GULF STATES UTILITIES COMPANY
POST OFFICE BOX 2951 • BEAUMONT, TEXAS 77704
AREA CODE 713 838-6631

August 14, 1984
RBG- 18,659
File No. G9.5, G9.1.9.2,
G9.20.6

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Denton:

River Bend Station - Unit 1
Docket No. 50-458

Enclosed are Gulf States Utilities Company's (GSU) responses to the Nuclear Regulatory Commission's (NRC) Safety Evaluation Report (SER) outstanding issue No. (18) and confirmatory item No. (59) identified in Section 13.3. Three responses to be submitted in the near future are 1) written letters of agreement with the State of Mississippi, General Electric Company, and Stone & Webster Engineering Corporation, 2) River Bend Station (RBS) Emergency Implementing Procedures (EIP) to be submitted at least 180 days prior to issuance of an operating license and 3) the Public Information Brochure scheduled for submittal August 31, 1984.

The enclosed information also responds to the NRC's June 20, 1984 letter to J. E. Booker, regarding RBS Emergency Action Levels (EAL) and NRC Question 810.76 requesting the RBS Emergency Medical Assistance Program (EMAP).

Attachment 1 is a listing of issues discussed in Attachment 2. Attachment 2 provides the responses and references to any applicable enclosures. The enclosed changes to Section 13.3 of the FSAR will be provided in a future amendment.

Sincerely,

J. E. Booker

J. E. Booker
Manager-Engineering
Nuclear Fuels & Licensing
River Bend Nuclear Group

JEB/RJK/je

Attachments

A001
1/A0

Attachment 1

	SER Section	SUBJECT	FSAR Change
1.	13.3.2.1 pg. 9	Agreement Letters a. State of Mississippi b. Stone & Webster c. Our Lady of the Lake d. Jackson Rescue Unit e. General Electric Company f. Illinois Central Gulf Railroad	 November 1984 November 1984 Appendix B Appendix B November 1984 13.3.1 & 13.3.4.3.2
2.	13.3.2.2 pg. 10	Secondary Assignment of the Shift Supervisor	T13.3-5
3.	13.3.2.2 pg. 10	Emergency Response Personnel Availability Q 810.7	T13.3-5 13.3.5.1
4.	13.3.2.2 pg. 10	Primary and Alternate Spokesperson	Appendix A & 13.3.6.1.6
5.	13.3.2.3 pg. 11	GSU Representatives at Local Emergency Operations Centers	13.3.4.4.1
6.	13.3.2.4 pg. 12 13.3.2.10 pg. 19	Emergency Action Level (EAL) Tables	T13.3-1
7.	13.3.2.5 pg. 12	Notifying Beaumont Personnel	13.3.3.2.2 13.3.6.2.1
8.	13.3.2.5 pg. 12 13.3.2.9 pg. 17 13.3.2.16 pg. 23	Emergency Implementing Procedures Q810.73	Appendix F
9.	13.3.2.5 pg. 13	Prompt Notification System	13.3.5.4.1.2.2
10	13.3.2.5 pg. 13	Administrative Capability of Offsite Authorities to Alert the Public During Off-Normal Hours	13.3.5.4.1.2
11.	13.3.2.6 pg. 14	Testing HPN and ENS	Amendment 13

	SER Section	SUBJECT	FSAR Change
12.	13.3.2.7 pg. 14	Public Information Brochure Q810.24	N/A
13.	13.3.2.8 pg. 15	Emergency Response Facilities	13.3.5.2, 13.3.6.1 and T13.3-16
14.	13.3.2.8 pg. 16	Medical Equipment and Supplies	Appendix E
15.	13.3.2.9 pg. 17	Liquid Release Evaluation	Amendment 11
16.	13.3.2.9 pg. 18	Dose Assessment Methodology	Amendment 11
17.	13.3.2.10 pg. 18	Accountability Within 30 Minutes	13.3.5.4.1.1.3.4 and 13.3.4.2.2.8
18.	13.3.2.12 pg. 20	Exposure Guidelines for Ambulance Driver	13.3.5.5.3
19.	13.3.2.12 pg. 20	Emergency Medical Assistance Program (EMAP)-Q810.76	Appendix C 13.3.4.3.2
20.	13.3.2.13 pg. 21	GSU Headquarters Q810.81 & Q810.8	F13.3-11 13.3.4.3.1
21.	13.3.2.16 pg. 23	Emergency Planning Committee Function	13.3.7.2

Attachment 2

EPLB

1. SER Sections 13.3.2.1 and 13.3.2.12 pages 13-9 and 20 - Letters of Agreement

RESPONSE

The following letters of agreement are provided in Enclosure 1:

a. Our Lady of the Lake Regional Medical Center
b. Jackson Rescue Unit

The letter of agreement with Illinois Central Gulf Railroad is no longer required since GSU has purchased 1.2 miles of track south of the connection to RBS's Plant Access Railroad. References to the Illinois Gulf Central Railroad will be corrected in FSAR Section 13.3 as shown in Enclosure 1. Letters of agreement with the State of Mississippi, Stone & Webster Engineering Corporation and General Electric Company will be submitted during November 1984.

2. SER Section 13.3.2.2 page 13-10 - Secondary Assignment of the Shift Supervisor

RESPONSE

The Shift Supervisor may fulfill the functions of the Shift Technical Advisor (STA) as discussed in SER Section 13.2.1. The Shift Supervisor/STA functions are those identified in NUREG-0654, Table B-1. Specifically the responsibilities are: 1) Plant Operations and Assessment of Operational Aspects, 2) Emergency Direction and Control, and 3) Plant Systems Engineering.

3. SER Section 13.3.2.2, page 13-10 - Emergency Response Personnel Availability

RESPONSE

Revised FSAR Table 13.3-5 provides the emergency response augmentation personnel who provide support to the onsite emergency organization (Enclosure 2). FSAR Section 13.3 Appendix A will be updated in a future amendment to be consistent with Table 13.3-5. The number of personnel available within 30 and 60 minutes is compared to Table B-1 of NUREG-0654 in Enclosure 2. Section 13.3.5.1 will be revised in a future amendment to the FSAR as stated in Enclosure 2.

4. SER Section 13.3.2.2, page 13-10 - Primary and Alternate Spokesperson

RESPONSE

FSAR Appendix A, page 19 has been changed to state that the Emergency Communications Director is the alternate public spokesperson. The Primary Spokesperson remains the GSU Spokesperson; however the Emergency Communications Center is operated under the direction of the Emergency Communications Director. Section 13.3.6.1.6 has been changed to clarify this concept (Enclosure 3).

5. SER Section 13.3.2.3, page 13-11 - GSU Representative at Local Emergency Operation Centers (EOC)

RESPONSE

GSU has agreed to dispatch a technical representative to each of the five Parish EOC's within the 10 mile EPZ at a Site Area or General Emergency. FSAR Section 13.3.4.4.1 has been changed to include a statement concerning dispatching GSU representatives to the Parish EOC's when they are activated (Enclosure 4).

6. SER Section 13.3.2.4 and 13.3.2.10, Emergency Action Level (EAL) Tables - pages 13-12 and 13-19

RESPONSE

Revised FSAR Table 13.3-1 is provided in Enclosure 5. The table addresses the NRC's Request for Additional Information on EALs dated June 20, 1984. The EALs are also revised to reflect core/containment conditions as a basis for classifying an emergency. In addition, a new procedure, EIP-2-007, has been developed to provide guidance in recommending protective actions to offsite agencies. Both the EALs and the protective action recommendation guidelines conform to the intent of I&E Information Notice 83-28. A draft flow chart from procedure EIP-2-007 is also included in Enclosure 5.

7. SER Section 13.3.2.5, page 13-12 - Notification of Beaumont Augmentation Personnel

RESPONSE

Revisions to GSU's October 28, 1983 response regarding notification and transportation of augmentation personnel located in Beaumont, Texas are provided in Sections 13.3.3.2.2 and 13.3.6.2.1 (See Enclosure 14).

8. SER Section 13.3.2.5, page 13-12 - Emergency Implementing Procedures (EIP)
   13.3.2.9, page 13-17
   13.3.2.16, page 13-23

RESPONSE

The EIPs have been renumbered to be consistent with the Plant Support Manual format. A new listing of EIP's along with a cross reference for areas of the Emergency Plan to be implemented by the EIPs will be provided in FSAR Appendix F (see Enclosure 6). EIPs will be submitted 180 days prior to issuance of an operating license.

A new EIP dealing with offsite radiological monitoring has been designated EIP-2-014. This procedure includes detailed procedural aspects of direct surveys in the plume, air sampling for radioiodines with a sensitivity of at least 10^{-7} uCi/cc, particulate air sampling with a sensitivity of at least 10^{-9} uCi/cc, and interactions for collecting environmental samples during the emergency phase of an accident.

9. SER Section 13.3.2.5, page 13-13 - Prompt Notification System

RESPONSE

A description of the design for the RBS Prompt Notification System is provided in Enclosure 9. This description will be provided in FSAR Section 13.3.5.4.1.2.2 in a future amendment.

10. SER Section 13.3.2.5, page 13-13 - Administrative capability of Offsite to Alert the Public During Off-Normal Hours

RESPONSE

FSAR Section 13.3.5.4.1.2 has been supplemented to address the measures taken to ensure that offsite authorities have the administrative capabilities to alert the public during off-normal hours (Enclosure 7).

11. SER Section 13.3.2.6, page 13-14 - Testing HPN and ENS

RESPONSE

This item was addressed in GSU's October 28, 1983 and February 16, 1984 letters and was included in Sections 13.3.6.1.5.4 and 13.3.7.1.2.3 of Amendments 11 and 13 to the FSAR.

12. SER Section 13.3.2.7, page 13-14 - Public Information Brochure

RESPONSE

In accordance with 10CFR50, Appendix E.IV.D and following the guidance provided in NUREG-0654, FEMA-REP-1, Rev. 1, Section II.G, the RBS Public Information Brochure is being developed. Once complete, the brochure will be distributed annually for the purpose of notifying the public on what their initial actions should be during each emergency classification at RBS. GSU anticipates submitting the Public Information Brochure by August 31, 1984 (see Enclosure 16)

13. SER Section 13.3.2.8, page 13-15 - Emergency Response Facilities

RESPONSE

As indicated in GSU's response to Generic letter 82-33, dated April 15, 1983 some automated functions such as the Safety Parameter Display System (SPDS) and Digital Radiation Monitoring System (DRMS), computer based dose calculational method, may not be functional in the Emergency Response facilities until February 1986. However, secondary systems will be provided for each of these automated systems, which enables the emergency response facilities to function effectively during an emergency. Details of these secondary systems have been included in Sections 13.3.5.2 and 13.3.6.1 of the FSAR and are included as a cross reference to automated systems in Table 13.3-16 (Enclosure 9).

14. SER Section 13.3.2.8, page 13-16 - Medical Equipment and Supplies

RESPONSE

A complete listing of medical and radiological equipment and supplies available at both West Feliciana Parish Hospital and Our Lady of the Lake Regional Medical Center is provided in Enclosure 10. FSAR Appendix E will be supplemented with this information in a future amendment.

15. SER Section 13.3.2-9, page 13-17 - Liquid Release Evaluation

RESPONSE

This item was addressed in GSU's October 28, 1983 and February 16, 1984 responses and was incorporated into FSAR Amendments 11 and 13.

16. SER Section 13.3.2.9, page 13-18 - Dose Assessment Methodology

RESPONSE

This item was addressed in GSU's October 28, 1983 and February 16, 1984 responses and was incorporated into FSAR Amendments 11 and 13.

17. SER Section 13.3.2.10, page 13-18 - Accountability Within 30-Minutes

RESPONSE

FSAR Sections 13.3.5.4.1.1.3.4 and 13.3.4.2.2.8 have been revised to be consistent with NUREG-0654, Section II.J.5 (Enclosure 11). Emergency Implementing Procedures EIP-2-026 and EOP-2-027 require mandatory evacuation of the protected area and personnel accountability for a Site Area or General Emergency. Personnel will be accounted for within 30 minutes after the declaration of an emergency class. Should the Emergency Director determine that a protected area evacuation is required at other emergency classes, the accountability will be completed within about 30 minutes of the evacuation order. In either case, continuous accountability will be accomplished for personnel remaining onsite following the evacuation.

18. SER Section 13.3.2.12, page 13-20 - Exposure Guidelines for Ambulance Drivers

RESPONSE

The statement in FSAR Section 13.3.5.5.3 regarding radiation exposures to offsite ambulance drivers has been deleted (Enclosure 12). Radiation exposures to medical personnel are governed by the institutions licensed under 10CFR33 or 35. A radiation protection technician is dispatched with the ambulance, if a contaminated individual is sent offsite, to assist in assuring that the requirements of 10CFR20.105 and 10CFR20.207(b) are met. Dosimetry is provided if the driver does not already have dosimetry devices.

19. SER Section 13.3.2.12, page 20 - Emergency Medical Assistance Program (EMAP)

RESPONSE

The EMAP and the Decontamination and Treatment of the Radioactivity Contaminated Patient Manual of West Feliciana Parish Hospital and Our Lady of the Lake Regional Medical Center are provided in Enclosure 15.

20. SER Section 13.3.2.13, page 13-21 - GSU Headquarters

RESPONSE

The Licensing Support Coordinator previously referenced in FSAR Table 13.3-5 is within the River Bend Nuclear Group (RBNG) but is no longer a member of the emergency organization. The Emergency Communications Center is operated under the direction of the Emergency Communications Director as described in item number 4 above. The Primary Spokesperson within the emergency organization is the Senior Vice President External Affairs located in Beaumont, TX. The Emergency Communications Director of the Emergency Communications Center, is located in Baton Rouge and will serve as the Alternate Spokesperson until relieved by the Primary Spokesperson. An Emergency Communications Staff Activation and Functions Procedure (EIP-2-023) describes the functions of the GSU Primary Spokesperson and his alternate when interfacing with RBNG, Local and State Public Information Personnel and the media. To ensure that the necessary coordination and interface exists among RBNG, Local, and State Plans and Procedures, the Recovery Manager will administrate appropriate Emergency Implementing Procedures (Table F.1) with the offsite authorities as stated in FSAR Section's 13.3.4.2.1 and 13.3.5.4.1.2.2 .

GSU headquarters does not provide support as previously detailed in FSAR Section 13.3.4.3.1 and Figure 13.3-11. The RBNG is organized to support emergencies and long-range support during the recovery phase. Interface may also be required between the Recovery Manager, Senior Vice-President-RBNG, and GSU's Chief Executive Officer (CEO). GSU's Approvals and Authorization Procedures are in place to support this interface. The GSU Treasurer and Controller will administrate funds required by RBNG during the emergency and recovery phase. The procedures used to govern this interface are discussed in Enclosure 13. The responsibilities of the Manager of Risk Management and the Manager of Legal Services are also provided in Enclosure 13. FSAR Section 13.3.4.3.1 has been modified to describe the correct interfaces between GSU headquarters and RBNG (Enclosure 13).

21. SER Section 13.3.2.16, page 13-23 - Emergency Planning Committee Function

RESPONSE

EIP review and approval has been established by a revision to EIP-2-100. GSU has determined that the EIPs best fit into the category of Plant Support Procedures (PSP) rather than Station Operating Procedures. In this category, the procedures are approved at a higher level than the Plant Manager, because the EIPs require actions be performed by upper GSU management during emergency classes. In accordance with the draft Technical Specifications, Section 6 and EIP-2-100, EIPs are reviewed by the Emergency Planning Committee (EPC). The EIPs are then sent to the Plant Manager for

concurrence and are given final approval by the Vice-President-RBNG. The EPC serves as the independent technical review body required by draft Technical Specification Section 6.5.2.1. The Facility Review Committee (FRC) is no longer in the review and approval cycle for EIPs. This function is now assigned to the EPC. Section 13.3.7.2 of the FSAR has been changed to reflect the revised approval cycle (Enclosure 14).

ENCLOSURE 1

Letters of Agreement

1. Our Lady of the Lake Regional Medical Center
2. Jackson Rescue Unit
3. Illinois Central Gulf Railroad Corrections

GULF STATES UTILITIES COMPANY
RIVER BEND STATION POST OFFICE BOX 220 ST. FRANCISVILLE, LOUISIANA 70775
AREA CODE 504 635-3237 387-4257

April 9, 1984

RBG-17532

Mr. Robert C. Davidge
Executive Director
Our Lady of the Lake
Regional Medical Center
5000 Hennessey Boulevard
Baton Rouge, LA 70809

Dear Mr. Davidge:

File Code G9.20.6.13
"Letters of Agreement"
River Bend Station - Emergency Plan

This letter will serve to confirm the agreement between Our Lake of the Lake Regional Medical Center and Gulf States Utilities Company concerning medical treatment of personnel from River Bend Station.

Our Lady of the Lake Regional Medical Center herewith agrees to provide assistance to Gulf States Utilities Company in the following areas:

1. Services and Facilities

Our Lady of the Lake Regional Medical Center will accept and treat injured or ill personnel from River Bend Station whether or not they are radioactively contaminated or have been exposed to radiation. Station personnel will administer first aid and accomplish decontamination to a maximum extent prior to transport, depending on the nature and the severity of the accident. As a minimum, Our Lady of the Lake Regional Medical Center shall maintain the capability and facilities to provide decontamination, first aid, and emergency stabilization medical treatment to injured or ill personnel from River Bend Station. These services and facilities will be available twenty-four hours-per-day. Patients may be transferred from Our Lady of the Lake Regional Medical Center to the Hospital of University of Pennsylvania or Northwestern Memorial Hospital should the treatment required as a result of the injury extend beyond the capabilities of Our Lady of the Lake Regional Medical Center.

Our Lady of the Lake Regional Medical Center will, with Gulf States Utilities Company's assistance, develop a medical emergency plan and the procedures to be followed by hospital personnel in admitting injured or ill personnel from River Bend Station.

Gulf States Utilities Company will supply to Our Lady of the Lake Regional Medical Center the emergency kit designated in Attachment I to this agreement. This emergency kit will be maintained by Gulf States Utilities Company. Our Lady of the Lake Regional Medical Center will provide storage space for the emergency kit and will use it as directed in the Medical Emergency Plan and Procedures.

2. Training

Gulf States Utilities Company will provide River Bend Station Emergency Plan training for Our Lady of the Lake Regional Medical Center personnel on an annual basis at a time and place mutually agreeable to both parties.

Our Lady of the Lake Regional Medical Center will participate in emergency drills designed to test the competence of the emergency planning for River Bend Station. These drills will be scheduled by Gulf States Utilities Company at a time mutually agreeable to both parties.

Charges to the above services will be paid to Our Lady of the Lake Regional Medical Center by Gulf States Utilities Company on the basis of the standard fee charged by Our Lady of the Lake Regional Medical Center for each service provided.

Our Lady of the Lake Regional Medical Center will submit invoices to Gulf States Utilities Company when services as provided for by this agreement have been rendered.

Gulf States Utilities Company will, without cost to Our Lady of the Lake Regional Medical Center, obtain and maintain:

1. An agreement of indemnification as contemplated by Section 170 of the Atomic Energy Act of 1954, as amended, (herein called the "Act"), and

2. Nuclear liability insurance in such form and in such amount as will meet the financial protection requirements of the Nuclear Regulatory Commission pursuant to the Act.

The agreement of indemnification and the nuclear liability insurance shall be in effect as of the date of shipment from the fabrication facilities of the first fuel bundles for River Bend Station.

In the event that the nuclear liability protection system provided by the Act is repealed, modified or expires, Gulf States Utilities Company will, without cost to Our Lady of the Lake Regional Medical Center, maintain the above-mentioned insurance and agreement of indemnification, so long as required by the Act, but only to the extent available on reasonable terms and consistent with the then current customary electric utility industry practice in the United States. Should the present financial protection of $580,000,000 available through a combination of 1 and 2 above be reduced to a lesser amount, Gulf States Utilities Company shall notify Our Lady of the Lake Regional Medical Center of such change within thirty days thereafter.

It is intended that this agreement will remain in effect through the operational term of River Bend Station, which has a design life of forty years. However, either party may terminate the agreement with 180 days notice in writing. Attachment II to this agreement provides a schedule of the activities that must be completed prior to fuel loading of the River Bend Station reactor, now scheduled for April 1, 1985.

Please signify your agreement to the provisions of this letter by executing the acceptance and returning to me.

Yours very truly,

W. J. Cahill, Jr.
Senior Vice President
River Bend Nuclear Group

Accepted and agreed to this 13th day of April, 1984.

W. J. Cahill, Jr.
Senior Vice President
River Bend Nuclear Group

R. C. Davidge, FACHA
Executive Director
Our Lady of the Lake Regional Medical Center

JEB/JGC/df

ATTACHMENT I

Our Lady of the Lake Regional Medical Center Medical Kit

Set of hospital emergency procedures
Pocket dosimeters
Dosimeter charger
Coveralls
Cloth shoe covers
Rubber shoe covers
Cloth gloves
Surgeon's gloves
Hoods
Paper towels
Full facepiece respirators
Respirator filters
Survey instruments
- Beta; Gamma Detector
- G-M Tube

Smears
Plastic sheeting
Plastic bags
Masking tape
Cotton swabs
Q-tips
Scrub brush
50 liter plastic bottles
Decontamination chemicals
- Radiacwash
- Titanium dioxide
- Potassium permanganate
- Sodium bisulfite

Plastic beakers
Vials for collecting excised tissue
Labels for bottles and vials
Radiation signs, tapes, stickers, rope, etc.
Step-off pads
Note pads
Pencils
Tygon tubing - 1/2"
Drum for waste
Decontamination Table Top w/splash guards
Stretcher, hose, faucet, and plastic water receptacle
Aprons (plastic disposable)

ATTACHMENT II

Activities Requiring Completion Prior to Fuel Loading

	Activity	Start Date	Proposed Completion Date
1.	Prepare Medical Emergency Plan and Procedures*	November, 1983	April 15, 1984
2.	Emergency Kit to be Provided*	Novemb[illegible], 1983	May 15, 1984
3.	GSU River Bend Emergency Plan Training to Hospital Medical Staff*	May 7, 1984	September 1, 1984
4.	Emergency Drill*	Prior to Fuel Loading	October, 1984

* The indicated activities will require a joint effort between Our Lady of the Lake Regional Medical Center and Gulf States Utilities Company. The start and completion dates for the above activities may be decided upon by mutual consent of both parties.

RBC-24978
G9.20.6.6
G9.20.6.13

January 23, 1984

Mr. John G. Cadwallader
Supervisor-Emergency Planning
Gulf States Utilities Company
River Bend Station
P. O. Box 220
St. Francisville, LA 70775

Dear Mr. Cadwallader:

The Jackson Rescue Unit will support Gulf States Utilities Company's Emergency Medical Assistance Program (EMAP) for River Bend Station as a back-up to the West Feliciana Parish Hospital Ambulance Service. Per our discussions, Gulf States Utilities Company will provide appropriate training and equipment to ensure that the rescue unit personnel can effectively transport a contaminated/injured patient from River Bend Station to either the West Feliciana Parish Hospital in St. Francisville or Our Lady of the Lake Regional Medical Center in Baton Rouge.

Sincerely,

Travis W Prewitt
President,
Jackson Rescue Unit

13.3 EMERGENCY PLANNING

13.3.1 Scope and Applicability

The following plan has been developed for the River Bend Station near St. Francisville, Louisiana, and its environs in accordance with the regulations stipulated in 10CFR50.33, .34, .47, .54, 10CFR50, Appendix E, and 10CFR70.32. The plan follows the guidelines established in NUREG-0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants."

The River Bend Station is situated on approximately 3,300 acres on the east bank of the Mississippi River in West Feliciana Parish, Louisiana (Fig. 13.3-1). It is approximately 24 mi (38.6 km) northwest of Baton Rouge, Louisiana. US Highway 61 runs in a northwest-southeast direction, approximately 1 mi (1.6 km) northeast of the nearest reactor. State Highway 965 runs in a north-south direction into the center of the property and passes within 2,700 ft (825 m) of the nearest reactor. A single line of the Illinois Central Gulf Railroad traverses the site in a northwest-southeast direction and passes about 2,050 ft (625 m) south of Unit 2. The area within a 10-mi (16.1-km) radius is composed of parts of five parishes: West Feliciana, East Feliciana, East Baton Rouge, West Baton Rouge, and Pointe Coupee (Fig. 13.3-2). There are three population groups within this 10-mi area: St. Francisville (1,111), Jackson (4,305), and New Roads (3,875) (1980 population figures). The area within 50 mi of the site encompasses all or part of 24 parishes or counties in Louisiana and Mississippi. Fig. 13.3-3 shows the population within a 10-mi (16.1 km) radius of the River Bend Station. Fig. 13.3-4 shows the population within a 50-mi (80 km) radius of the River Bend Station.

