

## **SOP 1400 AMERICAN RED CROSS OF THE DELMARVA PENINSULA DISASTER SHELTERS**

### **1.0    OBJECTIVE**

This procedure provides the guidelines and instructions for operation of disaster shelters. These shelters provide mass care and individual assistance to evacuees during a radiological emergency.

### **2.0    CONTENTS**

SOP 1400-A, Shelter Guidelines

SOP 1400-B, Shelter Operations

### **3.0    PREREQUISITES**

3.1    An emergency condition exists which requires the use and operation of the disaster shelter.

### **4.0    REFERENCES**

4.1    State of Delaware, Radiological Emergency Plan

4.2    State of Delaware, SOP 1300 Series Procedures

### **5.0    ATTACHMENTS**

1400-A1	American Red Cross of the Delmarva Peninsula Disaster Shelters
1400-A2	School Evacuation Assignments
1400-A3	Mass Care Facility Survey (ARC DMVP Form 6564)
1400-A4	Mass Care Resources (ARC DMVP Form 6455)
1400-B1	Checklist for Shelter Manager
1400-B2	Essential Non-Medical Supplies and Equipment
1400-B3	Daily Shelter Record and Report
1400-B4	Disaster Shelter Registration
1400-B5 - 1400-B16	Shelter/Evacuee Tally Sheets
1400-B17	Evacuee Tracking List

### **6.0    RECORDS**

All data, records, forms, and logs are to be transmitted to, and maintained by DEMA at the State EOC.

## SOP 1400-A SHELTER GUIDELINES

### 1.0 GENERAL

1.1 The Delaware Emergency Management Agency (DEMA), in conjunction with the American Red Cross of the Delmarva Peninsula (ARC DMVP), has selected twelve schools outside the ten mile Emergency Planning Zone (EPZ) to be used as disaster shelters for evacuees. See Attachment 1400-A1.

1.2 The following criteria were used in selecting appropriate facilities:

Size of building (churches for up to 100 persons; schools for over 100 persons).

- Adequate sleeping accommodations (40-60 sq. ft. per bed).
- Adequate cooking facilities for the number of persons sheltered (2500 calories per person per day).
- Availability of sanitary drinking water (5 gal. per person per day for all uses).
- Secured storage areas.
- Toilet and shower facilities. (1 toilet for every 40 persons).
- Separate rooms available for the elderly, families with children, nursing and office space.
- Recreation area
- Parking
- Proximity to disaster area. (Per NUREG 0654, disaster shelters were selected to comply with the recommendation to be located no less than five miles outside of the ten mile EPZ and preferably ten miles. Facilities selected are located at a distance of greater than twenty miles from Salem-Hope Creek Generating Stations).

1.3 In the event of a radiological emergency at the Salem-Hope Creek Generating Stations requiring evacuation of persons within the ten mile EPZ during normal school hours, provisions have been made to evacuate school children as early as possible.

Four of the twelve disaster shelters are designated to serve as temporary student relocation facilities as well as for general public relocation. The four ARC DMVP disaster shelters selected are: Brandywine High School, Mount Pleasant High School, Dover High School, and Caesar Rodney High School. Each school within the ten mile EPZ has been assigned to one of the four specified disaster shelters for student relocation. See Attachment 1400-A2.

**SOP 1400-A SHELTER GUIDELINES  
(CONTINUED)**

**1.0    GENERAL (Continued)**

- 1.3**    The following criteria were used to select the four disaster shelters to be used for this function, and for the assignment of specific disaster shelters to each school.
- 1.3.1**    Geographic location: Two facilities were selected north of Salem-Hope Creek Generating Stations, and two in the south.
- 1.3.2**    Age compatibility: Relocation assignments are made with consideration of student age so that the mix is homogeneous and in a narrow age group. This not only simplifies accountability procedures, but aids in maintaining discipline and determining the type of adult supervision that would be required for each age group.

**2.0    PRE-PLANNING FOR DISASTER SHELTER OPERATION**

- 2.1**    ARC DMVP obtains floor plans and detailed information from the Department of Education (DOE) on each designated relocation facility. The ARC DMVP "Mass Care Facility Survey" Form is used by the ARC DMVP and by the Shelter Managers for information gathering. See Attachment 1400-A3. This information allows the ARC DMVP and Shelter Manager to:
- 2.1.1**    Allocate space and facilities for various activities.
- 2.1.2**    Estimate the resources and supplies needed to operate the center at maximum capacity.
- 2.1.3**    Determine staffing needs.
- 2.2**    ARC DMVP is responsible for performing the administrative legal actions required to obtain permission from the schools to use their facilities as disaster shelters in the event of an emergency evacuation. ARC DMVP accomplishes this through letters of agreement with schools designated as disaster shelters. ARC DMVP has a call list to alert school personnel to open each facility.

**ATTACHMENT 1400-A1**

**AMERICAN RED CROSS OF THE DELMARVA PENINSULA DISASTER SHELTERS**

Schools	ENROLLMENT				GYMNASIUM		CAFETERIA		
	Present	Capacity	Shower Facility Heads	(Seating Capacity)	Area SQ. FT.	Per Period (Seating Capacity)	Per Day	Auditorium Capacity	Total Evacuees
DOVER HIGH SCHOOL	1481	1712	150	1500	5400 6400	600	2500	250	4400
CENTRAL MIDDLE SCHOOL	959	1181	120	500	5400 2100	300	1500	1200	2200
WILLIAM HENRY MIDDLE SCHOOL	911	1005	120	500	5400 2100	250	1100	400	2000
CAESAR RODNEY HIGH SCHOOL	1678	2000	40	1500	10,800	650	2000	1000	4000
FRED FIFER MIDDLE SCHOOL	791	650	8	250	7,500	250	700		
LAKE FOREST HIGH SCHOOL	859	958	75	900	8,100	400	1000	1100	2400
W. T. CHIPMAN JR. HIGH SCHOOL	610	682	10	275	13,304	350	500		1200
MILFORD HIGH SCHOOL	1018	1367	20	1050	5400	400	1200	960	2600
MILFORD MIDDLE SCHOOL	936	1452	18	500	5400	300	900	350	2000
MOUNT PLEASANT HIGH SCHOOL	968	1567	34 (INCL. STADIUM)	1400	14,400	400	1200	1200	1800
BRANDYWINE HIGH SCHOOL	1265	1283	38	1200	12,600 1200	400	1200	1130	2024
CONCORD HIGH SCHOOL	1133	1508	59	1592	9200	350	1050	944	2720

- Primary designated as temporary student relocation facility (See ATTACHMENT 1400-A2 and SOP 1100) though general public will be admitted as space permits.

**ATTACHMENT 1400-A2**

**SCHOOL EVACUATION ASSIGNMENTS**

**SCHOOL TO BE EVACUATED**

**ARC DMVP DISASTER SHELTER**

Southern Elementary School	Brandywine High School
Gunning Bedford Middle School	Mount Pleasant High School
Cedar Lane Elementary School	Dover High School
Silver Lake Elementary School	Dover High School
Townsend Elementary School	Dover High School
Redding Middle School	Caesar Rodney High School
Middletown High School	Caesar Rodney High School
Meredith Everett Middle School	Caesar Rodney High School
Appoquinimink Early Childhood Center	Caesar Rodney High School
Covenant Community School	Dover High School
AdvoServ School	Brandywine High School
St. Andrews School	Caesar Rodney High School
J & J Daycare, Pre-School & Kindergarten Center	Caesar Rodney High School
Green Acres Pre-School	Dover High School
Bright Beginnings Pre-School, Inc.	Brandywine High School
Commodore MacDonough School	Brandywine High School
St. Anne's Episcopal School	Caesar Rodney High School
Bethesda Child Development Center	Caesar Rodney High School

**ATTACHMENT 1400-A2**

**SCHOOL EVACUATION ASSIGNMENTS  
(CONTINUED)**

**SCHOOL TO BE EVACUATED**

**ARC DMVP DISASTER SHELTER**

Brick Mill Elementary School	Dover High School
James H. Groves Adult High School	Dover High School
Bethesda Child Development Center Before & After School Program at Townsend Elementary School	Caesar Rodney High School
Bethesda Child Development Center Before & After School Program at Redding Middle School	Caesar Rodney High School
Bethesda Child Development Center Before & After School Program at Silver Lake Elementary School	Caesar Rodney High School
St. Andrews Pre-School and Child Development Center	Caesar Rodney High School
Bear Glasgow YMCA Before & After School Program at Southern Elementary School	Brandywine High School
Cedar Lane Early Childhood Center	Dover High School
Bear Glasgow YMCA Before & After School Program at Cedar Lane Elementary School	Dover High School

The facility listed below will be evacuated to a private residence which is not under the authority of the American Red Cross of the Delmarva Peninsula:

Van Hook Walsh School	Van Hook Walsh
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ATTACHMENT 1400-A3  
SHELTER FACILITY SURVEY

**Directions:**

**Print legibly.** This form is used to record information needed to make effective decisions whenever it becomes necessary to open a shelter. The form has fields to record information unique to many types of disasters, and some may not be applicable to your situation. Complete all sections as thoroughly as possible, indicating numbers, space dimensions, etc. **Record only usable space.** If a room is 600 square feet, but has furniture or fixtures occupying half that space that can't or won't be removed, the usable space is 300 square feet. Data fields not appropriate to your application may be left blank or "N/A" may be inserted. All phone numbers should include area codes.

SHELTER FACILITY SURVEY

Capacity E= \_\_\_\_\_ P= \_\_\_\_\_

Evacuation @ 20 sq. ft./person

Post Impact @ 40 sq. ft./person

County: \_\_\_\_\_

Town: \_\_\_\_\_

In Storm Surge/SLOSH area? ☐ Yes ☐ No

In Flood Plain?

☐ No ☐ 100yr event ☐ 500yr event

(GPS Information)

Shelter type: Primary

Latitude: \_\_\_\_\_

Longitude: \_\_\_\_\_

Map locator information: \_\_\_\_\_ ADA compliant? ☐ Yes ☐ No ☐ Part

(Map name, page, grid)

Site Name \_\_\_\_\_ Database ID \_\_\_\_\_

Street Address \_\_\_\_\_

Town/City \_\_\_\_\_ County \_\_\_\_\_

State \_\_\_\_\_ Zip Code \_\_\_\_\_ District Name \_\_\_\_\_

Mailing Address (If different) \_\_\_\_\_

Phone (\_\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_ Fax (\_\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

ATTACHMENT 1400-A3  
SHELTER FACILITY SURVEY (CONTINUED)

**Directions to the facility from the chapter identified below.** Use major landmarks (e.g., highways, intersections, rivers, railroad crossings, etc.). Do not use landmarks likely to be destroyed or unrecognizable after the disaster.

Red Cross Chapter \_\_\_\_\_ Chapter Code \_\_\_\_\_ Chapter jurisdiction or SSDA? Chapter \_\_\_\_\_

Street Address \_\_\_\_\_

Town/City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Contact Name and Title \_\_\_\_\_ Phone Number \_\_\_\_\_

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**To authorize facility use, call**

After-hours/emergency phone  
number \_\_\_\_\_

Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Daytime phone number

After-hours/emergency phone  
number \_\_\_\_\_

**To open facility, call**

**6564 (Rev. 12-01)**

Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Daytime phone number

After-hours/emergency phone  
number \_\_\_\_\_

**American Red Cross Form**

**Alternate contact to open facility, call**

Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Daytime phone number



**ATTACHMENT 1400-A3  
SHELTER FACILITY SURVEY (CONTINUED)**

**LIMITATIONS ON FACILITY USE**

☐ This facility will be available for use at any time during the year.

☐ This facility is **only** available for use during the following time periods.

From \_\_\_\_\_ to \_\_\_\_\_

From \_\_\_\_\_ to \_\_\_\_\_

☐ This facility is **not** available for use during the following time periods:

From \_\_\_\_\_ to \_\_\_\_\_

From \_\_\_\_\_ to \_\_\_\_\_

**FACILITY INFORMATION**

**Exterior information** Number of parking spaces \_\_\_\_\_ Handicapped spaces \_\_\_\_\_

Number of lots \_\_\_\_\_ Type of surface \_\_\_\_\_

Thickness or load bearing capacity of surface (if known) \_\_\_\_\_

Athletic field(s) \_\_\_\_\_ (Quantity and size [sq. ft.])

Fenced court(s) \_\_\_\_\_ (Quantity and size [sq. ft.])

Is the facility securable (fenced) \_\_\_\_\_

**Facility construction** ☐ Wood Frame ☐ Concrete ☐ Masonry (Brick) ☐ Metal

☐ Prefabricated ☐ Trailer ☐ Bungalow ☐ Pod

☐ Other (describe) \_\_\_\_\_

Number of stories (floors) \_\_\_\_\_ Approximate year of construction \_\_\_\_\_

**Are there long or open roof spans?** ☐ Yes ☐ No

If yes, where and what length? \_\_\_\_\_

(**Note:** This is for hurricane planning purposes. See ARC 4496 for current standards regarding long/open roof spans.)

**Are there windows in the sleeping area?** ☐ Yes ☐ No

If yes, are they: Protected from shattering? (Earthquake) ☐ Yes ☐ No

Protected by storm shutters? (Hurricane) ☐ Yes ☐ No

**ATTACHMENT 1400-A3**  
**SHELTER FACILITY SURVEY (CONTINUED)**

**Does the facility have fire extinguishers?** ☐Yes ☐No

**Does the facility have fire sprinklers?** ☐Yes ☐No

**Does the facility have a fire alarm?** ☐Yes ☐No

If yes choose one: ☐Manual (pull-down) ☐Automatic

**If requested, who would inspect the facility post-impact to determine that the facility is safe to occupy?** \_\_\_\_\_

Name/Agency \_\_\_\_\_ Phone Number (\_\_\_\_) \_\_\_\_-\_\_\_\_

**UTILITIES**

**Electricity** Emergency generator on site? ☐Yes ☐No

Capacity in kilowatts \_\_\_\_\_ Power for entire shelter? ☐Yes ☐No

If no, what will it operate? \_\_\_\_\_

Operating time, in hours, without refueling, at rated capacity \_\_\_\_\_

☐Auto start ☐Manual start Fuel type \_\_\_\_\_

Utility company name \_\_\_\_\_

Contact name \_\_\_\_\_ Emergency phone number (\_\_\_\_) \_\_\_\_-\_\_\_\_

Generator fuel vendor \_\_\_\_\_ Emergency phone number(\_\_\_\_) \_\_\_\_-\_\_\_\_

Generator repair contact \_\_\_\_\_ Emergency phone number(\_\_\_\_) \_\_\_\_-\_\_\_\_

