U.S. Department of Homeland Security
Region V
536 South Clark Street, Floor 6
Chicago, IL 60605

FEMA

January 12, 2006

Mr. Anthony McMurtray, Chief
Inspection and Communication Section (EPPO-A)
Emergency Preparedness Project Office
of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Mail Stop: 06H2
Washington, DC 20555-0001

Dear Mr. McMurtray:

Enclosed is one copy of the Dresden Nuclear Power Station Medical Services (MS-1) Drill Report. The drill was conducted in Pontiac (Livingston County), Illinois, on December 13, 2005. Participants included members from the Illinois Emergency Management Agency, Duffy Ambulance Service, and Order of Saint Francis - Saint James, John W. Albrecht Medical Center.

No Deficiencies and no Areas Requiring Corrective Action were identified during this drill. If you have any questions, please contact me at (312) 408-5575 or Sandra Bailey at (312) 408-5353.

Sincerely,

William E. King, Chairman
Regional Assistance Committee

Enclosure

A-45

Add: Anthony McMurtray
E-Rids

Dresden Nuclear Power Station Medical Services (MS-1) Drill – December 13, 2005

Final Report – Radiological Emergency Preparedness Program

January 12, 2006

FEMA

FEMA Region V

FEMA

Final Medical Services (MS-1) Drill Report

Dresden Nuclear Power Station

Licensee:	Exelon Corporation
Exercise Date:	December 13, 2005
Report Date:	January 12, 2006

U.S Department of Homeland Security
Federal Emergency Management Agency
Region V

536 South Clark Street
Chicago, Illinois 60605 - 1521

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I. EXECUTIVE SUMMARY

On December 13, 2005, the U.S. Department of Homeland Security's (DHS) Federal Emergency Management Agency (FEMA), Region V, evaluated a medical services drill in the 10-mile plume exposure pathway Emergency Planning Zone (EPZ) around the Dresden Nuclear Power Station (DNPS). The purpose of the medical services drill was to assess the ability of off-site agencies to respond to a medical emergency involving a potentially radiologically contaminated member of the public. The medical services drill was held in accordance with DHS/FEMA's policies and guidance concerning the exercise of State and local radiological emergency response plans.

DHS/FEMA wishes to acknowledge the efforts of the personnel from the State of Illinois Emergency Management Agency (IEMA), Duffy Ambulance Service, and the Order of Saint Francis - Saint James, John W. Albrecht Medical Center who participated in the medical services drill.

The scenario for the medical services drill was developed by personnel from the State of Illinois and coordinated with personnel from the DNPS. The scenario stated that Ed Jones was working in his barn and did not hear the warning sirens sound at 6 a.m. and the recommendation to evacuate from his farm two miles downwind of the nuclear plant. At about 7:45 a.m., Jones returned to his home and found a message on the phone answering machine from his wife saying she was leaving a doctor's appointment in Joliet and would meet him at the Reception Center in Pontiac.

Jones left in his pickup truck and got about a mile from the house when a tire went flat. While changing the tire, the jack slipped and his left forearm and hand were pinned to the ground under the tire. He managed to reset the jack, and complete the tire change, then drove to Pontiac to meet his wife.

Upon arrival at the Pontiac High School just after 9 a.m., Jones tripped a portal monitor and requested medical assistance for his injured hand. Red Cross medical staff examined his injuries and suspected he may have suffered a fracture. Jones complained of numbness in the fingers of his left hand. His wife advised that Jones took medication for high blood pressure and that he was allergic to penicillin.

An ambulance was requested, and Illinois Emergency Management Agency personnel conducted a preliminary survey for contamination.

Radiological monitoring indicated the presence of minor contamination on the victim's clothing and shoes with slightly higher readings on the injured arm and hand. It was decided to defer any attempts at decontamination to the hospital pending an evaluation of the victim's injures.