Gulf States Utilities Company (GSU) will maintain the Emergency Plan and Emergency Implementing Procedures (EIPs) as two separate documents. While separate copies of this plan are available, this plan is a part of Chapter 13 in the FSAR and is therefore subject to established methods for updating. The EIPs contain detailed information extracted from the FSAR and other pertinent documents. These EIPs allow the station personnel to implement this plan and the proper actions, coincident with normal operating procedures, without referral to numerous documents. An outline of the EIPs is provided in Appendix F.

The objective in emergency planning is to develop a plan and corresponding emergency implementing procedures that will ensure emergency preparedness and provide means for mitigating the consequences of emergencies, including very low probability

8. Illinois Central Gulf Railroad Company

When requested, the Illinois Central Gulf Railroad Company will control railroad traffic through the exclusion area of the site.

INSERT

9. Utility Mutual Assistance

Gulf States Utilities, Arkansas Power & Light Company, Louisiana Power & Light Company, Mississippi Power & Light Company, and the Middle South Services Inc. have agreed to assist each other in times of a nuclear power plant emergency or for training exercises. The

INSERT

GSU purchased, from Illinois Central Gulf Railroad, 1.2 miles of railroad south of the connection to River Bend Station's Plant Access Railroad. From this junction northward past GSU's property boundary, Illinois Central Gulf Railroad is abandoning the track which traverses the site in a northwest-southeast direction (see Figure 13.3-27).

RBS FSAR

APPENDIX B

LETTERS OF AGREEMENT

TABLE OF CONTENTS

LETTER OF AGREEMENT

BETWEEN

GULF STATES UTILITIES COMPANY

AND

ILLINOIS CENTRAL GULF RAILROAD COMPANY

(later)

13.3.5 Emergency Measures

GSU utilizes a method for classifying both onsite and offsite emergencies, which results in four distinct classes. Definitions for each class, criteria for classifying emergency situations, and examples of emergencies falling in each class are described in Section 13.3.3.

An emergency procedure for each designated class is provided in the Emergency Implementing Procedures (EIPs). Each of these emergency procedures will be initiated on the basis of measured variables and at specified conditions, or at other times specified by either the Shift Supervisor or the Emergency Director. These implementing requirements are referred to as EALs. EALs, as discussed in Section 13.3.3.1, are provided in the EIPs used in classifying emergencies.

The initial evaluation by the Shift Supervisor of abnormal conditions and situations, as well as accidents, will result in the initial classification of the emergency and the implementation of the appropriate procedures. The emergency actions will, as appropriate, require notification of the Emergency Director, other emergency organizations and personnel, and reassessment of the conditions and/or situations. As described in Appendix F, the EIPs associated with each emergency classification also apply to higher level emergencies.

Reassessment of the emergency may result in carrying out additional emergency actions, further notification of emergency organizations and personnel, or reclassification.

13.3.5.1 Activation of the Emergency Organization

The emergency organizations for each class of emergency are depicted on Fig. 13.3-7 through 13.3-10. It is evident from these figures that a progressively larger response is required for each successive class of emergency. Notification of offsite support groups and agencies is illustrated on Fig. 13.3-16. Offsite communications are illustrated on Fig. 13.3-17.

EIPs provide for notification message authentication, as appropriate.

Insert →

ENCLOSURE 2 (Cont'd)

Insert

The response times of individuals assigned to the emergency organization during various weather and traffic conditions were studied to determine residential patterns.

For the 30 minute augmentation criteria the study showed under normal weather and traffic conditions, that an adequate number of individuals live within 30 minutes of the plant site to augment the emergency organization and fulfill the functional requirements of Table B-1, NUREG-0654. Under severe weather or heavy traffic conditions these same individuals could be available within approximately 45 minutes.

To implement the 60 minute augmentation criteria during severe weather or heavy traffic conditions, all but 6 individuals would be capable of traveling to the plant within 60 minutes. Out of the 6 individuals, 5 would be available within 75 minutes and 1, an alternate Radiation Protection Technician, would require about 90 minutes. At RBS the primary individuals for each key position will be alerted of an emergency by an alpha-numeric pager system. If any primary individuals do not respond to the pager within 15 minutes, alternates for the position will be called using a listing of emergency response personnel in the EIPs. The entire emergency response organization, including a primary and two alternates for each key position could be available within 60 minutes during fair weather and light traffic.

To supplement the emergency organization, the onshift staff has been increased beyond the minimum recommendation provided in NUREG-0654. Operations personnel are being trained in the use of portable radiation survey instruments so that functions, such as search and rescue, can be performed without the assistance of radiation protection technicians. These actions provide additional onshift emergency response capability and assures that emergencies can be adequately controlled under the most severe weather or traffic conditions.

Enclosure 2 (cont'd.)
Table 13.3-5

On-shift Emergency Organization

0654 Requirements	RBS Position
Plant Operations and Assessment of Operational Aspects	Shift Supervisor/STA [1] Shift Foreman Nuclear Control Operator #1 Nuclear Control Operator #2 Nuclear Equipment Operator #1 Nuclear Equipment Operator #2
Emergency Direction and Control	Shift Supervisor/STA
Notifications/Communications	Nuclear Equipment Operator #3 Shift Clerk
In-plant Surveys	Radiation Protection Technician #1
Chemistry/Radiochemistry	Chemistry Technican
Plant Systems Engineering	Shift Supervisor/STA
Rad Waste Operator	Nuclear Equipment Operator #4
Maint./Electrical Maint./I&C Tech.	I&C Technician
Protective Actions (In-plant)	Radiation Protection Technician #2
Fire Brigade	Leader - Nuclear Control Operator #3 Nuclear Equipment Operator #4 Nuclear Equipment Operator #5 Chemistry Technician I&C Technician
First Aid/Rescue	[2] Nuclear Control Operator #3 Nuclear Equipment Operator #5
Site Access Control/Accountability	Security Force (On-shift)

Notes

[1]Shift Foreman will be trained in dose assessment methodology.

[2]Nuclear Control Operators will be trained in the use of portable survey instruments.

Operations Support Center

Emergency Title	RBS Title
Operations Support Center Coordinator	Mechanical Maintenance Supervisor Alt: Mechanical Maintenance Foreman Alt: I&C Foreman
Mechanical Maintenance	Master Repairman #1 Master Repairman #2 Alt: Repairman First Class #1 Alt: Repairman First Class #2
Rad Waste Operator	Nuclear Equipment Operator #4
Electrical Maintenance	Master Electrician #1 Master Electrician #2 Alt: Electrician 1st Class #1 Alt: Electrician 1st Class #2
I&C Technician	Master I&C Technician (on-shift) Master I&C Technician #2 Alt: I&C Technician 1st Class #1 Alt: I&C Technician 1st Class #2
Onsite Surveys	Rad. Prot. Tech. #2 (on-shift) Chemistry Technician #4
In-plant Surveys (Team Support)	Rad. Prot. Tech. #1 (on-shift) Rad. Prot. Tech. #5
Chemistry/Radiochemistry	Chemistry Technician (on-shift) Chemistry Technician #5
Radiation Protection	Rad. Prot. Foreman #1 Rad. Prot. Tech. #6 (TSC) Rad. Prot.Tech. #7 (EOF) Rad. Prot. Tech. #8

Table 13.3-5 (cont'd.)

Emergency Title	RBS Title
First Aid/Rescue	Off-shift Nuclear Control Operator Nuclear Equipment Operator #5 Alt: Offshift NCO Alt: Offshift NCO
Alternate Radiation Protection Technicians	Radiation Protection Technician #9 Radiation Protection Technician #10 Radiation Protection Technician #11 Radiation Protection Technician #12 Radiation Protection Technician #13 Radiation Protection Technician #14 Radiation Protection Technician #15 Radiation Protection Technician #16 Radiation Protection Technician #17 Radiation Protection Technician #18 Radiation Protection Technician #19 Radiation Protection Technician #20 Radiation Protection Technician #21 Radiation Protection Technician #22 Radiation Protection Technician #23 Radiation Protection Technician #24
Alternate Chemistry Technicians	Chemistry Technician #6 Chemistry Technician #7 Chemistry Technician #8 Chemistry Technician #9 Chemistry Technician #10 Chemistry Technician #11 Chemistry Technician #12 Chemistry Technician #13

Table 13.3-5 (cont'd.)

Technical Support Center

Emergency Title	RBS Title
Emergency Director	Plant Manager Alt: Ass't. Plant Mgr.-Oper. Alt: Ass't. Plant Mgr.-Serv.
TSC Manager	Supervisor-Reactor Systems Alt: Process Systems Supervisor Alt: Control Systems Supervisor
Core Technical/ Core Physics Coordinator	Supervisor-In Core Nuclear Fuels Alt: Sr. Nuclear Fuels Engineer Alt: Nuclear Safety Engineer
Mechanical Engineering Coordinator	Sr. Mechanical Engineer Alt: Sr. Mechanical Engineer Alt: Sr. Mechanical Engineer
Electrical Engineering Coordinator	Sr. Electrical Engineer Alt: Electrical Engineer Alt: Electrical Engineer
Operations Support Coordinator	Operations Supervisor Alt: Shift Supervisor (off-duty) #1 Alt: Shift Supervisor (off-duty) #2
Maintenance Support Coordinator	General Maintenance Supervisor Alt: I&C Supervisor Alt: Electrical Supervisor
Radiation Protection Coordinator	Radiation Protection Supervisor Alt: Rad. Prot. Foreman #2 Alt: Rad. Prot. Foreman #3 Alt: Rad. Prot./Chem. Supervisor
Dose Assessment/ Protective Actions Advisor	Health Physicist (Operations) Alt: ALARA Coordinator Alt: Health Physicist (Rad. Health)

Table 13.3-5 (cont'd.)

Emergency Title	RBS Title
Chemistry/Core Damage Assessment Coordinator	Chemistry Supervisor Alt: Lead Chemist Alt: Chemistry Foreman #1
Security Coordinator	Security Shift Sergeant Alt: Senior Security Officer #1 Alt: Senior Security Officer #2
Status Boards Coordinator	Engineer #1 Alt: Engineer #2 Alt: Engineer #3
Data Facility Coordinator	Section Head Alt: Document Control Clerk #1 Alt: Document Control Clerk #2
Clerical/Administrative Support (2)	Plant Adminis. Support Sect. Staff (Two primary and two alternates to be designated)
Radiation Protection/ TSC Habitability	Transferred from OSC
Onsite Security Direction and Control	Supervisor-Plant Security Alt: Ass't. Plant Security Super. Alt: Coordinator-Security Training
Administrative Coordinator	Technical Mat. & Plant Serv. Super. Alt: Supervisor-Materials Alt: Materials Foreman
Communicator (2)	Systems Engineer #1 Systems Engineer #2 Alt: Systems Engineer #3 Alt: Systems Engineer #4

Emergency Operations Facility

Emergency Title	RBS Title
Recovery Manager	Senior VP River Bend Nuclear Group Alt: VP River Bend Nuclear Group Alt: VP Administration
EOF Manager	Supervisor-Emergency Planning Alt: Sr. Emergency Planner Alt: Emergency Planner
Radiation Protection Advisor	Radiation Protection/Chemistry Super. Alt: Radiological Health Supervisor Alt: Environmental Supervisor
Offsite Dose ssessment/ Protective Actions Advisor (Offsite Team Coordinator)	Transferred from TSC
Chemistry Advisor	Chemical Engineer Alt: Chemistry Foreman #2 Alt: Rad./Chem. Section Coordinator
Operations Advisor	Assistant Operations Supervisor Alt: Shift Supervisor (off-duty) #3 Alt: Shift Supervisor (off-duty) #4
Offsite Survey Teams	Radiation Protection Technician #3 Chemistry Technician #2 Radiation Protection Technician #4 Chemistry Technician #3
Administrative/Logistics Advisor	Supervisor-Administrative Support Alt: Records Supervisor Alt: Nuclear Records Representative
Communicators (2)	Systems Engineer #2 (from TSC) Systems Engineer #3 Alt: Systems Engineer #5 Alt: Systems Engineer #6

Table 13.3-5 (cont'd.)

Emergency Title	RBS Title
Status Boards Coordinator	Engineer #4 Alt: Engineer #5 Alt: Engineer #6
Rad. Prot./EOF Habitability	Transferred from OSC
Technical Advisor	Supervisor-Site Engineering Alt: Sr. Nuclear Engineer Alt: Nuclear Engineer
Admin./Clerical Support (2)	Office Systems Coordinator Warehouse Supervisor Alt: Departmental Clerk Alt: Departmental Clerk Alt: Surplus Equipment

Parish Liaison Officers

(To be Dispatched to Parish Emergency Operating Centers at a Site Area Emergency

West Feliciana Parish	Systems Engineer #1
East Feliciana Parish	Systems Engineer #2
Pointe Coupee Parish	Systems Engineer #3
East Baton Rouge Parish	Results Engineer
West Baton Rouge Parish	Nuclear Engineer #2 Alt: Nuclear Engineer #3 Alt: Nuclear Engineer #4 Alt: Nuclear Engineer #5

Emergency Communications Center

Emergency Title	RBS Title
GSU Public Spokesperson	VP External Affairs Alt: Admin. of Louisiana Commun.
Emergency Communications Director	Admin. of Louisiana Communications Alt: Information Specialist

Emergency Communications Center Staff (As described in the RBS Emergency Communications Plan):

To be Assigned by W. L. Benedetto -
- Events Information Coordinator
- Media Registration Coordinator
- Internal Communications Coordinator
- News Release Writer
- Audio-Visual Coordinator (Training personnel)
- Technical Briefer
- Secretarial Team

Residential Survey Results

0654 Table B-1 Comparison:

Position	Onshift		30 min. Augmentation		60 min. Augmentation
	B-1	RBS	B-1	RBS[3]	
Shift Supervisor	1	1	0	0	All RBS emergency
Shift Foreman	1	1[1]	0	0	organization available
Control Operator	2	3[1]	0	0	within 60 minutes
Auxiliary Operators	2	5[1]	0	0	under light traffic
STA	1	1*	0	0	conditions, 75 minutes
Communicator	1	1*	1	1	in severe weather or
EOF Manager	0	0	0	1	heavy traffic.
Senior HP	0	0	1	3	
HP Techs	1	2	5	5	
Chem Techs	1[2]	1	0	3[4]	
Technical Support	0	0	1	6	
Mech. Maint.	0	0	0	2	
Elect Maint	0	0	1	2	
I&C Maint.	0	1	1	2	
Security	all	all	-	-	
Fire Brigade	Tech Specs.	5*	Local	Local	
TOTAL:	10	14	10	26	

*Filled by personnel assigned other functions

Notes: 1 All NCO and NEO are trained in use of portable radiation survey instruments.

2 STA is either the Shift Supervisor or Control Operating Foreman.

3 Augmentation capability during light traffic conditions, up to 45 minutes in severe weather or heavy traffic.

4 Includes Sr. Engineering expertise and Sr. Operations personnel.

5 One alternate Radiation Technician lives within 90 minutes.

EMERGENCY COMMUNICATIONS DIRECTOR

A. LOCATION: Emergency Communications Center

B. FUNCTIONS AND RESPONSIBILITIES:

1. Prepares ~~Provides~~ all RBS news releases and statements.

2. Coordinates information at the Emergency Communications Center adjacent to the EOF with local, State, and Federal counterparts and with representatives from other companies involved with the emergency, and provides a means for meeting the media's needs.

3. Serves as the alternate to the primary ~~official~~ RBS spokesperson for the emergency, with the responsibility for arranging interviews, statements quoted in press releases or other announcements, and for presiding at formal press conferences when the primary spokesperson is not available.

13.3.6.1.5.6 Records

The following documents are accessible from the EOF:

1. Technical Specifications
2. Station Operations Manual
3. RBS Emergency Plan
4. RBS Emergency Implementing Procedures
5. State/Local Emergency Plans
6. Mutual Assistance Plan with Neighboring Utility Companies
7. Final Safety Analysis Report
8. Environment Report - Operating License Stage
9. Aperture Cards of As-Built Drawings
10. 10 and 50-Mile EPZ Maps for River Bend Station

13.3.6.1.5.7 Staffing

The EOF is staffed with personnel as indicated in Figures 13.3-7 through 13.3-10, with specific responsibilities delineated in Appendix A. In addition to accommodating GSU personnel, space is provided for representatives from the states of Louisiana and Mississippi and the five parishes within the 10-mile Emergency Planning Zone. 8

13.3.6.1.5.8 Security

The EOF, as part of the RBS Training Center, is under constant surveillance by industrial grade security. Additional security personnel are provided once the EOF is activated to assure that only authorized emergency response personnel are allowed into the EOF.

13.3.6.1.6 Emergency Communications Center

The Emergency Communications Center is located in a room adjacent to the EOF in the River Bend Station Training Center. The floor plan is shown in Figure 13.3-23. The Emergency Communications Center is operated under the direction of the ~~GSU Spokesperson~~ Emergency Communications Director and serves as a joint 11

11 | Director | media center for GSU/and offsite response agencies. The ~~GSU Spokesperson~~ or ~~his designee~~ is responsible for notifying and coordinating information releases in a timely manner with the Louisiana Nuclear Energy Division, the Mississippi Emergency Management Agency, the Nuclear Regulatory Commission, and local officials prior to public dissemination of statements and bulletins so that only one official status report is being promulgated. ~~EOF~~ personnel will provide periodic updates of the emergency situation to the GSU Spokesperson. Facsimile and hard copy capabilities are available to provide rapid transmission of printed material among GSU emergency response facilities and between the GSU Emergency Communications Center and offsite agencies. Press conferences are held at the Emergency Communications Center periodically to provide the media with the current status, both onsite and offsite. The GSU spokesperson makes all public statements for the company concerning any event at RBS. If it becomes necessary to evacuate the Emergency Communications Center, a Backup Emergency Communications Center, adjacent to the Backup EOF at 1400 Government Street in Baton Rouge, Louisiana, will be activated.

available resources of each organization are contained in the Mutual Assistance Plan. This assistance generally includes: skilled technical or management personnel; supplies and equipment and design, engineering or other technical advice.

10. General Electric

When requested, General Electric will implement its BWR Emergency Support Program.

11. Stone & Webster Engineering Corporation

When requested, Stone & Webster Engineering Corporation will implement its emergency plan designed to assist the River Bend Station.

13.3.4.4 Coordination with Participating Agencies

This section identifies the principal Louisiana and Mississippi State agencies (designated State authority) and other governmental agencies (local, State, and Federal) that have planning and/or implementation responsibilities for emergencies which occur within the EPZs of the River Bend Station. Fig. 13.3-12 through 13.3-18 show the overall interrelationships of the key participating agencies and the station. An annual meeting with the States of Louisiana and Mississippi and the River Bend Parishes will be held to discuss the protective action decision process which will allow for alerting the public of an emergency situation at River Bend Station.

13.3.4.4.1 State of Louisiana and River Bend Parish Agencies

The Department of Natural Resources, Assistant Secretary of the Office of Environmental Affairs (ASOEA), through the Louisiana Nuclear Energy Division (LNED) under the Environmental Affairs Act-LRS 30:1051 et seq. has the authority to develop and implement a statewide radiological emergency preparedness plan and to coordinate the development of specific emergency plans for the communities surrounding River Bend Station. It is the responsibility of the LNED to ensure that these plans include planned protective actions for the general population within the EPZs (10-mi radius plume exposure and 50-mi radius ingestion pathway). In addition, the LNED is responsible for coordinating offsite decontamination efforts, issuing relocation and evacuation recommendations, and protecting the safety and welfare of the public. Representatives from LNED ~~and the local parishes~~ will be dispatched to the River Bend Station EOF to represent the ~~River Bend Parishes and~~ LNED in coordination of the emergency response. The ASOEA or his designee is responsible for notifying

At a Site Area or General Emergency, GSU will dispatch a technical representative to each of the five parish EOC's within the 10 mile EPZ, to ensure continuity and coordination among GSU, LNED and the affected parishes.

ENCLOSURE 5

EMERGENCY ACTION LEVELS

FSAR TABLE 13.3-1

TABLE 13.3-1

EMERGENCY ACTION LEVELS, INITIATING CONDITIONS, AND EMERGENCY RESPONSE[1]

NOTIFICATION OF UNUSUAL EVENT
IMPLEMENT EIP-2-002

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
1. ECCS initiated and water injected into reactor vessel	1. Low reactor water level indication - Level 2 OR 2. HIGH drywell pressure greater than 2 psig OR 3. ECCS initiation and injection into vessel[2]	1. Promptly notify plant personnel of event particulars and an assessment of safety significance of the event. 2. Notify appropriate state and local governments. 3. If no indications exist that event is escalating, report the incident to plant and company management; Notify NRC Operations Center, State and Local officials and provide for press releases. (NRC within 1 hr., state and local authorities within 15 min. into event.) If assesment indicates the situation is de-escalating, then declassify, closeout and complete item 5. 4. If assessment reveals that event is not being terminated safely (or has not been), escalate to Alert level and notify local Parishes, State agencies and NRC. 5. Following verbal closeout submit a written summary of the event to offsite agencies and NRC within 24 hours.	State LNED, LOEP, MEMA, and MSHP Local Sheriff and Civil Defense	Standby until verbal closeout OR Escalate to a more severe class

(1) Setpoints are subject to change pending final approval of technical specifications.