**Heating** ☐Electric ☐Natural gas ☐Propane ☐Fuel ☐oil

Utility/vendor name \_\_\_\_\_

Contact name \_\_\_\_\_ Emergency phone number(\_\_\_\_) \_\_\_\_-\_\_\_\_

Repair contact \_\_\_\_\_ Emergency phone number(\_\_\_\_) \_\_\_\_-\_\_\_\_

**Cooling** ☐Electric ☐Natural gas ☐Propane

Utility/vendor name \_\_\_\_\_

Contact name \_\_\_\_\_ Emergency phone number (\_\_\_\_) \_\_\_\_-\_\_\_\_

Repair contact \_\_\_\_\_ Emergency phone number (\_\_\_\_) \_\_\_\_-\_\_\_\_

**ATTACHMENT 1400-A3  
SHELTER FACILITY SURVEY (CONTINUED)**

**Cooking** ☐ Electric ☐ Natural Gas ☐ Propane

Utility/Vendor name \_\_\_\_\_

Contact name \_\_\_\_\_ Emergency phone number(\_\_\_\_\_) \_\_\_\_-\_\_\_\_

Repair contact \_\_\_\_\_ Emergency phone number(\_\_\_\_\_) \_\_\_\_-\_\_\_\_

**Telephones** Business phones available to shelter staff?

☐ Yes ☐ No

Number of phones \_\_\_\_\_ Locations \_\_\_\_\_

Utility/vendor name \_\_\_\_\_

Contact name \_\_\_\_\_ Emergency phone number (\_\_\_\_\_) \_\_\_\_-\_\_\_\_

Repair contact \_\_\_\_\_ Emergency phone number (\_\_\_\_\_) \_\_\_\_-\_\_\_\_

**Water** ☐ Municipal ☐ Well(s) ☐ Trapped water

If trapped: Potable (drinkable) storage capacity in gallons \_\_\_\_\_

Non-drinkable storage capacity in gallons \_\_\_\_\_

Utility/vendor name \_\_\_\_\_

Contact name \_\_\_\_\_ Emergency phone number (\_\_\_\_\_) \_\_\_\_-\_\_\_\_

Repair contact \_\_\_\_\_ Emergency phone number (\_\_\_\_\_) \_\_\_\_-\_\_\_\_

**ACCESSIBILITY FOR PEOPLE WITH DISABILITIES**

☐ Curb cuts (minimum 35 inches wide) ☐ Accessible doorways (minimum 35 inches wide)

☐ Ramps (minimum 35 inches wide) ☐ Automatic doors or appropriate door handles

☐ Fixed

☐ Portable

☐ Level Landings

Accessible and accommodating restrooms

☐ Grab bars (33-36 inches wide) ☐ Sinks @ 34 inches in height

☐ Stall (38 inches wide) ☐ Towel dispenser @ 39 inches in height

Showers

☐ Shower stall (minimum 36 inches by 36 inches) ☐ Grab bars (33-36 inches in height)

**ATTACHMENT 1400-A3  
SHELTER FACILITY SURVEY (CONTINUED)**

☐ Shower seat (17-19 inches high) ☐ Hand-held spray unit with hose

☐ Fixed shower head (48 inches high)

Accessible and accommodating cafeterias

☐ Tables (28-34 inches high)

☐ Serving line [counter] (28-34 inches high)

☐ Aisles (minimum 38 inches wide)

Accessible telephones

☐ Maximum 48 inches high

☐ TDD available

☐ Earpiece (volume adjustable)

**Note: No single deficiency in the above list makes a facility “out of compliance” or unfit for consideration. There are many acceptable temporary mechanisms that can make a facility accessible. For guidance in this area contact either your local Building and Safety Department, Assisted Living Center or a disability-related organization.**

**Sanitation** (List only those facilities that will be accessible to shelter residents and Red Cross staff)

Number of toilets available Men\_\_\_\_\_ Women\_\_\_\_\_ Unisex\_\_\_\_\_ People with disabilities\_\_\_\_\_

Number of sinks available: Men\_\_\_\_\_ Women\_\_\_\_\_ Unisex\_\_\_\_\_ People with disabilities\_\_\_\_\_

Number of showers available: Men\_\_\_\_\_ Women\_\_\_\_\_ Unisex\_\_\_\_\_ People with disabilities\_\_\_\_\_

Are there any limitations on the availability of any of these facilities? ☐ Yes ☐ No

If yes, describe limitations. (Only during specific time blocks, etc.)

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**FOOD PREPARATION**

☐ None on site ☐ Warming oven kitchen

☐ Full-service kitchen (If full-service meals, “per meal” number that can be produced)\_\_\_\_\_

☐ Facility uses central kitchen — meals are delivered

Central kitchen contact\_\_\_\_\_ Phone Number (\_\_\_\_\_) \_\_\_\_\_-\_\_\_\_\_

**ATTACHMENT 1400-A3**  
**SHELTER FACILITY SURVEY (CONTINUED)**

**Equipment** (Indicate quantity and size [sq. ft.] as appropriate)

Refrigerators\_\_\_\_\_ Walk-in refrigerators\_\_\_\_\_ Ice machines\_\_\_\_\_

Freezers\_\_\_\_\_ Walk-in freezers\_\_\_\_\_ Braising pans\_\_\_\_\_

Burners\_\_\_\_\_ Griddles\_\_\_\_\_ Warmers\_\_\_\_\_

Ovens\_\_\_\_\_ Convection ovens\_\_\_\_\_ Microwave ovens\_\_\_\_\_

Steamers\_\_\_\_\_ Steam kettles\_\_\_\_\_

Sinks\_\_\_\_\_ Dishwashers\_\_\_\_\_

**FEEDING AREAS**

☐None on site      ☐Snack Bar (seating capacity\_\_\_\_\_)      Cafeteria (seating capacity\_\_\_\_\_)

☐Other indoor seating (describe, including size and capacity estimate)\_\_\_\_\_

Total estimated seating capacity for eating\_\_\_\_\_

Comments related to feeding\_\_\_\_\_

**LAUNDRY FACILITIES**

Number of clothes washers\_\_\_\_\_ Number of clothes dryers\_\_\_\_\_

Will the Red Cross have access to these machines? ☐Yes ☐No

Special conditions or restrictions\_\_\_\_\_

**HEALTH SERVICES**

Number of rooms available\_\_\_\_\_ Number of beds or cots\_\_\_\_\_

Total square footage of available health care space\_\_\_\_\_

**ADDITIONAL INFORMATION**

Does the chapter have a current agreement for this site? ☐Yes ☐No

Is this facility within five miles of an evacuation route? ☐Yes ☐No

Is this facility within 10 miles of a nuclear power plant? ☐Yes ☐No

Does this facility comply with ARC 4496 (Hurricane)? ☐Yes ☐No

If no, and this facility is being evaluated for use as a hurricane evacuation shelter, are there any mitigation steps other actions that can be taken to make the facility safer for shelterees and comply with ARC 4496?

\_\_\_\_\_

**SHELTER FACILITY SURVEY (CONTINUED)**

Are there trees, towers or other potential hazards that can affect the safety of the facility or block access to it during or after a storm or other disaster? ☐ Yes ☐ No

If yes, are there any mitigation measures that could reduce or eliminate those hazards?

**Groups associated with this facility**

☐ Facility staff required when using facility? ☐ Yes ☐ No

☐ Paid feeding staff required when using facility? ☐ Yes ☐ No

☐ Church auxiliary required when using facility? ☐ Yes ☐ No

☐ Fire auxiliary required when using facility? ☐ Yes ☐ No

☐ Other \_\_\_\_\_ Required ☐ Yes ☐ No

☐ Other \_\_\_\_\_ Required ☐ Yes ☐ No

Will any of the above groups be trained or experienced in shelter management?

**RECOMMENDATIONS/OTHER INFORMATION (Be specific)**

•••• Attach a sketch or copy of the facility floor plan ••••

Survey completed/updated by

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date completed

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date completed

**Action taken**

☐ Chapter will use as primary disaster shelter (non-hurricane).

☐ Chapter will propose inclusion in hurricane evacuation shelters to state.

☐ Chapter will use as a secondary shelter only.

☐ Chapter will not pursue use of this facility as a shelter.

## **SOP 1400-B SHELTER OPERATIONS**

### **1.0    GENERAL**

- 1.1    The American Red Cross of the Delmarva Peninsula (ARC DMVP) is designated as the primary agency, and is responsible for the total operation of the disaster shelter.
- 1.2    ARC DMVP will provide trained personnel and emergency mass care supplies required for the operation of the Red Cross Disaster Shelters. ARC DMVP will also provide nursing coverage for all Red Cross Disaster Shelters in accordance with ARC DMVP 3050, Regulations and Procedures, American Red Cross Disaster Services: Disaster Health Services.
- 1.3    ARC DMVP will utilize, if necessary, personnel from other agencies, to augment the Red Cross volunteers and paid staff.
- 1.4    The Salvation Army (SA) provides clothing and aids ARC DMVP in performing service functions.
- 1.5    The Delaware State Police (DSP) provides access control.
- 1.6    ARC DMVP enlists local support groups such as churches, and industries, as well as selected volunteers to provide additional aid for recreational activities. The New Castle County General Manager of Community Services (NCCGMCS) will support ARC DMVP in this function.
- 1.7    The Department of Education (DOE) representative at the school is the school principal or designee. He will open the facility to ARC DMVP to operate as a disaster shelter, and orient and coordinate with ARC DMVP. He will establish communications with the Nuclear Disaster Planning Coordinator (NUDPO) at the State EOC with regard to the shelter capacity.

### **2.0    ACTIVATION AND OPERATION**

#### **2.1    Disaster Shelter Management**

ARC DMVP will provide emergency mass care and nursing coverage in the Red Cross Disaster Shelters. ARC DMVP will also utilize, if necessary, personnel trained as Red Cross Shelter Managers to augment the ARC DMVP volunteer and paid staff. The checklist for the Shelter Manager is included as Attachment 1400 B1. The Shelter Manager's responsibilities include:

**SOP 1400-B SHELTER OPERATIONS (Continued)**

**2.0    ACTIVATION AND OPERATION (Continued)**

**2.1    Disaster Shelter Management (Continued)**

**2.1.1    Shelter Space Allocation for:**

- a.      Shelter Manager's office
- b.      Family services units
- c.      Disaster health services
- d.      Sleeping accommodations
- e.      Food service
- f.      Storage
- g.      Recreational activities
- h.      Restrooms and bathing facilities
- i.      Shelter registration

**2.1.2    Staff Scheduling**

- a.      The Shelter Manager is responsible for scheduling in consultation with functional specialists assigned to the shelter (e.g., nurses, emergency assistance, recreation, and food service personnel).
- b.      The Shelter Manager, working with the ARC DMVP representative at the Chapter's Disaster Headquarters, coordinates with the DSP representative to ensure protection when shelters are opened.

**2.1.3    Purchase of Supplies for:**

Each Red Cross Shelter Manager will order all supplies from the Red Cross Supply Officer and Red Cross Mass Care Officer. All supplies will be ordered through, and be paid for by, the Red Cross Supply Officer and Red Cross Mass Care Officer. Attachment 1400-B2 contains a listing of essential non-medical supplies and equipment.



## **SOP 1400-B SHELTER OPERATIONS (Continued)**

### **2.0    ACTIVATION AND OPERATION (Continued)**

#### **2.1    Disaster Shelter Management (Continued)**

##### **2.1.4    Record Keeping**

The Shelter Manager has direct responsibility for maintenance of:

- a.       Names and numbers of the disaster shelter occupants.
- b.       Time sheets of volunteers and staff.
- c.       Borrowed and rented equipment.
- d.       Financial commitments.
- e.       Daily statistical report to DEMA concerning people in the disaster shelter, Attachment 1400-B3.
- f.       Daily log of events.

**2.1.5**    Providing for maintenance of ARC DMVP Disaster Shelter.

**2.1.6**    Adherence to health and sanitation regulations.

**2.1.7**    Ensuring that the ARC DMVP Disaster Shelter building and personnel are adequately identified.

#### **2.2    Activation of Facility**

If evacuation appears imminent, DEMA notifies ARC DMVP to begin mobilization. ARC DMVP, with aid provided by SA, in coordination with DOE, prepares for the reception of evacuees, and continues to organize and setup accommodations for evacuee arrival.

#### **2.3    Reception/Registration**

**2.3.1**    Upon arrival, the evacuees are greeted at a reception/registration area. ARC DMVP personnel manage the reception/registration area. ARC DMVP will coordinate with DHSS at the **reception** centers in assignment of evacuees to disaster shelters.

**2.3.2**    The evacuee submits the pink copy of the Evacuee Registration Form (see SOP Attachment 1300-A2) that he/she completed at the **Reception** Center. Evacuees who have lost the registration form or who bypassed the **reception** center may need to return to a registration center, particularly if there has been a radiological release.

**SOP 1400-B SHELTER OPERATIONS (Continued)**

**2.0    ACTIVATION AND OPERATION (Continued)**

**2.3    Reception/Registration (Continued)**

- 2.3.3    Registration personnel review the maps of reception centers and forms to check evacuee arrival at the assigned relocation center.
- 2.3.4    Upon receipt of a copy of the Evacuee Registration Form, the ARC DMVP Disaster Shelter Registration Form (Attachment 1400-B4) will be completed in triplicate.
- 2.3.5    **Registration personnel are responsible for:**
  - a.        Distributing one form and pencil to each evacuee.
  - b.        Providing tables, desks, or clipboards for evacuees to complete the forms comfortably.
  - c.        Assisting evacuees in completing the forms.
  - d.        Reviewing the completed registration form.
  - e.        Removing the first copy and filing it alphabetically in the Shelter Manager's files for current reference and permanent record.
  - f.        Supplying the family service section with the second copy to be used for family counseling, and future housing arrangements.
  - g.        Forwarding the third copy to the disaster headquarters for welfare inquiries.
  - h.        Maintaining and updating statistical records on the number of evacuees present in the shelter facility.
- 2.3.6    Registration resource materials are taken on-site by the Shelter Manager upon activation of the shelter.
- 2.3.7    Additional volunteer staff may be recruited from evacuees.

**2.4    Food Services**

- 2.4.1    ARC DMVP is responsible for planning, preparing, and serving food for the evacuees and facility staff. ARC DMVP is responsible for evaluating the adequacy of food preparation facilities and making provisions for additional aid.

## **SOP 1400-B SHELTER OPERATIONS (Continued)**

### **2.0    ACTIVATION AND OPERATION (Continued)**

#### **2.4    Food Services (Continued)**

**2.4.2**    ARC DMVP, drawing upon the services of selected school cafeteria managers, food service personnel and selected shelter residents, prepares feeding facilities and establishes a routine to accommodate people in the disaster shelter.

**2.4.3**    The food staff:

- a.**        Employs the school cafeteria for preparation and/or other food service options, serves the food, and provides clean up.
- b.**        Advises the Shelter Manager of needed supplies.
- c.**        Advises the Shelter Manager of the staffing schedule.
- d.**        Maintains accurate records of food supplies received and expended, and personnel hours employed.

**2.4.4**    Water, if necessary, will be transported to disaster shelters by the Delaware National Guard (DNG). DNG has capabilities and facilities to both transport and store needed water supplies.

**2.4.5**    The Office of Management & Budget, Division of Government Support Services will coordinate potable water supplies. If emergency water supplies are required, DPH samples the water resources for possible contamination, and if certified potable in the tank, informs DNG of its location.

#### **2.5    Sleeping Accommodations**

The Shelter Manager provides administration and supervision for sleeping accommodations. The ARC DMVP supplies a limited number of cots and blankets for the elderly and the ill. Sleeping space is provided in small rooms or in large areas (gymnasium or auditorium) and arranged as a dormitory depending upon availability of space. Forty to sixty square feet per person is allotted. Family units are maintained if possible. Records independent of the registration function are maintained on the number of occupants, identity, and location.

#### **2.6    Clothing**

Salvation Army (SA) will provide clothing, if needed, for evacuees and will work with other groups such as Goodwill, churches and industries to provide aid in the processing and distribution of used clothing. SA will coordinate the transportation from storage and the distribution of clothing and related apparel. SA will insure that sufficient stock is available.

## **SOP 1400-B SHELTER OPERATIONS (Continued)**

### **2.0    ACTIVATION AND OPERATION (Continued)**

#### **2.7    Health Services**

The American Red Cross of the Delmarva Peninsula (ARC DMVP) Disaster Health Services (DHS) officer oversees all disaster related Red Cross health issues. In addition to utilizing its ARC DMVP-trained nurses, ARC DMVP has an agreement with the State of Delaware, Department of Health and Social Services (DHSS) providing for the utilization of DHSS nursing personnel to support disaster health functions within shelters. These functions supplement a community's health care delivery system and reflect the professional nursing standards defined by the American Nursing Association and the American Red Cross regulations and Procedures. The Red Cross Health Services function ensures that the injured and ill receive essential healthcare by:

- a. Referring the injured and ill to appropriate medical facilities, planning for health protection and maintenance.
- b. Helping to relieve and prevent psychological effects of disaster.
- c. Planning for the use of available health services resources.
- d. Determining how many persons are ill and injured.
- e. Ensuring that a sufficient number of health care personnel are available to provide quality care.
- f. Documenting all nursing care and first aid rendered by ARC DMVP DHSS

personnel.