The following criteria, which are part of the six Exercise Evaluation Areas described in Federal Register notice [67 FR 20580-20602], April 2002, which amends the FEMA-REP 14, Radiological Emergency Preparedness Exercise Manual, were evaluated during the medical services drill. They are Criterion 1.e.1 - Equipment and Supplies to Support

Operations; Criterion 3.a.1 - Implementation of Emergency Worker Exposure Control; and Criterion 6.d.1 - Transportation and Treatment of Contaminated Injured Individuals.

The State and local organizations demonstrated knowledge of their organizational emergency response plans and procedures and adequately implemented them. No Deficiencies and no Areas Requiring Corrective Action (ARCA) were identified as a result of this drill.

II. DRILL EVALUATION AND RESULTS

Contained in this section are the results and findings of the evaluation of all jurisdictions and functional entities that participated in the December 13, 2005, medical services drill to test the ability of off-site agencies to respond to a medical emergency involving a potentially radiologically contaminated member of the public in the area surrounding the Dresden Nuclear Power Station.

This section provides information on the evaluation of each participating jurisdiction and functional entity, in a jurisdiction based, issues only format. Presented below is a definition of the terms used in this subsection relative to criteria demonstration status.

- **Met** - Listing of the demonstrated exercise criteria under which no Deficiencies or ARCAs were assessed during this drill and under which no ARCAs assessed during prior exercises or drills remain unresolved.

- **Areas Requiring Corrective Action** - Listing of the demonstrated exercise criteria under which one or more ARCAs were assessed during the current drill, or ARCAs assessed during prior exercises or drills remain unresolved. Included is a description of the ARCAs assessed during this drill and the recommended corrective action to be demonstrated before or during the next biennial exercise.

- **Not Demonstrated** - Listing of the exercise criteria, which were not demonstrated, as scheduled during this drill and the reason they were not demonstrated.

- **Prior ARCAs - Resolved** - Descriptions of ARCAs assessed during previous exercises or drills, which were resolved in this drill and the corrective actions demonstrated.

- **Prior ARCAs - Unresolved** - Descriptions of ARCAs assessed during prior exercises or drills, which were not resolved in this drill. Included is the reason the ARCA remains unresolved and recommended corrective actions to be demonstrated before or during the next biennial exercise.

DHS/FEMA has developed a standardized system for numbering exercise issues (Deficiencies and ARCAs). This system is used to achieve consistency in numbering exercise issues among DHS/FEMA Regions and site-specific exercise reports within each Region. It also is used to expedite tracking of exercise issues on a nationwide basis.

The identifying number for Deficiencies and ARCAs includes the following elements, with each element separated by a hyphen (-).

- **Plant Site Identifier** - A two-digit number corresponding to the Utility Billable Plant Site Code.

- **Exercise Year** - The last two digits of the year the exercise was conducted.

- **Criterion Number** – An alpha and two-digit number corresponding to the criteria numbers in the six Exercise Evaluation Areas described in Federal Register notice [67 FR 20580-20602], April 2002, which amends the FEMA-REP 14, Radiological Emergency Preparedness Exercise Manual.

- **Issue Classification Identifier** - (D = Deficiency, A = ARCA). Only Deficiencies and ARCAs are included in exercise reports.

- **Exercise Issue Identification Number** - A separate two (or three) digit indexing number assigned to each issue identified in the exercise.

STATE OF ILLINOIS

1. Medical Services (MS-1) Transportation – Duffy Ambulance Service

a. **MET:** Criterion 6.d.1

b. **DEFICIENCY:** NONE

c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE

d. **NOT DEMONSTRATED:** NONE

e. **PRIOR ARCAs - RESOLVED:** NONE

f. **PRIOR ARCAs - UNRESOLVED:** NONE

2. Medical Services (MS-1) Hospital – Order of Saint Francis - Saint James, John W. Albrecht Medical Center

a. **MET:** Criteria 1.e.1; 3.a.1; and 6.d.1

b. **DEFICIENCY:** NONE

c. **AREAS REQUIRING CORRECTIVE ACTION:** NONE

d. **NOT DEMONSTRATED:** NONE

e. **PRIOR ARCAs - RESOLVED:** NONE

f. **PRIOR ARCAs - UNRESOLVED:** NONE

III. DRILL NARRATIVES

EVALUATION AREA 1: EMERGENCY OPERATIONS MANAGEMENT

Sub-element 1.e – Equipment and Supplies to Support Operations

Criterion 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide (KI), and other supplies are sufficient to support emergency operations. (NUREG-0654, H.7, 10; J.10.a.b.e; J.11; K.3.a)