(2) Except for testing

TABLE 13.3-1 (Cont)

EMERGENCY ACTION LEVELS, INITIATING CONDITIONS, AND EMERGENCY RESPONSE

NOTIFICATION OF UNUSUAL EVENT
IMPLEMENT EIP-2-002

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response	
			Agency	Action
2. Radioactive effluent Tech. Spec. limit exceeded (Tech. Spec. 3.11.1 & 3.11.2)	1. HIGH alarm on one or more radiation monitors: a. Radwaste bldg. ventilation exhaust b. Fuel bldg. ventilation exhaust c. Main plant exhaust duct AND 2. Summation of releases exceeds Tech. Spec. limits OR 3. Summation of grab sample indicate that Tech. Spec. limits have been exceeded OR 4. Liquid Radwaste effluent monitor HIGH alarm AND Both isolation valves fail to close OR 5. Cooling tower blowdown effluent monitor HIGH alarm	Same as for Notification of Unusual Event condition 1	Same as for Notification of Unusual Event condition 1	

TABLE 13.3-1 (Cont)

EMERGENCY ACTION LEVELS, INITIATING CONDITIONS, AND EMERGENCY RESPONSE

NOTIFICATION OF UNUSUAL EVENT
IMPLEMENT EIP-2-002

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
3. Fuel damage indication	1. Off gas pre-treatment radiation monitor indicates an increase of 8×10^3 mR/hr in 30 minutes OR 2. Off gas pre-treatment radiation monitor Hi-Hi alarm on greater than 4×10^4 mR/hr OR 3. Laboratory analysis of coolant sample indicates greater than or equal to 4 μCi/gm dose equivalent I-131.	Same as for Notification of Unusual Event condition 1	Same as for Notification of Unusual Event condition 1	
4. Abnormal reactor coolant pressure	Reactor vessel pressure greater than 1100 psig	Same as for Notification of Unusual Event condition 1	Same as for Notification of Unusual Event condition 1	
5. Exceeding primary coolant system leak rate Tech. Spec. (Tech. Spec.3.4.3.2)	1. Any verified pressure boundary leakage OR 2. 5 gpm unidentified leakage OR 3. 25 gpm identified leakage	Same as for Notification of Unusual Event condition 1	Same as for Notification of Unusual Event condition 1	
6. Failure of a safety or relief valve to close in Operational Conditions 1-3	Relief valve open as indicated by SRV position indicating light from acoustic monitors AND Continued increase in suppression pool temperature	Same as for Notification of Unusual Event condition 1	Same as for Notification of Unusual Event condition 1	

TABLE 13.3-1 (Cont)

EMERGENCY ACTION LEVELS, INITIATING CONDITIONS, AND EMERGENCY RESPONSE

NOTIFICATION OF UNUSUAL EVENT
IMPLEMENT EIP-2-002

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response	
			Agency	Action
7. Total loss of offsite power or loss of on-site AC power capability	1. Less than 3744V on 1ENS*SWG1A and 1ENS*SWG1B busses AND 1RTX-XSR1C and 1RTX-XSR1D preferred station transformers lost OR 2. All diesel generators out of service	Same as for Notification of Unusual Event condition 1	Same as for Notification of Unusual Event condition 1	
8. Loss of drywell or primary/secondary containment integrity requiring Tech. Spec. Shutdown.(2) (Tech. Spec. 3.5.3, 3.6.1, 3.6.2, 3.6.3 and 3.6.5)	Exceeding one of the following Limiting Conditions for Operation (LCO): a. Primary Containment Integrity b. Drywell Integrity c. Suppression Pool Operability d. Secondary Containment Integrity e. Standby Gas Treatment Subsystems f. Fuel Building Charcoal Filtration System	Same as for Notification of Unusual Event condition 1	Same as for Notification of Unusual Event condition 1	
9. Loss of Engineered Safety Feature requiring Tech. Spec. Shutdown (Tech. Spec. 3.5.1)	Exceeding the Limiting Conditions For Operation (LCO) for any one of the following systems: a. HPCS (High Pressure Core Spray) b. ADS (Automatic Depressurization System) c. LPCS (Low Pressure Core Spray System) d. LPCI (Low Pressure Coolant Injection System)	Same as for Notification of Unusual Event condition 1	Same as for Notification of Unusual Event condition 1	

TABLE 13.3-1 (Cont)

EMERGENCY ACTION LEVELS, INITIATING CONDITIONS, AND EMERGENCY RESPONSE

NOTIFICATION OF UNUSUAL EVENT
IMPLEMENT EIP-2-002

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response	
			Agency	Action
10. Fire lasting more than 10 minutes following implementation of fire suppression measures.	1. As reported by plant personnel or Fire Brigade Leader to the Main Control Room OR 2. Fire detection device alarm AND Condition exists for more than 10 minutes following implementation of fire suppression measures	Same as for Notification of Unusual Event condition 1	Same as for Notification of Unusual Event condition 1	
11. Significant loss of vital accident assessment capability or loss of effluent monitoring capability requiring shutdown (Tech. Spec. 3.3.7.5, 3.3.7.1, 3.3.7.10, 3.3.7.11 & 3.11.2)	1. Radiation monitoring instrumentation less than minimum channels operable requirement of Tech. Spec. requiring plant shutdown (Table 3.3.7.1-1). OR 2. Accident monitoring instrumentation less than minimum channels operable requirement of Tech. Spec. requiring plant shutdown (Table 3.3.7.5-1). OR 3. Loss of off-gas post-treatment radiation effluent monitors (Table 3.3.7.11-1) AND Loss of main plant exhaust duct radiation monitors.	Same as for Notification of Unusual Event condition 1	Same as for Notification of Unusual Event condition 1	

TABLE 13.3-1 (Cont)

EMERGENCY ACTION LEVELS, INITIATING CONDITIONS, AND EMERGENCY RESPONSE

NOTIFICATION OF UNUSUAL EVENT
IMPLEMENT EIP-2-002

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response	
			Agency	Action
12. Significant loss of Main Control Room communications capability	Degradation of offsite communication capability to the extent that onsite and offsite communications are severely limited as determined by Shift Supervisor	Same as for Notification of Unusual Event condition 1	Same as for Notification of Unusual Event condition 1	
13. Security threat or attempted entry or sabotage	1. Observation of event reported by Security. OR 2. Bomb or security threat made by telephone, letter, or other method that results in the implementation of the Security Contingency Plan.	Same as for Notification of Unusual Event condition 1	Same as for Notification of Unusual Event condition 1	
14. Natural events near site	1. Any earthquake detected by seismic instrumentation systems OR 2. A tornado is observed to cross the site boundary OR 3. Sustained whole gale force winds measured at 55-63 mph.	Same as for Notification of Unusual Event condition 1	Same as for Notification of Unusual Event condition 1	
15. Other hazards being experienced or projected which have the potential for endangering the plant	Hazard observed or notification is received by the Main Control Room: 1. When aircraft crash onsite or unusual aircraft activity over station is visually observed or notification is received by the Main Control Room. OR	Same as for Notification of Unusual Event condition 1	Same as for Notification of Unusual Event condition 1	

TABLE 13.3-1 (Cont)

EMERGENCY ACTION LEVELS, INITIATING CONDITIONS, AND EMERGENCY RESPONSE

NOTIFICATION OF UNUSUAL EVENT
IMPLEMENT EIP-2-002

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
	2. When a train derailment is observed on site OR 3. When a near or onsite explosion is observed or notification is received by the Main Control Room OR 4. Observation or notification is received by the Main Control Room of an onsite flammable or nearsite toxic gas release that threatens personnel. OR 5. Observation of a turbine rotating component failure causing rapid plant shutdown as determined by on-duty Shift Supervisor.			
16. Other plant conditions exist that warrant increased awareness on the part of a plant operating staff or State and local authorities or require plant shutdown under technical specification requirements or involve other than	Observation of event or report received by the Main Control Room	Same as for Notification of Unusual Unusual Event condition 1	Same as for Notification of Unusual Event condition 1	

TABLE 13.3-1 (Cont)

EMERGENCY ACTION LEVELS, INITIATING CONDITIONS, AND EMERGENCY RESPONSE

NOTIFICATION OF UNUSUAL EVENT
IMPLEMENT EIP-2-002

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
normal controlled shutdown (e.g., cooldown rate exceeding technical specification limits, pipe cracking found during operation)				
17. Transportation of overexposed and/or contaminated injured individual from site to hospital	1. Decision by Shift Supervisor to transport individual offsite prior to decontamination OR 2. Transport offsite of any injured, overexposed individual (estimated total exposure in excess of 10CFR20 limit).	Same as for Notification of Unusual Event condition 1	Same as for Notification of Unusual Event condition 1	

TABLE 13.3-1 (Cont)

ALERT
IMPLEMENT EIP-2-003

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
1. Severe loss of fuel clad	1. Off gas pre-treatment radiation monitor reading greater than 4×10^5 mR/hr OR 2. Very high coolant activity as determined by sample analysis of 300 μCi/gm equivalent of I-131; OR 3. Main steam line radiation monitor exceeds Hi-Hi alarm trip set point due to failed fuel radioactivity OR 4. Reactor water level below top of active fuel (-160 in.).	1. Promptly notify offsite authorities of Alert status and reason for Alert. 2. Augment resources by activating the Technical and Operations Support Centers. 3. Assess and respond. 4. Assemble onsite monitoring teams and bring associated communications to standby status. 5. Provide hourly plant status updates to offsite authorities. 6. Provide periodic meteorological assessments to offsite authorities and, if any significant offsite releases are occurring, dose estimates for actual releases. 7. For significant offsite release situations, dispatch monitoring teams. Notify offsite authorities to activate centers and monitoring teams. 8. Close out by verbal summary to offsite authorities followed by press release within 24 hr (in some cases deescalation to the Notification of Unusual Event class may be appropriate if the initiating condition cannot be closed out, but it has lost its Alert class significance). OR 9. Escalate to a more severe class.	State LNED and MSBH	1. Augment resources by activating Emergency Operations Center (EOC) and any other primary response centers. 2. Alert to standby status key emergency personnel including monitoring teams and associated communications. 3. Provide confirmatory offsite radiation monitoring and ingestion pathway dose projections if actual releases substantially exceed technical specification limits. 4. Maintain Alert status until verbal closeout OR 5. Escalate to a more severe class
			LOEP and MEMA	1. Augment resources by activating EOC and any other primary response centers. 2. Alert to standby status key emergency personnel

TABLE 13.3-1 (Cont)

ALERT
IMPLEMENT EIP-2-003

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
				3. Maintain alert status until verbal closeout OR 4. Escalate to a more severe class
			LSP	1. Provide security assistance if requested 2. Alert to standby status key emergency personnel 3. Maintain Alert status until verbal closeout OR 4. Escalate to a more severe class
			Local	
			Civil Defense	1. Augment resources by activating EOC and any other primary response centers 2. Alert to standby status key emergency personnel 3. Maintain Alert status until verbal closeout OR 4. Escalate to a more severe class

TABLE 13.3-1 (Cont)

ALERT
IMPLEMENT EIP-2-003

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response	
			Agency	Action
			Sheriff	1. Provide security assistance if requested 2. Alert to standby status key emergency personnel 3. Maintain Alert status until verbal closeout OR 4. Escalate to a more severe class
2. Primary coolant leak rate greater than 50 gpm with reactor at operting temperature and pressure.	Unidentified plus identified leakage greater than 50 gpm.	Same as for Alert condition 1	Same as for Alert condition 1	
3. Steam line break inside containment with MSIV HIGH leakage.	Abnormal main steam line pressure after MSIV closure AND HIGH drywell temperature greater than 135°F AND HIGH drywell pressure greater than 1.25 psig AND Both trains of MS-PLCS trips or are inoperable due to LOW differential pressure across MSIV or HIGH MS-PLCS valve air flow.	Same as for Alert condition 1	Same as for Alert condition 1	
4. Unexpected HIGH	1. Alarm of area radiation monitors	Same as for Alert condition 1	Same as for Alert condition 1	

TABLE 13.3-1 (Cont)

ALERT
IMPLEMENT EIP-2-003

Emergency Action Level	Initiating Condition	License Action	Offsite Response Agency	Offsite Response Action
radiation levels or HIGH airborne contamination which indicates a severe degradation in the control of radioactive materials	and confirmation of readings greater than 1000 times normal level OR 2. Alarm of DRMS (Digital Radiation Monitoring System) airborne ventilation monitors and confirmation of readings greater than 1000 times normal level.			
5. Loss of offsite power and loss of all onsite AC power for less than 15 minutes	Less than 3744V on 1ENS*SWG1A and 1ENS*SWG1B busses AND 1RTX-XSR1C and 1RTX-XSR1D preferred station transformers lost AND All diesel generators out of service	Same as for Alert condition 1	Same as for Alert condition 1	
6. Loss of all onsite DC power for less than 15 minutes	Less than 105V on 1ENB*SWG01A and 1ENB*SWG01B distribution busses	Same as for Alert condition 1	Same as for Alert condition 1	
7. Loss of functions needed to maintain plant in cold shutdown (3)	1. Loss of both standby service water loops OR 2. Loss of any two of the following: a. Main condenser b. Safety relief valve capability	Same as for Alert condition 1	Same as for Alert condition 1	

(3) LOCA condition is not considered.

TABLE 13.3-1 (Cont)

ALERT
IMPLEMENT EIP-2-003

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
	c. RCIC System d. Steam condensing or shutdown and alternate shutdown cooling modes of RHR loops A and B			
8. Failure of the reactor protection systems to initiate and complete a scram which brings the reactor subcritical	Indication that all control rods have not been inserted following a valid scram signal AND Neutron Monitoring System does not indicate reactor subcritical	Same as for Alert condition 1	Same as for Alert condition 1	
9. Fuel handling accident with release of radioactivity to primary containment or Fuel Building	1. Observation of a fuel handling accident in the spent fuel pool area. AND HIGH alarm on one or more fuel handling area radiation monitors AND HIGH alarm on fuel bldg. ventilation exhaust radiation monitors for an accident in the Fuel Bldg. OR 2. HIGH alarm on the main plant exhaust duct radiation monitors for an accident in the containment. AND HIGH alarm on one or more containment radiation monitors. AND Observation of a fuel handling accident in the spent fuel pool area.	Same as for Alert condition 1	Same as for Alert condition 1	

TABLE 13.3-1 (Cont)

ALERT
IMPLEMENT EIP-2-003

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
10. Fire potentially affecting safety systems	As reported by plant personnel or the Fire Brigade Leader to the Main Control Room	Same as for Alert condition 1	Same as for Alert condition 1	
11. Loss of all annunciators in Main Control Room for less than 15 min (4)	As determined by the Main Control Room Operator from direct observation; plant is not shutdown AND Transient has not occurred.	Same as for Alert condition 1	Same as for Alert condition 1	
12. Radiological effluents greater than 10 times Tech. Spec. instantaneous limits (Tech. Spec. 3.11.1 & 3.11.2)	1. HIGH alarm on one or more radiation monitors: a. Radwaste bldg. ventilation exhaust b. Fuel bldg. ventilation exhaust c. Main plant exhaust duct AND Summation of releases exceed 10 times Tech. Spec. limits OR 2. Liquid radwaste effluent monitor High alarm verified to be greater than 10 times the Tech. Spec. limit. OR Both isolation valves fail to close OR 3. Cooling tower blowdown monitor HIGH alarm verified to be greater than 10 times the Tech. Spec.	1. Promptly notify offsite authorities of Alert status and reason for Alert (once reason is discovered). 2. Augment resources by activating the Technical and Operations Support Centers. 3. Assess and respond. 4. Provide recommended protective actions as necessary and dispatch monitoring teams. Notify offsite authorities to activate centers and monitoring teams. 5. Provide periodic meteorological assessments to offsite authorities and, if any significant offsite releases are occurring, dose estimates for actual releases. 6. Provide hourly plant status updates to offsite authorities. 7. Close out by verbal summary to offsite authorities followed by press release within 24 hr (in some cases deescalation to the Notification of Unusual Event	Same as for Alert condition 1	

(4) Annunciators are powered by Division I, II, and III uninteruptable power supplies. See also Alert EAL 6, loss of all DC power.

TABLE 13.3-1 (Cont)

ALERT
IMPLEMENT EIP-2-003

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
	limit.	class may be appropriate if the initiating condition cannot be closed out, but it has lost its Alert class significance). OR 8. Escalate to a more severe class.		
13. Ongoing security compromise	Safeguards Contingency Event that results in adversaries commanding an area of the plant, but not control over shutdown capability or vital islands as outlined in the Security Plan	Same as for Alert condition 1	Same as for Alert condition 1	
14. Severe natural phenomenon experienced beyond Notification of Unusual Event levels	1. An earthquake beyond OBE levels as detected on plant seismic instrumentation that does not result in another Alert-level initiating condition OR 2. A tornado strikes the facility that does not result in another Alert-level initiating condition. OR 3. Sustained hurricane winds measured at 64-72 mph.	Same as for Alert condition 1	Same as for Alert condition 1	
15. Other hazards being experienced or projected which have a significant potential for affecting plant safety:	1. Aircraft impact on the Reactor, Diesel Generator, or Auxiliary Buildings observed or notification is received by Main Control Room. OR 2. Missile impact on facility with resulting damage observed or notification is received by Main Control Room.	Same as for Alert condition 1	Same as for Alert condition 1	

TABLE 13.3-1 (Cont)

ALERT
IMPLEMENT EIP-2-003

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
	OR 3. Known explosion at facility resulting in major damage to plant structures or equipment as determined by on-duty shift supervisor. OR 4. Entry of toxic or flammable gases into facility area observed or notification is received by Main Control Room. OR 5. Turbine failure casing penetration observed or notification is received by Main Control Room.			
16. Other plant conditions that warrant precautionary activation of Emergency Response Facilities	As determined by on-duty Shift Supervisor	Same as for Alert condition 1	Same as for Alert condition 1	
17. Evacuation of Main Control Room anticipated or required with control of shutdown at remote shutdown panels	As determined by on-duty Shift Supervisor	Same as for Alert condition 1	Same as for Alert condition 1	

TABLE 13.3-1 (Cont)

SITE AREA EMERGENCY
IMPLEMENT EIP-2-004

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
1. Inability to maintain reactor water level.	LOW reactor water level indication-Level 1 AND HIGH drywell pressure greater than 2 psig AND Inability to restore reactor water level.	1. Promptly inform offsite authorities of Site Area Emergency status and reason for emergency as soon as discovered 2. Augment resources by activating all Emergency Response Facilities 3. Notify appropriate state and local government agencies and NRC. 4. Dispatch onsite and offsite monitoring teams if releases are imminent or are occurring 5. Provide a dedicated individual for plant status updates to offsite authorities and initiate periodic press briefing 6. Make senior technical and management staff onsite available for consultation with NRC and State on a periodic basis 7. Provide meteorological information and dose estimates to offsite authorities for actual releases via a dedicated individual or automated data transmission 8. Provide release estimates and dose projections based on plant conditions including foreseeable contingencies. Provide recommended protective actions as necessary 9. Close out or recommend reduction in emergency class by briefing of offsite authorities at Emergency Response Facilities and by phone followed by written summary within 8 hours after closeout OR 10. Escalate to General Emergency class	State LNED and MSBH	1. Provide any assistance requested 2. Activate immediate public notification or emergency status and provide public periodic updates 3. Augment resources by activating nearsite Emergency Operations Centers and any other primary response centers 4. Dispatch key emergency personnel including monitoring teams and associated communications 5. Alert to standby status other emergency personnel (e.g., those needed for evacuation) and dispatch personnel to nearsite duty stations 6. Provide offsite monitoring results to licensee and others and jointly assess them 7. Continuously assess information from licensee and offsite monitoring with regard to changes to protec-

TABLE 13.3-1 (Cont)

SITE AREA EMERGENCY
IMPLEMENT EIP-2-004

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
				tive actions already initiated for public and mobilizing evacuation resources 8. Recommend placing milk animals within 2 mi on stored feed and assess need to extend distance 9. Provide press briefings, perhaps with licensee 10. Maintain Site Area Emergency status until closeout or reduction of emergency class OR 11. Escalate to General Emergency class
			LOEP and MEMA	1. Provide any assistance requested 2. Maintain EOC and any other primeray response centers 3. Dispatch key emergency personnel and associated communications 4. Alert to standby status other emergency personnel (e.g., those needed for evacuation) 5. Maintain Site Area Emergency status until closeout or reduction of emergency class OR

TABLE 13.3-1 (Cont)

SITE AREA EMERGENCY
IMPLEMENT EIP-2-004

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
				6. Escalate to General Emergency class
			LSP	1. Provide assistance as requested 2. Alert to standby status emergency personnel (e.g., those needed for evacuation) 3. Maintain Site Area Emergency status until closeout or reduction of emergency class OR 4. Escalate to General Emergency class
			Local	
			Civil Defense	1. Provide any assistance requested 2. Maintain EOC and any other primary response centers 3. Dispatch key emergency personnel and associated communications 4. Alert to standby status other emergency personnel (e.g., those needed for evacuation) 5. Maintain Site Area Emergency status until closeout or reduction of emergency class

TABLE 13.3-1 (Cont)

SITE AREA EMERGENCY
IMPLEMENT EIP-2-004

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
				OR 6. Escalate to General Emergency class
			Sheriff	1. Provide assistance as requested 2. Alert to standby status emergency personnel (e.g., those needed for evacuation) 3. Maintain Site Area Emergency status until closeout or reduction of emergency class OR 4. Escalate to General Emergency class
2. Degraded core with possible loss of coolable geometry	Reactor water level at or below top of active fuel (-160 in.) core height as indicated by reading on fuel zone level indicator AND Very high coolant activity as determined by sample analysis (greater than or equal to 300 uCi/gm equivalent of I-131)	Same as for Site Area Emergency condition 1	Same as for Site Area Emergency condition 1	
3. BWR steam line break outside containment W/O isolation	1. HIGH flow on an individual main steam line greater than 4×10^6 lbm/hr AND HIGH main steam line tunnel ambient temperature alarm AND	Same as for Site Area Emergency condition 1	Same as for Site Area Emergency condition 1	

TABLE 13.3-1 (Cont)

SITE AREA EMERGENCY
IMPLEMENT EIP-2-004

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response: Agency	Offsite Response: Action
	HIGH main steam line tunnel differential temperature alarm OR 2. HIGH flow on an individual main steam line flow greater than 4×10^6 mlb/hr. AND HIGH turbine bldg. temperature alarm. OR 3. RCIC HIGH steam line flow. AND Any of the following temperature alarms: a. HIGH main steam line tunnel ambient temperature. b. HIGH RCIC area ambient temperature. c. HIGH main steam line tunnel differential temperature d. HIGH RCIC equipment area differential temperature.			
4. Loss of offsite power and loss of all onsite AC power for more than 15 minutes.	Less than 3744V on 1ENS*SWG1A and 1ENS*SWG1B busses AND 1RTX-XSR1C and 1RTX-XSR1D preferred station transformers lost AND All diesel generators out of service AND Condition exists for more than 15 minutes	Same as for Site Area Emergency condition 1	Same as for Site Area Emergency condition 1	

TABLE 13.3-1 (Cont)

SITE AREA EMERGENCY
IMPLEMENT EIP-2-004

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
5. Loss of all vital onsite 125 volt DC power for more than 15 minutes.	Less than 105V on 1ENB*SWG01A and 1ENB*SWG01B distribution busses AND Condition exists for more than 15 minutes	Same as for Site Area Emergency condition 1	Same as for Site Area Emergency condition 1	
6. Loss of functions needed to bring the reactor from hot shutdown to cold shutdown	1. Inability to depressurize the reactor OR 2. Main condenser cooling is inoperable. AND RHR divisions A and B are inoperable AND RCIC is inoperable	Same as for Site Area Emergency condition 1	Same as for Site Area Emergency condition 1	
7. Transient requiring operation of shutdown systems with failure to scram (continued power generation but no core damage immediately evident)	Observation of transient and initiation of shutdown systems AND Neutron monitoring system does not indicate reactor subcritical following valid scram initiation signal.	Same as for Site Area Emergency condition 1	Same as for Site Area Emergency condition 1	
8. Major damage to spent fuel assembly in containment or Fuel Building (e.g., large object damages fuel or water	1. Observation of event causing major structural damage to spent fuel assembly in upper fuel pool area or Fuel Bldg. AND HIGH radiation alarm in upper fuel pool area or Fuel Bldg.			

