

Radiological Emergency Assessment Center (REAC)

A Radiological Emergency Assessment Center (REAC) is maintained and operated by the Illinois Emergency Management Agency (IEMA) at the State Emergency Operations Center. This facility is activated during commercial nuclear power plant and spent fuel storage facility emergencies. It is available as needed for other radiological emergencies. REAC staff are on-call and able to respond within an hour of activation. A back-up REAC is maintained at the Outer Park facility.

In an incident involving commercial nuclear power stations, the REAC Manager is responsible for assessing the situation, deciding on the type of response required, and providing expert technical advice for IEMA's response to the nuclear event. The REAC Manager develops public protective action recommendations for the Governor's consideration and coordinates those recommendations with the IEMA Director and the SEOC Manager. Reporting to the REAC Manager are the Health Physics Specialist and the Reactor Specialist.

The Health Physics Specialist is responsible for assessment of potential impacts on the environment, to the general public, and radiation workers that may result from radiological emergencies, and provides recommendations to the REAC Manager for minimizing potential effects from the emergency. For nuclear power and spent fuel facility emergencies, the Health Physics Specialist coordinates accident assessments with the Reactor Specialist. The Health Physics Specialist determines the need for Field Teams and support staff, requests activation of staff, and directs the activities of the Field Teams.

The Reactor Specialist is responsible for expert assessment of nuclear power and spent fuel facility critical safety functions, analysis of fission product barrier integrity, determination of long-term reactor stability, determination of the potential for off-site releases, and analysis of radiological release pathways to the environment.

A one-of-a-kind Remote Monitoring System (RMS) supports REAC operations. The RMS consists of three continuously operating subsystems supported by a redundant and highly reliable telecommunications infrastructure. The Reactor Data Link (RDL) provides detailed information about plant operations from each operating commercial nuclear reactor. IEMA's Gaseous Effluent Monitoring System (GEMS) provides data on the type of radiological release to the environment. IEMA's Gamma Detection Network (GDN) provides data on the location and off-site magnitude of any radiological release. This availability of RMS data and plant-specific technical information has resulted in the development of numerous monitoring, predictive, analytical, and event-notification software tools.

To supplement the RMS data and to provide additional event information, REAC sends liaisons to key offsite response locations. Liaisons are sent to the affected plant's Technical Support Center (TSC), the Utility Emergency Operations Facility (EOF), the affected counties, and the Joint Information Center (JIC). The TSC and EOF liaisons are the full-time IEMA Resident Inspectors.

REAC analysis staff and liaisons are made up of certified health physicists and engineers with commercial power plant experience including having obtained NRC Senior Reactor Operator Licenses.

