

Narrative

The mission of the Kansas Radiation Control Program is to protect the well being of Kansans and the environment from the harmful effects of man-made and natural radiation, and to minimize unnecessary radiation exposure.

If a large scale radiological incident should occur in Kansas, The Kansas Radiation Control Program will play an integral and vital role in the response to any radiological incident or accident in the state.

During a recent Full Scale Exercise involving the Wolf Creek Nuclear Power Plant, the KDHE Radiation Control Staff along with other partners within the agency practiced their roles and responsibilities.

The scenario for the exercise began 48 hours after a simulated release of radioactive materials had occurred from the nuclear power plant. According to the scenario, citizens had been evacuated from Coffey County, Kansas prior to the release of radiological materials from the nuclear power plant two days previously.

At the beginning of the exercise, federal partners making up the Federal Monitoring and Assessment Center (or "FRMAC") and the Advisory Team for Environment, Food, and Health have arrived in Kansas to support and augment the KDHE Radiation Control Program staff in their response roles.

The KDHE response to this radiological incident includes the following components:

1. Field Monitoring Teams
2. Laboratory Support
3. Review of Data, Protective Action Recommendations, and Technical Guidance
4. Decisions and Guidance from the Policy Group

Field Monitoring Teams

During the exercise, KDHE sent out field monitoring teams in partnership with the FRMAC assets from the U.S. Department of Energy and the U.S. Environmental Protection Agency to begin identifying the impacted areas and to collect environmental samples to identify the specific radioisotopes which were released and the amounts which were deposited in the environment. These teams were joint teams made up of members of the KDHE Radiation Control Program, federal partners from the U.S. Department of Energy and

the U.S. Environmental Protection Agency, and also representatives from the KDHE Bureau of Environmental Field Services, the Kansas Department of Agriculture, and the Kansas Department of Wildlife and Parks. KDHE procedures require either a Radiation Control Program staff member or a federal partner with expertise in radiation to always be a member of each field monitoring team. KDHE Radiation Control Program staff coordinate the teams and determine the locations, routes and sampling priorities for each team. The field monitoring teams will typically cover the area from the nuclear power plant out to approximately 50 miles in the directions which were impacted by the release of radioactive materials. Having the assistance of the FRMAC during a response will augment the number of teams which can be sent out to identify the impacted area. For this exercise, the FRMAC also brought a B200 fixed wing aircraft to perform an Aerial Measurement Survey of the impacted area. Using the plane to overfly the area and perform radiological monitoring from the air greatly assists KDHE in determining impacted areas in a more timely fashion, and identifying where the field monitoring teams should be sent to collect environmental samples.

During the exercise, the field monitoring teams were dispatched from and returned to the KDHE Health and Environmental Laboratories at Forbes Field in Topeka, Kansas. When returning with environmental samples, the team members and their vehicle were first surveyed for radioactive contamination at the Decontamination Line. The environmental samples were turned in at the Sample Receipt Line. From the Sample Receipt Line, the samples were distributed to either the KDHE Radiochemistry Laboratory or the U.S. EPA Mobile Laboratories. These mobile labs were driven to Kansas from Montgomery, Alabama, to assist in the exercise activities as a part of the FRMAC.

Laboratory Support

During a radiological emergency or incident, the KDHE Radiochemistry Laboratory analyzes the environmental samples which are collected each day by the field monitoring teams. The sample analysis data is then provided by the laboratory to the KDHE Radiation Control Program staff who use it to calculate radiological doses to the citizens of Kansas, to state and local emergency workers, and radioactive contamination levels in the environment at impacted locations in the state. During an actual emergency, the capacity of the KDHE Radiochemistry Laboratory and its four radiochemists may be exceeded by the number of environmental samples which are required to identify and characterize the impacted areas. Because of this, it is critical that additional laboratory support such as the U.S. EPA Mobile Laboratories be requested by

the State of Kansas as soon as a radiological release of this extent is identified.