TABLE 13.3-1 (Cont)

SITE AREA EMERGENCY
IMPLEMENT EIP-2-004

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
loss below fuel level)	AND Observation of a fuel handling accident in containment OR 2. Low water level in spent fuel pool below normal and unable to restore to normal level AND HIGH radiation alarm in upper fuel pool area or Fuel Bldg. AND HIGH alarm on Fuel Building ventilation radiation monitor for accident in the Fuel Building OR 3. HIGH alarm on main plant exhaust duct radiation monitor for accident in containment AND Observation of a fuel handling accident in containment. AND Projected offsite doses based on equivalent radiation or iodine concentration levels identified in Site Area EAL 11.			
9. Fire compromising the function of safety systems	Observation of a major fire that affects redundant safety system trains or functions			
10. All alarms lost (no annunciators) for more	Observation by Shift Supervisor of loss of annunciators for more than 15 minutes.	Same as for Site Area Emergency condition 1	Same as for Site Area Emergency condition 1	

TABLE 13.3-1 (Cont)

SITE AREA EMERGENCY
IMPLEMENT EIP-2-004

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
than 15 min and plant is not shutdown.	AND Plant transient in initiated or in progress while all annunciators lost.			
11. Effluent monitors detect levels corresponding to greater than 50 mr/hr for 1/2 hr or greater than 500 mr/hr W.B. for 2 minutes or 5 times these levels to the thyroid at the site boundary for adverse meteorology.	1. Containment post-accident radiation monitors alert alarm OR 2. Post accident effluent radiation monitor confirms noble gas release rates corresponding to: a. 0.1 Ci/sec noble gas (30 min) b. 1.0 Ci/sec noble gas (2 min) OR 3. Grab samples and laboratory analysis confirm release levels of: a. 150 μCi/sec (30 min) I-131 equivalent b. 1500 μCi/sec (2 min) I-131 equivalent OR 4. Radiation monitoring teams report radiation or iodine concentration readings at the site boundary corresponding to: a. 50 mr/hr (30 minutes) b. 500 mr/hr (2 minutes) c. 1.35×10^{-7} μCi/cc I-131 equivalent (30 minutes) d. 1.35×10^{-6} μCi/cc I-131 equivalent (2 minutes)	Same as for Site Area Emergency condition 1	Same as for Site Area Emergency condition 1	
12. Security threat involving imminent loss of physical control of the plant	Physical attack on the plant involving imminent occupancy of Main Control Room	Same as for Site Area Emergency condition 1	Same as for Site Area Emergency condition 1	

TABLE 13.3-1 (Cont)

SITE AREA EMERGENCY
IMPLEMENT EIP-2-004

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response	
			Agency	Action
13. Severe natural event near site being experienced or projected with plant not in cold shutdown	1. Containment or Drywell Safe Shutdown Earthquake alarm OR 2. Water level greater than 98 ft. msl. OR 3. Winds greater than 100 mph onsite	Same as for Site Area Emergency condition 1	Same as for Site Area Emergency condition 1	
14. Other hazards being experienced or projected with plant not in cold shutdown	1. Observed or reported aircraft crash causing damage or fire in Containment, Ausiliary, Control, or Turbine Building OR 2. Missile impact or explosion causes loss of functions needed for cold shutdown OR 3. Entry of toxic or flammable gases into: a. Main Control Room AND b. Remote shutdown panel room	Same as for Site Area Emergency condition 1	Same as for Site Area Emergency condition 1	
15. Other plant conditions exist that warrant activation of Emergency Operations Centers, monitoring teams, and precautionary public notification	As determined by the Shift Supervisor/ Emergency Director	Same as for Site Area Emergency condition 1	Same as for Site Area Emergency condition 1	

TABLE 13.3-1 (Cont)

SITE AREA EMERGENCY
IMPLEMENT EIP-2-004

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response	
			Agency	Action
16. Evacuation of Main Control Room and control of shutdown systems not established at remote shutdown panels in 15 minutes	As determined by on-duty Shift Supervisor	Same as for Site Area Emergency condition 1	Same as for Site Area Emergency condition 1	

TABLE 13.3-1 (Cont)

GENERAL EMERGENCY
IMPLEMENT EIP-2-005

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
1. Effluent monitors detect levels corresponding to 1 rem/hr whole body or 5 rem/hr thryoid at the site boundary under actual meteorological conditions.(5)	1. Post accident effluent radiation monitor confirms noble gas and iodine release rates corresponding to 1 REM/hr whole body or 5 REM/hr thyroid at the site boundary for actual meteorological conditions OR 2. Radiation monitoring teams report radiation and iodine concentration readings of 1 REM/hr whole body or 2.70×10^{-6} µCi/cc I-131 equivalent OR 3. Containment post-accident radiation monitors HIGH alarm.	1. Promptly inform offsite authorities of General Emergency status and reason for emergency as soon as discovered (parallel notification of NRC) 2. Augment resources by activating Emergency Response Facilities 3. Assess and respond 4. Dispatch onsite and offsite monitoring teams. 5. Provide a dedicated individual for plant status updates to offsite authorities and periodic press briefings 6. Make senior technical and management staff onesite available for consultation with NRC and State on a periodic basis 7. Provide meteorological information and dose estimates to offsite authorities for actual releases via a dedicated individual or automated data transmission 8. Provide release and dose projections based on plant conditions, information, and foreseeable contingencies. Make recommended protective actions as necessary. 9. Close out or recommend reduction of emergency class by briefing of offsite authorities at Emergency Response	State LNED and MSBH	1. Provide any assistance requested 2. Activate immediate public notification of emergency status and provide public periodic updates 3. Recommend sheltering for 2 mi radius and 5 mi downwind and assess need to extend distances 4. Augment resources by activating nearsite EOC and any other primary response center 5. Dispatch key emergency personnel including monitoring teams and associated communications 6. Dispatch other emergency personnel to duties stations within 5 mi radius and alert all others to standby status 7. Provide offsite monitoring results to li-

(5) Consider evacuation only within about 2 mi of the site boundary unless these levels are exceeded by a factor of 10 or projected to continue for 10 hr.

TABLE 13.3-1 (Cont)

GENERAL EMERGENCY
IMPLEMENT EIP-2-005

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
		Facilities and by phone, followed by written summary within 24 hours after closeout.		censee and others and jointly assess these 8. Continuously assess information from licensee and offsite monitoring teams with regard to changes to protective actions already initiated for the public 9. Recommend placing milk animals within 10 mi on stored feed and assess need to extend distance 10. Provide press briefings, perhaps with licensee 11. Consider relocation to alternate Emergency Response Facilities if actual dose accumulation in nearsite Emergency Response Facilities exceeds lower bound of EPA PAGs 12. Maintain General Emergency status until closeout or reduction of emergency class
			LOEP and MEMA	1. Provide any assistance as requested 2. Maintain key emergency personnel and asso-

TABLE 13.3-1 (Cont)

GENERAL EMERGENCY
IMPLEMENT EIP-2-005

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
				ciated communication links 3. Continuously assess information from licensee with regard to changes to protective actions already initiated for public and mobilizing evacuation resources 4. Maintain General Emergency status until closeout on reduction of emergency class
			LSP	1. Provide any assistance as requested 2. Maintain key emergency personnel and associated communication links 3. Maintain General Emergency status until closeout or until reduction of emergency class

TABLE 13.3-1 (Cont)

GENERAL EMERGENCY
IMPLEMENT EIP-2-005

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response Agency	Offsite Response Action
			Local	
			Civil Defense	1. Provide any assistance as requested 2. Maintain key emergency personnel and associated communication links 3. Continuously assess information from LNED, MSBH, and licensee with regard to changes to protective actions already initiated for public and mobilizing evacuation resources 4. Maintain General Emergency status until closeout on reduction of emergency class
			Sheriff	1. Provide any assistance as requested 2. Maintain key emergency personnel and associated communication links 3. Maintain General Emergency status until closeout or until reduction of emergency class

TABLE 13.3-1 (Cont)

GENERAL EMERGENCY
IMPLEMENT EIP-2-005

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response	
			Agency	Action
2. Loss of 2 of 3 fission product barriers with a potential loss of third barrier (6)	1. Loss of any two of the following with potential loss of the third: a. Fuel Cladding b. Reactor Coolant Pressure Boundary c. Containment Integrity OR 2. Loss of fuel cladding and Reactor Coolant Pressure Boundary with a potential loss of containment as indicated by: a. Reactor water level below top of active fuel (-160 in.) with indication of fuel damage. AND b. HIGH drywell temperature (230°F), or post-accident HIGH range containment monitors greater than 10^4 R/hr. AND c. Sustained containment pressure greater than 15 psig. OR 3. Loss of Reactor Coolant Pressure Boundary and containment integrity with potential loss of fuel cladding as indicated by: a. LOCA with inability to isolate break AND b. Failure of MSIVs to isolate containment.	Same as for General Emergency condition 1	Same as for General Emergency condition 1	

(6) Recommend 2 mi radius precautionary evacuation and 5 mi. downwind.

TABLE 13.3-1 (Cont)

GENERAL EMERGENCY
IMPLEMENT EIP-2-005

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response: Agency	Offsite Response: Action
	c. Reactor water level at -160 inches and decreasing. OR 4. Loss of containment integrity and fuel cladding with potential loss of Reactor Coolant Pressure Boundary as indicated by: a. Indication that all containment isolation valves are not closed. AND b. Indication of fuel cladding failure by HIGH Reactor coolant activity greater than 300 µCi/gm I-131, or water level below top of active fuel (-160 in) with indications of fuel damage. AND c. HIGH Reactor Coolant Pressure Greater than than 1100 psig.			
3. Loss of physical control of facility	Physical attack on the plant has resulted in unauthorized personnel occupying the Main Control Room	Same as for General Emergency condition 1	Same as for General Emergency condition 1	
4. Other plant conditions exist that make release of large amounts of radioactivity in a short time possible(7)	1. LOCA and water level below top of active fuel (-160 in.) AND All onsite and offsite AC power lost AND All vital onsite DC power lost AND Suppression pool cooling has not	Same as for General Emergency condition 1	Same as for General Emergency condition 1	

(7) See EIP-2-007 for protective action recommendations based on plant status.

TABLE 13.3-1 (Cont)

GENERAL EMERGENCY
IMPLEMENT EIP-2-005

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response	
			Agency	Action
	been initiated following a 30 minute time lapse OR			
a. Transient (e.g., loss of offsite power) plus failure of requisite core shut-down systems (e.g., scram). Could lead to core melt in several hours with containment failure likely. More severe consequences if pumps trip does not function. b. Small or large LOCA's with failure of ECCS to perform leading to core melt degradation or melt in minutes to hours. Loss of containment	2. All onsite DC power lost. AND Condition is expected to remain in excess of 10 hours			

TABLE 13.3-1 (Cont)

GENERAL EMERGENCY
IMPLEMENT EIP-2-005

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response	
			Agency	Action
integrity may be imminent.				
c. Small or large LOCA occurs and containment performance is unsuccessful affecting longer term success of the ECCS. Could lead to core degradation or melt in several hours without containment boundary.				
d. Shutdown occurs but requisite decay heat removal systems (e.g., RHR) or non-safety systems heat removal means are rendered unavailable. Core degradation or melt could occur in about ten hours with				

TABLE 13.3-1 (Cont)

GENERAL EMERGENCY
IMPLEMENT EIP-2-005

Emergency Action Level	Initiating Condition	Licensee Action	Offsite Response	
			Agency	Action
	subsequent containment failure.			
5. Any major internal or external events (e.g., fires, earthquakes, substantially beyond design basis) which could cause massive common damage to plant systems resulting in any condition 4.a through d.	As determined by Emergency Director			

Q!'ESTION 810.84 (Emergency Classification System)

The applicant stated the EALs for Unusual Event Conditions 7 and 8, and Site Area Emergency Conditions 4 and 5 as listed in Appendix 1 to NUREG-0654, Rev. 1, would be prepared at a later date. The EALs for these initiating conditions will be reviewed when they are submitted. (D.1)

RESPONSE

11 The EALs for Unusual Event Conditions 7 and 8 and Site Area Emergency Condition 3 (5 is for a PWR) are provided in Table 13.3-1, ~~pages 4 and 22, respectively.~~

QUESTION 810.85 (Emergency Classification System)

The following initiating conditions listed in Appendix 1 to NUREG-0654 were not addressed:

Unusual Event 4, 12, 15.

Alert 4, 9, 16.

Site Area Emergency 9.

General Emergency 6, 7.

RESPONSE

The EALs for Unusual Event Conditions 4, 13, and 16 ~~are provided in Table 13.3-1, pages 3, 6, and 7, respectively.~~ and ~~The EALs~~ for Alert Conditions 3 and 13 are provided in Table 13.3-1, ~~pages 11 and 15, respectively.~~ The EAL for Alert Condition 9 from NUREG-0654 has been eliminated due to guidance presented in NUREG-0818. The EAL for Site Area Emergency Condition 7 ~~is provided in Table 13.3-1, page 24.~~ and ~~The EALs~~ for General Emergency Conditions 4 and 5 are provided in Table 13.3-1, ~~pages 34 and 36, respectively.~~ 11

QUESTION 810.86 (Unusual Event)

Initiating Condition 1 (ECCS initiated). The initiating condition definition given in NUREG-0654, Appendix 1 should be used. Appropriate EALs are those based upon flow to the reactor vessel from any ECCS system.

RESPONSE

The RBS EAL for ECCS initiated is provided in Unusual Event Condition 1 of Table 13.3-1, ~~page 1.~~

QUESTION 810.87 (Unusual Event)

Initiating Condition 11 (loss of effluent indication which requires plant shutdown). An EAL for loss of meteorological instrumentation should be added.

RESPONSE

The EAL for loss of effluent indication which requires plant shutdown is provided in Unusual Event Initiating Condition 11 of Table 13.3-1, ~~page 5.~~

QUESTION 810.88 (Unusual Event)

Initiating Condition 13c (any tornado on site). Since the EAL for tornadoes is visual only, an additional EAL based upon a measured wind velocity should be added.

RESPONSE

11 The EAL for any tornado onsite is provided in Unusual Event Initiating Event Condition 14~~b~~ of Table 13.3-1, ~~page 6.~~

QUESTION 810.89 (Unusual Event)

Initiating Condition 13d (any hurricane). An EAL for hurricanes should be prepared.

RESPONSE

The EAL for any hurricane is provided in Unusual Event Initiating Condition 14~~e~~ of Table 13.3-1, ~~page 6~~. | 11

QUESTION 810.90 (Unusual Event)

Initiating Condition 14b (Train derailment on-site). An EAL for train derailment should be prepared, if applicable.

RESPONSE

11 The EAL for an onsite train derailment is provided in Unusual Event Initiating Condition 15~~b~~ of Table 13.3-1, ~~page 7.~~

QUESTION 810.91 (Unusual Event)

Initiating Condition 14c (turbine rotating component failure). An EAL for turbine failure should be prepared.

RESPONSE

The EAL for a turbine rotating component failure is provided in Unusual Event Initiating Condition 15~~c~~ of Table 13.3-1, ~~page 7~~. 11

QUESTION 810.92 (Alert)

Initiating Condition 5 (primary coolant leak rate greater than 50 gpm). An EAL based on the leak monitor on the reactor water cleanup system should be considered.

RESPONSE

11 The EAL for unidentified plus identified leakage greater than 50 gpm is provided in Alert Initiating Condition 2 of Table 13.3-1, ~~page 11~~.

QUESTION 810.93 (Alert)

Initiating Condition 8 (loss of all onsite DC power). It is inappropriate for the applicant to comment on an EAL probability for an initiating condition. EAL 2 is a valid EAL.

RESPONSE

The EAL for loss of all onsite dc power has been revised and is provided in Alert Initiating Condition 6 of Table 13.3-1, ~~page 12~~. 11

QUESTION 810.94 (Alert)

Initiating Condition 13 (fire potentially affecting safety systems). The initiating condition definition as given in NUREG-0654, Appendix 1 should be used. The stated EAL is acceptable.

RESPONSE

11 The EAL for a fire potentially affecting safety systems is provided in Alert Initiating Condition 10 of Table 13.3-1, ~~page 13~~.

QUESTION 810.95 (Alert)

Initiating Condition 14 (all alarms lost). The sentence of footnote (6) "Some spurious annunciation may occur" is unclear. The EAL will meet the requirements of NUREG-0654, Appendix 1 if it means the alert must be declared if all annunciators are lost even if spurious annunciation is occurring. In footnote (5) "See Alert Condition 6" should read "See Alert Condition 5."

RESPONSE

The EAL for loss of all annunciators is provided in Alert Initiating Condition 11 of Table 13.3-1, ~~page 14~~. | 11

QUESTION 810.96 (Alert)

Initiating Condition 17c (any tornado striking facility). An EAL based on measured high wind velocities should be included to supplement the observed tornado EAL.

RESPONSE

11 The EAL for a tornado striking the facility is provided in Alert Initiating Condition 14~~b, page 15~~ of Table 13.3-1.

QUESTION 810.97 (Alert)

Initiating Condition 17d (hurricane winds near design basis level). An EAL based on measured high wind velocity should be added.

RESPONSE

The EAL for hurricane winds near the design basis level is provided in Alert Initiating Condition 14~~c, page 15~~ of Table 13.3-1. | 11

QUESTION 810.98 (Alert)

Initiating Condition 18b (missile impacts from whatever source on facility). An EAL should be prepared for this initiating condition.

RESPONSE

11 The EAL for missile impacts on a facility is provided in Alert Initiating Condition 15~~b, page 16 o~~f Table 13.3-1.

QUESTION 810.99 (Alert)

Initiating Condition 18c (Turbine failure causing casing penetration). An EAL for this initiating condition should be prepared.

RESPONSE

The EAL for a turbine failure which causes casing penetration is provided in Alert Initiating Condition 15~~e, page 16~~ of Table 13.3-1. | 11

QUESTION 810.100 (Site Area Emergency)

Initiating Condition 2 (degraded core with possible loss of coolable geometry). The EAL set is not acceptable. The suggestions of NUREG-0818 should be considered in developing an acceptable EAL set.

RESPONSE

11 The revised EAL for Site Area Emergency Initiating Condition 2 is provided on ~~page 22 of~~ Table 13.3-1.

QUESTION 810.101 (Site Area Emergency)

Initiating Condition 8 (complete loss of any function needed for plant hot shutdown). The EAL set is not acceptable. The suggestions in NUREG-0818 should be considered in developing an acceptable EAL set.

RESPONSE

The EAL for a complete loss of any function needed for plant hot shutdown is provided in Site Area Emergency Initiating Condition 6, ~~page 24,~~ of Table 13.3-1. | 11

QUESTION 810.102 (Site Area Emergency)

Initiating Condition 11 (fire compromising the function of safety systems). The EAL is too restrictive. An adequate EAL would be "observation of major fire that affects redundant safety system trains or functions." The initiating condition definition in NUREG-0654, Appendix 1 should be used.

RESPONSE

11 The EAL for a fire compromising the function of safety systems is provided in revised Site Area Emergency Initiating Condition 9~~, page 25~~ of Table 13.3-1.

QUESTION 810.103 (Site Area Emergency)

Initiating Condition 12 (most or all alarms lost). The logic of the EAL set is unclear. The suggestions in NUREG-0818 should be considered in developing an acceptable EAL set.

RESPONSE

The EAL for loss of all or most alarms for more than 15 min is provided in Site Area Emergency Initiating Condition 10, ~~page 25,~~ of Table 13.3-1. 11

QUESTION 810.104 (Site Area Emergency)

Initiating Condition 14 (imminent loss of physical control of the plant). The applicant interpreted the initiating condition to mean loss of control of the nuclear reaction rather than a violation of security (i.e., plant takeover). The EAL should be "Physical attack on the plant involving vital areas as defined by the Modified Amended Security Plan." Footnote (7) of this EAL is not applicable.

RESPONSE

11 The EAL for a loss of the physical control of the plant is provided in revised Site Area Emergency Initiating Condition 12~~, page 27,~~ of Table 13.3-1.

QUESTION 810.105 (Site Area Emergency)

Initiating Condition 15 (severe natural phenomena being experienced). The proposed EAL is deficient in that it does not cover winds quantitatively or low water. In addition EAL 1 should read "an earthquake greater than SSE levels detected by plant seismic instrumentation located in PNL-P808 while in plant operational conditions (Modes) 1, 2, or 3."

RESPONSE

The EAL for a severe natural phenomenon being experienced is provided in revised Site Area Emergency Initiating Condition 13~~, page 27,~~ of Table 13.3-1. 11

QUESTION 810.106 (Site Area Emergency)

Initiating Condition 16 (other hazards being experienced). The initiating condition definition given in NUREG-0654, Appendix 1 should be used. An EAL for toxic or flammable gases should be added.

RESPONSE

11 | The EAL for other hazards experienced is provided in revised Site Area Emergency Initiating Condition 14~~, page 27,~~ of Table 13.3-1.

QUESTION 810.107 (Site Area Emergency)

Initiating Condition 17 (other plant conditions exist that warrant activation). The proposed EAL does not meet the intent of NUREG-0654, Appendix 1. Only one person (i.e., the on-duty shift supervisor) has the responsibility for determining whether an EAL is met.

RESPONSE

The EAL for other plant conditions which exist that may warrant activation is provided in Site Area Emergency Initiating Condition 15, ~~page 28,~~ Table 13.3-1. The Shift Supervisor can function as the Emergency Director, as described in Section 13.3.4.2.1, until properly relieved. 11

QUESTION 810.108 (General Emergency)

Initiating Condition 1 (dose rates are based on other plant parameters). An EAL should be added for radiation doses based upon other plant parameters such as containment radiation levels and containment leakage.

RESPONSE

11 | The EAL for General Emergency Initiating Condition 1 is provided on ~~page 30 of~~ Table 13.3-1.

QUESTION 810.109 (General Emergency)

Initiating Condition 2 (loss of two out of three fission product barriers). The suggestions in NUREG-0818 should be considered in arriving at acceptable EAL sets.

RESPONSE

The EAL for General Emergency Initiating Condition 2 is provided on ~~page 34 of~~ Table 13.3-1. | 11

QUESTION 810.110 (General Emergency)

Initiating Condition 3 (loss of physical control of the facility). The EAL should read "Physical attack on the plant has resulted in unauthorized personnel occupying the control room or any other vital areas as described in the Modified Amended Security Plan."

RESPONSE

11 The revised EAL for General Emergency Initiating Condition 3 is provided on ~~page 34 of~~ Table 13.3-1.

QUESTION 810.111 (General Emergency)

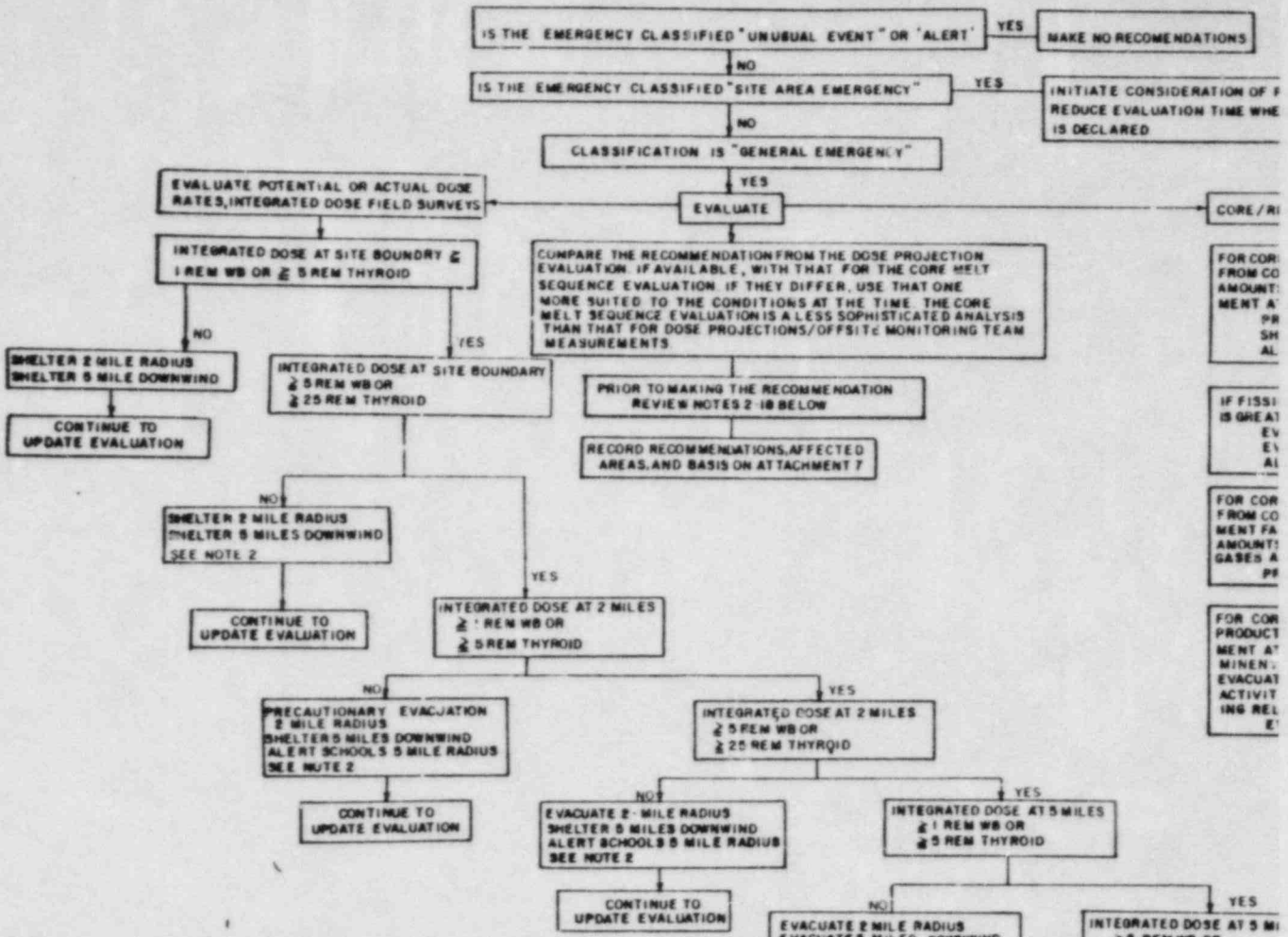
Initiating Condition 4 (other plant conditions). The applicant has lumped the EALs for initiating conditions 4, 6, and 7 under initiating condition 4. It is suggested that separate EAL sets for initiating conditions 4, 6 and 7 be prepared.

RESPONSE

The EALs for other plant conditions are provided in General Emergency Initiating Conditions 4 and 5, ~~pages 34 and 36, respectively,~~ of Table 13.3-1. | 11

Enclosure 5 (cont'd.)