**ARC DMVP DHSS nurses provide coverage 24-hours a day while shelters are open.**

#### **2.8    Recreation**

The Shelter Manager will recruit selected personnel from evacuees to provide recreational services directed toward relieving tension and improving morale for all age groups. The New Castle County Department of Parks and Recreation will support this function.

#### **2.9    Communications**

ARC DMVP is responsible for establishing and managing communications within the shelter. Land line, cell phones and two way radios are used for in-house communications. Telephone and ARC DMVP disaster radio frequency are employed for communications over short distances. Telephones and ham radios are employed for emergency communications over extended distances. ARC DMVP calls upon the services of volunteer ham radio operators to aid in long distance communications.

**SOP 1400-B SHELTER OPERATIONS (Continued)**

**2.0    ACTIVATION AND OPERATION (Continued)**

**2.10    Fire Protection**

The Shelter Manager is responsible for seeing that all safety precautions and procedures are followed. The Shelter Manager arranges for building inspections.

**2.11    Counseling Services**

Counseling and family services are provided by ARC DMVP with support from SA. On an as needed basis, these functions include: assisting families with emergency needs, counseling and referral, recreation, assisting the Shelter Manager in making transportation arrangements, helping families to make individual housing arrangements.

**2.12    Maintenance**

The Shelter Manager is directly responsible for ensuring janitorial service is provided within the shelter. The Shelter Manager may arrange for this work to be done by shelter occupants on a scheduled basis, or hire personnel particularly if the disaster shelter operation is a continuing one.

**2.13    Building and Personnel Identification**

It is the Shelter Manager's responsibility to see that the disaster shelter is adequately identified. The Shelter Manager is also responsible for seeing that assigned personnel, whether paid staff or volunteer, have ARC DMVP identification in the form of uniforms, stick-on patches, and/or name tags.

**2.14    Transportation**

Transportation resources may be required to transport supplies, equipment, shelter residents, volunteers, etc. The ARC DMVP representative at the State EOC will coordinate transportation needs with other agencies.

**2.15    News Dissemination/Public Relations**

The ARC DMVP Disaster Headquarters appoints a person from ARC DMVP to fulfill the public relations function in accordance with the State EOC.

**SOP 1400-B SHELTER OPERATIONS (Continued)**

**2.16    Resources**

Agencies to be contacted for information, supplies, additional manpower, etc.

<b><u>AGENCY</u></b>	<b><u>CONTACT</u></b>
American Red Cross of the Delmarva Peninsula	Director of Emergency Services
Salvation Army	Corps Officer
Delaware Emergency Management Agency	Operations Chief
Department of Education	Nuclear Disaster Planning Officer
Delaware State Police	DSP Communications
Delaware National Guard	TAG (Adjutant General)
Division of Public Health	Director
New Castle County, Department of Parks and Recreation	New Castle County Emergency Operations Center State Liaison

**3.0        CLOSING A DISASTER SHELTER**

- 3.1**      The Shelter Manager works closely with the members of the ARC DMVP family service unit to assist families with housing outside the relocation center.
- 3.2**      Once the disaster shelter has been closed the Shelter Manager is responsible for preparing the following reports to be submitted to the ARC DMVP Job Director:
  - 3.2.1**    List of all equipment borrowed from government sources (for instruction regarding disposition).
  - 3.2.2**    List of all other borrowed equipment with signed receipts attached designating return of such equipment.
  - 3.2.3**    List of all ARC DMVP owned supplies and equipment (for instructions regarding disposition).
  - 3.2.4**    Report of loss or damage to borrowed equipment or the building.

**SOP 1400-B SHELTER OPERATIONS (Continued)**

**3.0    CLOSING A DISASTER SHELTER (CONTINUED)**

- 3.2.5**    Report of outstanding bills covering direct purchases and any other commitments made (for example, payment of hourly wages to extra help hired to clean the relocation center).
- 3.2.6**    List of the volunteers serving in the disaster shelter, and the number of hours worked.
- 3.3**        The ARC DMVP shelter nurse works closely with the ARC DMVP family service and health service in planning for any referrals or follow-up health service care that might be required for relocation center occupants.
- 3.4**        The ARC DMVP shelter nurse provides health services with a list of persons receiving medical and nursing care in the shelter. The list shows the date and type of treatment, the names of the person who administered the treatment, and disposition or referrals.
- 3.5**        The shelter nurse works closely with the Shelter Manager in planning for the disposition of all medical and nursing supplies.
- 3.6**        The Shelter Manager prepares the facility and grounds for return to the owner in the same condition as when the building was acquired. All ARC DMVP identification is removed from the building. The Shelter Manager, with the aid of the school principal or designee, will prepare a post-disaster survey of the building before exiting.

**ATTACHMENT 1400-B1**

**CHECKLIST FOR SHELTER MANAGER**

- \_\_\_\_ 1. When you are officially notified to open your building to shelter, proceed immediately to the building.
- \_\_\_\_ 2. Establish and maintain contact with Red Cross disaster headquarters.
- \_\_\_\_ 3. Alert basic staff, and open the building for use.
- \_\_\_\_ 4. Arrange the building for disaster relief operation:
  - Inventory supplies and equipment
  - Prepare rooms for receiving people and for other purposes
  - Arrange for identification of the shelter and staff
  - Proceed immediately to the building.
- \_\_\_\_ 5. Order supplies and equipment for the shelter from disaster headquarters, and report needs for supportive services such as medical, feeding, family services.
- \_\_\_\_ 6. Recruit additional personnel. Disaster victims are a good resource.
- \_\_\_\_ 7. Open the cafeteria and begin some feeding (such as coffee and sandwiches) as soon as people begin to arrive.
- \_\_\_\_ 8. Keep in constant touch with the job director, giving progress reports and daily count of persons housed.
- \_\_\_\_ 9. Establish schedules for sleeping, meals, clean-up, etc.
- \_\_\_\_ 10. Establish and enforce safety and fire regulations in the shelter.
- \_\_\_\_ 11. Arrange for adequate state or local police and guard protection.
- \_\_\_\_ 12. Arrange for the maintenance of records for all borrowed and purchased equipment.
- \_\_\_\_ 13. Deal with the media but only in regard to the operation of your shelter. Written consent must be obtained from a shelter occupant before the shelter resident is interviewed or photographed.
- \_\_\_\_ 14. Coordinate the activities of all services in the shelter. Nursing, Family Service, and Food Service receive supervision from their own committees but are under the administration of the shelter manager when serving in a shelter.
- \_\_\_\_ 15. Form an Advisory Council of shelter occupants to assist in enforcing health, sanitary, and safety regulations. The council can also advise the manager in dealing with shelter problems, although the ultimate responsibility is still the manager's.



**ATTACHMENT 1400-B2**

**ESSENTIAL NON-MEDICAL SUPPLIES AND EQUIPMENT  
FOR ARC DMVP DISASTER SHELTERS**

The following list is a guide only. Many items may not be needed immediately and should be obtained only as required.

**GENERAL**

Cots, blankets, and other bedding  
Table  
Chairs  
Trash cans  
Emergency lighting (if required)  
Loud speaker (if required)  
Paper cups and towels  
Telephone(s)  
Radios  
Comfort kits (if available)  
Toilet paper

**OFFICE SUPPLIES**

Tablets or steno pads  
3 X 5 file cards for registration  
File folders  
Paper clips  
Transparent tape  
Pens and pencils  
Stapler and staples  
Rubber bands  
Red Cross forms for records

**IDENTIFICATION**

Red Cross Flags  
Other identification as available  
and appropriate

**CLEANING**

Mops and brooms  
Buckets  
Cleansing powder and detergent  
Rags  
Nonpoisonous disinfectant  
Seeping compound

**ATTACHMENT 1400-B3**

**DAILY SHELTER RECORD AND REPORT**

Shelter \_\_\_\_\_

Location \_\_\_\_\_

Report No. \_\_\_\_\_ Date \_\_\_\_\_

No. persons sheltered:

At start of day \_\_\_\_\_ At end of day \_\_\_\_\_

No. persons fed:

Breakfast \_\_\_\_\_ Lunch \_\_\_\_\_ Supper \_\_\_\_\_

No. persons requiring medical, nursing, or first aid treatment:

Sent to hospital \_\_\_\_\_

Treated in shelter emergency aid station \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Shelter Manager

**ATTACHMENT 1400-B4**

**AMERICAN RED CROSS OF THE DELMARVA PENINSULA**

FAMILY LAST NAME			
Names	Age	Medical Problem * Killed * Injured * Handicapped	Referred to Nurse
Man			
Woman (include maiden name)			
Children in Home			
Family member not in shelter (location if known)			

**DISASTER SHELTER REGISTRATION**

Shelter Location	
Shelter Telephone No.	Date of Arrival
Predisaster Address and Telephone No.	
I ____ do ____ do not authorize release of the above information concerning my whereabouts or general condition  _____	
Signature	
Date Left Shelter _____ Time Left Shelter _____	
Postdisaster Address and Telephone No.	

<b>Caesar Rodney High School **</b>						<b>STATUS:</b>		
Enrollment Capacity	Shower Heads	Gymnasium		Cafeteria		Auditorium	Total	Total of Assigned  Evacuees
		Seating	SQ. FT	Per Period	Per Day	Capacity	Evacuees	
2000	40	1500	10800	640	2000	1000	4000	
ADD ABOVE ROWS FOR TOTAL EVACUEES ASSIGNED TO SHELTER								

Place Hash marks on lines above as evacuees are assigned to shelters Page: \_\_\_\_\_ of \_\_\_\_\_

## American Red Cross of the Delmarva Peninsula

## Shelter / Evacuee Tally Sheet

ADD ABOVE ROWS FOR TOTAL EVACUEES ASSIGNED TO SHELTER

## American Red Cross of the Delmarva Peninsula

## Shelter / Evacuee Tally Sheet

Mount Pleasant High School **					STATUS:			
Enrollment Capacity	Shower Heads	Gymnasium		Cafeteria		Auditorium	Total	Total of Assigned  Evacuees
		Seating	SQ. FT	Per Period	Per Day	Capacity	Evacuees	
1567	34 ##	1400	14400	400	1200	1200	1800	
ADD ABOVE ROWS FOR TOTAL EVACUEES ASSIGNED TO SHELTER								

## = Shower Heads including the Stadium Facility

Place Hash marks on lines above as evacuees are assigned to shelters Page: \_\_\_\_ of \_\_\_\_

**Attachment 1400-B9**  
**American Red Cross of the Delmarva Peninsula**  
**Disaster Program**  
**Shelter / Evacuee Tally Sheet**

<b>Branch/Middle School</b>						<b>STATUS:</b>		
<b>Enrollment Capacity</b>	<b>Showers Heads</b>	<b>Gymnasium</b>		<b>Cafeteria</b>		<b>Auditorium</b>	<b>Total</b>	<b>Total of Assigned Evacuees</b>
		<b>Seating</b>	<b>SQ. FT</b>	<b>Per Period</b>	<b>Per Day</b>	<b>Capacity</b>	<b>Evacuees</b>	
1283	120	1200	12400 1100	400	1200	1200	2000	
ADD ABOVE ROWS FOR TOTAL EVACUEES ASSIGNED TO SHELTER								

Place Hash marks on line above as evacuees are assigned to shelters

**Attachment 1400-B10**

## American Red Cross of the Delmarva Peninsula

## Disaster Program

## Shelter / Evacuee Tally Sheet

[illegible]

ADD ABOVE ROWS FOR TOTAL EVACUEES ASSIGNED TO SHELTER

Place Hash marks on lines above as evacuees are assigned to shelters

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**Attachment 1400-B11**

## American Red Cross of the Delmarva Peninsula

## Disaster Program

## Shelter / Evacuee Tally Sheet

Fred Fifer Middle School					STATUS:			Total of Assigned Evacuees
Enrollment Capacity	Shower Heads	Gymnasium		Cafeteria		Auditorium	Total	
		Seating	SQ. FT	Per Period	Per Day	Capacity	Evacuees	
650	8	250	7500	250	700			
ADD ABOVE ROWS FOR TOTAL EVACUEES ASSIGNED TO SHELTER								

Place Hash marks on lines above as evacuees are assigned to shelters Page: \_\_\_\_ of \_\_\_\_

Place Hash marks on lines above as evacuees are assigned to shelters      Page:      of

**Attachment 1400-B12**  
**n Red Cross of the Delmarva I**  
**Disaster Program**  
**Shelter / Evacuee Tally Sheet**

Lake Forest High School					STATUS:			
Enrollment Capacity	Shower Heads	Gymnasium		Cafeteria		Auditoriu	Total	Total of Assigned  Evacuees
		Seating	SQ. FT	Per Period	Per Day	Capacity	Evacuees	
958	75	900	8100	400	1000	1100	2400	
P								
ADD ABOVE ROWS FOR TOTAL EVACUEES ASSIGNED TO SHELTER								

Place Hash marks on lines above as evacuees are assigned to shelters Page:      of

**Attachment 1400-B13**  
**American Red Cross of the Delmarva Peninsula**  
**Disaster Program**  
**Shelter / Evacuee Tally Sheet**

[illegible]

**Attachment 1400-B14**  
**n Red Cross of the Delmarva I**  
**Disaster Program**  
**Shelter / Evacuee Tally Sheet**

[illegible]

Place Hash marks on lines above as evacuees are assigned to shelters

Page: of

**Attachment 1400-B15**  
**American Red Cross of the Delmarva Peninsula**  
**Disaster Program**  
**Shelter / Evacuee Tally Sheet**

[illegible]

## Shelter / Evacuee Tally Sheet

<b>Concord High School **</b>						<b>STATUS:</b>		
Enrollment Capacity	Shower Heads	Gymnasium		Cafeteria		Auditorium	Total	Total of Assigned Evacuees
		Seating	SQ. FT	Per Period	Per Day	Capacity	Evacuees	
1508	59	1592	9200	350	1050	944	2720	
ADD ABOVE ROWS FOR TOTAL EVACUEES ASSIGNED TO SHELTER								

## Evacuee Tracking List

[illegible]

Emergency Registration Center at: \_\_\_\_\_ Station: \_\_\_\_\_ Page: \_\_\_\_\_ of \_\_\_\_\_

**SOP 1501 - TRANSPORT AND HANDLING OF RADIOLOGICALLY  
CONTAMINATED AND/OR INJURED INDIVIDUALS  
TO THE WILMINGTON AND CHRISTIANA HOSPITALS, CHRISTIANA CARE HEALTH  
SERVICES**

**1.0 OBJECTIVE**

In the event of an emergency at Salem-Hope Creek Generating Stations (SHCGS), this procedure provides the methods and guidance for the handling and transport of contaminated and/or injured emergency workers and evacuees to the Wilmington and Christiana Hospitals, Christiana Care Health Services (CCHS).

**2.0 CONTENTS**

SOP 1501-A: Handling and Transport from Emergency Facilities and from the Field.

**3.0 PREREQUISITES**

- 3.1 A radiological emergency has been declared.
- 3.2 There is a need to handle and transport contaminated and/or injured individuals to medical facilities.

