide essential products and services.

## FDA Mammography Certification

The Agency has received the results of the 2008 Food and Drug Administration's annual audit of the IEMA Mammography Certification Program. The report indicated that the State of Illinois was fulfilling its responsibilities as a FDA approved Certifying Agency. FDA commended Illinois for its dedication and efforts in this program, which is vital to help ensure that Illinois patients receive quality mammograms for the early detection of breast cancer.

# Radiochemistry

IEMA's Radiochemistry Laboratory is responsible for providing reliable radionuclide identification and quantification in support of many agency programs – both routine and emergency response. USEPA has conducted a national assessment and indicated that there is a significant gap between the sample demand for the radiological/nuclear scenarios and the estimated national environmental radioanalytical laboratory capacity and capability. In order to fulfill the mission of providing laboratory support in the event of a radiological or nuclear incident resulting from a terrorist attack or other emergency situations, IEMA's Bureau of Environmental Safety (IEMA/BES) is in the process of implementing a new information management system for tracking radiological samples through the laboratory.



During 2008, IEMA/BES planned, evaluated, purchased, and started implementing electronic sample and data tracking through the Integrated Radiological Sampling System (IRSS). This system is a robust, multifunctional information management system that allows comprehensive data management for all samples analyzed by the IEMA Radiochemistry Laboratory in support of agency programs.

# Laboratory Response Planning

This system will also serve as a foundation to automate the laboratory operation. It will integrate the various laboratory operations, such as the sampling activities, result validation, sample tracking, test scheduling, workflow, management, data reporting, quality control, data management etc., under one system.

IRSS was field tested satisfactorily during the November 2008 Braidwood IPRA exercise. The system behaved magnificently in the adverse field conditions and no problems are anticipated using IRSS in the field for emergency response.

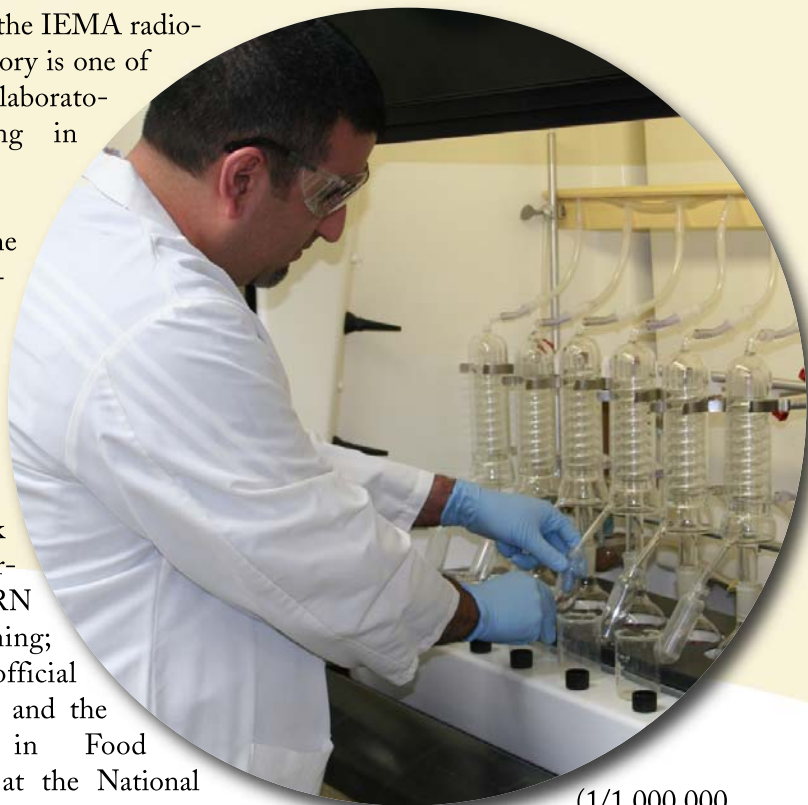
The IRSS is currently being incorporated across all BES sampling programs – Environmental Monitoring, Drinking Water, Special Project and Emergency Response. After implementation, this system will enhance the laboratory's radioanalytical capacity and capability to meet the sampling demand for the above radiological/nuclear scenarios. Functions such as the ability to quickly find data which may be years old or even decades old and trend analysis will be available to allow IEMA personnel to make well-informed decisions.

In addition, IEMA's radiochemistry laboratory has been an active member of the national Food Emergency Response Network (FERN) of radiological testing laboratories since August 4, 2006. FDA has worked with CDC, USDA, EPA, DOE and the States to initiate development of a network of state and federal laboratories that is committed to analyzing food samples in the event of a biological, chemical, or radiological terrorist event in this country. As of

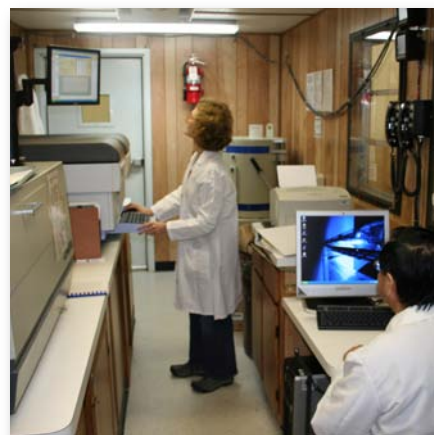
December 2008, the IEMA radiochemistry laboratory is one of 33 radiological laboratories participating in FERN.