PROTECTIVE ACTION RECOMMENDATION FLOW CHART



1. RELEASE FROM RIVER BEND IS ALWAYS CONSIDERED GROUND LEVEL.
2. IF CONSTRAINTS EXIST SPECIAL CONSIDERATION SHOULD BE GIVEN FOR EVACUATION OF CHILDREN AND PREGNANT WOMEN.
3. WOULD THE POPULATION-AT-RISK BE ABLE TO EVACUATE BEFORE PLUME REACHES THEM? (SEE ATTACHMENT 8 FOR POPULATION DISTRIBUTIONS)
4. ARE THE WINDS VARIABLE OR EXPECTED TO CHANGE AND AFFECT AREAS WHERE PROTECTIVE ACTIONS ARE NOT NOW IN PLACE?
5. IS THE PROGNOSIS FOR THE SITUATION DEGRADING OR IMPROVING?
6. REVIEW EVACUATION TIME ESTIMATES (ATTACHMENT 3) FOR AFFECTED AREA TO ENSURE THAT RECOMENDATIONS ARE APPROPRIATE FOR EXISTING CONDITIONS.
7. WOULD SEVERE WEATHER (ICE, SNOW, TORNADOES, ETC.) OR ROAD CONDITIONS BE SO DANGEROUS AS TO NEGATE THE BENEFITS OF DOSE SAVED?
8. IS THE RELEASE "PUFF" RATHER THAN "CONTINUOUS" RELEASE? BALANCE DOSE SAVINGS AND TIME AGAINST THE IMPACT OF IMPLEMENTING THE RECOMMENDATION.
9. ARE THERE ANY SPECIAL INTEREST GROUPS OR FACILITIES TO CONSIDER? SCHOOLS, HOSPITALS, INSTITUTIONS, RECREATION AREAS, FACTORIES, ETC. SEE ATTACHMENT 6.
10. ATTACHMENT 2 CAN BE USED TO CALCULATE AFFECTED DOWNWIND SECTORS BASED ON WIND DIRECTION.

EMERGENCY IMPLEMENTING PROCEDURES

The Emergency Implementing Procedures (EIPs) are a set of procedures that have been written to effectively and efficiently implement a response to situations or conditions at the River Bend Station (RBS) in accordance with Section 13.3 of the River Bend Station Final Safety Analysis Report, Emergency Planning. The procedures have been written to incorporate the necessary elements of NUREG-0654 Revision 1, NUREG 0578 and the recommendations of the Atomic Industrial Forum's (AIF) Nuclear Power Plant Emergency Response Plan. Table F-1 is the index of the RBS EIPs.

The EIPs contain six general categories of emergency response procedures to implement the emergency plan. The six categories address classification of the accident, general guidance for the response, Protective Action recommendations, Emergency Response Facility (ERF) activation, emergency support activities and group support.

Classification of the accident is accomplished using a procedure that contains an Emergency Action Level (EAL) table similar to the one contained in the emergency plan. Using the table in the procedure, conditions or initiating events being encountered would be compared with the EALs which provide a relationship to the appropriate accident classification. The classification is declared and a specific procedure is then designated to be followed for general guidance. 4

General guidance for the response is provided in four procedures, one for each accident classification. Each procedure ~~builds upon~~ the preceding procedure allowing for an ~~escalating~~ response to an ~~escalating~~ situation. These procedures provide guidance to the remaining EIPs that it may be necessary to use to respond to the situation. They do not provide limitations, either maximum or minimum for the use of the remaining procedures.

Protective Actions may be necessary to protect the health and safety of the public. Protective Action recommendations must be made to the offsite authorities when necessary. Many factors must be considered before appropriate Protective Actions can be recommended. Projected releases, projected doses, constraints on recommended protective actions, and Protective Action Guides must all be considered when making recommendations. Procedures have been written to provide the necessary guidance to make these decisions.

Emergency Response Facility activation procedures have been included in the EIPs. These procedures specify the actions to physically activate the ERFs and ~~for the Technical Support Center and the Emergency Operations Facility~~, guidance is provided for the operation of these facilities during an ~~response~~ emergency.

TABLE F-1

EMERGENCY IMPLEMENTING PROCEDURES

EIPs	
1-EIP-1	EMERGENCY ACTION LEVEL IDENTIFICATION
1-EIP-2	NOTIFICATION OF UNUSUAL EVENT
1-EIP-3	ALERT
1-EIP-4	SITE AREA EMERGENCY
1-EIP-5	GENERAL EMERGENCY
1-EIP-6	EMERGENCY NOTIFICATIONS AND COMMUNICATIONS
1-EIP-7	ACTIVATION OF EMERGENCY FACILITIES
1-EIP-8	FIRE EMERGENCIES
1-EIP-9	MEDICAL EMERGENCIES
1-EIP-10	EVACUATION
1-EIP-11	RADIOLOGICAL DOSE ASSESSMENT
1-EIP-12	PERSONNEL ACCOUNTABILITY
1-EIP-13	PERSONNEL SEARCH AND RESCUE
1-EIP-14	TOXIC MATERIAL
1-EIP-15	RE-ENTRY
1-EIP-16	RECOVERY
1-EIP-17	RADIATION PROTECTION SUPPORT
1-EIP-18	SECURITY SUPPORT
1-EIP-19	MAINTENANCE SUPPORT
1-EIP-20	CHEMISTRY SUPPORT
1-EIP-21	TSC SUPPORT
1-EIP-22	EOF SUPPORT

delete, insert attached

4

TABLE F-1 (Cont)

	EIPs	
	1-EIP-23	PRESS SAMPLE SUPPLEMENTARY PROCEDURES
8	1-EIP-24	KI DISTRIBUTION
	1-ADM-1-79	CONTROL ROOM ACCESS & CONDUCT
4	1-ADM-1-134	MAINTENANCE OF EMERGENCY EQUIPMENT, INSTRUMENTATION AND SUPPLIES
	1-ADM-1-226	EMERGENCY RESPONSE ORGANIZATION AND RESPONSIBILITIES
	1-ADM-1-227	EMERGENCY PLAN REVISION, REVIEW AND APPROVAL
	1-ADM-1-228	FIRE PROTECTION PROGRAM

ENCLOSURE 6 (Cont'd.)

RBS FSAR

TABLE F-1

EIP PROCEDURE LISTING

EIP-2-001	Classification of Emergencies
EIP-2-002	Notification of Unusual Event
EIP-2-003	Alert
PEP-2-004	Site Area Emergency
EIP-2-005	General Emergency
EIP-2-006	Notifications
EIP-2-007	Protective Action Recommendation Guidelines
EIP-2-008	Search and Rescue
EIP-2-009	Medical Emergencies
EIP-2-010	Toxic Material Emergencies
EIP-2-011	Fire Emergencies
EIP-2-012	Radiation Exposure Controls
EIP-2-013	Onsite Radiological Monitoring
EIP-2-014	Offsite Radiological Monitoring
EIP-2-015	Post Accident Sampling Operations
EIP-2-016	Operations Support Center - Activation
EIP-2-017	Operations Support Center - Support Functions
EIP-2-018	Technical Support Center - Activation
EIP-2-019	Technical Support Center - Support Functions
EIP-2-020	Emergency Operations Facility - Activation
EIP-2-021	Emergency Operations Facility - Support Functions
EIP-2-022	Alternate EOF - Activation and Transfer of Functions
EIP-2-023	Emergency Communications Staff Activation and Functions
EIP-2-024	Offsite Dose Calculations - Manual Method
EIP-2-025	Offsite Dose Calculation - Computer Method
EIP-2-026	Evacuation
EIP-2-027	Personnel Accountability
EIP-2-028	Recovery
EIP-2-029	Emergency Telephone Book
EIP-2-100	Procedure Review, Revision and Approval
EIP-2-101	Periodic Review of the Emergency Plan
EIP-2-102	Training, Drills and Exercises
EIP-2-103	Emergency Equipment Inventory
EIP-2-104	Maintenance of Emergency Telephone Numbers

ENCLOSURE 6 (cont'd.)
RBS FSAR

TABLE F-1

EMERGENCY PLAN AND IMPLEMENTING PROCEDURE CROSSREFERENCE

EMERGENCY PLAN SECTION	IMPLEMENTED BY PROCEDURE NUMBER
13.3.3.1	EIP-2-001
13.3.3.1.1	EIP-2-002
13.3.3.1.2	EIP-2-003
13.3.3.1.3	EIP-2-004
13.3.3.1.4	EIP-2-005
13.3.3.2	EIP-2-001
13.3.3.2.1	EIP-2-001
	EIP-2-013
	EIP-2-014
13.3.3.2.2	EIP-2-001
	EIP-2-002
	EIP-2-003
	EIP-2-004
	EIP-2-005
	EIP-2-013
	EIP-2-014
	EIP-2-025
13.3.3.3	EIP-2-100
13.3.4.1	EIP-2-001
13.3.4.2	EIP-2-017
	EIP-2-019
	EIP-2-021
13.3.4.2.1	EIP-2-001
	EIP-2-017
	EIP-2-019
	EIP-2-021
13.3.4.2.2	EIP-2-001
	EIP-2-017
	EIP-2-019
	EIP-2-021
13.3.4.2.2.1	EIP-2-001
	EIP-2-016
	EIP-2-018
	EIP-2-020
13.3.4.2.2.2	EIP-2-006
13.3.4.2.2.3	EIP-2-001
	EIP-2-013
	EIP-2-014
	EIP-2-015
13.3.4.2.2.4	EIP-2-016
13.3.4.2.2.5	EIP-2-013
	EIP-2-017
	EIP-2-026
13.3.4.2.2.6	EIP-2-011
13.3.4.2.2.7	EIP-2-008
13.3.4.2.2.8	EIP-2-027

ENCLOSURE 6 (Cont'd.)

EMERGENCY PLAN SECTION	IMPLEMENTED BY PROCEDURE NUMBER
13.3.4.3	EIP-2-101
13.3.4.2.1	EIP-2-021
13.3.4.3.2	EIP-2-009
	EIP-2-010
	EIP-2-011
	EIP-2-026
	EIP-2-029
13.3.4.4.1	EIP-2-006
	EIP-2-021
	La. State Plan
	Parish Evacuation Plan
13.3.4.4.2	EIP-2-006
	Miss State Plan
13.3.4.4.3	EIP-2-006
13.3.5	EIP-2-001
	EIP-2-002
	EIP-2-003
	EIP-2-004
	EIP-2-005
13.3.5.1	EIP-2-016
	EIP-2-018
	EIP-2-020
13.3.5.2	EIP-2-001
	EIP-2-007
	EIP-2-013
	EIP-2-014
	EIP-2-015
	EIP-2-024
	EIP-2-025
13.3.5.3	EIP-2-007
13.3.5.3.1	EIP-2-017
13.3.5.3.2	EIP-2-011
13.3.5.4	EIP-2-007
13.3.5.4.1.1	EIP-2-007
13.3.5.4.1.1.1	EIP-2-006
	EIP-2-026
13.3.5.4.1.1.2	EIP-2-026
13.3.5.4.1.1.3	EIP-2-026
13.3.5.4.1.1.4	EIP-2-026
13.3.5.4.1.1.5	EIP-2-026
13.3.5.4.1.1.6	EIP-2-008
13.3.5.4.1.2.1	EIP-2-006
13.3.5.4.1.2.2.	Emergency Communications Plan
	EIP-2-023
13.3.5.4.1.2.3	EIP-2-007
13.3.5.4.2	EIP-2-013
13.3.5.4.3	EIP-2-012
13.3.5.5	EIP-2-008

EMERGENCY PLAN SECTION	IMPLEMENTED BY PROCEDURE NUMBER
	EIP-2-009
13.3.5.5.1	EIP-2-012
13.3.5.5.2	EIP-2-008
	EIP-2-009
	EIP-2-026
13.3.5.5.3	EIP-2-009
13.3.5.5.4	Emergency Medical Assistance Plans For West Feliciana Parish Hospital and Our Lady of the Lake Regional Medical Center Letter of Agreement (Appendix B of Plan)
13.3.6 - N/A	
13.3.6.1 - N/A	
13.3.6.1.1	EIP-2-019
13.3.6.1.2	EIP-2-017
13.3.6.1.3	EIP-2-100
13.3.6.1.4	EIP-2-026
13.3.6.1.5	EIP-2-021
13.3.6.1.5.1	EIP-2-022
13.3.6.1.5.2	EIP-2-021
13.3.6.1.5.3 - N/A	
13.3.6.1.5.4	EIP-2-021
13.3.6.1.5.5	EIP-2-021
13.3.6.1.5.6	EIP-2-103
13.3.6.1.5.7	EIP-2-020
13.3.6.1.5.8	EIP-2-020
1.6	EIP-2-023
13.3.6.2	EIP-2-006
13.3.6.2.1 - N/A	
13.3.6.2.2 - N/A	
13.3.6 - N/A	
13.3.6.3.1	EIP-2-001
	EIP-2-013
	EIP-2-015
	EIP-2-025
13.3.6.3.2	EIP-2-029
	EIP-2-014
13.3.6.4	EIP-2-103
13.3.6.5	EIP-2-103
13.3.6.6	EIP-2-011
13.3.7	EIP-2-100
	EIP-2-101
	EIP-2-102
13.3.7.1	N/A
13.3.7.1.1	EIP-2-102
13.3.7.1.1.1	EIP-2-102
13.3.7.1.1.2	EIP-2-102
13.3.7.1.1.3	EIP-2-102

EMERGENCY PLAN SECTION	IMPLEMENTED BY PROCEDURE NUMBER
13.3.7.1.2	EIP-2-102
13.3.7.1.2.2	EIP-2-102
13.3.7.1.2.3	EIP-2-102
13.3.7.2	EIP-2-100
	EIP-2-101
13.3.7.3	EIP-2-103
13.3.8	EIP-2-028

2. 10 percent Fuel Inventory.

3. 1 percent Fuel Inventory.

4. 100 percent Gap Activity (Release to the containment atmosphere is defined as 1.8 percent of the noble gases and 0.16 percent of the halogens in the core and corresponds to a realistic estimate of the activity in the fuel rod plena).

5. 100 percent Coolant Activity (Design activity at a noble gas release rate of 100 uCi/sec per MWt after a 30-minute decay).

If the situation warrants, additional information on meteorology, radiation levels, and the environment will be gathered and evaluated to determine exposure rates as well as to confirm and/or update previous assessments. The method for assessing such releases will be a continuation of those evaluation methods discussed in Section 13.3.3.2.

In the unlikely event that the computerized dose analysis is not available in an accident situation, ~~the EIPs require the Emergency Director or his designee to perform the following general steps:~~ a manual secondary method is provided in the EIP's.

Insert →

1. Note the present weather conditions (wind speed and direction, atmospheric stability, cloud cover, and precipitation), then if necessary, call Ryan Airport forecasting service in Baton Rouge and get a forecast for the next 12 hrs.

2. Estimate release rate of radionuclides from station off gas monitors. If the effluent monitors are inoperative or off-scale, or if the release has not begun, an estimated potential for release rate is obtained from containment monitor curves as shown in Figures 13.3-25 and 13.3-26. The fraction of the potential release that is iodine is obtained from containment atmospheric sampling.

3. Select an atmospheric dispersion overlay (corresponding to the point of release and atmospheric stability class) and align it with the downwind direction on a topographic map of the area; select the diffusion factor for the zone(s) of interest. The overlays consist of isopleths of diffusion factors (X/Q values) calculated from standard Gaussian plume equations for elevated and

ENCLOSURE 6 (Cont'd)

INSERT

Input for manual offsite dose calculations consist of effluent monitoring, containment monitoring and meteorological information. Radiological monitoring information is readily available from the Digital Radiation Monitoring System (DRMS) to the Technical Support Center (TSC) and the Emergency Operations Facility (EOF). The DRMS system is equipped with a separate, redundent computer system. If DRMS computers become inoperable, a secondary system consisting of a hotline link between the Main Control Room, TSC and EOF, is provided; along with status boards in each of these facilities, so that radiological monitoring information can be relayed and recorded directly in each Emergency Response Facility.

Secondary sources for meterological information to the TSC and/or EOF consist of either direct relay of data from the Main Control Room via the hotline, or an individual can be dispatched to read the information at the meterological tower base station. If the Main Control Room instrumentation is inoperable, additional meterological information sources are Ryan Airport or the National Weather Service.

Secondary systems provide adequate assessment capabilities to ensure Emergency Response Facility operation should the primary systems be unavailable. Accident assessment systems are tabulated in Table 13.3-16.

QUESTION 810.73

Appendix F contains a listing of Emergency Implementing Procedures (EIPs); however, the listing does not include the section(s) of the Plan to be implemented by each procedure. (P.7)

RESPONSE

A cross reference between the RBS Emergency Plan and the Emergency Implementing Procedures ~~will be completed and submitted for review once the procedures are completed.~~ is provided on Appendix F.

13.3.5.4.1.2.2 Public Notification And Information

River Bend Station shall ensure that the means exist to notify and provide prompt emergency instructions to the population within the plume exposure pathway Emergency Planning Zone. Essential elements of the notification system involve installation of notification hardware and regular instruction of the community in emergency preparedness. The permanent and transient adult population will be provided emergency information on an annual basis. The information provided shall be prepared by GSU, LOEP, LNED, and the River Bend Parishes. This information will be updated annually and may include, but will not necessarily be limited to: educational information on radiation, contacts for additional information, information on respiratory protection, sheltering, evacuation routes and relocation centers and special needs of the handicapped and aged. Dissemination of this information will be accomplished by: information in the telephone book; periodic enclosures in utility bills; posting in public places and publications distributed on an annual basis.

In addition, GSU will conduct programs annually to acquaint news media personnel with the emergency plan, information concerning radiation, and points of contact for release of public information during an emergency.

During an emergency, the River Bend Station Recovery Manager will recommend protective actions to LNED and MSBH-DRH. LNED and MSBH-DRH will advise appropriate parish and county agencies of the state of the emergency and recommended protective actions. ~~The Parish Civil Defense Director will be responsible for activation of the area Prompt Notification System.~~ The Prompt Notification System for the 10-mile EPZ of the River Bend Station meets the design objectives of Reg. Guide 1.101, Rev. 2, (Appendix 3 of NUREG-0654). This system will consist of sirens and/or tone alert devices which will provide comprehensive coverage of the local residential and transient population. The alert tone will indicate that local radio and television stations are broadcasting further instructions, giving details of the event and the recommended protective action, provided by the Emergency Public Information Officer. Draft messages for the public are included in the Louisiana Peacetime Radiological Response Plan, its River Bend Attachment and the Mississippi Radiological Response Plan. The general public will be provided a telephone number to call to receive the latest information regarding emergency conditions (rumor control). Rumor control will be coordinated by GSU personnel under the direction of the

INSERT

Enclosure 7

13.3.5.4.1.2.2 Insert

A UHF Repeater Base Station is utilized for primary communications to the sirens located within the 10-mile Emergency Planning Zone (EPZ). Control signals, and in the case of a two-way system, all status monitoring transmissions are processed through the base station. This repeater station interfaces directly with a master control unit (MCU) which initiates the radio command signals to the sirens in response to requests for activation from one or more of the remote control units (RCU) located in each Parish's Emergency Operation Center (EOC). Three of these parish control units are located within close proximity to the repeater base station to utilize radio communications in delivering the request for activation signals to tne MCU. The other two locations utilize a combination of dedicated leased telephone circuits and GSU owned microwave facilities. These two units employ 4-wire audio/tone transmission technique so that the activation request signals may be transmitted over the EOC's.

Listed below are configurations of the Prompt Notification System for River Bend Station.

Two-Way Radio Controlled System

1. Ultimately 104 sirens
2. 5 Parish Control Units

    a. East Feliciana Parish
    b. West Feliciana Parish
    c. Pointe Coupee Parish
    d. East Baton Rouge Parish
    e. West Baton Rouge Parish

3. Master Control Unit at RBS
4. UHF Radio Repeater Base Station at RBS
5. 3 Parish UHF Radio Control Stations

    a. East Feliciana Parish
    b. West Feliciana Parish
    c. Pointe Coupee Parish

Siren Control System

Each siren location has both a radio receiver and a radio transmitter. The radio transmitter located at the siren locations send data to the MCU only. The following information provides important characteristics of the system.

1. The system uses a digital form of communication signaling.

2. Parish control units are simple to operate and have provisions for selecting either one siren, a group of sirens, or all sirens assigned to a particular Parish.

INSERT (Cont'd)

3. The logic employed in the siren units are such that it takes a two sequence operation (i.e., Arm before Operate) to activate the siren.

4. The logic employed in the siren unit has the capability to automatically reset the logic to a failsafe position if it does not receive a valid execution signal within a specified time period.

5. The counter mechanism located in the siren units count only actual operations of the siren, not cancel or arm signals.

6. Measures have been incorporated into the siren units to avoid damage or false activation due to electrical surges, spikes, or other induced electrical influences.

7. The electrical protection provided in siren units cover the following areas:

   a. 120 volt AC input point
   b. Interface between radio and siren control unit
   c. Interface between siren control unit and amplifiers
   d. Interface between AC supply and battery charger system
   e. Interface between battery charger and batteries
   f. Protection between radio antenna and radio unit

8. Any transformer or other method of isolation used in the AC input portion of the siren unit does not alter the incoming voltage more than plus or minus 5%.

9. Activation signals from each Parish assure that they are received and acted on, even if all five Parishes attempt activation at the same time.

10. The MCU records all transmissions from the Parishes and is able to provide detailed printouts of the times, units to be activated, and cancel or abort actions.

13.3.5.4.1.2.2 Public Notification And Information

River Bend Station shall ensure that the means exist to notify and provide prompt emergency instructions to the population within the plume exposure pathway Emergency Planning Zone. Essential elements of the notification system involve installation of notification hardware and regular instruction of the community in emergency preparedness. The permanent and transient adult population will be provided emergency information on an annual basis. The information provided shall be prepared by GSU, LOEP, LNED, and the River Bend Parishes. This information will be updated annually and may include, but will not necessarily be limited to: educational information on radiation, contacts for additional information, information on respiratory protection, sheltering, evacuation routes and relocation centers and special needs of the handicapped and aged. Dissemination of this information will be accomplished by: information in the telephone book; periodic enclosures in utility bills; posting in public places and publications distributed on an annual basis.

In addition, GSU will conduct programs annually to acquaint news media personnel with the emergency plan, information concerning radiation, and points of contact for release of public information during an emergency.

During an emergency, the River Bend Station Recovery Manager will recommend protective actions to LNED and MSBH-DRH. LNEI and MSBH-DRH will advise appropriate parish and county agencies of the state of the emergency and recommended protective actions. ~~The Parish Civil Defense Director will be responsible for activation of the area Prompt Notification System.~~ The Prompt Notification System for the 10-mile EPZ of the River Bend Station meets the design objectives of Reg. Guide 1.101, Rev. 2, (Appendix 3 of NUREG-0654). This system will consist of sirens and/or tone alert devices which will provide comprehensive coverage of the local residential and transient population. The alert tone will indicate that local radio and television stations are broadcasting further instructions, giving details of the event and the recommended protective action, provided by the Emergency Public Information Officer. Draft messages for the public are included in the Louisiana Peacetime Radiological Response Plan, its River Bend Attachment and the Mississippi Radiological Response Plan. The general public will be provided a telephone number to call to receive the latest information regarding emergency conditions (rumor control). Rumor control will be coordinated by GSU personnel under the direction of the

Insert

Enclosure 8 (cont'd.)

Insert

If an incident occurs during off-normal hours, a dedicated telephone system provides means for RBS to notify 24 hrs per day the five parishes in the 10-mile EPZ, LNED and LOEP simultaneously of any emergency classification and any recommended protective responses for the public within 15 minutes of declaration and/or decision. Upon reaching a decision to implement a protective response, each Parish's Police Jury President, through the Civil Defense Director, will first ensure that an Emergency Broadcast System (EBS) message coordinated with other parishes is ready to be broadcast by the East Baton Rouge Parish Emergency Operation Center EBS radio stations. Control consoles in each of the five parish Emergency Operations Centers allow activation of sirens in each respective parish, signalling the public to listen to the EBS stations for instructions. In addition, each household within the 10-mile EPZ will have a Public Information Brochure describing what steps should be taken in the event of an accident alert at RBS. Each of the five parishes have an offsite plan compatible with the State of Louisiana which will be exercised periodically and training provided on the RBS offsite emergency plan. This will ensure that each parish and the State Plan can be adequately implemented in an orderly fashion with the proper administrative communications to alert the public in a 24-hour period and provides protective action recommendations under the appropriate emergency class.