**4.0 REFERENCES**

- 4.1 State of Delaware, Radiological Emergency Plan
- 4.2 State of Delaware, SOP 800 Series Procedures
- 4.3 State of Delaware, SOP 900 Series Procedures
- 4.4 State of Delaware, SOP 1300 Series Procedures
- 4.5 State of Delaware, SOP 1502, Decontamination and Treatment of a Radiologically Contaminated Patient at Wilmington and Christiana Hospitals, Christiana Care Health Services.

**5.0 ATTACHMENTS**

None

**6.0 RECORDS**

All data, records, and forms are to be transmitted to and maintained by Delaware Emergency Management Agency (DEMA) at the State Emergency Operations Center (EOC) for historical files.



**SOP 1501-A: HANDLING AND TRANSPORT FROM EMERGENCY FACILITIES  
AND THE FIELD****1.0 GENERAL**

This procedure provides the guidance for handling and transporting radiologically contaminated and/or injured individuals from an emergency facility (Registration Center; Emergency Worker Decontamination Facility) or from the field.

**2.0 TRANSPORTATION**

**2.1** Primary transport may be provided by the following:

**2.1.1** Port Penn Fire Company Ambulance Service

**2.1.2** Delaware City Fire Company Ambulance Service

**2.1.3** Odessa Fire Company Ambulance Service

**2.1.4** Middletown Volunteer Hose Fire Company Ambulance Service

**2.1.5** Townsend Fire Company Ambulance Service

**2.1.6** Smyrna American Legion Ambulance Company

**2.2** Advance life support may be provided, as necessary, by the New Castle County Emergency Medical Services or the Paramedic Division of the Kent County Department of Public Safety.

**3.0 NOTIFICATION AND COMMUNICATIONS**

**3.1** Christiana Care Health Services (CCHS)

**3.1.1** The CCHS Emergency Department will be notified of a radiological emergency by telephone call from DEMA, SHCNGS, or normal emergency communications methods.

**3.1.2** The Emergency Department Staff member receiving the notification will notify the Unit Coordinator and Doctors for Emergency Services (DFES) Physician on-duty.

**3.2** Ambulance services will be notified and dispatched through the normal communications methods.

**3.3** Paramedics from the New Castle County Emergency Medical Services or the Paramedic Division of the Kent County Department of Public Safety will be notified and dispatched through the normal communications methods.

**4.0 COMMAND AND COORDINATION**

**4.1** Christiana Care Health Services (CCHS)

The Unit Coordinator and DFES Physician will be in charge of the hospital emergency response operations and administrative activities.

**SOP 1501-A: HANDLING AND TRANSPORT FROM EMERGENCY FACILITIES  
AND THE FIELD (Continued)**

**4.0 COMMAND AND COORDINATION (Continued)**

**4.2 Transport and Handling**

- 4.2.1** The specified ambulance/Emergency Medical Services (EMS) agencies are responsible for the transport and handling of contaminated and/or injured persons during the emergency.
- 4.2.2** The New Castle County Emergency Operations Center (NCCEOC) or the Kent County Emergency Operations Center (KCEOC), Delaware State Fire School, and the State EMS representatives located at the State EOC are responsible for coordination of all response efforts with the DEMA Operations once the EOC is activated.

**4.3 Exposure Control and Monitoring**

- 4.3.1** Ambulance/EMS personnel should refer to SOP 801 for emergency worker self-protection procedures and exposure limits. ***NOTE: NORMAL DOSE ALLOWANCE FOR DELAWARE EMERGENCY WORKERS RESPONDING TO AN ACCIDENT AT A NUCLEAR POWER PLANT IS 1.25 REM.*** Authorization must be obtained from the Division of Public Health through the Delaware Emergency Management Agency (DEMA) Director or designated representative, to exceed this dose.
- 4.3.2** The CCHS Radiation Safety Officer/Radiation Monitor will be responsible for radiation exposure control and monitoring at the Wilmington or Christiana Hospitals Emergency Room and will advise if decontamination is required.
- 4.3.3** The CCHS Radiation Safety Officer/Radiation Monitor will be responsible for radiation exposure control and monitoring of the paramedics and ambulance crews and will advise if decontamination is required.

**5.0 EMERGENCY MEDICAL SERVICES**

- 5.1** The American Red Cross (ARC) will provide emergency first aid and nursing coverage for all ARC Disaster Shelters, until transport can take place.
- 5.2** The Delaware National Guard (DNG) will provide emergency first aid and nursing coverage for the Emergency Worker Decontamination Facility until transport can take place.
- 5.3** The Paramedics from New Castle County or Paramedic Division of the Kent County Department of Public Safety will provide advanced life support coverage, as required, and in the ambulance during transport if necessary.

**SOP 1501-A: HANDLING AND TRANSPORT FROM EMERGENCY FACILITIES  
AND THE FIELD (Continued)**

**6.0 HANDLING AND TRANSPORT FROM REGISTRATION CENTER OR EMERGENCY  
WORKER DECONTAMINATION FACILITY**

**6.1 Initial Treatment**

- 6.1.1** Emergency medical treatment will be provided by qualified personnel at each of the facilities.
- 6.1.2** Contamination monitoring, decontamination, and documentation will be provided by personnel at the emergency facilities.
- 6.1.3** “Wrap and Go” method should be utilized only in severe circumstances when gross decontamination is not available or possible.

**6.2 Handling and Transport of Contaminated and/or Injured Individuals from Registration Centers or Emergency Worker Decontamination Facility.**

- 6.2.1** Minimum protective clothing for ambulance/EMS personnel for transport from these facilities includes gloves, Dosimeter of Legal Record (DLR), dosimeters as described in SOP 801.
- 6.2.2** Obtain a medical status of the patient.
- 6.2.3** Move the ambulance cot to the clean side of the control line and unfold a clean sheet or blanket over it.
- 6.2.4** Place the patient on the covered cot and package for transport. Do not remove the victim from the backboard if one was used.
- 6.2.5** Package the victim by folding the stretcher sheet or blanket over the victim and securing them in the appropriate manner.
- 6.2.6** Place the packaged victim in the ambulance, notify the appropriate medical facility emergency room that you are en route, and describe the patient medical and radiological condition.
- 6.2.7** Upon completion of transport, the ambulance and crew will be monitored at the hospital. If contaminated, the ambulance and crew will be directed to the Emergency Worker Decontamination Facility in Middletown.

**7.0 HANDLING AND TRANSPORT FROM THE FIELD**

***NOTE: ASSESS AND TREAT LIFE-THREATENING INJURIES IMMEDIATELY. DO NOT DELAY ADVANCED LIFE SUPPORT IF VICTIMS CANNOT BE MOVED OR TO ASSESS CONTAMINATION STATUS. Perform routine emergency care during extrication procedures.***

- 7.1** Approach site with caution - look for evidence of hazardous materials.
- 7.2** If radiation hazard is suspected, position personnel, vehicles, and command post at a safe distance (200-300 feet) upwind of the site.

**SOP 1501-A: HANDLING AND TRANSPORT FROM EMERGENCY FACILITIES  
AND THE FIELD (Continued)**

**7.0 HANDLING AND TRANSPORT FROM THE FIELD (Continued)**

- Series.
- 7.3 Notify Communications Center and appropriate medical facility emergency room.
  - 7.4 Put on protective gear, use dosimeters and survey meters, as instructed in SOP 800
  - 7.5 Determine the presence of injured victims.
  - 7.6 Expose wounds and cover with sterile dressings.
  - 7.7 Victims should be monitored at the control line for possible contamination only after they are medically stable and at the discretion of the on-site authority. Radiation levels above background indicate the presence of contamination. Remove the contaminated victims' clothing and leave at the site.
  - 7.8 Move the ambulance cot to the clean side of the control line and unfold a clean sheet or blanket over it. Place the victim on the covered cot and package for transport. Do not remove the victim from the backboard if one was used.
  - 7.9 Move victims away from the radiation hazard area, using proper patient transfer techniques to prevent further injury. Stay within the controlled zone if contamination is suspected.
  - 7.10 Package the victim by folding the stretcher sheet or blanket over the victim and securing in the appropriate manner.
  - 7.11 If possible, before leaving the controlled area, rescuers should remove protective gear at the control line. If possible, the victim should be transported by personnel who have not entered the controlled area. Ambulance personnel attending victims should wear gloves.
  - 7.12 Transport the victims to the appropriate medical facility. The hospital should be given additional, appropriate information, and the ambulance crew should ask for any special instructions the hospital may have.
  - 7.13 Follow the hospital's radiological protocol upon arrival.
  - 7.14 The ambulance and crew should not return to regular service until the crew, vehicle, and equipment have undergone monitoring by the CCHS Radiation Safety Officer/Radiation Monitor. If contaminated, the ambulance and crew will be directed to the Emergency Worker Decontamination Facility in Middletown.

**"CODE GREEN"**

**DECONTAMINATION AND TREATMENT  
OF  
THE RADIOACTIVELY CONTAMINATED PATIENT  
AT  
WILMINGTON AND CHRISTIANA HOSPITALS, CHRISTIANA CARE HEALTH SERVICES**

## "CODE GREEN"

### TABLE OF CONTENTS

#### **1.0 Purpose**

This procedure provides guidance for the staff of Christiana Care Health Services in their treatment and care of persons who were injured or became ill due to an emergency event at the Salem-Hope Creek Generating Stations.

#### **2.0 Action Level**

Initial notification and activation of the Emergency Department.

#### **3.0 Radiation Accident Patients**

External exposure and contamination.

#### **4.0 Notification Procedures**

Incoming and internal notification.

#### **5.0 Responsibilities**

- 5.1 REA Preparation - Team Responsibilities - Break Out
- 5.2 Emergency Dept. Unit Coordinator
- 5.3 Attending MD or Designee
- 5.4 Decon Nurse
- 5.5 Buffer Zone Nurse
- 5.6 Buffer Zone Unit Clerk
- 5.7 Service Assistant
- 5.8 Environmental Services
- 5.9 Public Safety
- 5.10 Radiation Safety Officer
- 5.11 Radiology (X-Ray Tech.)
- 5.12 Public Affairs Officer
- 5.13 Administration

#### **6.0 Return of REA to Normal Use**

#### **7.0 Patient Transfer to Definite Care Center**

#### **8.0 Procedure for Handling Multiple Victims**

#### **9.0 Sequence of Procedures**

#### **10.0 Attachments**

- 1502-A Initial Information Form
- 1502-B Code Green Call Out Form
- 1502-C Code Green Emergency Notification Numbers

**“CODE GREEN”**

**TABLE OF CONTENTS (Continued)**

**10.0 Attachments (continued)**

<b>1502-D</b>	Wilmington Hospital REA Diagram
<b>1502-E</b>	Christiana Hospital REA Diagram
<b>1502-F</b>	Dress Sequence/Protective Clothing and Dosimetry Instructions
<b>1502-G</b>	Hospital Radiation Protection Clothing Packet
<b>1502-H</b>	Sample Collection
<b>1502-I</b>	Patient Decontamination
<b>1502-J</b>	Patient Exit Procedure
<b>1502-K</b>	Staff Exit Procedure
<b>1502-L</b>	Evaluation and Management of the Irradiated Patient
<b>1502-M</b>	Internal Contamination
<b>1502-N</b>	Emergency Self-Protection Instruction Card
<b>1502-O</b>	Personnel Dosimetry Log
<b>1502-P</b>	Anatomical Diagram
<b>1502-Q</b>	Sampling Kit Contents
<b>1502-R</b>	Decontamination Kit Contents
<b>1502-S</b>	Manuals Location
<b>1502-T</b>	References

## **“CODE GREEN” (Continued)**

### **1.0 PURPOSE**

- 1.1 By agreement with the Delaware Emergency Management Agency (DEMA), Christiana Care Health Services will provide treatment and care for persons who sustain injuries or become ill and whose medical condition is further complicated by radiation exposure and/or radiological contamination in the event of an emergency at the Salem-Hope Creek Generating Stations.
- 1.2 This procedure has been specifically written to support the Delaware Radiological Emergency Plan in the event of an emergency at a nuclear power plant. Many of the procedures (i.e., setting up a REA, decontamination techniques) may be used in response to the management of a patient (s) who sustain injuries and who may be contaminated and/or overexposed to ionizing radiation as a result of a transportation accident or other industrial accident, etc.
- 1.3 The procedure assures the protection of hospital staff, other patients and visitors during admission and treatment of the radioactively contaminated patient.

### **2.0 ACTION LEVEL**

- 2.1 The “Code Green” plan is activated by the initial notification of the emergency department of the impending arrival of a radiologically contaminated patient. This plan may also be activated by the unannounced arrival of a contaminated patient.
- 2.2 In the event that an accident victim is radioactively contaminated, that victim will be taken to Christiana Hospital, decontaminated and treated in accordance with these procedures.

### **3.0 RADIATION ACCIDENT “CODE GREEN” PATIENTS**

Patients involved in a radiation accident are sent to a hospital because of a physical injury or illness that may be complicated by the presence of radioactive materials. Since not all radiation injuries are life threatening, primary emergency attention should be directed to patients who are diagnosed with life threatening injuries. Decontamination should occur as soon as the patient is medically stable. Radiation accident patients can be classified as an external exposure case, contamination case or combination of both.

#### **3.1 External Exposure**

An external exposure is one in which the injured person is exposed to a radiation source that is not in contact with his body. An example of an external exposure is a patient that receives an x-ray.

In the absence of contamination this type of patient (irradiated patient) does not present a health hazard to the hospital staff and can be handled and treated as any other emergency department admission.

#### **3.2 Contamination**

A contaminated patient is an individual who has sustained a physical injury and has radioactive materials (particles or liquid) on his clothing, body and/or in wounds. The first priority is patient stabilization within the confines of staff and facility safety, followed by decontamination. Decontamination is the removal of the contaminated material: i.e., removing clothing and/or washing the contaminated area. Contamination is seldom a hazard to hospital personnel. The presence of adequate procedures to prevent spread of contamination and protect personnel will minimize exposure to hospital staff and the facility.



## **“CODE GREEN” (Continued)**

### **4.0. NOTIFICATION PROCEDURES**

#### **4.1 Incoming Notification**

##### **4.1.1 Notification call may come from any of the following:**

- Fireboard
- Police Communications
- EMS Radio
- Citizen
- Delaware Emergency Management Agency
- Public Service Enterprise Group

##### **4.1.2 Record on Initial Information Form (Attachment A)**

#### **4.2 Internal Notification**

**4.2.1** Person receiving the incoming call is to immediately notify Nurse Manager and Unit Coordinator (U.C.)

**4.2.2** "Code Green" determination will be made between the Unit Coordinator and the Doctors For Emergency Services (DFES).

**4.2.3** E.D. Clerk (as directed by U.C.) will notify the following that a "Code Green" has been called: (Attachment B).

Dials 911 and asks the dispatcher to initiate "Code Green" call tree (Attachment C).

### **5.0 RESPONSIBILITIES**

#### **5.1 Radiation Emergency Area (REA) Preparation - Team Responsibilities**

The Radiation Emergency Area (REA) consists of the Decontamination Room and the Buffer Zone.

Preparation and set-up of the Radiation Emergency Area is the responsibility of all team members: E.D. personnel, Environmental Services, and Public Safety.

Upon notification, prepare the REA as follows:

##### **Prior to Patient Arrival**

**5.1.1** Empty room (remove mobile equipment, etc.)

##### **5.1.2 Step 1 for Wilmington Hospital only:**

Cover the REA floor and Emergency Department ambulance entrance with pre-cut Herculite according to designated plan. (Refer to Attachment D)

Yellow floor covering for Decon Room, shower room, entrance hallway, and EMS arrival area.

Green floor covering for Buffer Zone.

White floor covering: place roll in Buffer Zone (used for patient exit).