Was this Criterion adequately demonstrated? **YES**

Equipment and supplies to support the treatment of a contaminated injured individual was demonstrated, out of sequence, at the Order of Saint Francis (OSF) Saint James, John W. Albrecht Medical Center on December 13, 2005. The Medical Center had necessary equipment, dosimetry, and other supplies to support emergency operations.

All supplies needed to establish a radiation control area and decontamination supplies were stored on carts in a Decontamination Room adjacent to the foyer of the Emergency Room entrance. During set up, the carts were wheeled into the foyer and opened. Barricade tape and signs, necessary to establish a radiation control area, were obtained from one of the carts. Protective clothing consisting of paper gowns, gloves, booties, and face mask with an eye shield were obtained from a cart and properly donned by Medical Center personnel.

Several decontamination kits were available. One kit used by Medical Center personnel had all the necessary supplies for patient decontamination. It contained soap, moist wipes, sterile water, brushes, wraps in various sizes, and plastic bags to hold contaminated items. Individual packets with protective clothing were available for both emergency response personnel and for use as replacement clothing for patients. Also available were individual decontamination kits that would be given to patients that were able to decontaminate themselves. These contained soap, towels, and other cleaning supplies plus replacement clothing.

A Luxel Optically Stimulated Luminescence (OSL) dosimeter, manufactured by Landauer, was used for area exposure. It was reported to the evaluator that the OSL is exchanged monthly. If an incident occurred at the nuclear power plant, it would be exchanged after use. In addition, personnel from the Nuclear Medicine Department wore their normal everyday Luxel OSL dosimeters.

Personnel from the Medical Center's Nuclear Medicine Department used a Ludlum Model 14C Count Rate Meter with an end window Geiger-Mueller (GM) tube for survey purposes. While monitoring can be performed with the GM tube, personnel discussed obtaining a different type of probe to make the monitoring process easier. A sticker was affixed to the instrument to indicate a calibration due date of February 2006. The

instrument was operationally checked using a check source with a response between the ranges listed on an attached sticker.

An Illinois Emergency Management Agency Monitor, arriving with the ambulance, used a Ludlum Model 2241-3 Survey instrument with a pancake probe, with a calibration due date of August 8, 2006.

As the Medical Center lies outside of the 10-mile Emergency Planning Zone for the Dresden Nuclear Power Station, potassium iodide was not used in this facility. Because the Medical Center's Emergency Department provides day to day emergency medical care for area, it had all the necessary supplies for the treatment of injuries.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent of play agreement.

EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION

Sub-Element 3.a – Implementation of Emergency Worker Exposure Control

Criterion 3.a.1: The OROs issue appropriate dosimetry and procedures, and manage radiological exposure to emergency workers in accordance with the plans and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. (NUREG-0654, K.3.)

Was this Criterion adequately demonstrated? **YES**

Implementation of emergency worker exposure control was demonstrated, out of sequence, at the Order of Saint Francis (OSF) Saint James, John W. Albrecht Medical Center, Pontiac, Illinois, on December 13, 2005. The Medical Center had appropriate dosimeters in accordance with their plan.

The State of Illinois has adopted an "area exposure" measurement rather than individual exposure measurements, due to the low level of exposure expected at this facility. According to Medical Center procedures, a Luxel Optically Stimulated Luminescence (OSL) dosimeter, manufactured by Landauer, was used for area exposure, rather than issuing a direct reading dosimeter to each emergency worker. The dosimeter was attached to a wall in the emergency room foyer. It was reported to the evaluator that the dosimeter is exchanged monthly. The Medical Center's Nuclear Medicine Department supplied this OSL.

An Emergency Room nurse provided a briefing to Medical center personnel on the importance of donning personnel protective equipment.