13.3.6 Emergency Facilities

This section of the Emergency Plan identifies, describes, and gives locations of emergency response facilities, support centers, communication systems, assessment facilities, protective facilities, and first aid and medical facilities.

13.3.6.1 Emergency Response Facilities

The emergency response facilities (Fig. 13.3-18) are a coordinated group of facilities, separated physically to minimize interference and confusion, and connected by dedicated communication lines to ensure an uninterrupted flow of data and instructions. Fig. 13.3-19 details the emergency communications network that will allow coordination of all phases of the emergency response and recovery operations.

The emergency response facilities ~~will serve as interim facilities prior to February 1986 to~~ ensure that GSU has the capability to perform the required functions of direction and control; accident assessment (SPDS); communications and notification; onsite and offsite dose assessment (DRMS); interface with state, local, and federal authorities; and recovery and reentry actions. ~~After February 1986, the emergency response facilities will be designated fully functional as identified in GSU's April 1983 response to the NRC's Generic Letter 82-33.~~

Insert

13.3.6.1.1 Technical Support Center

The Technical Support Center (TSC) is the onsite third emergency response facility located near the reactor on the ~~second~~ floor of the River Bend Station (RBS) Services Building inside the Protected Area (Figure 13.3-27). The TSC is within walking distance of the Main Control Room to facilitate the interaction between emergency response personnel in both locations. The primary functions of the TSC are as follows:

1. To assist operations personnel in the Main Control Room in mitigating an accident and in returning the reactor to a safe condition by providing engineering, technical, and management support.

2. To coordinate all onsite emergency response activities and exchange information on plant parameters with the Recovery Manager in the EOF. Plant systems data is available to accomplish this function.

The overall management of the TSC and onsite emergency response activities is under the direction of the Emergency Director. In

ENCLOSURE 9 (Cont'd)

INSERT

Some automated diagnostic functions may not be fully functional in the TSC and EOF until February 1986, as indicated in GSU's response to NRC Generic Letter 82-33; however, adequate secondary measures are provided so that the Emergency Response Facilities can effectively support an emergency (Table 13.3-16).

Table 13.3-16

Primary and Secondary Systems
TSC and EOF

Primary System	Secondary System
Emergency Response Information System (SPDS)	• Control Room Instruments • Plant Process Computer • Status Boards • Direct Phone Links, CR-TSC-EOF
Digital Radiation Monitoring System - Automated Dose Assessment System (MIDAS)	• Control Room Instruments • Manual Dose Assessment Method • Direct Phone Links, CR-TSC-EOF
Meteorological Information - direct input from meteorological tower to DRMS	• Control Room Instruments • Direct Phone Links, CR-TSC-EOF • Tower Base Instruments (Radio) • Ryan Airport • National Weather Service

RADIATION EMERGENCY MEDICAL SUPPLIES & EQUIPMENT
WEST FELICIANA PARISH HOSPITAL AND OUR LADY OF LAKE REGIONAL MEDICAL CTR.

ITEM	QUANTITY
Decontamination Table top w/splash guard, stretcher insert (2) 15-gallon poly vinyl water containers	1
Contaminated waste container, 35-gallon with mobile base	2
Decontamination Kit	1
Bioassay Sample Taking Kit	1
Mobile Storage Cart, built to contain items listed	1
Lead Container, for high activity specimen	1
Masking Tape, 2" width	10
Radiation Warning Rope, cut to fit REA	1
Radiation Warning Signs	10
Radiation Sign Inserts	15
Hose with low pressure showerhead, prerinse with brass spray head and chrome-plated hose adapter	1
Step-off pads, plastic laminate, Bold Type Printing	2
Protective clothing packs Surgical Gowns (2) Aprons (2) Surgical Gloves (2 pair) Mask (1) Cap (1) Shoe Covers (2 pair)	20
Laminated Accident Posters	2
Stanchions, metal	4
Herculite (pre-cut to fit REA), Yellow (Decon Room, Ambulance Entrance), Green (Buffer Zone), and White (Patient Exit)	sufficient
Plastic trash can liners	10
RM-14 Count Rate Meter	2
E-120 Dose Rate Meter	1
0-200 mR SRDs	10
Dosimeter Charger	1
TLD, Badges	10
TLD, Rings	10

Detailed procedures for evacuation are provided in the EIPs.

If an evacuation is ordered, appropriate accountability measures will be taken. Security personnel will coordinate with the Radiation Protection Technicians that are monitoring evacuees to ensure a rapid and comprehensive accounting of site personnel. When a protected area or owner controlled area evacuation is ordered, the Station Security Force will take action in accordance with the Security Plan and Safeguards Contingency Plan to verify that an orderly, safe withdrawal of all nonessential personnel within the affected areas takes place. They will be responsible for personnel notification of areas within the protected area and the owner controlled area not covered by the public address system. If a protected area evacuation is ordered, personnel will be accounted for as they process through the Primary Access Point. During an owner controlled area evacuation, personnel will be accounted for at the Primary Access Point or the Alternate Evacuation Point. Accountability procedures have been developed to account for all personnel and to ascertain the names of missing persons within 30 minutes of the declaration of a Site Area or General Emergency. ~~the evacuation.~~ Personnel monitoring will be performed at the designated assembly area.

During an onsite emergency that involves the release of radioactive material, the Emergency Director ~~Recovery Manager~~ will, as appropriate, request assistance from offsite agencies in controlling access to the owner controlled area. In addition, he will keep the LNED and MSBH-DRH informed of projected offsite doses.

13.3.5.4.1.1.4 Evacuation Times

The estimated elapsed times, measured from the time of initial warning to persons required to evacuate identified areas of the site, are as follows:

6. Site Accountability and Evacuation Drill

An evacuation drill is conducted annually, so that personnel are aware of proper routes and assembly points. An accountability drill is held simultaneously to ensure that all personnel have either been evacuated or accounted for onsite. 4

These drills may be scheduled such that one or more drills can be conducted simultaneously. Drill scenarios are prepared which require involvement of various emergency teams and organizations. Records are maintained of all major emergency plan drills.

13.3.7.2 Review and Updating of This Plan and Emergency Implementing Procedures

This plan and the EIPs are reviewed and updated annually by the Supervisor - Emergency Planning. The review, which may be part of the annual FSAR update, takes into account: the results of drills and exercises; and changes in GSU, Louisiana, and Mississippi policy and plans, and various agreements with offsite agencies. Specific letters of agreement in support of the River Bend Station Emergency Plan will be verified every 2 years. The EIPs are reviewed on an annual basis to consider changes in: the plan, station policy, design, personnel, operational requirements, and various agreements with offsite agencies. The proposed modifications are presented to the ~~Plant Manager~~ Vice President RBNG for ~~review and~~ approval. Between operator and technical training sessions, familiarization with EIP changes will be accomplished in the following manner: 4 8 11

a. Mandatory read and sign memorandums will be circulated to all affected personnel.

b. Topical discussions related to procedure changes will be conducted by the responsible supervisor or his designee which will require signed training attendance rosters for each attendee.

The specific procedures listing emergency telephone numbers will be updated at least quarterly. The plan will be forwarded to GSU headquarters and all organizations and individuals responsible for implementing the plan. 11

13.3.4.2.2.7 Rescue and First Aid

Sufficient numbers of River Bend Station personnel will be trained in first aid and rescue procedures, so that at least one ~~two~~ qualified individuals will be present onsite during each shift. In situations involving radiation contamination, a Radiation Protection Technician will provide radiation protection coverage for both injured and emergency response personnel. Coordination of first aid and rescue operations with offsite support organizations will be the responsibility of the Emergency Director. ~~Recovery Manager until the arrival of the EOF Coordinator~~. He will be familiar with their capabilities so that their assistance may be maximized.

13.3.4.2.2.8 Site Access Control and Personnel Accountability

River Bend Station security personnel will implement special procedures to control both personnel and vehicular access to the site during a declared emergency. These procedures, and the personnel involved, are detailed in the Security Plan and Safeguards Contengency Plan

The Security Access Control System (SACS) has the capability of tracking persons within the Protected Area and on command can provide the necessary data for personnel accountability within 30 minutes ~~of an emergency declaration~~ and continuously thereafter. This system will be utilized ~~at the onset of an emergency~~ by the Emergency Director when it is determined that an evacuation is necessary of declaring a Site Area or General Emergency

In the event that the SACS is inoperative, a manual badge exchange system will be used to perform accountability. The manual badge exchange system consists of two types of badges, a take-home badge and an in-plant badge. The take-home badge would be exchanged for the in-plant badge at the badge rack upon entering the RBS Primary Access Point (PAP). Upon exiting the RBS PAP, the exchange process would be reversed. For accountability purposes, all personnel will be directed to an assembly area. ~~In-plant badges will be collected at the assembly area and security~~ personnel will verify all in-plant ~~badges~~ personnel are present or will ascertain the names of missing individuals. Card reader printouts or badges collected will be reported to the TSC for accountability and security

Security will account for all personnel if evacuated through the PAP or the alternate point at the Railroad Gate. If PAP and the alternate point have to be evacuated, an accountability point will be established in the River Bend Training Center. A computer terminal, printer, and card reader will be available at that site. Badges collected in assembly areas would be transported to ~~that location~~ the TSC for accountability. In assembly areas, persons without their

badge would have their name recorded. That information would be relayed to the terminal operator who would enter the information and account for the individual. 8

13.3.4.3 Augmentation of Site Emergency Organization

Assistance from other outside companies/agencies may be required to cope with the emergency. Letters of agreement have been developed to delineate outside company/agency assistance and services. These letters of agreement are reviewed every 2 years ~~annually~~ to reaffirm assistance and to verify communication channels. The letters of agreement are contained in Appendix B. Additional services are provided by contractual agreement.

Emergency first aid and medical treatment will be given to injured or ill personnel whether the injury or illness is radiation or nonradiation related. Shift personnel trained in first aid will be available onsite on a 24-hr-per-day basis and will assist injured or ill personnel either at the scene of the accident or in the first aid room. If affected personnel must be transported to medical facilities, measures will be taken to prevent the spread of contamination. Such measures may include the placing of affected personnel in clean protective clothing or wrapping them in blankets and alerting the organizations which will provide transportation and treatment. 11

13.3.5.5.3 Medical Transportation

The West Feliciana Parish Hospital ambulance serves as the primary means of transporting affected personnel to Our Lady of the Lake Regional Medical Center and West Feliciana Parish Hospital. The ambulance is radio-equipped to provide direct communciation capabilities with the hospitals. The ambulance will be used for emergency medical transportation when the Shift Supervisor or the attending first aid personnel determine that any of the following three criteria exists: 11

1. The patient is unconscious or incoherent.

2. The patient is nonambulatory due to external or internal injuries, confirmed or suspected.

3. There is external bleeding which needs to be controlled.

If offsite ambulance services are required, the drivers will be subject to minimizing their exposures in accordance with 10CFR20. Direct communications from the site first aid areas to the medical facilities are used in non-urgent medical situations.

Other GSU vehicles and personal vehicles are used as back-up means of transportation. If it is necessary to use these back-up vehicles, portable radios will be provided to assure communications to the offsite medical facilities. 8

13.3.5.5.4 Medical Treatment

Arrangements for medical treatment cf personnel from the River Bend Station site have been made through agreements with offsite organizations. These agreements are discussed in Section 13.3.4.3.2. Services provided by West Feliciana Parish Hospital and Our Lady of the Lake Regional Medical Center are described by letters of agreement in Appendix B. 4

Enclosure 13

RBS FSAR

SECTION 13.3

EMERGENCY PLANNING

TABLE OF CONTENTS

staff, including emergency teams, will be called upon as required. Additionally, technical services and support will be obtained as necessary from the Beaumont River Bend Nuclear Group, River Bend Station staff personnel, and outside support organizations. Three GSU airplanes are available to transport ~~the five members of the~~ RBS emergency personnel organization located in Beaumont, Texas, as indicated in Table 13.3-5 (page 5 of 7). These persons would not be required until declaration of a Site Area Emergency and could be at RBS within 4 hours of notification.

The emergency response personnel will utilize the detection methods previously described in evaluating the emergency. The equipment necessary for assessment or initiation of safety systems is designed to operate following an accident. (Refer to FSAR Chapters 6, 7, 8, and 9 for details associated with such instrumentation and equipment.)

Accidents involving releases of radioactive materials to the environment require special methods of evaluation. Detailed procedures will be used to evaluate accidental radiological releases. General descriptions of the methods used for evaluating such accidental releases are discussed below.

In evaluating an accidental release of radioactive materials, the first item which must be determined is the amount of activity released or, if the release is still in progress, the release rate. This information is available, since these systems, and their release paths, which contain or may contain radioactive materials, are monitored by installed radiation monitoring systems.

In addition, these systems are routinely sampled and analyzed. Radiation and contamination surveys are performed and air samples are taken as necessary to provide supporting data. If actual data is not immediately available, the magnitude and duration of the release may be estimated by River Bend Station personnel from plant conditions or from knowledge of the type of incident.

An estimate will be made of the radiation dose which affected population groups may potentially receive as a result of an accidental release of radioactive materials to the environment. This projected dose will be determined from the type of release and the amount of dilution when known. In the case of an accidental liquid release, the dilution factor can be determined by using installed instrumentation or known data. This dilution factor will be used in conjunction with the activity known or estimated to have been released in order to determine the projected dose.

INSERT A

13 | The GSU augmentation personnel located in Beaumont, Texas would be notified by the Emergency Operations Facility Coordinator at the General Emergency Classification via a paging system which can be activated from River Bend Station.

13.3.6.2.2 Plant-to-Offsite Communications

4 | 1. Bell Telephone Company System - Plant telephones with direct access to the Bell System are installed in the Main Control Room, Administration Building, EOF, and
4 | TSC. A dedicated line from the Main Control Room to NRC headquarters will be used for emergency communications.

ENCLOSURE 13 (Cont'd)

INSERT A

The GSU primary spokesperson within the emergency organization is the Senior Vice President-External Affairs located in Beaumont. The GSU primary or alternate spokesperson is not required until declaration of a Site Area Emergency and interfaces with the Recovery Manager concerning public information.

GSU

13.3.4.3.1 Headquarters Support

Chief Executive Officer

During an emergency at River Bend Station, the GSU general office in Beaumont assumes a supportive role. The Recovery Manager provides ~~relays~~ emergency information to the ~~Executive Vice President-Operations~~ for information only. If the situation warrants, the Executive Vice President-Operations activates the GSU general office organization. This organization shown on Fig. 13.3-11, operates from GSU headquarters in Beaumont, Texas, and is not considered part of the River Bend Station emergency organization.

The GSU general office, at the direction of the Recovery Manager, provides financial and logistical assistance and management of effects resulting from the emergency at the River Bend Station. The GSU general office provides supplemental information in the following areas:

1. Providing necessary funds for recovery operations.
2. Providing security management support.
3. Coordinating the restoration and/or operation of all generation, transmission, and distribution facilities.
4. Supplying logistics support for emergency personnel (e.g., transportation, temporary quarters, food and water, sanitary facilities in the field, and special equipment and supplies procurement).
5. Monitoring post-accident investigations.

Insert B

13.3.4.3.2 Local Support Services

During the operation of River Bend Station, it may become necessary to request and utilize assistance provided by local organizations and agencies. Agreements and understandings have been made with the following organizations and agencies to provide direct onsite assistance if necessary.

1. St. Francisville Volunteer Fire Department

   When requested, the St. Francisville Volunteer Fire Department will provide firefighting assistance.

INSERT B

If in the event authorization of funds is required above the Recovery Managers authorized level, he will consult the Chief Executive Officer (CEO) as governed by GSU's Approvals and Authorization Procedures.

The GSU Treasurer and Controller will administrate funds required by RBNG during the emergency and recovery phase. The procedures used to govern this interface are GSU's Approvals and Authorization Procedure, Departmental Accounts Payable Procedures, General Accounting Procedures in accordance with 18CFR101 Subpart C prescribing the uniform system of accounts.

The Manager of Risk Management is responsible for the handling of insurance claims and will provide the interface with the insurer on a case-by-case basis when instructed by the Recovery Manager. The Manager of Legal Services is responsible for providing legal counsel and handling of liability cases filed and will be handled on a case-by-case basis under the applicable judicial system when requested by the Recovery Manager.

QUESTION 810.81

A plan and/or implementing procedures to be used by the GSU general office emergency organization, referred to in Section 13.3.4.3.1 of the Plan, should be established and submitted for review.

RESPONSE

Section 13.3.4.3.1 has been revised to delineate the response from the GSU general office in Beaumont as a supportive one ~~for financial and logistical assistance and for management of effects on the GSU system from an~~ during an emergency at RBS. The statements concerning emergency management direction have been deleted since there is no corporate organization established specifically for a response to an emergency at RBS. The general office organization is designed to handle a wide range of situations affecting GSU as a whole. Therefore, it is not necessary to develop a specific plan ~~and procedures~~ for the GSU general office.

SECTION 13.3

LIST OF FIGURES

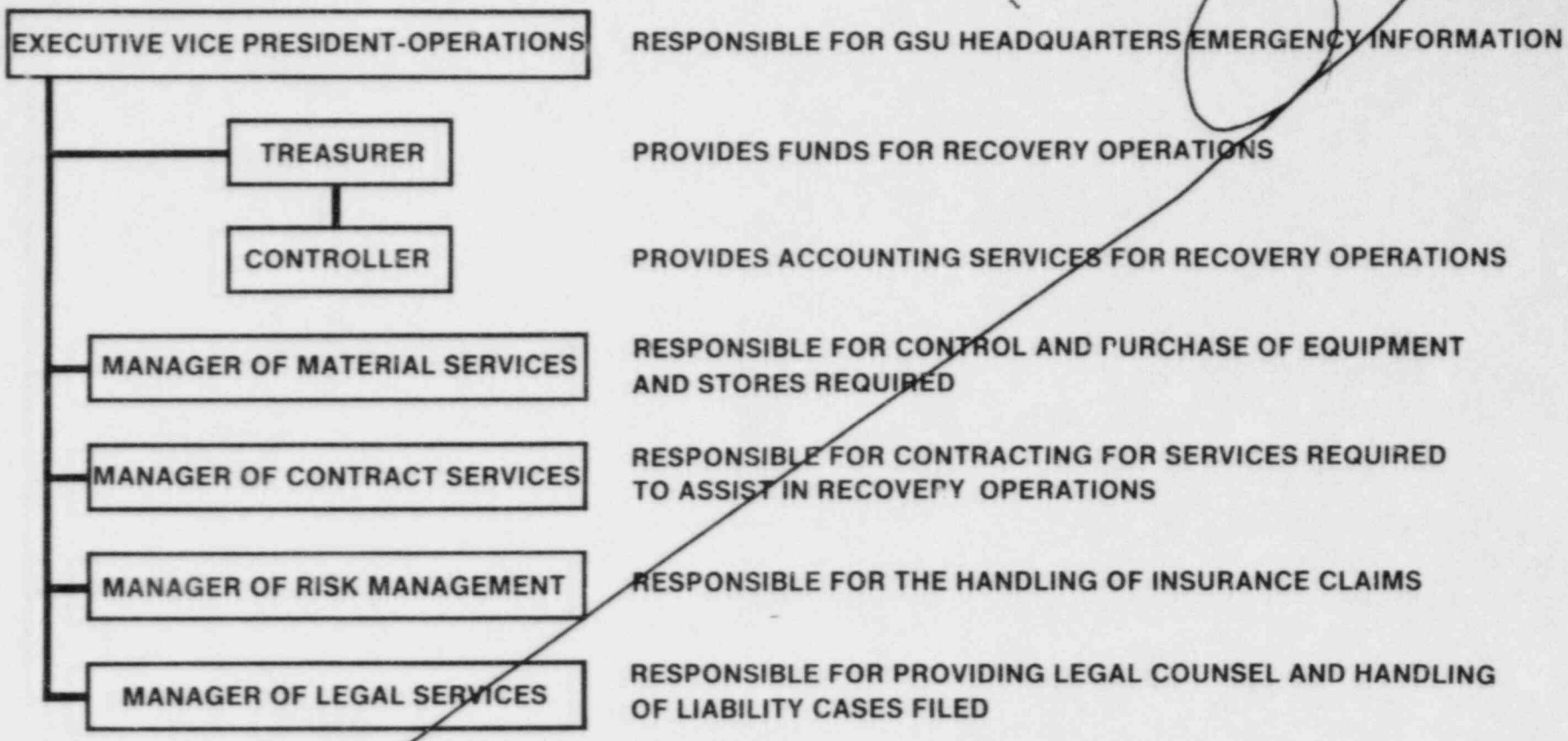


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FIGURE 13.3-11

GSU HEADQUARTERS
(BEAUMONT, TEXAS)
ORGANIZATION AND RESPONSIBILITIES

RIVER BEND STATION
FINAL SAFETY ANALYSIS REPORT

Enclosure 13 (cont'd.)

6. Site Accountability and Evacuation Drill

An evacuation drill is conducted annually, so that personnel are aware of proper routes and assembly points. An accountability drill is held simultaneously to ensure that all personnel have either been evacuated or accounted for onsite. 4

These drills may be scheduled such that one or more drills can be conducted simultaneously. Drill scenarios are prepared which require involvement of various emergency teams and organizations. Records are maintained of all major emergency plan drills.

13.3.7.2 Review and Updating of This Plan and Emergency Implementing Procedures

This plan and the EIPs are reviewed and updated annually by the Supervisor - Emergency Planning. The review, which may be part of the annual FSAR update, takes into account: the results of drills and exercises; and changes in GSU, Louisiana, and Mississippi policy and plans, and various agreements with offsite agencies. Specific letters of agreement in support of the River Bend Station Emergency Plan will be verified every 2 years. The EIPs are reviewed on an annual basis to consider changes in: the plan, station policy, design, personnel, operational requirements, and various agreements with offsite agencies. The proposed modifications are presented to the Vice President RBNG ~~the Plant Manager~~ for review and approval. Between operator and technical training sessions, familiarization with EIP changes will be accomplished in the following manner: 4 8 11

a. Mandatory read and sign memorandums will be circulated to all affected personnel.

b. Topical discussions related to procedure changes will be conducted by the responsible supervisor or his designee which will require signed training attendance rosters for each attendee.

The specific procedures listing emergency telephone numbers will be updated at least quarterly. The plan will be forwarded to GSU headquarters and all organizations and individuals responsible for implementing the plan. 11

treatment required extend beyond the capabilities of the West Feliciana Parish Hospital. The West Feliciana Parish Hospital (WFPH) located in St. Francisville, Louisiana, 3 miles northwest of RBS, is designated as the primary hospital in the RBS Emergency Medical Assistance Plan to be used for immediate life-threatening situations or injuries of a minor nature requiring only diagnostic evaluation. For these conditions, Our Lady of the Lake Regional Medical Center (OLOL) will serve as the secondary medical facility. In all other situations, OLOL will serve as the primary hospital and WFPH will serve as the secondary hospital. 4 11

Insert A →

6. Our Lady of the Lake Regional Medical Center

Our Lady of the Lake Regional Medical Center in Baton Rouge will accept personnel with illness or injuries resulting from either radiologically or nonradiologically related accidents, requiring treatment beyond the capabilities of the West Feliciana Parish Hospital. Our Lady of the Lake Regional Medical Center will have the necessary equipment and trained staff to assure the proper evaluation of radiation exposure and uptake to assure proper medical handling. As a minimum, Our Lady of the Lake Medical Center will maintain the capability and facilities to provide decontamination, first aid, and emergency stabilization medical treatment for injured or ill personnel from River Bend Station. These services and facilities will be available 24 hr per day. For a description of the primary and secondary hospital arrangements, see Item 5. 4 11

Insert B →

7. Department of Energy, REACTS

Radiation Emergency Assistance Center Training Site (REACTS) located in Oak Ridge, Tennessee, will provide emergency treatment for River Bend Station personnel who have been affected by a radiological accident. REACTS has the necessary equipment and staff to provide proper emergency care for radiation exposure patients. The REACTS staff works in conjunction with the Oak Ridge Hospital of the United Methodist Church Disaster Team and staff to treat patients from radiation accidents which occur outside the Oak Ridge Area. Following emergency treatment for radiation exposure in REACTS, the individual may be transferred to a local hospital for conventional medical care.