During 2008, the IEMA radiochemistry section staff participated in the Electronic Laboratory Exchange Network (eLEXNET) portal and FERN Website Training; FERN's first official national meeting and the Radionuclides in Food Workshop held at the National Institute of Standards and Technology (NIST).

Since November 2008, the IEMA radiochemistry laboratory has been one of eight radiological laboratories that is participating in a FERN proficiency testing exercise for the detection of polonium-210 in water. The IEMA radiochemistry laboratory is participating in this testing after months of refining and practicing the FERN approved method for the analysis of polonium-210 in water. Polonium-210 is difficult to detect with field instrumentation because it does not emit the high-energy penetrating radiation gamma rays. Unlike most common radiation sources, polonium-210 emits alpha particles that do not penetrate even a sheet of paper. An alpha-emitting substance can be a health hazard if ingested or inhaled. According to a Health Physics Society Fact Sheet on Polonium-210, one microgram



(1/1,000,000 of a gram) of ingested polonium incorporated in food would deliver a lethal radiation dose. The laboratory's capability to analyze polonium-210 in water will enhance IEMA's commitments in responding to a radiological terrorist attack event.





## IEPA/IEMA Joint Inspections

The Illinois Emergency Management Agency and the Illinois Environmental Protection Agency entered into a Memorandum of Understanding to define each Agency's roles in implementing the Environmental Protection Act, 415 ILCS Section 5/13.6 (d) and rules adopted pursuant to that section. Section 13.6 requires the detection and reporting of unpermitted releases into the groundwater, surface water or soil at nuclear power plants. This section also authorizes quarterly inspections of each nuclear power plant for compliance. IEMA's Bureau of Nuclear Facility Safety Resident Inspectors participate in the inspections.

## Gamma Detection Network Upgrade

The Bureau of Nuclear Facility Safety completed the upgrade to the Gamma Detection Network (GDN) around the Dresden nuclear power plant. This is the first of a multi-year effort to upgrade the GDN rings around the six nuclear power plant locations in Illinois. The GDN is part of the Remote Monitoring System. It continuously monitors the environment around each of the six operating commercial nuclear power plant locations and around the closed Zion nuclear power plant. The GDN consists of 16 detectors placed in each of the Emergency Planning Zone (EPZ) sectors at approximately two miles from



the plant. The Radiological Emergency Assessment Center's (REAC) Health Physics Specialists use the GDN in detecting and analyzing releases from a nuclear power plant. This information is used to develop protective action recommendations for the general public and emergency workers. The project upgrades the telecommunications backbone used to relay the data from the radiation detectors; adds solar power to reduce electric costs and add reliability; relocates some detectors to more appropriate locations; and adds meteorological sensors at three locations to enhance plume modeling.

## Campus Security Task Force/Campus Security Training

This multi-disciplinary task force, established following the Virginia Tech tragedy, delivered a comprehensive report to the Governor in April detailing best practices, lessons learned and resources available to campuses to enhance preparedness, response and recovery.

The report also included several recommendations for increasing campus security, including the proposed Campus Security Enhancement Act, which was approved by the General

Assembly and signed into law during the summer. The Act requires colleges and universities to develop and exercise emergency response and violence prevention programs on their campuses.

In addition, Campus Security Training has continued, with the majority of Illinois colleges and universities having attended. The K-12 Train-the-Trainer curriculum is being adapted for the phase II higher education training component.

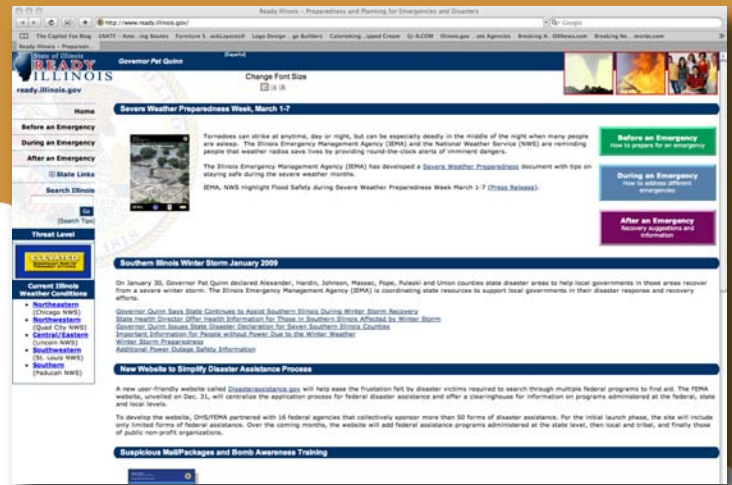
# Ready Illinois Web Site

In 2008, the state of Illinois made significant enhancements to the Ready Illinois web site. IEMA utilized the Ready Illinois web site ([www.Ready.Illinois.gov](http://www.Ready.Illinois.gov)) to keep residents informed of key events and critical issues during severe flooding throughout the state. Because changes can be made within the State Emergency Operations Center during disasters, state officials can provide immediate situational updates to