**“CODE GREEN” (Continued)**

**5.0 RESPONSIBILITIES (Continued)**

**5.1 Radiation Emergency Area (REA) Preparation-Team Responsibilities (Cont.)**

**5.1.2 (Continued)**

**Step 2 for Christiana Hospital only:**

Cover Emergency Department ambulance entrance with plastic.

**5.1.3** Attach decon table to stretcher using the attached straps and place water receptacle under the drain. (15 gallon)

**5.1.4** Place two (2) waste receptacles (32-gallon containers) with plastic liner in Decon Room.

**5.1.5** Set-up warning ropes signs and stanchions as indicated on the diagram. (Attachment D or E)

**5.1.6** Place Patient Sampling Equipment and Decon Supplies in the Decon Room.

**5.1.7** Place procedure charts on wall in Decon Room.

**5.1.8** Perform an operational check of survey instrument.

- Check calibration sticker to ensure instrument calibration is current.
- Test battery to ensure acceptable performance range.
- Verify instrument response using a check source.
- Determine the general area background counts rate. The normal background measurement for the Ludlum Model 3 (with Model 44-9 Pancake Probe) is 70 - 80 cpm.
- To prevent contamination of the probe, cover the probe itself with plastic (sandwich bag, plastic wrap, etc.).
- Use the audible mode or earphone jack if available. This allows radiological monitor to concentrate on scanning technique rather than viewing the meter face of the instrument.

**5.1.9** Ambulance/EMS personnel should refer to SOP 801 for emergency worker self-protection procedures and exposure limits. Note: Normal dose allowance for Delaware emergency workers responding to an accident with a nuclear power plant is 1.25 rem. Authorization must be obtained from the Division of Public Health through the Delaware Emergency Management Agency (DEMA) Director, to exceed this dose.

**5.2 Emergency Department Unit Coordinator Responsibilities:**

**Prior to Patient Arrival**

**5.2.1** Directs Clerk to notify E.D. Administrative Personnel: (Attachment B)

**5.2.2** Assign E.D. Personnel to:

- Buffer Zone - REA
- Decon Room

**5.2.3** Calls in additional staff as needed.

**“CODE GREEN” (Continued)**

**5.0 RESPONSIBILITIES (Continued)**

**5.3 Attending M.D. or Designee**

**Prior to Patient Arrival**

- 5.3.1 Obtain patient report from E.D. Unit Coordinator.
- 5.3.2 Dress in protective clothing and dosimetry (Team Leaders) in accordance with Attachment F.
- 5.3.3 Assure that additional physician coverage is available for the emergency department as needed.

**Patient Arrival in REA**

- 5.3.4 Receive information regarding the patient's medical condition and contamination status from EMS.
- 5.3.5 Direct and/or perform necessary medical treatment.
- 5.3.6 Assure radiation surveys are performed by Radiation Safety Officer.
- 5.3.7 Direct and/or obtain samples of the contaminated area in accordance with Attachment H.
- 5.3.8 Direct and/or perform a patient decontamination procedure in accordance with Attachment I.
- 5.3.9 Direct and/or perform transfer of patient from REA to appropriate section of the hospital in accordance with Attachment J.
- 5.3.10 Remove protective clothing and exit the Decon Room through Buffer Zone as directed by Radiation Safety Officer in accordance with staff/exit procedure, Attachment K.

**5.4 Decon Nurse**

Decon Nurses are assigned to the Decon Room and are responsible for patient care management and decontamination.

**Prior to Patient Arrival**

- 5.4.1 Obtain patient report from E.D. Unit Coordinator
- 5.4.2 Dons protective clothing, DLR and personal dosimeter(s) (team leader only) in accordance with Attachment F.

**Patient(s) Arrival**

- 5.4.3 Triage patient(s) to REA as appropriate
- 5.4.4 Assist attending physician in patient assessment, treatment and stabilization.

**“CODE GREEN” (Continued)**

**5.0 RESPONSIBILITIES (Continued)**

**5.4 Decon Nurse (Continued)**

**5.4.5** Obtain radiological samples from contaminated area in accordance with Attachment H.

**5.4.6** Perform decontamination of patient in accordance with Attachment I.

**5.4.7** Perform patient exit procedures in accordance with Attachment J.

**5.4.8** Remove protective clothing and exit the Decon Room through Buffer Zone as directed by Radiation Safety Officer in accordance with staff exit procedure, Attachment K.

**5.5. Buffer Zone Nurse**

The Buffer Zone Nurse is located in the Buffer Zone (clean area) and does not handle contaminated patients unless required to enter the Decon Room for assistance.

**Prior to Patient Arrival**

**5.5.1** Obtains briefing from E.D. Unit Coordinator

**5.5.2** Dons protective clothing (DLR, and personal dosimetry /team leaders) in accordance with Attachment F.

**5.5.3** Assures personnel entering REA wear protective clothing, DLR and personal dosimetry (team leader (s) only) in accordance with Attachment F.

**5.5.4** Maintains a record of each person entering the REA; name and time.

**5.5.5** Distributes and documents dosimeters; DLR badge and self-reading electronic dosimeter or self-reading dosimeter (SRD) (team leader (s) only) in accordance with Attachment O.

- Use "Emergency Worker Self-Protection Instruction Card" for dosimetry information, if necessary. (Attachment N)

**Patient Arrival**

**5.5.6** Documents all medical/radiological data.

**5.5.7** Advises team leader (s) (in Decon Room) to observe and note direct-reading dosimeter(s) scale every 15 minutes.

**5.5.8** Transfers/receives clean materials/supplies into and out of the Decon Room.

**5.5.9** Controls entrance and exit of personnel and supplies at control point. Assures that no person or article is allowed to leave the Decon Room unless a survey is performed.

**“CODE GREEN” (Continued)**

**5.0 RESPONSIBILITIES (Continued)**

**5.5 Buffer Zone Nurse (Continued)**

**5.5.10** Record results of radiation surveys on body charts (see Attachment P). Information should include survey results, location and time of day. Each sheet is used for one survey only.

**5.5.11** Assists in-patient exit procedure in accordance with Attachment J.

**5.5.12** Does not enter Decon Room unless requested by the attending physician.

**5.5.13** Collects dosimeters and records readings.

**5.6 Buffer Zone Unit Clerk**

**5.6.1** One Unit Clerk is located in the Buffer Zone in the clean area and is NOT required to dress in protective clothing.

**5.6.2** The Unit Clerk is responsible for obtaining registration information and Emergency Department Chart.

**5.6.3** Assists Buffer Zone Nurse in the following:

- Transfers/receives clean materials/supplies into and out of the Decon Room.
- Controls entrance and exit of personnel and supplies at control point. Assures that no person or article is allowed to leave the Decon Room unless a survey is performed.

**5.6.4** Performs normal duties.

**5.7 Service Assistant**

**5.7.1** Assists staff with preparation and set-up of the REA as directed.

**5.8. Environmental Services Responsibilities**

**5.8.1** Assists staff with preparation and set-up of the REA as directed.

**5.9 Public Safety**

**5.9.1** Don protective clothing, DLR badge and personal dosimetry (team leader(s) only). (Only the personnel having contact with patient and/or contaminated areas)

**5.9.2** Place ropes, signs and stanchions in the ambulance receiving area. (Refer to Attachments D & E, REA Diagrams)

**5.9.3** If time permits, may assist with the overall REA preparation.

**Patient Arrival**

**5.9.4** Direct ambulance to designated receiving area.

**5.9.5** Secure ambulance and EMS arrival area with rope and stanchions.

**5.9.6** Restrict access to ambulance area by unauthorized personnel. Assure ambulance personnel remain until a Radiation Safety Officer clears them for release.

**“CODE GREEN” (Continued)**

**5.0 RESPONSIBILITIES (Continued)**

**5.10 Radiation Safety Officer**

The Christiana Care Radiation Safety Officer or designated Nuclear Medicine personnel may assume duties as outlined below.

**Prior to Patient Arrival**

- 5.10.1** Assures medical team is wearing protective clothing and dosimeters.
- 5.10.2** Dons protective clothing DLR badge and personal dosimetry (team leader(s) only) in accordance with Attachment F.
- 5.10.3** Obtains survey instrument and performs operational check.

**Upon Patient Arrival**

- 5.10.3** Obtains appropriate radiological/contamination patient status report from EMS personnel.
- 5.10.4** Accompanies EMS personnel and patient into REA Decon Room.
- 5.10.5** Advises EMS personnel to remain in EMS arrival area to be surveyed; also, advises of no eating, smoking or drinking.

**Patient Located in Decon Room**

- 5.10.6** Provides radiation status report to the medical staff; location of contamination and survey reading.
- 5.10.7** Provides advice and guidance to hospital staff regarding radiation exposure and protective actions.
  - Assures that dosimetry readings are taken every 15 minutes
  - Uses discretion (medical vs. radiological) regarding advisement of rotation of staff
- 5.10.8** Provides direction regarding contamination control methods.
- 5.10.9** Performs surveys of articles leaving the Decon Room.
- 5.10.10** Upon completion of medical treatment, initiates decontamination procedures to include:
  - Complete body survey. Provides results to Buffer Zone Nurse.
  - Assures samples from contaminated areas are obtained and properly labeled. (Refer to Attachment H)
  - Provides guidance regarding decontamination techniques. (Refer to Attachment I)
  - Performs frequent surveys of decon staff hands.

**“CODE GREEN” (Continued)**

**5.0 RESPONSIBILITIES (Continued)**

**5.10 Radiation Safety Officer (Cont.)**

**Patient Exit**

- 5.10.11** Assures patient exit procedure is performed in accordance with Attachment J.
- Prior to transfer of patient, surveys decon staff hands and directs them to remove first layer of gloves.
  - Surveys decontamination table (Patient transfer side)
  - Instructs Decon Team to remain off the clean floor covering (white) used during the patient exit.
  - Prior to transfer of patient to clean stretcher performs final survey.

**Staff Exit**

- 5.10.12** Assists staff in removal of protective clothing and use of step-off pad in
- 5.10.13** Ensures the collection of dosimetry from personnel exiting the Decon Room and Buffer Zone at the termination of all procedures and returns them to DEMA for processing.

**Post Exit**

- 5.10.14** Surveys EMS personnel. Provides them with guidance if decontamination is required. Decontamination can be performed in the Decon Room.
- 5.10.15** Surveys ambulance and equipment. Determines need for decon and directs ambulance to appropriate facility for decontamination. (Middletown Armory as advised by DEMA)
- 5.10.16** Monitors route of travel from ambulance to Decon Room and determines need for decontamination.
- 5.10.17** Surveys and advises of need for decontamination of hospital REA, equipment and supplies, as required.
- 5.10.18** Offers advice regarding containment of radioactive waste until removed by appropriate personnel.

**5.11 Radiology Department**

Upon receipt of notification of incoming injured or ill contaminated patient (Code Green), the radiology technician on duty will perform the following procedure as necessary.

**Prior to Patient Arrival**

- 5.11.1** Assure x-ray equipment is in operating order and is located in corridor near Buffer Zone.

**Patient Arrival**

- 5.11.2** Await request for x-ray(s) to be performed.
- 5.11.3** Upon request for x-ray, determine if procedure is to be handled from (clean) Buffer Zone or (potentially contaminated) Decon Room.

**“CODE GREEN” (Continued)**

**5.0 RESPONSIBILITIES (Continued)**

**5.11 Radiology Department (Continued)**

**5.11.4** X-ray procedure performed from Buffer Zone

- Position machine in Buffer Zone at the threshold to the Decon Room
- Position patient (by Decon Room personnel only)
- Bag x-ray cassette (plastic bag) and hand into Decon Room
- After x-ray is taken, a person in the Decon Room will hold the bagged cassette in one hand and pull down the bag with the other hand
- As the cassette is handed to the Buffer Zone it will be radiological monitored
- The bag remains in the Decon Room
- Remove protective clothing when attending physician gives approval

**5.11.5** X-ray procedure in the Decon Room

- Roll clean Herculite or plastic into Decon Room
- Bag x-ray cassette
- Roll x-ray machine into Decon Room (preferably on clean pathway)
- Perform appropriate x-rays
- As machine exits Decon Room at control point it will be monitored
- Follow steps above under "x-ray procedure performed from Buffer Zone (5.11.4)
- X-ray technician will exit room in accordance with Attachment K

**5.12 Public Affairs Officer**

**5.12.1** Designates and prepares an area to address the media.

**5.13 Administration**

**5.13.1** Provide support as needed and handle press inquiries until the arrival of the hospital's Public Affairs Officer.

**6.0. RETURN OF REA TO NORMAL USE**

**6.1** Radiation Safety Officer may advise need for clean up and disposal of waste material.

**6.2** Personnel involved in clean-up activities should don appropriate protective clothing.

**6.3** The hospital areas requiring clean up should be isolated (i.e., doors shut, roped off and security posted) until clean-up operations are complete.

**6.4** Directions for clean up, storage and transport of contaminated materials rests with DEMA.

**7.0 PATIENT TRANSFER TO DEFINITE CARE CENTER**

**7.1** If it is determined by the Attending Physician, and/or HAZ/MED Consultants that the patient will require transfer to a Definite Care Center for evaluation and long term care, HAZ/MED Consultants will contact the medical center, Hospital of the University of Pennsylvania.

**7.2** Arrangements can be coordinated through HAZ/MED Consultants.



**“CODE GREEN” (Continued)**

**8.0. PROCEDURE FOR HANDLING MULTIPLE VICTIMS**

- 8.1 Multiple injuries would be managed by utilizing the principles of disaster planning. These include triage at all levels of care and primary attention to life-threatening injuries. Radiation exposure and contamination should receive secondary consideration.
- 8.2 Upon notification that there has been a radiological incident the Initial Information Form (Attachment A), will be utilized to record information regarding the incident and expected patients. The Initial Information Form should be given to the Emergency Department Physician and Unit Coordinator.
- 8.3 Minimum decontamination should include the removal of contaminated clothing. If time permits, and patient's medical condition warrant, further decontamination can be accomplished prior to transport.
- 8.4 The medical team at Wilmington or Christiana Hospital should dress in protective clothing. (See Attachment G) The REA should be set up to receive multiple contaminated and injured patients. In order to expand the REA to accommodate multiple contaminated and injured patients, the Buffer Zone can be used as an additional treatment/decontamination area. In this manner, at least three or four patients can be simultaneously treated in the expanded REA. An imaginary Buffer Zone (not necessarily covered with Herculite) can then be established in the hallway to act as a control point between contaminated and clean areas of the hospital.
- 8.5 Upon arrival of the ambulance the triage team should evaluate the medical and contamination status of the patient(s). Non-contaminated patients should be directed to a clean area. The most seriously injured should be brought into the decontamination room. If more than one patient requires immediate care, then they should be brought into the expanded REA for treatment. However, if possible, the less seriously injured should remain in the ambulance.
- 8.6 The Decon Table should be used for patients with extensive contamination. Patients with localized contamination can be decontaminated using large waste containers, basin, shampoo tray, wet towels or other methods to contain wash water.
- 8.7 After the patients have been treated and decontaminated, the REA should be closed off. Refer to 6.0 "Return of REA to Normal Use".