ENCLOSURE 15 (Cont'd)

INSERT A

Appendix B contains the EMAP which provides information regarding the capabilities of West Feliciana Parish Hospital.

INSERT B

Appendix B contains the EMAP which provides information regarding the capabilities of Our Lady of the Lake Regional Medical Center.

SUPPORTING EMERGENCY PLANS

The River Bend Station Emergency Plan has been written to define the necessary actions to be performed by River Bend Station personnel to efficiently and adequately respond to an emergency situation at the River Bend Station.

Actions by organizations other than the River Bend Station may also be necessary. These actions include, but are not limited to, providing assistance to the onsite River Bend Station Emergency Organization, assisting with dose assessment and implementing protective action recommendations. The organizations that will provide support to the River Bend Station are described in various emergency plans. These Supporting Emergency Plans include the:

1. Louisiana Peacetime Radiological Response Plan,

2. Louisiana Peacetime Radiological Response Plan, River Bend Station Attachment,

3. Mississippi Radiological Emergency Plan,

4. Mutual Assistance Plan,

5. Emergency Medical Assistance Program (EMAP) ~~Plan (Later).~~

The Louisiana Peacetime Radiological Response Plan (LPRRP) has been developed by the State of Louisiana to provide guidance on the actions needed to be taken to ensure the protection of the public and a rapid and adequate response to all radiological emergencies within the state and near its borders.

The Louisiana Peacetime Radiological Response Plan River Bend Station Attachment is an attachment to the LPRRP which outlines the authorities, responsibilities, and procedures of the various state and local agencies and the Gulf States Utilities Company when responding to an emergency situation at the River Bend Station.

The Mississippi Radiological Emergency Plan was developed by the State of Mississippi to describe its response organization and capabilities to cope with radiological emergencies affecting Mississippi. It identifies the necessary measures to be taken to safeguard the public, protect property, and promote early recovery from the consequences of a radiological incident.

for training exercises of specific nuclear power plant emergency plans.

EMAP

The ~~Medical Assistance Plan~~ contains the plans and procedures to be followed by Our Lady of the Lake Regional Medical Center and the West Feliciana Parish Hospital personnel in admitting and treating potentially contaminated injured or ill personnel from River Bend Station.

Controlled copies of these Supporting Emergency Plans can be found in the Technical Support Center and the Emergency Operations Facility.

QUESTION 810.76

The Medical Emergency Plan/Procedures for Our Lady of the Lake Regional Medical Center should be established and appended to the Plan.

RESPONSE

The Medical Assistance Plan (MAP) has been listed as a support plan in revised Appendix C of the RBS Emergency Plan. ~~The Medical Assistance Plan will be developed and procedures written by January 1984.~~

ENCLOSURE 15 (Cont'd)

EMERGENCY MEDICAL ASSISTANCE PROGRAM

EMERGENCY MEDICAL ASSISTANCE PROGRAM

FOR

RIVER BEND STATION

EMERGENCY MEDICAL ASSISTANCE PROGRAM

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1.0 SCOPE AND APPLICABILITY

The River Bend Station Emergency Medical Assistance Program (EMAP) provides the basis for handling onsite medical emergencies, including injured/ill persons that are radioactively contaminated or have received exposures to ionizing radiation above limits, requiring action by offsite medical personnel/services.

EMAP assigns general responsibilities to Gulf States Utilities Company and support hospitals descriptive of the essential elements for provision of emergency medical services. Thus, EMAP provides the overall plans, specific requirements, and commitments required for the development of a detailed implementing document for managing medical emergencies.

River Bend Station Emergency Implementing Procedure 1-EIP-9 provides the detailed information and protocols for management of onsite medical emergencies. This implementing document is distributed to those Gulf States Utilities Company individuals, facilities or organizations involved in response to medical emergencies.

2.0 REFERENCES

2.1 River Bend Station Emergency Plan

Section 13.3.4 Organizational Control of Emergencies

Section 13.3.6 Emergency Facilities

Section 13.3.7 Maintaining Emergency Preparedness

2.2 River Bend Station Emergency Implementing Procedure 1-EIP-9.

2.3 Decontamination and Treatment of the Radioactively Contaminated Patient at West Feliciana Parish Hospital.

2.4 Decontamination and Treatment of the Radioactively Contaminated Patient at Our Lady of the Lake Regional Medical Center.

2.5 State of Louisiana Peacetime Radiological Response Plan, Chapter 10, Medical and Public Health Services.

2.6 Facilities and Medical Care for Onsite Nuclear Power Plant Radiological Emergencies, ANSI/ANS - 3.7.1 - 1979.

2.7 Public Health Service Guide for Developing Health Disaster Plans, DHEW, 1974.

2.8 Emergency Medical Services System Act of 1973 (P.L. 93-154 as amended).

3.0 RESPONSIBILITIES

3.1 Gulf States Utilities Company

3.1.1 Initiate all appropriate provisions of EMAP in the event of an onsite medical emergency.

3.1.2 Coordinate all aspects of providing onsite emergency medical services.

3.1.3 Provide initial first aid via designated, trained shift personnel.

3.1.4 Provide technical guidance and assistance to protect emergency medical personnel involved in the treatment/transportation of the radiation accident patient and to minimize the spread of radionuclide contamination.

3.1.5 Provide a Radiation Protection Technician to assist support hospital emergency departments with monitoring and decontamination of the radiation accident patient.

3.1.6 Provide personnel, equipment, and facilities for the radiological monitoring and decontamination of any and all ambulance vehicles and equipment used for transport of the radiation accident patient and involved hospital facilities/equipment.

3.1.7 Provide initial and annual training to support hospital personnel in decontamination procedures, use of radiation emergency equipment and supplies, basic health physics indoctrination, radiological aspects of emergency medical treatment, and procedural elements of EMAP and associated Emergency Implementing Procedures.

3.1.8 Coordinate annual emergency medical drills involving a simulated contaminated patient which will require participation by local (offsite) emergency medical services/agencies.

3.1.9 Provide to the support hospitals a Radiation Emergency Kit containing equipment/supplies necessary for personnel protection; Radiation Emergency Area set-up; patient monitoring, decontamination and sample taking; and waste handling. These kits will be inventoried and checked for operability on a quarterly basis.

3.1.10 Provide for quarterly inspection, inventory, operational checking, and maintenance/calibration of

all health physics and emergency medical equipment/supplies stored for emergency use.

3.1.11 Coordinate release of information to news media regarding emergency occurrences at River Bend Station.

3.2 West Feliciana Parish Hospital and Ambulance Service - Reference Attachments 8.1 and 8.3 for Letters of Agreement.

3.2.1 Pick up and transport, via West Feliciana Parish Hospital Ambulance Service, injured personnel from River Bend Station (including personnel that are radioactively contaminated or who have been exposed to ionizing radiation) to either the West Feliciana Parish Hospital or Our Lady of the Lake Regional Medical Center.

3.2.2 Accept and treat injured/ill personnel from River Bend Station, including personnel that are radioactively contaminated or have been exposed to ionizing radiation.

3.2.3 Maintain the capability and facilities to provide emergency medical treatment, monitoring and decontamination to injured/ill personnel from River Bend Station twenty-four hours-per-day.

3.2.4 Provide, upon Gulf States Utilities Company's request, qualified medical personnel for consultation and/or onsite assistance in managing medical emergencies with associated radiation contamination/over-exposure, and/or administration of radioprotective drugs to affected persons.

3.2.5 Provide storage space for the Radiation Emergency Kit provided by Gulf States Utilities Company.

3.2.6 Participate to the fullest extent possible in training programs and emergency medical drills intended to maintain emergency preparedness.

3.3 Our Lady of the Lake Regional Medical Center - Reference Attachment 8.2 for Letter of Agreement.

3.3.1 Accept and treat injured/ill personnel from River Bend Station, including personnel that are radioactively contaminated or have been exposed to ionizing radiation.

3.3.2 Maintain the capability and facilities to provide emergency medical treatment, monitoring and decontaminatin to injured/ill personnel from River Bend Station twenty-four hours-per-day.

3.3.3 Provide storage space for the Radiation Emergency Kit provided by Gulf States Utilities Company.

3.3.4 Accept and transport, via the West Feliciana Parish Hospital Ambulance Service and the Jackson Rescue Unit, injured/ill personnel from River Bend Station (including personnel that are radioactively contaminated or have been exposed to ionizing radiation) to the selected support hospital.

3.3.5 Participate to the fullest extent possible in training programs and emergency medical drills intended to maintain emergency preparedness.

3.4 Jackson Rescue Unit - Reference Attachment 8.4 for Letter of Agreement

3.4.1 Act as a back-up to the West Feliciana Parish Hospital Ambulance Service in transporting injured/ill personnel from River Bend Station (including personnel that are radioactively contaminated or have been exposed to ionizing radiation) to either the West Feliciana Parish Hospital or Our Lady of the Lake Regional Medical Center.

3.5 Radiation Management Corporation - Reference Attachment 8.5 for Letter of Agreement

3.5.1 Semi-annual inventory of River Bend Station, West Feliciana Parish Hospital, Our Lady of the Lake Regional Medical Center, and Radiation Management Corporation's equipment and supplies; one of these inventories will be in conjunction with (3.5.6) below;

3.5.2 Twenty-four hour-per-day availability of expert consultation on management of radiation accidents;

3.5.3 Availability of bioassay laboratory for evaluation of radiation accidents on a twenty-four hour-per-day basis;

3.5.4 Twenty-four hour-per-day access to a Radiation Emergency Medical Team consisting of a physician, certified health physicist, and technicians with portable instrumentation to location of accident victim;

3.5.5 Availability and access to a medical center equipped for the definitive evaluation and treatment of radiation injuries on a twenty-four hour-per-day basis;

3.5.6 Annual training for the plant, ambulance, and hospital personnel who may be directly or indirectly involved in the execution of the radiation medical emergency program;

3.5.7 Preparation of an annual "accident" scenario for use as a training aid in a radiation medical emergency drill;

3.5.8 Coordination of a radiation medical emergency drill based on the annual scenario; umpired, video-taped, and critiqued by Radiation Management Corporation;

3.5.9 Submission of two annual drill evaluation reports; one relating to the observations made at the station, and another relating to observations made at the hospital; and

3.5.10 Presentation of an annual one-day seminar on the management of radiation accidents for physicians.

3.6 Hospital of University of Pennsylvania and Northwestern Memorial Hospital - Reference Attachments 8.6 and 8.7 for Letters of Agreement.

3.6.1 Provide radiation medicine and health physics consultation through Radiation Management Corporation.

3.6.2 Provide patient referral facilities to West Feliciana Parish Hospital and Our Lady of the Lake Regional Medical Center.

4.0 PRECAUTIONS

4.1 Emergency medical treatment takes precedence over decontamination. Life-support procedures must be instituted prior to decontamination (i.e., bleeding must be stopped and breathing restored).

4.2 Treatment and transfer of contaminated injured/ill personnel to support hospital facilities must include appropriate actions to minimize spread of contamination to uncontaminated areas and emergency medical personnel.

4.3 Emergency transportation of contaminated or over-exposed injured/ill personnel to support hospitals requires declaration of a "Notification of Unusual Event" emergency action level.

5.0 MANAGEMENT OF MEDICAL EMERGENCIES

5.1 Gulf States Utilities Company Emergency Medical Services

5.1.1 Decontamination and First Aid Facilities

Facilities for monitoring, decontaminating and/or providing first aid/emergency care treatment of personnel are located in the Health Physics Area on the second floor of the River Bend Station Services Building. Decontamination showers, sinks, eyewash supplies, personnel monitoring equipment, as well as basic emergency medical equipment and supplies are contained within this area (reference Attachment 8.8 for diagram of Health Physics Area). In addition, first aid kits are located in the Emergency Operations Facility and will be provided to the West Feliciana Parish Hospital Ambulance Service or the Jackson Rescue Unit. Emergency equipment contained in the Health Physics/First Aid Area is listed in Appendix E to the River Bend Station Emergency Plan.

5.1.2 Emergency Teams

Emergency teams including the First Aid Team, Personnel Accountability Team, and Search and Rescue Team (as described in Sections 13.3.4.2 and 13.3.5.4 of the River Bend Station Emergency Plan) can be assembled to render necessary assistance. Shift personnel maintaining first aid/emergency care certification are available on a twenty-four hour-per-day basis to assist injured/ill personnel either at the accident scene or in the First Aid Area. Radiation Protection personnel will be available on a twenty-four hour-per-day basis to process personnel radiation dosimetry, monitor for radiation contamination, and decontaminate affected personnel.

5.1.3 Emergency Medical Transportation

West Feliciana Parish Hospital Ambulance Service, an intermediate life support staffed/equipped emergency medical service, provides primary (first-due) emergency medical services to transport injured/ill personnel to offsite support hospitals. The vehicle(s) have two-way radio communications capability to the West and East Feliciana Parish Sheriff's offices for dispatch and coordination and to the support hospitals (West Feliciana Parish Hospital and Our Lady of the Lake Regional Medical Center) for appropriate medical control, consultation, and notification. Personnel protective equipment, monitoring devices, and patient contaminant control materials are provided by Gulf

States Utilities Company upon ambulance vehicle entrance to the River Bend Station plant site.

5.2 Medical Support Facilities

5.2.1 Primary Support Hospital - West Feliciana Parish Hospital

West Feliciana Parish Hospital, P. O. Box 368, St. Francisville, Louisiana 70775 (located approximately three miles from River Bend Sation) is a 23-bed acute medical facility.

Medical emergencies involving radiation can be handled in a radiological emergency area established in the obstetrics suite with utilization of a designated Radiation Management Team for patient treatment/decontamination.

5.2.2 Secondary Support Hospital - Our Lady of the Lake Regional Medical Center

Our Lady of the Lake Regional Medical Center, 5000 Hennessey Boulevard, Baton Rouge, Louisiana 70809 (located approximately 30 miles from River Bend Station) is a 560-bed acute case medical facility.

Medical emergencies involving radiation can be handled in a radiological emergency area established in the emergency care unit with utilization of a designated Radiation Management Team for patient treatment/decontamination.

5.2.3 Definitive Care Medical Facilities

Hospital of the University of Pennsylvania, 3400 Spruce Street, Philadelphia, Pennsylvania 19104, is a 725-bed university-affiliated tertiary care teaching medical facility providing 24-hour emergency room services.

Northwestern Memorial Hospital, Superior Street and Fairbanks Court, Chicago, Illinois 60611, is a 1,000-bed university-affiliated tertiary care teaching medical facility providing 24-hour emergency room services.

5.3 Patient Handling and Treatment

5.3.1 First Aid/Emergency Care (Onsite)

Emergency medical care to injured/ill personnel is initiated regardless as to whether the injury/illness is radiation or non-radiation associated. Shift

personnel, certified in first aid/emergency care techniques, are available onsite on a 24-hour per day basis to render assistance to injured/ill personnel either at the accident scene or in the River Bend Station First Aid Area.

5.3.2 Radiation Monitoring and Decontamination

Injured/ill personnel exiting Radiation Controlled Areas or found to be contaminated are monitored and decontaminated prior to being transported to support medical facilities, provided such decontamination does not adversely affect the health and safety of the patient.

In cases of life-threatening trauma/illness or persistent contamination, where patients must be transported to support medical facilities prior to complete decontamination, measures are taken to minimize the spread of contamination.

A River Bend Station Radiation Protection Technician shall accompany contaminated patient(s) to the support hospital to supervise control of contamination and to serve in an advisory capacity to the hospital Radiation Management Team for monitoring and decontamination of the radiation accident patient and involved hospital facilities/equipment.

5.3.3 Notifications

Transportation of a contaminated or over-exposed injured/ill patient from River Bend Station to a support hospital requires "Notification of Unusual Event" emergency action level declaration and advanced notification of support hospitals.

5.3.4 Emergency Medical Transportation

5.3.4.1 Transportation Resources

The primary means of emergency medical transportation is the West Feliciana Hospital Ambulance Service.

Back-up transportation is provided by the Jackson Rescue Unit.

The River Bend Station Shift Supervisor, in consultation with members of the First Aid Team and/or support hospital Emergency Department senior attending physician, will determine the priorities for the mode of emergency medical transportation based on

the need for immediate medical intervention, the comfort of the patient, and the vehicles available.

5.3.4.2 Ambulance Monitoring/Decontamination

Following admission of the contaminated patient(s) to the support hospital Radiation Emergency Area, the ambulance vehicle, associated equipment, and emergency medical personnel are surveyed by the River Bend Station Health Physics Technician assisting the hospital Radiation Management Team. The ambulance will be locked and posted until cleared by the River Bend Station Health Physics Technician. If contamination is determined, the ambulance is returned to River Bend Station for decontamination prior to release to active duty. An exception can be made should the vehicle in question be the only emergency ambulance available to answer an emergency call and the area of contamination can be adequately contained or sealed against further spreading.

5.3.4.3 Medical Communications

Emergency medical communications between the support hospitals (West Feliciana Parish Hospital and Our Lady of the Lake Regional Medical Center) and the ambulance services (West Feliciana Hospital Ambulance Service and/or Jackson Rescue Unit) utilize the Hospital Emergency Aid Radio (HEAR) network radio system (regional hospital disaster channel 155.280 MHz).

Necessary communications between River Bend Station and the West Feliciana Parish Hospital and Our Lady of the Lake Regional Medical Center will be accomplished through a dedicated telephone circuit. Additional communications can be accomplished through use of the East and West Feliciana Sheriff's radio frequency (39.68).

5.3.5 Support Hospital

5.3.5.1 Selection of Support Hospital

Depending upon the severity of injury/illness, the number of affected

individuals, the presence and degree of radiation contamination/over-exposure, the River Bend Station Shift Supervisor, in consultation with the West Feliciana Parish Hospital and Our Lady of the Lake Regional Medical Center Emergency Department senior attending physicians, determines patient(s) destination.

5.3.5.2 Hospital Notifications

Support hospitals receive prior notification of patients being transported to their emergency departments for emergency medical care. Notification includes:

a. number of patients;

b. number of radioactively contaminated/injured patients;

c. type/degree of radioactive contamination or over-exposure;

d. assessment of injury/illness type and severity;

e. description of emergency medical care initiated;

f. method of emergency medical transportation to be utilized; and

g. estimated time of arrival.

5.3.5.3 Emergency Department Admission

Support hospital emergency department admission and treatment of injured/ill patient(s) is governed by standard operating procedures. However, in the event that the injured/ill patient is radioactively contaminated, normal admissions procedures are superseded by the appropriate hospital procedures for managing medical emergencies involving radiation contained within the Decontamination and Treatment of Radioactively Contaminated Patients at West Feliciana Parish Hospital and Our Lady of the Lake Regional Medical Center.

5.3.5.4 Inter-Hospital Patient Transfer

For extreme radiologically acute cases, requiring long-term sophisticated therapy, Radiation Management Corporation provides patient referral facilities to one or two definitive care centers that have been established at the Hospital of the University of Pennsylvania in Philadelphia, Pennsylvania and Northwestern Memorial Hospital in Chicago, Illinois.

These centers have the expertise and capability to administer definitive treatment of a seriously over-exposed patient requiring specialized medical treatment such as bone marrow transplants, reverse isolation, patients with internal deposits of radio-toxic substances, and patients with severe local radiation burns and/or contaminated wounds.

5.4 Public Information

Gulf States Utilities Company is responsible for release of information to news media regarding circumstances related to emergency occurrences at River Bend Station, including nature, extent of the occurrence; time and date it occurred, numbers of persons (believed to be) injured; medical destination of those injured. Release of information on the medical condition of injured persons is the responsibility of the treating medical facility, after notification to Gulf States Utilities Company as to what information is to be released.

Support hospitals will release information to the news media, initially and periodically, on persons injured in River Bend Station emergency occurrences, although not on the occurrences themselves.

Support hospitals will release no information on DOA victims of River Bend Station emergencies until next of kin and Gulf States Utilities Company have been notified. Support hospitals will release no information on River Bend Station occurrences until Gulf States Utilities Company has been notified of the information to be released.

5.5 Synopsis

As indicated, medical support for River Bend Station is based on a three tier approach involving:

a. onsite first aid/emergency care and triage;

b. offsite emergency medical treatment at support hospitals; and, where necessary;

c. definitive radiological evaluation and/or treatment from Radiation Management Corporation and/or the Hospital of the University of Pennsylvania or Northwestern Memorial Hospital.

To understand the EMAP response to medical emergencies, the following scenario is provided.

5.5.1 Scenario

Initially, the Main Control Room operators are notified of a medical emergency occurrence through contact with Gulf States Utilities Company personnel at the emergency scene. Main Control Room operators in turn alert the Shift Supervisor and First Aid Team to respond and render immediate medical attention.

The Shift Supervisor and First Aid Team make a determination as to whether the medical emergency will require offsite medical assistance and whether the involved individual is radioactively contaminated or over-exposed. To ensure proper emergency entry, the Shift Supervisor will notify Access Control of the emergency and the pending arrival of emergency personnel. Assistance in making these determinaions may be provided through consultation with either support hospital emergency department senior attending physician and/or onsite Radiation Protection Technicians.

In the event that a contaminated or over-exposed patient requires offsite medical attention due to injury/illness severity, a "Notification of Unusual Event" emergency is declared; the Shift Supervisor initiates the River Bend Station Emergency Plan.

Emergency medical transportation provided by the West Feliciana Hospital Ambulance Service or the Jackson Rescue Unit is dispatched through the West Feliciana or East Feliciana Parish Sheriff's office via request from the Shift Supervisor. Patients requiring offsite medical care are transported to the selected support hospital for medical treatment.

Injured/ill personnel exiting a Radiation Controlled Area and requiring offsite medical attention are monitored and decontaminated prior to being transported to support medical facilities, provided such decontamination does not adversely affect the health and safety of the patient. In cases of life-threatening trauma/illness or persistent

contamination, measures are taken to minimize the spread of contamination during transport to the support hospital.

A River Bend Station Radiation Protection Technician accompanies the contaminated patient to the support hospital to serve in an advisory capacity to the hospital Radiation Management Team. This individual directs the monitoring and decontamination of the injured person, the involved hospital facilities/equipment and the involved ambulance.

Support hospitals are primarily responsible for patient resuscitation and stabilization, decontamination and providing initial treatment of radiation injuries, if such treatment is indicated.

In the event that the patient has incurred excessive radiation exposure and/or internal contamination, the services of Radiation Management Corporation and/or the definitive care facilities at the Hospital of the University of Pennsylvania or Northwestern Memorial Hospital are called upon. This assistance may include direct consultation with Radiation Management Corporation and/or transfer of the patient to the Hospital of the University of Pennsylvania or Northwestern Memorial Hospital for specialized treatment (radiosurgical decontamination, reverse isolation, bone marrow transplantation, and/or white blood cell transfusion) as determined necessary by the patient's condition.

Following treatment and transfer of the radiation accident patient (to direct hospital admission status or another facility for specialized care), all involved facilities, equipment, and personnel are monitored and decontaminated (as necessary) prior to release by the River Bend Station Radiation Protection Technician.

6.0 MEDICAL EMERGENCY TRAINING

6.1 Onsite Emergency Response Personnel

River Bend Station personnel assigned to Emergency Teams (reference Section 13.3.4.2 and 13.3.5.4 of the River Bend Station Emergency Plan) receive general Emergency Plan instruction/training and, dependent upon team assignments, instruction/training in specific subjects.

6.2 Offsite Emergency Response Personnel and Support Organization Personnel

Gulf States Utilities Company provides training to support hospital (West Feliciana Parish and Our Lady of the Lake Regional Medical Center) Emergency Departments and Radiation Management Team members, West Feliciana Parish Hospital Ambulance Service and the Jackson Rescue Unit medical crew. The initial and annual instruction includes training in decontamination procedures, use of radiological emergency equipment and supplies, basic health physics indoctrination, radiological aspects of emergency medical treatment, and procedural elements of the EMAP and associated Emergency Implementing Procedures.

7.0 MEDICAL EMERGENCY DRILLS

A medical emergency drill (supervised instruction period intended to test, develop, and maintain skills in emergency operations) involving a simulated contaminated individual, which contains provisions for support hospital and ambulance services participation, is conducted at least annually. The offsite portions of the medical emergency drill may be performed as part of the required annual exercise (emergency simulation of offsite radiological release requiring response by offsite organizations, including mobilization of state and parish emergency personnel/resources, adequate to verify the capability to respond to accident scenarios requiring response).