Also, personnel from the Nuclear Medicine Department wore their individual department Luxel OSLs on a lanyard around their neck. It was reported to the evaluator that normal day to day procedures require that the OSLs be changed on a monthly basis. No other personnel dosimetry was used at this facility.

The Medical Center and responding Illinois Emergency Management Agency personnel used Ludlum survey meters to "frisk" the patient and emergency workers as they left their shift assignments. These surveys would alert Medical Center personnel of the actual amount of radiation dealt with at this facility, so personnel could take appropriate measure to deal with contamination, if necessary.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent of play agreement.

EVALUATION AREA 6: SUPPORT OPERATION/FACILITIES

Sub-Element 6.d – Transportation and Treatment of Contaminated Injured individuals

Criterion 6.d.1: The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals. (NUREG-0654, K.5.b)

Was this Criterion adequately demonstrated? **YES**

Medical Services (MS-1) Transportation - Duffy Ambulance Service

On December 13, 2005, around 9:00 a.m., the Duffy Ambulance Service participated in an out of sequence Medical Services (MS-1) Drill for the Dresden Nuclear Power Station (DNPS). The State of Illinois' extent of play involved a member of the public evacuating from the DNPS Emergency Planning Zone (EPZ) to the Pontiac High School Evacuee Reception Center (RC) in Pontiac, Illinois, where external contamination was disclosed as part of an initial screening. For demonstration purposes, the RC was simulated by use of an ambulance bay located at the Duffy Ambulance Service (operated by the Duffy Funeral Home) at 202 East Howard Street in Pontiac, Illinois.

An Illinois Emergency Management Agency (IEMA) Radiation Monitor (RM) assisted with radiological exposure control at the simulated RC, in the ambulance during victim transport to the medical facility, and at the medical center during patient treatment. The IEMA RM monitored the victim with a Ludlum Rate Meter, Model 2241-3 survey meter, which was fitted with a pancake probe last calibrated on August 08, 2005 (good till August 08, 2006), while an ambulance was summoned. Simulated exposure readings were given and documented on a Reception Center Monitoring/Action Log Form, provided as a controller inject. Readings were listed as: right palm (1100 counts per minute [cpm]) and the face on the forehead, cheeks, and chin (600-1100 cpm). Also simulated exposure readings were listed on the victim's clothing surfaces (pants, shirt, and shoes), which included right and left pants legs near the knees and shins (1400-1800 cpm), right elbow and right side of the victim's back (1300-1600 cpm), and right and left shoe soles (1100-1600 cpm). Due to the victim's medical condition, no body decontamination was attempted; decontamination was deferred to the hospital.

At 0944 hours, a call was placed over a dedicated Emergency Medical Service (EMS) system that indicated that the Duffy Ambulance Service would be participating in a drill. The Duff Ambulance service was to respond to the RC to pick up a contaminated injured victim for transport to the local medical facility. The ambulance service (consisting of an ambulance and a two-person team) was immediately dispatched to the RC. The evaluator was advised that according to RC standard operating procedures, EMS personnel would be met at the door to the RC, where they would be given gloves and booties and supervised in putting on these Personal Protective Equipment (PPE) items. For demonstration purposes, the EMS personnel entered the victim holding area already

wearing their PPEs, as if they had entered the RC and followed RC PPE protocol. They were aware that they were responding to pick up a contaminated injured person who was in stable condition, and as such, they left nonessential life saving equipment in the ambulance to avoid equipment contamination until they could be briefed by an IEMA RM. Immediately, the EMS personnel were provided with the victim's medical history (58 year old alert male, weight approximately 180 pounds, and possible crushing injury to the left forearm and hand, with the extremity swollen and badly bruised. The blood pressure was reported as 170/95 and respirations 100. Pupils were reactive. The victim takes Cozaar for hypertension and is allergic to penicillin.)