Review of Data, Protective Action Recommendations, and Technical Guidance

The KDHE State Radiological Assessment Manager will use all data and information provided to make Protective Action Recommendations to the Policy Group in the Kansas State Emergency Operations Center. The information which may be available includes the field monitoring data and laboratory analysis results, the results of computer plots and projections, technical knowledge of the specific individual characteristics of the radioisotopes involved, and, for nuclear power plant incidents, the detailed information of what was released from the plant and how it was released. When federal partners such as the FRMAC and/or the Advisory Team for Environment, Food, and Health are available, the State Radiological Assessment Manager will consult with their scientists and utilize their expertise to assist him or her in developing Protection Action Recommendations. The State Radiological Assessment Manager and other KDHE Radiation Control Program staff also provide guidance and information regarding REENTRY into restricted areas, monitoring and decontamination of individuals and areas, and other technical radiological issues as requested. This includes working closely with state partners including the Kansas Department of Agriculture, Kansas Animal Health Department, and Kansas Wildlife and Parks to assist them with the determination of areas of agricultural embargo and sampling and monitoring of doses to animals, livestock, and wildlife.

Decisions and Guidance from the Policy Group

The Kansas State Emergency Operations Center (State EOC) is activated in support of a local response to an incident or emergency. Representatives from many state agencies will staff the State EOC during an emergency. Protective Action Decisions are made by a Policy Group within the State EOC. For a radiological response, the Policy Group is made up of the Deputy Director of the Kansas Division of Emergency Management, one or more county commissioners from the impacted counties, and the KDHE Radiological Emergency Coordinator – who also serves as the ESF#10 Lead (the role of the KDHE Radiological Emergency Coordinator is filled by the Director of the KDHE Bureau of Environmental Health). The Policy Group receives the Protective Action Recommendations from the KDHE State Radiological Assessment Manager. These recommendations are based on the best science available to KDHE at the time. The Policy Group then makes Protective Action Decisions which may include not only the science involved, but also political considerations and the intimate knowledge provided by the counties of their citizens and geography.

Protective Action Decisions are communicated by the Policy Group to the State EOC, which serves to assist the counties involved in the implementation of the Decisions as needed.

The Joint Information Center, which is attached to the State EOC, provides media briefings and statements to the news media and warnings and information through the Emergency Alert System to ensure that the citizens of Kansas are informed of the status of the response and any guidance or decisions which have been made. KDHE staff who will respond to the State EOC in support of a radiological response include not only staff from the KDHE Radiation Control Program, but also representatives from the KDHE Public Information Office to consult on media briefings, the KDHE Bureau of Water to provide guidance and recommendations pertaining to Public Water Supplies, and from the KDHE Bureau of Epidemiology and Public Health Informatics to provide guidance and recommendation on epidemiological and public health issues. As mentioned previously, the Director of the KDHE Bureau of Environmental Health, under which the Radiation Control Program is located, will serve as the KDHE Radiological Emergency Coordinator and the ESF#10 Lead in the Policy Group at the State EOC.

Conclusion

KDHE plays a critical role in the response to a radiological incident or emergency in Kansas. Until federal responders can arrive to augment these resources, the KDHE Bureau of Environmental Health, Radiation Control Program, is the source of expertise in health physics and radiation sciences to support and protect all Kansans from the harmful effects of elevated exposure to radiation.

During the recent Full Scale Exercise involving the Wolf Creek Nuclear Power Plant, KDHE was able to practice this role and work closely with the assets available from federal partners in the FRMAC to augment and assist the KDHE response efforts.

In Kansas, all emergencies are local. However, for a large-scale radiological emergency, the response will likely be national. Working together now to practice our local, state, and federal roles is a key component to a successful emergency response. This recent exercise and others which are planned for the future will help ensure that KDHE is prepared to fill its vital role as a primary responder to any type of radiological emergency or incident and that the citizens of Kansas are protected.

--