

## Session 7: A Pilot Program for Radiation Monitoring in Emergency Departments

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### **Abstract:**

In the event of a radiological dispersal device (RDD) or other major radiological event, it is conceivable that hospitals will receive contaminated victims with little to no notice. Thus hospital emergency department personnel need to be able to detect the presence of radioactive materials as quickly as possible in order to appropriately triage and treat patients and to protect hospital personnel and facilities. This paper describes a relatively low cost, low maintenance system for passive radiation detection utilizing commercial-off-the-shelf detectors. Under a pilot program commissioned by the Department of Health and Human Services, sodium iodide (NaI(Tl)) area monitors were installed at the entrances to three hospital emergency departments to test their performance and ease of use for detecting potential contamination on the victims of a radioactive contamination event. The detectors (2 in by 2 in crystals; 300 keV low energy cutoff) were first tested in a laboratory setting to assess their sensitivity to sources of Cs-137 and Co-60 modeled as contamination on a moving body at the level of the waist and feet. These laboratory studies were also used to optimize the operating parameters for the devices prior to deploying them in the hospitals. The detectors were tested for six months during routine daily operations and on a weekly basis with check sources. In addition to testing the area monitors, the hospitals were also tasked with training staff in radiological emergency response and developing an emergency response toolkit which could be supplied to other hospitals. The culmination of the study was a simulated RDD drill at each of the three hospitals. The results of these tests are presented along with a discussion of the training tools developed by the hospitals. This system of area monitors has been shown to be an effective method for detecting radioactive contamination in hospital emergency departments. The system was well-received by staff and the study led to a better understanding of radiation and lower anxiety in responding to radiological events.

### **Biographical Sketch of Michael Noska:**

Captain Mike Noska is a health physicist in the U.S. Public Health Service and Team Leader for Radiological Emergency Response at the Food and Drug Administration. CAPT Noska has served in the Public Health Service for sixteen years. His health physics career began at the National Institutes of Health where he served for six years in a variety of medical health physics positions, mainly related to internal dosimetry and radioactive sample analysis. His next assignment was with the FDA Center for Biologics where he served as the project manager for the review of applications for radiopharmaceuticals. In 2002, CAPT Noska joined the Center for Devices and Radiological Health where he serves in his current capacity. Prior to joining the Public Health Service, CAPT Noska spent eight years as a research assistant in radiopharmaceutical laboratories at Harvard Medical School and Duke University Medical Center developing radiolabeled antibodies for the treatment of cancer. CAPT Noska received his B.A. from the University of Massachusetts and his M.S. from the University of North Carolina School of Public Health. CAPT Noska is a Past President of the Baltimore-Washington Chapter of the Health Physics Society. He is a member of the federal Advisory Team for the Environment, Food and Health and the Federal Radiological Preparedness Coordinating Committee. He also serves on several interagency committees and workgroups related to radiological emergency response.

### **Biographical Sketch of Susan Eckert:**

Susan Eckert has 30 years of experience in hospital settings as a registered nurse, holding a variety of leadership positions in critical care and emergency services. Sue earned her master of science degree from the Catholic University of America, with a major in nursing and minor in education. She completed her undergraduate work at Georgetown University, Washington DC. She currently holds the position of Director; Institute for Innovations in Nursing Readiness in the

ER One Institute at the Washington Hospital Center, Washington DC. In this capacity she coordinates projects with private industry and government agencies aimed at improving the preparedness of hospitals and health care providers. Sue serves as the chairperson of both her hospital's emergency preparedness committee as well as the corporate preparedness committee for emergency preparedness and response and as such she organized the hospital's response to the Pentagon attack on Sept 11, 2001. Susan was the project manager for HHS's Pilot Program for Radiation Monitoring in Hospital Emergency Departments.