the public. In addition, the Ready Illinois web site has been translated to Spanish, which can be viewed by clicking [Español] on the top of each page.

Since its inception in September 2007, nearly 100,000 visitors have accessed the Ready Illinois website,

which provides comprehensive information on steps people can take before emergencies happen, what to do once a disaster has occurred, and tips for recovery after the event.



## I-CEPT / I-CERT

### Illinois Collaborative Emergency Planning Tool / Illinois Collaborative Emergency Response Tool

One of IEMA's Bureau of Information Technology initiatives for 2008 involved 3D visualization of data used to plan for and respond to events and disasters in the State of Illinois. Using Google Earth Enterprise technology, IEMA is in the process of deploying a 3D globe interface that retrieves images from a merged, collaborative dataset of different formats of data. The I-CEPT/I-CERT (Illinois Collaborative Emergency Planning Tool/Illinois Collaborative Emergency Response Tool) will merge existing and evolving asset imagery and infrastructure data from the US Geological Survey, the IL Dept of Transportation, IEMA, other state agencies, county governments, as well as the Internet. This data will then be used before, during and after a disaster to develop and

implement recovery plans and programs, benefiting the residents of Illinois.

I-CEPT/I-CERT will combine data from sources such as GIS technologies, photographic images, video images, and vector data and provide it in a format that is useful for both technical and non-technical users. Responders, managers and planners will work from a common operational picture and will have the necessary situational awareness during a state-wide emergency response.

#### Examples of use

During the Mississippi River flooding in June 2008, IEMA tested the imagery system with previous USGS imagery overlaid with new imagery provided by IDOT to assess road closures, bridge outages, railroad closures, etc.

During a response, it is often necessary to make contingent plans for recovery based on the weather. By overlaying the weather prediction maps on the recovery area, decisions can be made for staging, evacuations and sheltering.

USGS provides real-time, updated earthquake reports from around the globe. Historical earthquake statistics are also available. This information is beneficial for earthquake planning projects.

I-CEPT/I-CERT can be used to show recommended evacuation quadrants in the case of a nuclear power plant emergency.

Traffic patterns can be displayed, allowing decision makers to develop alternate route plans and evacuation routes.

# Preventive Radiological and Nuclear Detection Program Evolves

By the end of 2008, IEMA was close to completing development of the Preventive Radiological and Nuclear Detection Program (PRND) pilot program. In early 2009, more than 300 first responders in four communities will begin receiving personal radiation detectors that will alert them to potentially hazardous radiological materials they may encounter in the line of duty.

IEMA, the Illinois Terrorism Task Force (ITTF) and the Illinois Law Enforcement Alarm System (ILEAS) are partnering on implementation of the program, which will be the most comprehensive effort in the nation to put radiation detectors in the hands of first responders.

The PRND program is funded by homeland security grants the state receives from the U.S. Department of Homeland Security. The ITTF has allocated more than \$3.4 million for the pilot and initial statewide phase of the program.

Staff from IEMA's Bureau of Environmental Safety spent nearly two years developing the PRND program, which includes training, reachback and response support. The three-tiered plan includes: 1) training and deployment of personal detection devices to local first responders to detect and identify radiation sources; 2)

technical reachback support available through Illinois State Police, local law enforcement officers and fire/hazardous materials specialists, who are trained and equipped to identify radioisotopes; and 3) expert radiological reachback support from IEMA health physicists capable of receiving data electronically from the second-tier responders.

The initial deployment will allow IEMA to assess the sensitivity and field performance of the equipment and determine the number and types of alarms that could be expected when the program is expanded statewide. Field testing of the preset alarm levels during the pilot program will allow the state to determine the sensitivity setting necessary to detect radiation sources of interest, while avoiding "false alarms" caused by items that may contain naturally-occurring radioactive materials.



Radioactive materials are used safely every day in a variety of medical, commercial and industrial activities. However, an accident or fire could result in a release of dangerous levels of radiation. Because radiation can't be detected by human senses, the detectors will alert first responders to the presence of a radioactive material. That will help them avoid radiation exposure and signal the need to call for assistance from properly equipped and trained experts.

## Simplified PRND Response Structure