**9.0 SEQUENCE OF PROCEDURES**

**MANAGEMENT OF CONTAMINATED PATIENTS**

**9.1 Notification**

- 9.1.1 Receive call
- 9.1.2 Complete Initial Information Sheet
- 9.1.2 Notify Nurse Manager and Unit Coordinator

**9.2 Set-Up of Radiation Emergency Area (REA)**

- 9.2.1 Prepare Decon Room and Buffer Zone
- 9.2.2 Prepare ambulance entrance

**9.3 Staff Preparation**

- 9.3.1 Obtain assignments
- 9.3.2 Dress in protective clothing

**“CODE GREEN” (Continued)**

**9.0 SEQUENCE OF PROCEDURES (Continued)**

**9.4 Triage**

9.4.1 Medical

9.4.2 Radiological

**9.5 Emergency Medical Care**

**9.6 Radiological Assessment**

9.6.1 Radiation Survey

9.6.2 Collection of Samples

**9.7 Patient Decontamination**

9.7.1 Wounds

9.7.2 Body Orifices

9.7.3 Intact Skin

**9.8 Patient Exit**

9.8.1 Clean floor covering

9.8.2 Clean stretcher

9.8.3 Clean team

**9.9 Staff Exit**

9.9.1 Remove clothing

9.9.2 Remove dosimetry

9.9.3 Receive body survey

**ATTACHMENT 1502-A  
INITIAL INFORMATION FORM**

Date and Time of Call: \_\_\_\_\_

Name of Caller/Agency: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Accident Location: \_\_\_\_\_

Number and Type of Patients: (i.e. age, sex, etc.) \_\_\_\_\_

Description of Injuries: \_\_\_\_\_

Is the patient contaminated: yes\_\_\_\_ no\_\_\_\_?

Source of Radioactive Contaminant: \_\_\_\_\_

Label body part with injuries and contamination levels in cpm or mR/hr.

Non radioactive hazardous materials involved: \_\_\_\_\_

Was decontamination performed at the accident site? Yes\_\_\_\_\_ No\_\_\_\_\_

If yes, describe: \_\_\_\_\_

Estimated time of arrival: \_\_\_\_\_ am/pm

Wilmington Hospital

Christiana Hospital

\_\_\_\_\_  
Signature of Recorder

\_\_\_\_\_  
Time

\_\_\_\_\_  
Date

## “CODE GREEN” - RADIATION EMERGENCY EMERGENCY DEPARTMENT TELEPHONE TREE

**4. Nursing Coordinator** **Page Operator**

**ATTACHMENT 1502-C**

**CODE GREEN - RADIATION EMERGENCY  
COMMUNICATION CENTER TELEPHONE TREE**

**When notified by the E.D. of a Code Green, the Christiana Care dispatcher will initiate Group Page 44, which notifies the following:**

- 1.** Director of Public Safety
- 2.** Life Safety Officer
- 3.** Life Safety Specialist
- 4.** Lieutenants, Security
- 5.** Nurse Manager, Emergency Department, Christiana Hospital
- 6.** Nurse Manager, Emergency Department, Wilmington Hospital
- 7.** Attending Physician, Doctors for Emergency Services
- 8.** Industrial Hygienist
- 9.** The following should be contacted directly:  
Public Affairs 327-3300  
If not available  
Public Affairs on-call Contact Page Operator
- 10.** Public Safety Officer in Charge Available by Radio
- 11.** Environmental Services Supervisor Page to Report to Emergency Department

The Christiana Care Dispatcher has access to telephone and pager numbers of Christiana Care emergency response personnel. Contact the Dispatcher at 733-1247 if you need to contact a specific person.

**ATTACHMENT 1502-C (continued)**

**RADIATION EMERGENCY TELEPHONE DIRECTORY**

**Delaware Emergency Management Agency (DEMA)**

Switchboard (302) 659-3362

Jamie Turner (302) 247-4773 (Pager)  
Director, DEMA (302) 222-8402 (Cell)

James Strickland (302) 247-9701 (Pager)  
Acting Operations Manager, DEMA (302) 222-6578 (Cell)

David Hake (302) 247-6704 (Pager)  
Principal Planner, DEMA (302) 222-6566 (Cell)

Delaware State Police (302) 659-2341  
(DEMA Duty Officer) (24 hour service)

Tony Serratore (609) 953-9454 (Home)  
HAZ/MED Consultants (856) 253-1196 (Pager)

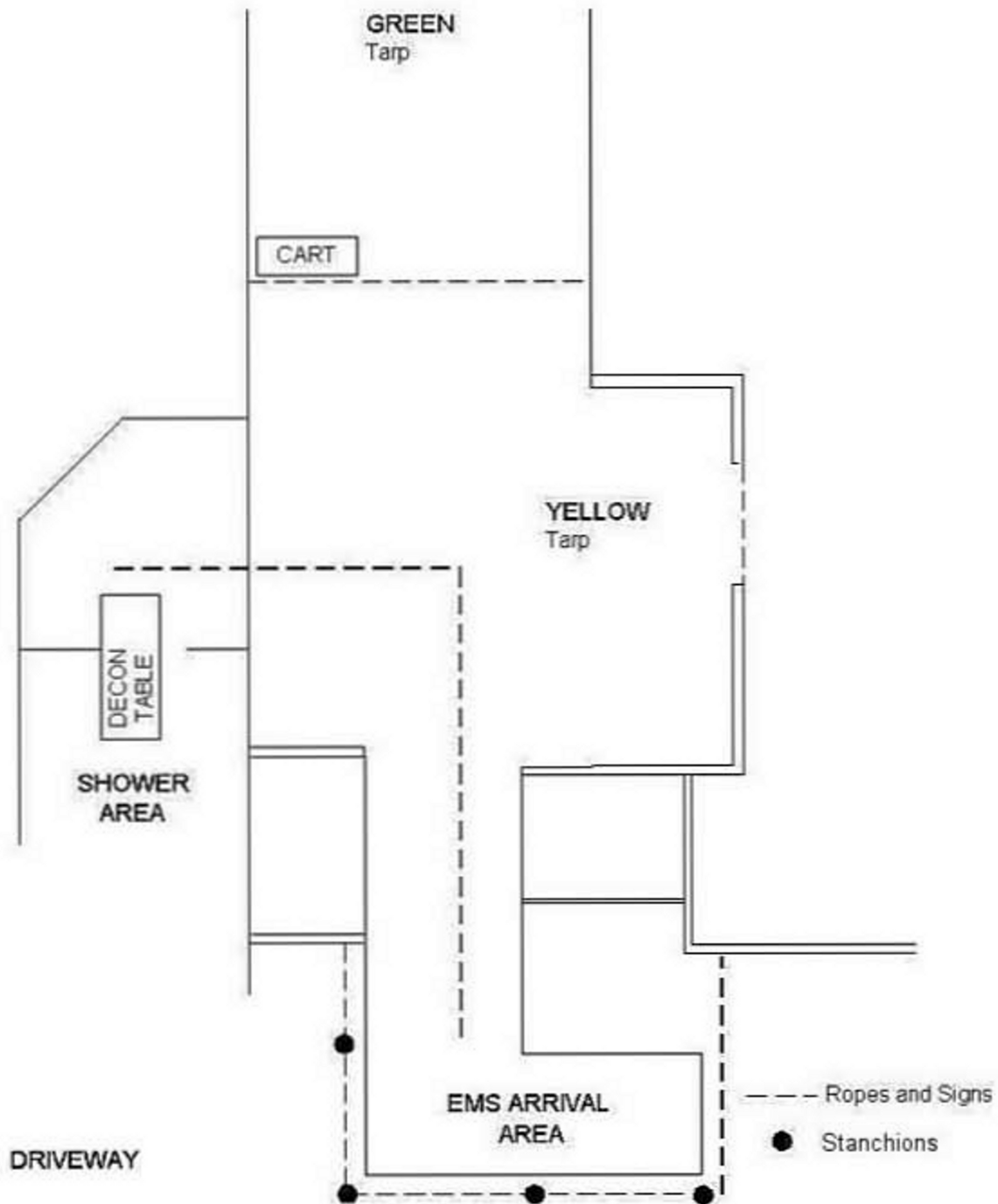
Hospitals: Wilmington (302) 428-4181  
Christiana (302) 733-1700

PSEG Nuclear (856) 339-1595  
5060 (NETS)

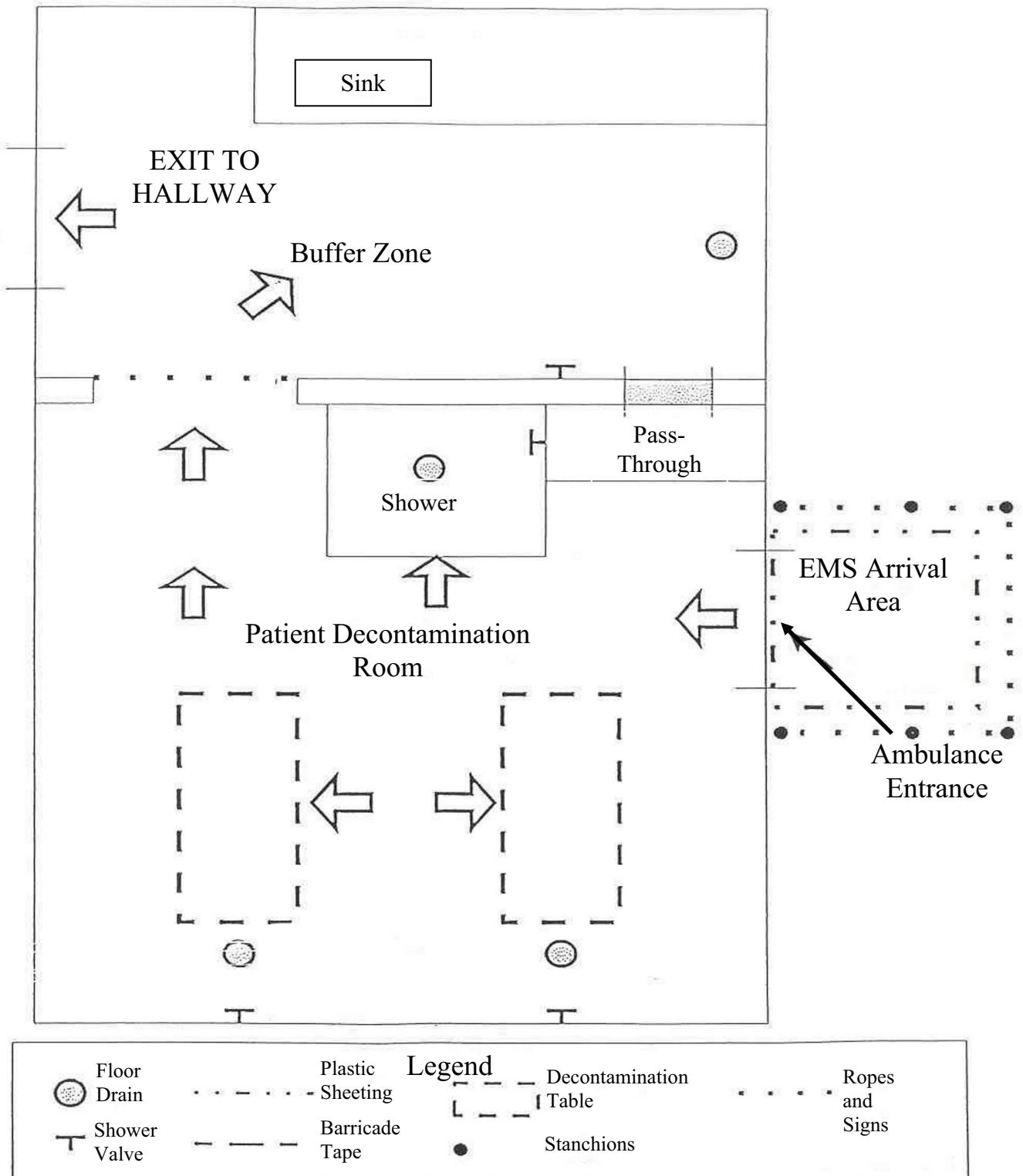
Nuclear Regulatory Commission (301) 816-5100 - 24 hours

REACTS (423) 576-3086  
24 hour # (423) 481-1000 - REACTS Staff  
Methodist Medical Center of Person on Call  
Oak Ridge

**ATTACHMENT 1502-D  
WILMINGTON HOSPITAL REA DIAGRAM**



ATTACHMENT 1502-E  
CHRISTIANA HOSPITAL REA DIAGRAM





**ATTACHMENT 1502-F**

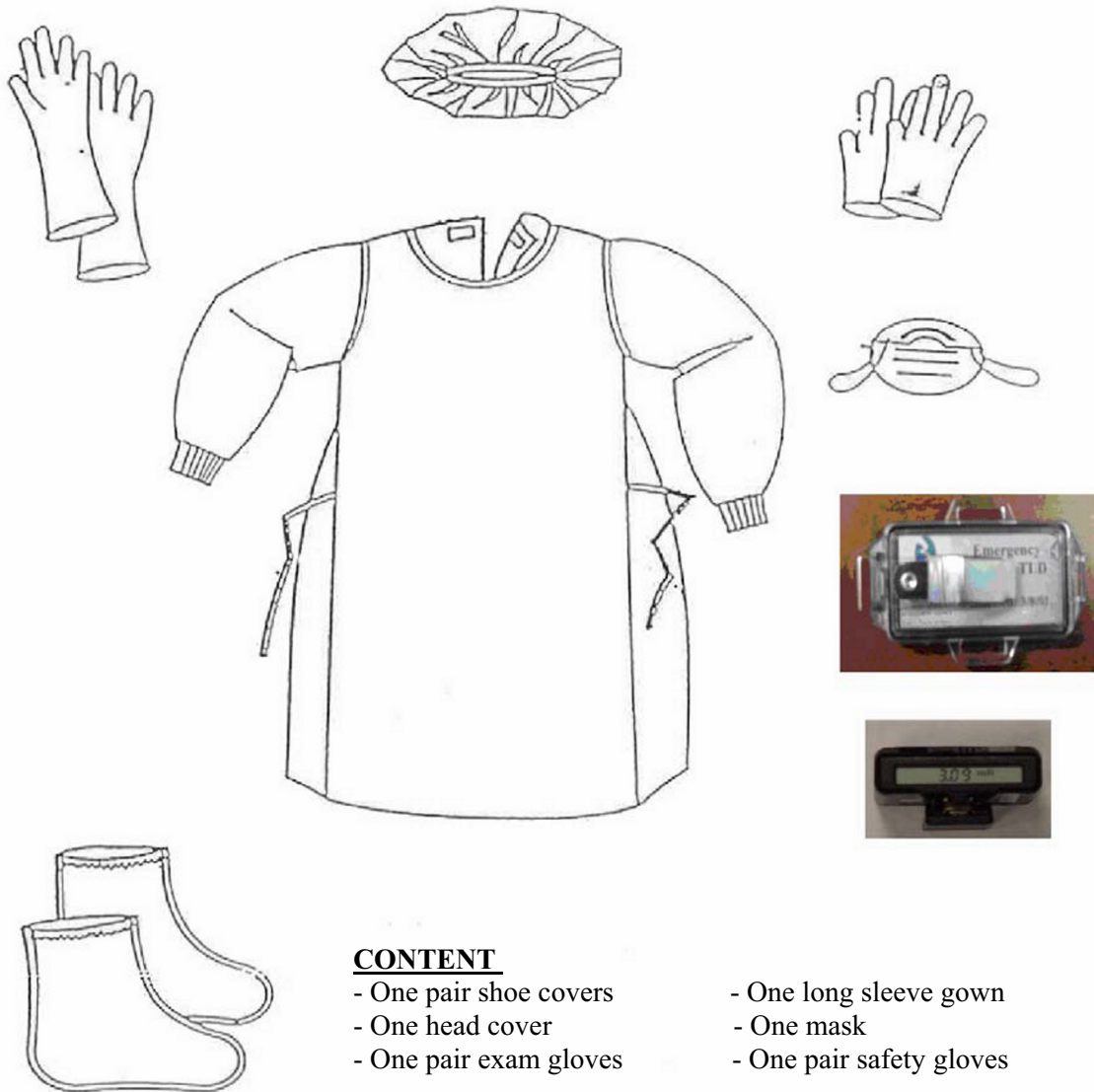
**DRESS SEQUENCE/PROTECTIVE CLOTHING AND DOSIMETRY INSTRUCTIONS**

1. Obtain clothing packs from REA supply cabinet (Christiana) or Decon Supply Cart (Wilmington)
2. Remove and secure jewelry
3. Place shoe covers over pant leg
4. Clip DLR Badge on scrub top
5. Don gown and secure with attached straps
6. Clip self-reading digital dosimeter to gown after zeroing them (team leaders only)
7. Don first set of gloves and
8. Don second set of gloves - Do not tape
9. Don mask and cap

ATTACHMENT 1502-G

HOSPITAL RADIATION PROTECTION CLOTHING PACKET RPC-1001

**HOSPITAL RADIATION PROTECTION  
CLOTHING PACKET**



**CONTENT**

- |                        |                          |
|------------------------|--------------------------|
| - One pair shoe covers | - One long sleeve gown   |
| - One head cover       | - One mask               |
| - One pair exam gloves | - One pair safety gloves |

**DRESSING SEQUENCE**

- |                                      |   |
|--------------------------------------|---|
| 1. DLR/Dosimeter                     | 2. Protective shoe cover (elastic tops) |
| 3. Gown                              | 4. Safety gloves                        |
| 5. Exam gloves                       | 6. Head cover and mask                  |
| 7. Self-Reading Electronic Dosimeter |   |

**ATTACHMENT 1502-H**  
**SAMPLE COLLECTION**

**A. General**

The collection of samples from contaminated areas is a pre-requisite for a thorough evaluation of the radiological status of the patient. Samples should be obtained prior to patient decontamination. The sample collection kit should be used. Return the sample to the kit. Call Haz/Med Consultants (609-953-9454 Home Phone/835-253-1196 Pager) for disposition of samples.

