LLNL Technical Tours
Thursday morning, June 22

The tours offered at Lawrence Livermore National Laboratory will highlight some of the key technical capabilities included in U.S. nuclear security programs. You will engage with technical experts employed to detect radiological and nuclear materials, identify the source of material out of regulatory control, respond to nuclear threats and emergencies.

The tours, presentations, and demonstrations on Radiation Detection and Search, Nuclear Forensics, and the National Atmospheric Release Advisory Center's ability to assist in emergency response are intended to give an overview of the type of technical information that can be provided to decision-makers during a nuclear security event. The resources available to countries without the same level of capabilities will also be highlighted.

Radiation Detection and Search

The technical experts will highlight the need for a multi-layered detection architecture including technology, trained personnel and practiced processes that can find material out of regulatory control and deter possible illicit transfers. Three stations will demonstrate border checkpoints, wide area search if there is the possibility of hidden material, and hand-held instruments used to assess and identify radiological and nuclear sources.

Nuclear Forensics

This briefing and tour will outline the role that nuclear forensics plays in law enforcement and nuclear security. The six-station tour that will highlight the types of nuclear forensics signatures that are measured with basic to sophisticated technology, how long it takes to get answers, how you work to match the unknown sample to existing data and allow the participant to see the interdicted Bulgarian sample. The location of the tour provides the perfect backdrop for how existing instrumentation and capabilities can be applied to nuclear forensics. Participants will see a clean room, gamma counting facility and mass spectroscopy laboratory and highlight technical challenges, scientific advances and international resources.
https://www-gs.llnl.gov/about/nuclear-threat-reduction/forensic-science-center

National Atmospheric Release Advisory Center

The National Atmospheric Release Advisory Center (NARAC) will highlight the information that atmospheric computer models provide to guide emergency planning and response to radiological/nuclear incidents, and help protect workers and the public. The models work to predict atmospheric dispersion and fallout of radioactivity from potential incidents, such as worldwide nuclear power plant accidents, radiological dispersal device (RDD) incidents, or improvised nuclear device (IND) detonations. We will show examples of the information types of information, such as maps of damage areas and radioactive contamination areas that may be hazardous, that the Center can routinely provide to the U.S. Government.
https://narac.llnl.gov/