

Session 10: EPA Airborne Spectral Photometric Environmental Collection Technology (ASPECT)

J. Cardarelli II (Cardarelli.john@epa.gov; 513 943-9629), M. Thomas, T. Curry, S. Faller, J. Drake

Abstract:

The US Environmental Protection Agency Airborne Spectral Photometric Environmental Collection Technology (ASPECT) program provides assistance to the first responder by providing an aerial tool to collect photographic, chemical and physical (infrared and gamma radiation) information quickly and relay this information directly to decision makers in the field. Since 2001, ASPECT has assisted the response community in over 81 incidents ranging from ammonia releases to the recent pre-deployment to supporting Hurricane Ike. The aircraft is located near Dallas, Texas and is "wheels-up" within one hour of activation. EPA recently initiated the ASPECT Gamma Emergency Mapper (GEM) project to improve the airborne gamma-screening and mapping capability of ground-based gamma contamination following a wide-area radiological dispersal device or fallout from an improvised nuclear device attack. The goal is to develop the most advanced gamma-radiation detection capability mountable within an Aero Commander 680 FL airframe. The ASPECT GEM committee membership consists of members from the EPA National Decontamination Team, Environmental Response Team, Radiological Emergency Response Team, National Homeland Security Research Center, academia, a national laboratory, and the Department of Energy. Up to six 2x4x16 NaI(Tl) detectors and two 3x3 LaBr₃(Ce) are among the suite of detectors to be mounted in the aircraft. This presentation provides the current status, expected radiological detection capabilities, and the timeline to achieve a fully operational improved platform.

Biographical Sketch of John Cardarelli II:

John Cardarelli is a Captain in the United States Public Health Service (PHS) and is detailed to the United States Environmental Protection Agency (EPA). He has 16 years with the Federal government doing dose reconstruction of nuclear workers in support of epidemiologic studies, conducting chemical and radiological health hazard evaluations in the work place, and chemical, biological, and radiological (CBR) emergency response. He serves as a Health Physicist on the EPA National Decontamination Team (NDT). His work includes improving the agency's airborne radiological detection capabilities. He is actively engaged in several professional organizations and has served as president of the Cincinnati Commissioned Officers Association Branch, Cincinnati Radiation Society, and Chair of the Health Services Professional Advisory Committee for the PHS. His talk today will focus on the latest status of the Gamma Emergency Mapper project.