**B. Principles**

1. The objectives of sample collection are:
  - To evaluate the amount and composition of the radioactive contaminants on or in the body
  - To obtain data with regard to the patient's exposure
  - To supply information on the biological injury inflicted by the radiation exposure
2. Obtain samples from the contaminated area as identified by the Radiation Safety Officer during the survey of the patient
3. Label each sample collection container with the following:
  - Date
  - Time
  - Patient's name
  - Source of specimen

**C. External Contamination Sample**

1. Intact skin: Use a cotton tip swab, moisten with a few drops of water and swab the contaminated area. Place swab in a separate container and label with time and location.
2. Wound - Use either one of the following methods:
  - For large wounds with visible blood or wound fluid, obtain a few cc using an eye dropper or syringe; transfer to bottle and label
  - For superficial wounds, rub gently with cotton swabs; return to tube and label
  - For wound with visible dirt or debris, remove with cotton tip or use tweezers; transfer sample to small glass vial and label
  - Save the primary dressing in a plastic bag

**ATTACHMENT 1502-H (Continued)**

**SAMPLE COLLECTION**

**D. Internal Contamination Samples**

1. Body Orifices: Wet cotton tip swab with a few drops of water or saline and swab each nostril, ear and mouth with a separate swab. Place in container and label with time and location
2. In cases where internal contamination is suspected: Collect initial urine sample and subsequent 24-hour urine. Collect fecal samples for first 72 hours. For further instruction, seek advice from the Radiation Safety Officer and Haz/Med Consultants.

**E. External Exposure Samples**

In cases of a total body exposure:

1. - Obtain 10cc of blood for complete blood count and differential
  - Record time these samples were taken; call Haz/Med Consultants
2. - Obtain 10cc of blood in a sterile heparinized tube for radiation cytogenetics study
  - Sample should be chilled - not frozen
  - Call Haz/Med Consultants (609-953-9454 Home Phone/856-253-2296 Pager) prior to obtaining sample

## ATTACHMENT 1502-I

### GUIDELINES FOR PATIENT DECONTAMINATION

#### 1. Definition

Decontamination is essentially the physical removal of the contaminant from the patient; i.e. clothing, intact skin, wound or body orifices.

#### 2. Objective

- To remove the contamination to reduce exposure to the patient
- To minimize exposure to the attending staff and prevent contamination of hospital personnel
- To prevent the spread of contamination beyond the REA

#### 3. Prerequisites

- Emergency medical care and patient stabilization should be performed prior to decontamination within the confines of staff and facility safety.
- Collect samples of the contaminated areas

#### 4. Documentation

Record decontamination efforts including decontamination method, solution used, location of contamination, number of washings and skin condition. Record patient contamination measurements on Anatomical Design, Attachment P.

#### 5. Decontamination Supplies

The REA equipment and supplies include a Decontamination Kit; solutions, applicators and contamination control articles.

#### 6. Decontamination Priorities

- Wounds
- Body Orifices
- Intact skin

***Note:** Priorities may be altered if prohibitive degrees of contamination are in/on any of the above locations. Simultaneous decontamination of multiple areas may be performed.*

#### 7. Preparation

- Cut away clothing as appropriate, roll the clothing from inside to out to avoid cross contamination of the skin. Discard in lined waste container.
- Obtain a complete body survey to identify contaminated areas.
- Collect samples from each contaminated site.
- Check the effectiveness of the decontamination by multiple radiation surveys.
- Protect "clean areas" (non-contaminated areas) by covering with waterproof drapes.

**ATTACHMENT 1502-I (continued)**

**GUIDELINES FOR PATIENT DECONTAMINATION**

**8. Decontamination of Wounds**

- In general, use standard wound treatment/cleaning protocol.
- Cover or drape adjacent clean areas using steri-drape or waterproof towels (i.e. "Chux") and secure with surgical tape.
- Items that can be used in decontamination:
  - Irrijet and saline
  - Betadine sponges (i.e. Cliniscrub)
  - Soft brushes (i.e. E-Z Prep) or Gauze Pads, soak in Betadine or Saline.
- Suggested Sequence of Decon Solutions:
  - Saline
  - Betadine
  - Hydrogen Peroxide (3%)

***Note:** Proceed to next solution if levels have not decreased after three washings.*

Decon to above background radiation levels (<100 cpm) unless medically contraindicated. (A reading which exceeds two times (>2X) the background reading at a monitoring station in a low background radiation area (< 0.1 mR/hr gamma exposure rate) indicates a potentially contaminated area)

- If wound cannot be completely decontaminated, seek guidance from Radiation Safety Officer and/or call Haz/Med Consultants.
- Following decontamination effort, dress wound and cover with waterproof dressing (i.e. Steri-drape). Secure with surgical tape.
- Discard materials in lined waste container.
- Following each decontamination effort, survey area and record results.

**9. Decontamination of Body Orifices**

- Decontaminate area-surrounding orifices.
- Prevent cross contamination of clean areas using waterproof drape.
- Gently clean orifice using wet swab.

**Eyes**

- Rinse with a stream of water from nose to temple direction.

**Ear Canal**

- Gently swab with cotton tip swab moisten with Saline.
- Rinse with Saline.

Note: Suction may be required.

**Nostrils**

- Turn head to side (if possible)
- Use cotton tip swab moisten with Saline.
- Instruct patient not to swallow, if possible.

***Note:** Suction may be required.*

## ATTACHMENT 1502-I (Continued)

### GUIDELINES FOR PATIENT DECONTAMINATION

#### 10. Decontamination of Intact Skin

- Protect non-contaminated adjacent skin areas by covering with waterproof drapes (i.e. "Chux"). Secure using surgical tape.
- The following articles can be used to apply the various decontamination solutions:
  - Soft scrub brushes (i.e. E-Z scrub)
  - Decon Pads
  - Gauze Packs (4"x4")
  - Solution Bowls

#### General Decontamination Guidelines

- Proceed to next solution if radiation levels have not decreased after three washings.
- Decon to above background radiation levels (<100 cpm) unless medically contraindicated, i.e. skin irritation, reddening. (A reading which exceeds two times (>2X) the background reading at a monitoring station in a low background radiation area (< 0.1 mR/hr gamma exposure rate) indicates a potentially contaminated area.
- Proceed from lowest contamination level to highest. Simultaneously washing of contaminated areas can be performed.

#### Decontamination Method

- Rinse area for approximately one minute using lukewarm water or Saline.
- Wash area with lukewarm water and a mild soap or Betadine.
- Rinse off with copious amounts of water.
- Blot dry using disposable towel.
- Survey area and repeat. If level has decreased, continue using same method (i.e. soap and water).
- Wash area-using Phisoderm. Apply with E-Z scrubs or gauze pads. Rinse and blot dry. If level has not decreased after three washings and skin is not irritated or reddened, proceed to next step.
- Wash area using Hydrogen Peroxide (3%). Apply with scrub brush or gauze pads. Gently apply Clorox (5%) using gauze pads or cotton tip applicator. Rinse with water. If radiation level has not decreased after three washings and skin is not irritated or reddened proceed to next step.
- Make a paste of a mild detergent and corn meal or use Boraxo soap. Apply with decon pad. Rinse and blot dry.

**Caution:** Care should be executed not to abrade the skin excessively. If radiation levels have not decreased after three washings consult with radiation protection personnel regarding the health hazard of the fixed contamination and/or call Haz/Med (856-810-8447) for consultation.

- Following completion of decontamination effort, apply skin lotion (i.e. AloeVista) to affected area.
- If fixed contamination is present, cover area with a dressing (i.e. Tegaderm Transparent Dressing) and label area with contamination level.

**ATTACHMENT 1502-I (Continued)**

**GUIDELINES FOR PATIENT DECONTAMINATION**

**11. Decontamination of Hair**

- Protect clean areas using waterproof drapes (i.e. "Chux")
- Shampoo area with mild shampoo (i.e. Johnson and Johnson)
- Thoroughly rinse hair.
- If necessary, repeat several times.
- If contamination persists, clip affected area.
- Localized hair contamination (i.e. leg) may require to be clipped or shaved (i.e. Shave Prep Kit).

**12. Nail Bed Decontamination**

- For contamination under nails, clip nails with nail clipper and wash area with Phisoderm and E-Z Scrub.

**13. Contamination Control Guidelines**

- Discard all material in line waste containers.
- Change gloves frequently and/or rinse gloved hands.
- Prevent cross contamination of clean areas using waterproof drapes.
- Rinse hands before handling/touching clean areas.
- Respect established traffic flow patterns and control points.
- Wear appropriate protective clothing.
- Contain contamination to the Decon Room.
- Request frequent radiation surveys of suspected contaminated areas.
- Do not pass supplies out of Decon Room without a survey.



## ATTACHMENT 1502-J

### PATIENT EXIT PROCEDURE

#### 1. Prerequisite

- Patient is decontaminated and a decision is made to transfer the patient to appropriate hospital service.
- Decon team members must change gloves or rinse gloved hands and remove gown.

#### 2. Procedures

- The Buffer Zone Nurse will roll in clean floor covering (white color) from the Buffer Zone doorway into the decon room parallel with the decon table.
- The Buffer Zone personnel; will bring a stretcher into the decon room.
- Any additional personnel required to enter the treatment room to assist must don shoe covers and gloves.
- Transfer the patient from decon table to the clean stretcher. The Buffer Zone personnel can assist in the transfer.
- Transport the stretcher out of the decon room
- **Caution:** The decon team members should not walk on the clean floor covering. The Buffer Zone personnel should not walk off the white floor covering. Assure the stretcher does not roll off the white floor covering.
- Survey patient and stretcher at control point.

**ATTACHMENT 1502-K**  
**STAFF EXIT PROCEDURE**

**1. Preparation**

- Place large lined waste container (32 gallon) at control point.
- Designate sequence of staff exit. Exit one person at a time.
- The Radiation Safety Officer should control the exit protocol and remind personnel of the sequence for removing clothing.
- Radiation Safety Officer should survey doorway jams between Buffer Zone and Decon Room.
- The Radiation Safety Officer located in Decon Room should assist in removing attendants clothing.
- Place "Step-Off Pad" at control point exit.

**2. Degowning Sequence**

- Remove digital or self-reading dosimeter (s) (team leader only) and give to Radiation Safety Officer.
- Remove gown.
- Remove outer set of gloves.
- Remove mask.
- Remove cap.
- Position oneself at doorway, turn and face inside of Decon Room. Backside should face Buffer Zone.
- Lift foot out of shoe cover, bend at knee, and hold until Buffer Zone Radiation Safety Officer surveys bottom of foot. Place foot on "Step-Off Pad". Repeat with other foot.
- Remove inner gloves and place in waste container.
- Give DLR badge dosimeter to Radiation Safety Officer.
- Receive full body survey by Radiation Safety Officer prior to leaving Buffer Zone.

## ATTACHMENT 1502-L

### EVALUATION AND MANAGEMENT OF THE IRRADIATED PATIENT

The following is a summary of information on the effects of total body and local radiation.

#### A. Definition

The patient who has received a less than supra lethal total body or partial body exposure to a source of penetrating ionizing radiation will exhibit symptoms which are not devastating or life threatening. During the emergency phase he will require non-aggressive symptom treatment.

#### B. Procedure

- Obtain a detailed history to include type of radiation exposure accident, circumstances, extent of exposure, position of source to the individual.
- Perform a physical and take photographs. Pay attention to skin lesions, nausea and vomiting and their relationship to the time and duration of exposure.

#### C. Hematopoietic Signs and Symptoms

For Total Body Gamma or X-Ray Radiation delivered over a short period of time (hours).

**Dose:** Effect on Exposed Persons:

5,000mrad (0.05 Gy.) No detectable injury or symptoms

50,000mrad (0.5 Gy.) Asymptomatic; Detectable minor depression of white cells

100,000mrad (1 Gy.) May produce prodromal symptoms (nausea, vomiting, fatigue) in about 10-20% of persons within 2 days.

450,000mrad (4.5Gy.) Prodromal symptoms followed by a latent period of 1-3 weeks when moderately severe illness develops, due to infection and bleeding. Most people require hospitalization. Expect 50% mortality if untreated.

600,000mrad (6 Gy.) More serious degree of the illness described above.  
Approaching 100% lethality without medical treatment.

#### D. Gastrointestinal Signs and Symptoms

For Total Gamma or X-Ray Radiation delivered over a short period of time (hours).

Dose: Effects on Exposed Persons:

>1,000 - 3,000 rad (10 - 30 Gy.) Immediate and profuse onset of nausea, vomiting and diarrhea followed by a short or no latent period.

Death is probable due to massive denuding of the GI tract and accompanying septicemia, dehydration and electrolyte imbalance.

**ATTACHMENT 1502-L (Continued)**

**EVALUATION AND MANAGEMENT OF THE IRRADIATED PATIENT**

**E. Cardiovascular/CNS Signs and Symptoms**

For Total Body Gamma or X-Ray Radiation delivered over a short period of time (hours).

Dose: Effect on Exposed Persons:

>3,000 rad (30 Gy.) Death in 24 to 48 hours due to vascular collapse. Immediate nausea, vomiting, anorexia and prostration and irreversible hypertension.

**F. Local Exposure**

A localized exposure is an irradiation of a small area on volume of body such as face or extremities. Localized irradiation injury will seldom produce initial signs and symptoms with the exception of brief exposure to very high doses. Radiation damage to the area can continue to occur over weeks and months producing ulcerations and chronic radiodermatitis.

**Skin**

Erythema may occur within the first 24-48 hours with doses in excess of 1500 rads. Erythema may fade after the first week and return in second and third weeks.

**Hair**

Temporary hair loss occurs with doses in the range of 300-500 rads approximately 2 to 3 weeks after the exposure. It takes approximately 700 rads for permanent hair loss.

**Eye**

The lens is a most sensitive area, about 200-rad of X or gamma radiation will produce initial cataract formations in about 10% of those so exposed. A cataract can develop as early as 2 or 3 months after a very high exposure.