As the EMS personnel approached the victim, they were met by an IEMA RM, who advised them that the victim was contaminated. She stated that low levels of contamination existed on the victim's jacket, shoes, pants, and skin (hands and face areas), and that these areas should be treated with care in order to prevent the spread of contamination. She advised the EMS that they could limit the spread of contamination by leaving as many articles of the victim's clothing as possible behind at the RC. She also noted that the RC had the necessary equipment and procedures to bag, tag, inventory, and store or dispose of contaminated clothing. Following the IEMA RM's suggestion, the EMS personnel simulated the removal of the victim's jacket, shoes, and pants, and helped him into disposable clothing provided by the RC. The removed items were bagged and tagged (simulated), and left for the RC personnel to maintain.

While the EMS personnel conversed with the victim to gather more details on his current medical condition and accident details, the IEMA RM surveyed the victim. It was found that by removing the victim's clothing, contamination was now limited to his hands and face area. With guidance from the IEMA RM, the EMS personnel, after assessing that the victim was medically stable, placed a large plastic bag over the injured left hand and arm and then applied a cold pack and splint to the injury site to treat and stabilize the area. A glove was put on the patient's uninjured right hand. These devices limited the spread of contamination to other areas and the EMS team.

Aware that the victim's face was contaminated, the EMS team carefully worked with the victim. They took and received the following readings: blood pressure - 170/95, respirations - 80, pulse - 80, and lungs clear. It was verified that the patient was alert, 58 years old, and had a doctor in Pontiac, Illinois. After attending to the victim they readied the victim for transport. A Model 35-A-Mobile Transport Plus gurney was covered with two blankets. As the victim was mobile, he was assisted to the gurney where he laid down and was "mummy" wrapped (cocooned). Care was taken to avoid disturbing the face and hands areas where contamination was known to be present. The EMS team left the simulated RC. They discussed RC contamination control protocols and donned a second set of booties as they left for their ambulance with the victim.

Prior to loading the victim in the ambulance, the IEMA RM surveyed the used medical equipment (blood pressure cuff, gurney, and the like) along with the feet and hands of the EMS team. All items were found to be free from contamination. The victim was loaded into the ambulance. The IEMA RM again cautioned the EMS team that there was potential contamination of the victim's face, blankets, and hands. The EMS personnel

removed their outer pair of gloves and gave them to the IEMA RM to bag in a plastic bag marked with a radioactive contamination waste symbol before beginning the trip to the Order of Saint Francis - Saint James, John W. Albrecht Medical Center, Pontiac, Illinois. One EMS team member drove the ambulance and the other rode in the back carriage with the victim.

At 1007 hours, a call was made to the Medical Center's Emergency Room (ER) Department to advise them that they were transporting a contaminated injured patient to the Center and that the estimated time of arrival was in four to five minutes. The ambulance is equipped with a High Band radio for communication with the hospital, fire department, and state police. Another radio system, a Motorola VHF radio is use to connect with fire, police, and other EMS personnel. The patient's medical, accident, treatment, and contamination information was reported to the hospital personnel. A discussion occurred about the victim's high respiration rate (80), but it was noted that as the EMS and Medical Center personnel spoke the respiration rate dropped to an acceptable level of 12. The Medical Center also was advised that the gurney had been surveyed and found free of contamination, but that the blanket touching the victim's face was potentially contaminated. The Medical Center advised that the EMS personnel and victim should stay with the ambulance until hospital staff came out to get them to guide them into the building.

During transport, the EMS personnel advised the evaluator that any medical equipment that potently came into contact with contamination would be monitored and cleared before being released back into service.

At 1014 hours, the ambulance arrived at the Medical Center, pulled into a designated area for victim off load, and waited for the Medical Center staff to guide them. The victim was rolled through the Emergency Department's outside entry doors. En-route to the Radiation Emergency Area the EMS personnel and IEMA RM advised the Medical Center personnel about the victim's medical, accident, treatment, and contamination conditions. It was relayed that the victim's face and hands along with the blankets were contaminated. The victim's contaminated clothing had been removed and left at the RC. Victim transfer was accomplished with the EMS team assisting the victim into the Medical Center and onto a hospital gurney.