**Gonads**

The spermatogonia B cells are among the most radiosensitive cells. Oligospermia can occur with doses as low as 15 rad. It is usually seen with 100 rad and above. Permanent sterility may occur with doses in the range of 600-1000 rads.

**G. Laboratory Tests for Evaluation of Irradiated Patient**

- Complete blood count with differential and platelet count.

Frequency: 3-4 times a day until a better estimate of dose is obtained.

Significance of Absolute Lymphocyte Count\* to the Prognosis

Lymphocyte Count (nadir) Significance and Prognosis

Over 2000/cu mm Normal range; no significant injury expected; prognosis good.

1200 - 1500/cu mm; Significant but probably non-lethal injury has occurred; prognosis good.

**ATTACHMENT 1502-L (continued)**

**EVALUATION AND MANAGEMENT OF THE IRRADIATED PATIENT**

**G. Laboratory Tests for Evaluation of Irradiated Patient (Cont.)**

Less than 1200/cu mm	Serious injury; prognosis guarded.
Less than 500/cu mm	Possible lethal injury; prognosis poor.
Less than 100/cu mm	Lethal injury if left untreated.

\*When taken within the first 48 hours of an acute whole-body exposure.

- Chromosome Analysis

Obtain 10cc heparinized preservative free blood and chill (not frozen). In addition, obtain a control sample from a non-exposed person.

## ATTACHMENT 1502-M

### INTERNAL CONTAMINATION

The following is a brief summary on internal contamination treatment. Consult references for detailed information.

#### **Definition**

Internal contamination occurs when the radioactive material is inhaled, ingested or absorbed through the skin or wound. Percutaneous absorption is not a major concern except in the case of iodine or tritium radionuclides.

#### **Procedure**

Identify the contaminant, amount and kind of each isotope present. This can be calculated using data from radiation surveys and smears, analyses of bioassay samples and whole body counts.

The dose calculations will determine whether the amount absorbed requires immediate treatment. Consult with health physicist or Haz/Med Consultants.

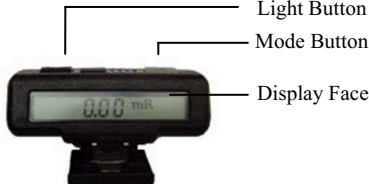

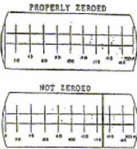
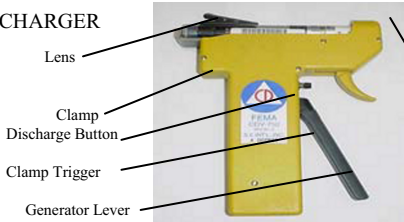
Treatment is targeted to reducing absorption and incorporation of the radionuclide and to hasten the elimination of the contaminant.

Examples of treatment include:

- Purge the GI tract with emetics and cathartics.
- Inhibit intestinal absorption of some radionuclides with antacid and alginates.
- Promote urinary excretion with diuretics.
- Block incorporation of radionuclides in a particular organ using a stable element that saturates the organ. An example is potassium iodide, which will reduce the uptake of radioactive iodine.

Treatment protocols should be discussed with a radiation medicine physician prior to being initiated.

# ATTACHMENT 1502-N EMERGENCY SELF-PROTECTION INSTRUCTION CARD

<div>SELF-READING ELECTRONIC DOSIMETER (PD-3I)</div> <div></div> <div><ul style="list-style-type: none"><li>Install a battery: Open the battery compartment, insert a single AA battery, then close and <b>lock</b> the compartment. IF THE BATTERY IS REMOVED, WAIT AT LEAST 10 SECONDS BEFORE REINSERTING A BATTERY.</li><li>Note: to zero the instrument, remove the battery and re-insert before operation.</li><li>To start operation: Insert battery and press the <b>run</b> button. Firmware revision number will appear on the display.</li><li>Mode button changes display face.</li><li>Display Face: Press backlight button.</li><li>RATE Icon flashes when the calculated dose rate is in excess of the Dose Rate Alarm set point.</li><li>Dose Icon flashes when the accumulated dose has exceeded the Dose Alarm set point.</li></ul></div>	<div><div>DOSIMETRY INFORMATION</div><div><ul style="list-style-type: none"><li>Remove dosimeter from charger</li><li>Aim at light</li><li>Verify zero hairline.</li></ul></div></div> <div><div>DOSIMETER CHARGER CDV-750 MODEL 6</div><div></div><div><p><i>Note: A CDV-750 dosimeter charger is used to “zero” pocket self-reading dosimeters (pencil dosimeters).</i></p><ol style="list-style-type: none"><li>Lift clamp and pull it back to maximum length.</li><li>Place dosimeter in clamp as shown.</li><li>Squeeze clamp trigger and push forward until the end is against dosimeter piece.</li><li>Release trigger-securing dosimeter in charger.</li><li>Point at light source and observe scale.</li><li>Repeatedly squeeze generator lever lightly and release watch for hairline to move from right to left.</li><li>If hairline moves to the left of zero, push discharge button to move it to the right.</li></ol></div></div>	<div>DOSIMETRY INFORMATION</div> <div><ul style="list-style-type: none"><li>Record dosimeter serial numbers.</li><li>Zero (or record initial reading) at beginning of assignment.</li><li>Should be worn at chest level.</li><li>Read dosimeter every 15 minutes.</li><li>Maintain contact with Supervisor.</li></ul></div> <div><table><tr><td>Normal Dose Limit:</td><td>1.25 REM</td></tr><tr><td>Emergency Workers Extension</td><td>5 REM</td></tr><tr><td>Life Saving Activities:</td><td>25 REM</td></tr></table></div> <div><ul style="list-style-type: none"><li>Contact your Supervisor if you are approaching or exceed your authorized dose limit.</li><li>Exposure extensions may be authorized by the Division of Public Health to 5 REM, and by the Governor above 5 REM. All exposure extensions must be authorized through DEMA.</li></ul></div>	Normal Dose Limit:	1.25 REM	Emergency Workers Extension	5 REM	Life Saving Activities:	25 REM
Normal Dose Limit:	1.25 REM							
Emergency Workers Extension	5 REM							
Life Saving Activities:	25 REM							

<p>IMPORTANT: CONTACT YOUR SUPERVISOR OR APPROPRIATE EMERGENCY OPERATIONS CENTER</p> <ul style="list-style-type: none"><li>• If you have a problem</li><li>• If you need additional information</li><li>• If you are unsure of instructions</li></ul> <p>If you reach your turn back value call your supervisor immediately to discontinue your mission</p> <ul style="list-style-type: none"><li>• Turn back value: Dose rate 1.25 REM/hr or higher</li></ul> <table><tr><td>State EOC</td><td>(877) 729-3362</td></tr><tr><td>Or</td><td>(302) 659-3362</td></tr><tr><td>New Castle EOC</td><td>(302) 573-2855</td></tr><tr><td>Kent EOC</td><td>(302) 735-3465</td></tr><tr><td>Sussex EOC</td><td>(302) 855-7801</td></tr></table>	State EOC	(877) 729-3362	Or	(302) 659-3362	New Castle EOC	(302) 573-2855	Kent EOC	(302) 735-3465	Sussex EOC	(302) 855-7801	<p>EMERGENCY WORKER VITAL INFORMATION</p> <hr/> <p><u>DLR BADGE</u></p> <p>Provides permanent exposure record. MUST be worn throughout the incident above waist and on outside of clothing.</p> <hr/> <p><u>DOSIMETRY</u></p> <p>Electronic or self-reading dosimeters provide approximate cumulative exposure. Instructions on reverse side (this card). Wear above waist on outside of clothing.</p> <hr/> <p><u>EXPOSURE RECORD CARDS</u></p> <p>Record DLR badge number. Record dosimeter serial number (s) Record initial dosimeter readings &amp; Final readings at end of assignment.</p> <hr/> <p><u>KI TABLETS (POTASSIUM IODIDE)</u></p> <p>See Att. 801-C2 for manufacturer information. Blocks Radiation to thyroid. Take only when directed by Supervisor. Take only one tablet during a 24-hour period.</p> <p><b>DO NOT TAKE IF ALLERGIC TO SHELLFISH OR IODINE.</b></p>	<p><u>STATE OF DELAWARE</u> EMERGENCY WORKER SELF-PROTECTION INSTRUCTION CARD</p> <hr/> <p>Before beginning your assignment, you should have the following:</p> <p><u>EMERGENCY WORKER RESPONSE KIT</u></p> <ul style="list-style-type: none"><li>• EW self-protection Instruction Card</li><li>• DLR Badge</li><li>• Electronic Dosimeter or Two (2) Self-Reading Dosimeters High and Low Range</li><li>• Daily Dose Record Card</li><li>• Permanent Dose Record Card</li><li>• KI Tablets (See Att. 801-C2)</li><li>• Anti-Contamination Kit (Optional) Tyvek Suit, Gloves, Booties, Tape. Turn in kits and all contents with forms upon completion of response assignment at Emergency Worker Decon Center, or where directed by Supervisor.</li></ul>
State EOC	(877) 729-3362											
Or	(302) 659-3362											
New Castle EOC	(302) 573-2855											
Kent EOC	(302) 735-3465											
Sussex EOC	(302) 855-7801											

## PERSONNEL DOSIMETRY LOG

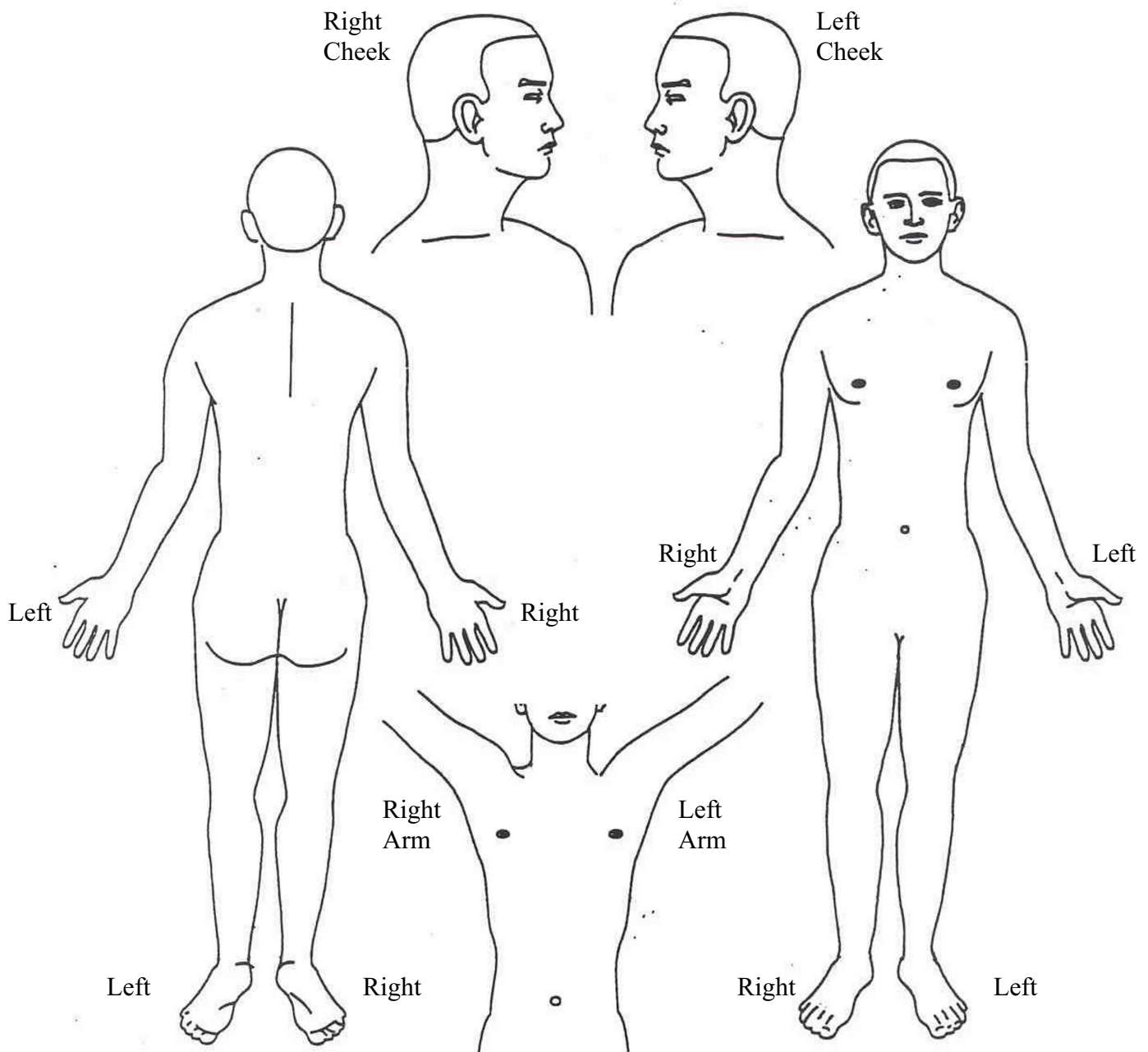
Attendant



ATTACHMENT 1502-P  
ANATOMICAL DIAGRAM

PATIENT'S NAME: \_\_\_\_\_ SURVEY TIME: \_\_\_\_\_

Directions: Indicate levels of contamination  
on the corresponding body part.



**ATTACHMENT 1502-Q**  
**SAMPLING KIT CONTENTS**

<b><u>Sample Type</u></b>	<b><u>Sample Instrument</u></b>	<b><u>Quantity</u></b>
Nasal	Swabs	4
Aural	Swabs	4
Oral	Swabs	4
Wounds	Swabs	4
Wound Secretions	Eye Dropper	2
Wound Dressings	150ml Container	4
Sputum	150ml Container	2
Vomit	600ml Container	1
Feces	600ml Container	1
Urine (initial)	1000ml Container	1
Urine (24 hours)	2000ml Container	

**Miscellaneous Items**

Plastic Bags	10
Forceps	1
EMT Scissors	1
Nail Clippers	1
Marking Pen	1
600ml Container Supports	2

**ATTACHMENT 1502-R**  
**DECONTAMINATION KIT CONTENTS**

<b><u>Skin Decontaminants</u></b>	<b><u>Quantity</u></b>
-----------------------------------	------------------------

Betadine	1
Phisoderm	1
Cornmeal	1
Mild Detergent	1
Shampoo	1

**Wound (or skin) Decontaminants**

Saline	2
E-Z Preps	10
Hydrogen Peroxide	1

**Materials for Decontamination**

E-Z Scrubs	10
Towels	10
Gauze Pads	15
Q-Tips	15
Exam/Safety Gloves	10
Irrigation Syringe	1
Shave Prep Kit	1

**Miscellaneous Items**

Procedure for Decontamination	1
Skin Cream	1
Steri Drape	1
Marker	1
Pen	1
Clipper	1
Surgical Tape	1
Plastic Bags	10

**ATTACHMENT 1502-S  
MANUALS LOCATION**

<b><u>Copy Number</u></b>	<b><u>Location</u></b>
1	Radiation Management Consultants Christiana Care Health Services
2A	Emergency Department - Wilmington Hospital
2B	Emergency Department - Christiana Hospital
3A	Nurse Manager - Emergency Dept. - Wilmington Hospital
3B	Nurse Manager - Emergency Dept. - Christiana Hospital
4	Radiation Safety Officer
5	Radiation Safety Technologist
6	Public Safety Office, Christiana Hospital
7	Occupational Safety
8	Communications
9	Public Safety Office, Wilmington Hospital
10	Radiology
11	PSEG Nuclear Emergency Preparedness Salem-Hope Creek Generating Stations
12	Medical Director Nuclear
13	Delaware Emergency Management Agency

## ATTACHMENT 1502-T

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