After the victim was transferred, the IEMA RM advised the EMS team to wait in the ambulance until she could return to monitor them and the vehicle for potential contamination. The IEMA RM soon returned and monitored both EMS personnel for demonstration purposes. The survey included the EMS' hands, shoe bottoms, front torso and legs, and back torso and legs. All readings were acceptable at less than two times background for the area. The IEMA RM then surveyed the ambulance, paying particular attention to the inside floor and flat surfaces where the victim was contained, all door handles, inside cab area including the steering wheel and floor, and the outside of the ambulance near the entrance doors. The gurney and equipment (stethoscope and blood pressure cuff) were either surveyed or survey protocol for these items was discussed with the evaluator. All items were found to be within acceptable limits.

The IEMA RM discussed potential decontamination measures or impounding equipment, depending on how urgently personnel and equipment were needed for medical emergencies. The IEMA RM told the EMSs that they could report back to their dispatch center because they were "clean" (i.e., within acceptable limits of contamination), but had the outside of the ambulance been found contaminated it could have been either spot-decontaminated at the Medical Center or processed through the Evacuee/Emergency Worker Decontamination Center at the Pontiac High School.

Medical Services (MS-1) Hospital - Order of St. Francis - St. James, John W. Albrecht Medical Center, Pontiac, Illinois

The treatment of a contaminated injured individual was demonstrated out of sequence at the Order of Saint Francis (OSF) Saint James, John W. Albrecht Medical Center, 2500 West Reynolds Street, Pontiac Illinois, on December 13, 2005. This back-up Medical Center for the DNPS had appropriate space, adequate resources, and trained personnel to provide monitoring and decontamination, and medical treatment to contaminated/ injured individuals located within the DNPS 10-mile EPZ.

According to procedures, the Medical Center would be notified of an event at the DNPS by the Livingston County Emergency Operation Center. Since this was an exercise, the Medical Center was notified by a controller inject that there were events taking place at the DNPS and that the Reception Center was activated. At 0944 hours, the Emergency Department Nurse received a telephone call on a dedicated EMS telephone from the Duffy Ambulance Service. The EMS telephone is a dedicated line for receiving calls from ambulances. The call was initiated by Duffy Ambulance Service to inform the Medical Center that they were being dispatched to the Pontiac Reception Center for an unknown injury with potential contamination.

At 0945 hours, a "code orange" announcement was made over a public address system in the Medical Center. Personnel from the Emergency Department, Maintenance, and House Keeping immediately began setting up a receiving area at the ambulance entrance to the Emergency Department. Automatic opening doors were locked and a tape barricade was placed across the hall to limit personnel traffic. Step off pads were taped to the floor to be used for personnel monitoring prior to staff leaving the marked area. Receptacles were available, placed in strategic locations, and marked for contaminated waste items. Decontamination kits with cleaning supplies, wipes, and protective clothing were placed on a supply cart in the receiving area. By 1000 hours, setup was complete and personnel began donning protective clothing. Personnel assisted each other in donning paper gowns, double gloves, booties, and a face mask with an eye shield.

According to Medical Center protocol, the level of contamination or type of hazard encountered by the injured individual determines the type of preparation needed in the receiving area. The same receiving area is used for chemical, biological, and radiological incidents. The preparation of the facility for radioactively contaminated individuals coming from a RC where low levels of radiation would be encountered is minimal. It consists of readying emergency medical personnel by having them don protective

clothing, blocking personnel access to the emergency area, and setting up a monitoring location in the patient receiving area of the Medical Center.

Personnel from the Nuclear Medicine Department arrived with a Ludlum Model 14C Count Rate Meter with an end window Geiger-Mueller (GM) tube. An affixed sticker identified a calibration due date of February 2006. The instrument was operationally checked using a check source with a response between the ranges listed on an attached sticker. A Luxel Optically Stimulated Luminescent (OSL) dosimeter, that is exchanged monthly, was attached to a wall for a "group exposure" measurement. In addition, personnel from the Nuclear Medicine Department also wore their normal day-to-day personal Luxel OSLs. Background radiation levels were taken and found to be around 45 cpm.

At 1008 hours, the Medical Center ER staff received a call from the Duffy Ambulance EMS team over the Medical Emergency Response Communications for Illinois (MERCI) radio system. The call informed them that the ambulance team was en-route to the Medical Center with a radiological contaminated individual. Pertinent medical information and contamination information concerning the victim were relayed and recorded by the ER staff. The ER personnel were briefed on the patient's medical information and the presence of contamination on his hands, injured arm, and face, and that the contaminated areas were wrapped to prevent the spread of contamination.

At 1014 hours, the ambulance arrived in the Ambulance Bay. At 1016 hours, the patient was unloaded from the Ambulance and wheeled into the Receiving Area on a gurney. The patient was wrapped in a sheet to prevent the spread of contamination. A clean Medical Center gurney, draped in double sheets, was placed next to the ambulance gurney and the patient was transferred. Care was taken by Medical Center and ambulance personnel during patient transfer so as not to spread contamination. Once transferred, the patient's medical condition was assessed to determine if the injuries were life threatening which would take precedence over decontamination. The patient's injuries were not considered life threatening.

Once it was determined that decontamination could be performed, the gurney was wheeled into a Decontamination Room. Ambulance personnel had provided a Reception Center Monitoring/Action Log Form to the ER personnel during patient transfer. The form, on a schematic patient drawing, showed the location and count rate of contamination. An IEMA RM from the RC arrived with the ambulance and provided assistance and radiological consultation to the Medical Center personnel. Patient and Medical Center area and equipment monitoring were performed jointly between the Medical Center Nuclear Medicine Department and the IEMA RM. The IEMA RM used a Ludlum Model 2241-3 Survey instrument with a pancake probe, with a calibration due date of August 8, 2006. A controller supplied readings as the patient was surveyed.

The patient's medical injuries were all internal with no open wounds. Decontamination efforts centered on removing contamination from the external areas of the patient's body. Various parts of the patient's body were covered during decontamination efforts to prevent the spread of contamination to unaffected areas.

The face was monitored for contamination and contamination was measured at 1000 cpm around the forehead. Decontamination was performed using moist sterile wipes by one decontamination team member. The wipes were disposed of in a waste container marked for contaminated items. The area was again monitored showing a decrease in count rate, down to 400 cpm. The area was decontaminated and monitored two more times. The count rate decreased to below 400 cpm, but remained fixed. The last decontamination effort resulted in no decrease in count rate. The decontamination action level used by the Medical Center was twice background or fixed contamination that could not be removed by ordinary decontamination processes. It was decided by the Medical Center Nuclear Medicine Department personnel that the resulting fixed contamination level did not present a health risk to the patient. This information was conveyed to the patient. Following these protocols, and in concurrence with IEMA, Medical Center personnel determined that further decontamination efforts were not warranted and that the patient's forehead had been successfully decontaminated. The patient was advised to continue to wash the area after his release from the Medical Center.

Monitoring and decontamination of both hands was successfully completed using proper monitoring techniques and wipes. The injured arm was unwrapped taking care not to spread contamination. The arm was successfully monitored and decontaminated using wipes. A nasal swab was taken, bagged, and labeled for further analysis at a designated IEMA laboratory.

Following patient decontamination, the gurney was monitored for contamination. As it was found to be clean, the gurney with the patient was wheeled out into a reception area. Emergency room personnel then took the patient on the gurney to an emergency treatment room to medically care for his injuries.

Medical Center personnel who attended to the monitoring and decontamination of the patient were themselves monitored for contamination at step off pads leading out of the receiving area. There they removed protective clothing using proper techniques. They were surveyed, found not to be contaminated, and released from the area. After the Medical Center personnel exited, the area was monitored for contamination with no contamination detected. Medical Center personnel performed the monitoring of equipment and personnel. Supplies were available, but not needed, for the decontamination of equipment and floor.

After the Medical Center and personnel were monitored, the IEMA RM left to monitor the ambulance, ambulance equipment, and ambulance personnel.

All activities described in the demonstration criterion were carried out in accordance with the plan, procedures, and extent of play agreement.