Qualified individuals observe and critique the drills for the purpose of evaluating the ability of participating organizations to respond as called for in EMAP. Any inadequacies found as a result of the drill critique are documented, with necessary improvements incorporated in EMAP and/or supporting Emergency Implementing Procedures.

8.0 ATTACHMENTS

8.1 West Feliciana Parish Hospital Letter of Agreement

8.2 Our Lady of the Lake Regional Medical Center Letter of Agreement

8.3 West Feliciana Parish Hospital Ambulance Service Letter of Agreement

8.4 Jackson Rescue Unit Letter of Agreement

8.5 Radiation Management Corporation Letter of Agreement

8.6 Hospital of the University of Pennsylvania Letter of Agreement

8.7 Northwestern Memorial Hospital Letter of Agreement

8.8 River Bend Station Health Physics Area

Attachment 8.1

GULF STATES UTILITIES COMPANY

RIVER BEND STATION POST OFFICE BOX 220 ST. FRANCISVILLE, LOUISIANA 70775

AREA CODE 504 635-3237 387-4257

May 27, 1982

RBG - 12711

Mr. Robert Flatley, Administrator
West Feliciana Parish Hospital
P. O. Box 368
St. Francisville, LA 70775

Dear Mr. Flatley:

File Code G9.20.6.13
"Letters of Agreement"
River Bend Station - Emergency Plan

This letter will serve to confirm the agreement between the West Feliciana Parish Hospital and Gulf States Utilities Company concerning medical treatment of personnel from River Bend Station.

The West Feliciana Parish Hospital herewith agrees to provide assistance to Gulf States Utilities Company in the following areas:

1. Services and Facilities

   The West Feliciana Parish Hospital will accept and treat injured or ill personnel from River Bend Station whether or not they are radioactively contaminated or have been exposed to radiation. Station personnel will administer first aid and accomplish decontamination to a maximum extent prior to transport, depending on the nature and the severity of the accident. As a minimum, the West Feliciana Parish Hospital shall maintain the capability and facilities to provide decontamination, first aid, and emergency stabilization medical treatment to injured or ill personnel from River Bend Station. These services and facilities will be available 24 hours per day. Patients may be transferred from the West Feliciana Parish Hospital to another hospital should the treatment required as a result of the injury extend beyond the capabilities of the West Feliciana Parish Hospital.

   The West Feliciana Parish Hospital will, with Gulf States Utilities Company's assistance, develop a medical emergency plan and the procedures to be followed by hospital personnel in admitting injured or ill personnel from River Bend Station.

Gulf States Utilities Company will supply to the West Feliciana Parish Hospital the emergency kit designated in Attachment I to this agreement. This emergency kit will be maintained by Gulf States Utilities Company. The West Feliciana Parish Hospital will provide storage space for the emergency kit to be used as directed in the medical emergency plan and procedures.

2. Training

Gulf States Utilities Company will provide Radiation Protection Emergency Plan training for West Feliciana Parish Hospital personnel on an annual basis at a time and place mutually agreeable to both parties.

The West Feliciana Parish Hospital will participate in emergency drills designed to test the capability for response to radiation compentence of the emergencies at River Bend Station. These drills will be scheduled by Gulf States Utilities Company.

Charges for the above services will be paid to the West Feliciana Parish Hospital by Gulf States Utilities Company on the basis of the standard fee charged by the West Feliciana Parish Hospital for each service provided.

The West Feliciana Parish Hospital will submit invoices to Gulf States Utilities Company when services as provided for by this agreement have been rendered.

It is intended that this agreement will remain in effect through the operational term of River Bend, which has a design life of forty years; however, either party may terminate the agreement with 180 days notice in writing. Attachment II to this agreement provides a schedule of the activities that must be completed prior to fuel loading of the River Bend Station reactor, now scheduled for April 1, 1985.

Please signify your agreement to the provisions of this letter by executing the acceptance and returning to me.

Yours very truly,

W. J. Cahill
Senior Vice President
River Bend Nuclear Group

WJC/JGC/df

Accepted and agreed to this 19 day June 1982

BY Frank P. Lattorays

R. M. Flatley

ATTACHMENT I

West Feliciana Parish Hospital Emergency Kit

Set of hospital emergency procedures
Pocket dosimeters
Dosimeter charger
Coveralls
Cloth shoe covers
Rubber shoe covers
Cloth gloves
Surgeon's gloves
Hoods
Paper towels
Full facepiece respirators
Respirator filters
Survey instrument
Monitoring instrument
Smears
Plastic sheeting
Plastic bags
Masking tape
Paper towels
Cotton swabs
Q-tips
Scrub brush
50 liter plastic bottles
Decontamination chemicals
- Radiacwash
- Titanium dioxide
- Potassium permanganate
- Sodium bisulfite

Plastic beakers
Vials for collecting excised tissue
Labels for bottles and vials
Radiation signs, tapes, stickers, rope, etc.
Step-off pads
Note pads
Pencils
Tygon tubing - 1/2" - as necessary
Drum for waste
Potassium iodide tablets
Decontamination tables
5-gallon polyethylene bottles

ATTACHMENT II

Activities Requiring Completion Prior to Fuel Loading

	Activity	Proposed Start Date	Proposed Completion Date
1.	Prepare Medical Emergency Plan and Procedures *	January 1, 1983	July 1, 1983
2.	Emergency Kit to be Provided *	October 1983	January 1, 1984
3.	GSU River Bend Emergency Plan Training to Hospital Medical Staff *	January 1, 1984	September 1, 1984
4.	Emergency Drill *	Prior to Fuel Loading	October 1984

* The indicated activities will require a joint effort between the West Feliciana Parish Hospital and Gulf States Utilities Company. Proposed start and completion dates for the above activities may be decided upon by mutual consent of both parties.

Attachment 8.3

RBC-24976
G9.20.6.6
G9.20.6.13

WEST FELICIANA PARISH HOSPITAL

P. O. BOX 368

ST. FRANCISVILLE, LA. 70775

PHONE: (504) 635-3811 BATON ROUGE (504) 343-7242

January 24, 1984

Mr. John Cadwallader, Supervisor
Emergency Planning
River Bend Nuclear Group
P. O. Box 220
St. Francisville, Louisiana 70775

Dear John,

Please let this letter serve to verify that the two ambulances operated by West Feliciana Parish Hospital will be made available to transport patients from the River Bend Nuclear Plant to West Feliciana Parish Hospital and to other medical facilities in the area as recommended by medical authority.

Sincerely,

Kenneth R. Lacy
Administrator

KRL/vcs

GULF STATES UTILITIES COMPANY
RIVER BEND STATION POST OFFICE BOX 220 ST. FRANCISVILLE, LOUISIANA 70775
AREA CODE 504 635-3237 387-4257

April 9, 1984

RBG-17532

Mr. Robert C. Davidge
Executive Director
Our Lady of the Lake
Regional Medical Center
5000 Hennessey Boulevard
Baton Rouge, LA 70809

Dear Mr. Davidge:

File Code G9.20.6.13
"Letters of Agreement"
River Bend Station - Emergency Plan

This letter will serve to confirm the agreement between Our Lake of the Lake Regional Medical Center and Gulf States Utilities Company concerning medical treatment of personnel from River Bend Station.

Our Lady of the Lake Regional Medical Center herewith agrees to provide assistance to Gulf States Utilities Company in the following areas:

1. Services and Facilities

Our Lady of the Lake Regional Medical Center will accept and treat injured or ill personnel from River Bend Station whether or not they are radioactively contaminated or have been exposed to radiation. Station personnel will administer first aid and accomplish decontamination to a maximum extent prior to transport, depending on the nature and the severity of the accident. As a minimum, Our Lady of the Lake Regional Medical Center shall maintain the capability and facilities to provide decontamination, first aid, and emergency stabilization medical treatment to injured or ill personnel from River Bend Station. These services and facilities will be available twenty-four hours-per-day. Patients may be transferred from Our Lady of the Lake Regional Medical Center to the Hospital of University of Pennsylvania or Northwestern Memorial Hospital should the treatment required as a result of the injury extend beyond the capabilities of Our Lady of the Lake Regional Medical Center.

Our Lady of the Lake Regional Medical Center will, with Gulf States Utilities Company's assistance, develop a medical emergency plan and the procedures to be followed by hospital personnel in admitting injured or ill personnel from River Bend Station.

Gulf States Utilities Company will supply to Our Lady of the Lake Regional Medical Center the emergency kit designated in Attachment I to this agreement. This emergency kit will be maintained by Gulf States Utilities Company. Our Lady of the Lake Regional Medical Center will provide storage space for the emergency kit and will use it as directed in the Medical Emergency Plan and Procedures.

2. Training

Gulf States Utilities Company will provide River Bend Station Emergency Plan training for Our Lady of the Lake Regional Medical Center personnel on an annual basis at a time and place mutually agreeable to both parties.

Our Lady of the Lake Regional Medical Center will participate in emergency drills designed to test the competence of the emergency planning for River Bend Station. These drills will be scheduled by Gulf States Utilities Company at a time mutually agreeable to both parties.

Charges to the above services will be paid to Our Lady of the Lake Regional Medical Center by Gulf States Utilities Company on the basis of the standard fee charged by Our Lady of the Lake Regional Medical Center for each service provided.

Our Lady of the Lake Regional Medical Center will submit invoices to Gulf States Utilities Company when services as provided for by this agreement have been rendered.

Gulf States Utilities Company will, without cost to Our Lady of the Lake Regional Medical Center, obtain and maintain:

1. An agreement of indemnification as contemplated by Section 170 of the Atomic Energy Act of 1954, as amended, (herein called the "Act"), and

2. Nuclear liability insurance in such form and in such amount as will meet the financial protection requirements of the Nuclear Regulatory Commission pursuant to the Act.

The agreement of indemnification and the nuclear liability insurance shall be in effect as of the date of shipment from the fabrication facilities of the first fuel bundles for River Bend Station.

In the event that the nuclear liability protection system provided by the Act is repealed, modified or expires, Gulf States Utilities Company will, without cost to Our Lady of the Lake Regional Medical Center, maintain the above-mentioned insurance and agreement of indemnification, so long as required by the Act, but only to the extent available on reasonable terms and consistent with the then current customary electric utility industry practice in the United States. Should the present financial protection of $580,000,000 available through a combination of 1 and 2 above be reduced to a lesser amount, Gulf States Utilities Company shall notify Our Lady of the Lake Regional Medical Center of such change within thirty days thereafter.

It is incended that this agreement will remain in effect through the operational term of River Bend Station, which has a design life of forty years. However, either party may terminate the agreement with 180 days notice in writing. Attachment II to this agreement provides a schedule of the activities that must be completed prior to fuel loading of the River Bend Station reactor, now scheduled for April 1, 1985.

Please signify your agreement to the provisions of this letter by executing the acceptance and returning to me.

Yours very truly,

W. J. Cahill, Jr.
Senior Vice President
River Bend Nuclear Group

Accepted and agreed to this 13th day of April, 1984.

W. J. Cahill, Jr.
Senior Vice President
River Bend Nuclear Group

R. C. Davidge, FACHA
Executive Director
Our Lady of the Lake Regional Medical Center

JEB/JGC/df

ATTACHMENT I

Our Lady of the Lake Regional Medical Center Medical Kit

Set of hospital emergency procedures
Pocket dosimeters
Dosimeter charger
Coveralls
Cloth shoe covers
Rubber shoe covers
Cloth gloves
Surgeon's gloves
Hoods
Paper towels
Full facepiece respirators
Respirator filters
Survey instruments
- Beta; Gamma Detector
- G-M Tube

Smears
Plastic sheeting
Plastic bags
Masking tape
Cotton swabs
Q-tips
Scrub brush
50 liter plastic bottles
Decontamination chemicals
- Radiacwash
- Titanium dioxide
- Potassium permanganate
- Sodium bisulfite

Plastic beakers
Vials for collecting excised tissue
Labels for bottles and vials
Radiation signs, tapes, stickers, rope, etc.
Step-off pads
Note pads
Pencils
Ty on tubing - 1/2"
Drum for waste
Decontamination Table Top w/splash guards
Stretcher, hose, faucet, and plastic water receptacle
Aprons (plastic disposable)

ATTACHMENT II

Activities Requiring Completion Prior to Fuel Loading

	Activity	Start Date	Proposed Completion Date
1.	Prepare Medical Emergency Plan and Procedures*	November, 1983	April 15, 1984
2.	Emergency Kit to be Provided*	November, 1983	May 15, 1984
3.	GSU River Bend Emergency Plan Training to Hospital Medical Staff*	May 7, 1984	September 1, 1984
4.	Emergency Drill*	Prior to Fuel Loading	October, 1984

* The indicated activities will require a joint effort between Our Lady of the Lake Regional Medical Center and Gulf States Utilities Company. The start and completion dates for the above activities may be decided upon by mutual consent of both parties.

Attachment 8.4

RBC-24978
G9.20.6.6
G9.20.6.13

January 23, 1984

Mr. John G. Cadwallader
Supervisor-Emergency Planning
Gulf States Utilities Company
River Bend Station
P. O. Box 220
St. Francisville, LA 70775

Dear Mr. Cadwallader:

The Jackson Rescue Unit will support Gulf States Utilities Company's Emergency Medical Assistance Program (EMAP) for River Bend Station as a back-up to the West Feliciana Parish Hospital Ambulance Service. Per our discussions, Gulf States Utilities Company will provide appropriate training and equipment to ensure that the rescue unit personnel can effectively transport a contaminated/injured patient from River Bend Station to either the West Feliciana Parish Hospital in St. Francisville or Our Lady of the Lake Regional Medical Center in Baton Rouge.

Sincerely,

Travis W. Prewitt
President,
Jackson Rescue Unit

CANBERRA
RMC
Radiation Management Corporation, 3508 Market St., P.O. Box 7940, Philadelphia, PA 19101 (215) 243-2950

October 20, 1983

Mr. John Cadwallader
Supervisor Emergency Planning
River Bend Nuclear Group
Gulf States Utilities Company
P.O. Box 2431
Baton Rouge, Louisiana 70821

SUBJECT: Emergency Medical Assistance Program

Dear Mr. Cadwallader:

This confirms an agreement between Radiation Management Corporation (RMC) and Gulf States Utilities, wherein RMC agrees to furnish certain services to nuclear generating stations operated by Gulf States Utilities. These services comprise a program that is identified by RMC as an Emergency Medical Assistance Program (EMAP). With regard to the River Bend Nuclear Power Station, the EMAP contains the following provisions:

1. Semi-annual inventory of plant and hospital equipment and supplies; one of these inventories will be in conjunction with (6.) below;

2. Twenty-four-hour-per-day availability of expert consultation on management of radiation accidents;

3. Availability of bioassay laboratory for evaluation of radiation accidents;

4. Twenty-four-hour-per-day access to a Radiation Emergency Medical Team consisting of a physician, certified health physicist, and technicians with protable instrumentation to location of accident victim;

5. Availability and access to a medical center equipped for the definitive evaluation and treatment of radiation injuries;

6. Annual training for the plant, ambulance and hospital personnel who may be directly or indirectly involved in the execution of the radiation medical emergency program;

7. Preparation of an "accident" scenario for use as a training aid in a radiation medical emergency drill;

continued . . . . . .

8. Coordination of a radiation medical emergency drill based on the scenario; umpired, video-taped and critiqued by RMC;

9. Submission of two drill evaluation reports; one relating to the observations made at the station, and another relating to observations made at the hospital; and

10. Participation in an annual one-day seminar in Philadelphia on the management of radiation accidents for physicians. Each plant site may send one person, and each utility company may send one person.

Accident Response

Consultation and laboratory services by RMC personnel are at no charge, except incremental costs associated with consultative activities, such as travel, lodging and other related expenses.

RADIATION MANAGEMENT CORPORATION

Roger E. Linnemann, M.D.
Vice Chairman

Attachment 8.6

HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA

3400 Spruce Street / G1 Philadelphia PA 19104 (215) 662-3957

Delores Brisbon, Administrator & Chief Operating Officer

August 16, 1983

Roger E. Linnemann, M.D.
President
Radiation Management Corporation
3508 Market Street
Philadelphia, PA 19104

Dear Dr. Linnemann:

The Hospital of the University of Pennsylvania agrees to accept referrals for evaluation and treatment of radiation injuries from Radiation Management Corporation (RMC) and/or the nuclear power plants currently associated with RMC's Emergency Medical Assistance Program. The clinical management and decisions regarding the need for hospitalization and/or treatment shall be under the direction of Richard A. Cooper, M.D., whose decisions regarding same shall be final.

The Hospital of the University of Pennsylvania has and will maintain the clinical and medical capability which in the Hospital's judgement are necessary to treat persons injured as a result of overexposure to ionizing radiation. The Hospital does agree to make its clinical facilities and clinical capacity available for radiation injury victims referred to it by RMC and/or its participants in the Emergency Medical Assistance Program. However, under no circumstances will the Hospital's responsibility for patients commence until their arrival and admission at the Hospital. The Hospital will maintain a Radiation Emergency Coordinating Committee which will hold annual meetings to review accident cases and update knowledge regarding radiation injuries and procedures, and will hold annual training and drill sessions for staff in the care of radioactively contaminated patients and in the evaluation of over-exposure to radiation injuries. Radiation Management Corporation will assist the Hospital in maintaining its capabilities to handle radiation injuries by providing consultation and radiation laboratory support on a regular basis.

This agreement replaces and supercedes all previous contracts and understandings, which are hereby declared to be void and without effect. This agreement is effective August 1, 1983, for a period of one year, to be renewed automatically until and unless terminated by sixty days notice from the Hospital or RMC to the appropriate representative of the other party.

HUP

Please indicate your assent to the provisions of this agreement by signing as indicated below and returning a copy to the Hospital. Thank you very much.

Sincerely,

Roger E. Linnemann, M.D.
For Radiation Management Corporation

Delores Brisbon
For the Hospital of the University of Pennsylvania

Laurence E. Earley, M.D.
Chairman
Department of Medicine

cc: Richard A. Cooper, M.D.

Attachment 8.7

Northwestern Memorial Hospital

A consolidation of
Chicago Wesley and Passavant
Memorial Hospitals

Prentice Women's Hospital and Maternity Center

Institute of Psychiatry

Superior Street and Fairbanks Court
Chicago, Illinois 60611
312 649-2000

May 20, 1982

Roger E. Linnemann, M.D.
President
Radiation Management Corporation
Suite 400
3508 Market Street
Philadelphia, PA 19104

Dear Dr. Linnemann:

Northwestern Memorial Hospital agrees to accept referrals for the evaluation and treatment of radiation injuries from Radiation Management Corporation (RMC) and/or the nuclear power plants currently associated with RMC's Emergency Medical Assistance Program (list attached). The clinical management and decisions regarding the need for hospitalization and/or other treatment shall be under the direction of W. Harrison Mehn, M.D.

Northwestern Memorial Hospital has and will maintain the clinical and medical capability to treat persons injured as a result of overexposure to ionizing radiation, which includes but is not limited to controlled patient environment, bone marrow transplant, white cell transfusions, karyotyping and a radiosurgery decontamination unit. Northwestern Memorial Hospital agrees to make these special facilities and equipment available for radiation injury victims referred to Northwestern Memorial Hospital by RMC and/or its participants in their Emergency Medical Assistance Program. Northwestern Memorial Hospital agrees to continue the integration of these facilities into its regular teaching and hospital care program.

Further, Northwestern Memorial Hospital will maintain a Radiation Emergency Coordinating Committee and hold an annual meeting to review accident cases and update knowledge regarding radiation injuries and procedures. Northwestern Memorial Hospital will hold an annual training and drill for its staff in the care of the radioactively contaminated patient and evaluation of overexposure to radiation injuries.

It is understood that RMC will assist Northwestern Memorial Hospital in maintaining its capabilities to handle radiation injuries and provide consultation and laboratory radiation injuries.

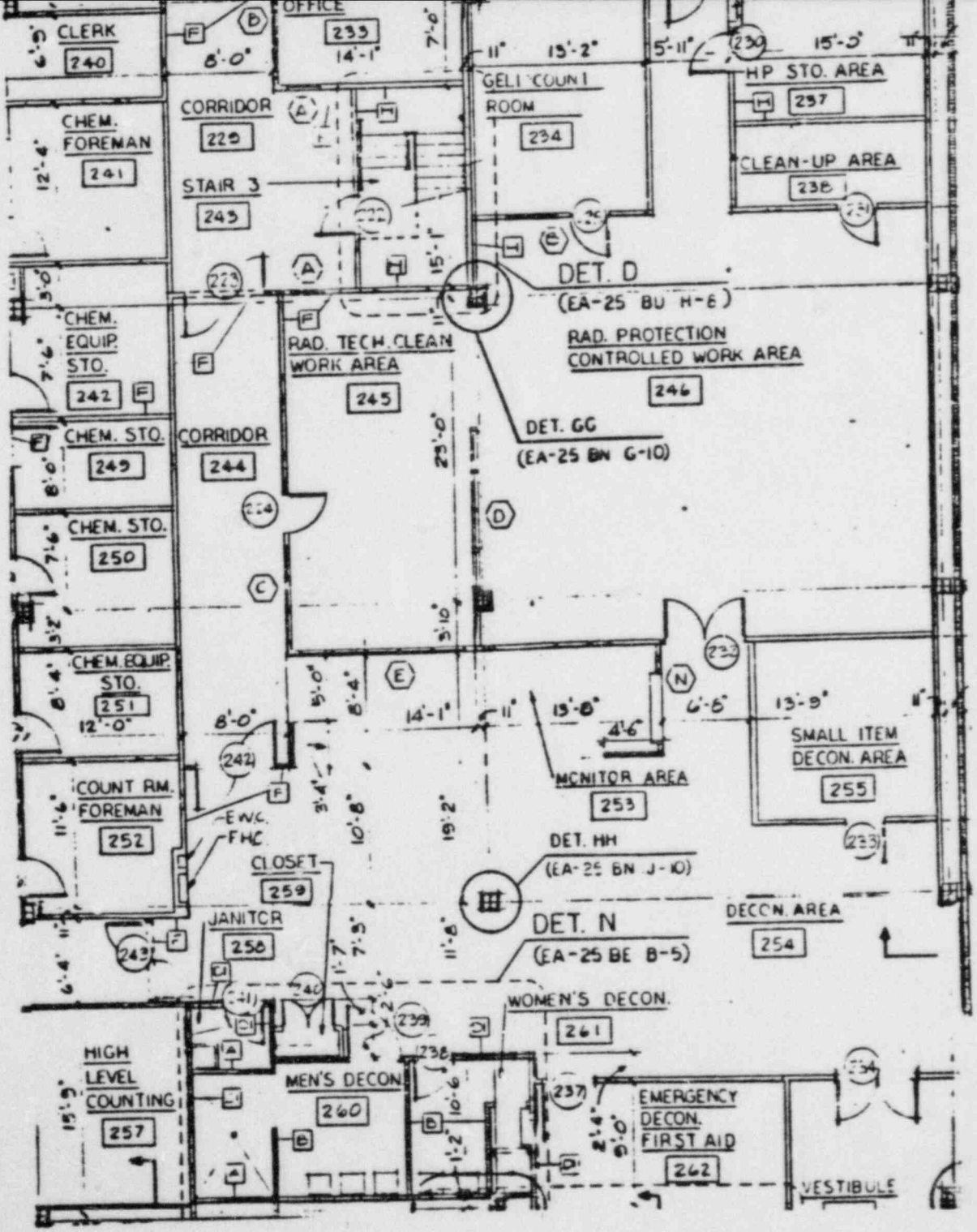
This agreement shall remain in effect until terminated by sixty days notice given by Northwestern Memorial Hospital or Radiation Management Corporation.

Sincerely,

George L. Heidkamp
Executive Vice President

GLH/bl

cc: W. Harrison Mehn, M.D.


CLERK
240
OFFICE
239
CORRIDOR
229
CHEM. FOREMAN
241
STAIR 3
243
GEL. COUNT ROOM
234
HP STO. AREA
237
CLEAN-UP AREA
238
DET. D
(EA-25 BU H-8)
CHEM. EQUIP. STO.
242
RAD. TECH. CLEAN WORK AREA
245
RAD. PROTECTION CONTROLLED WORK AREA
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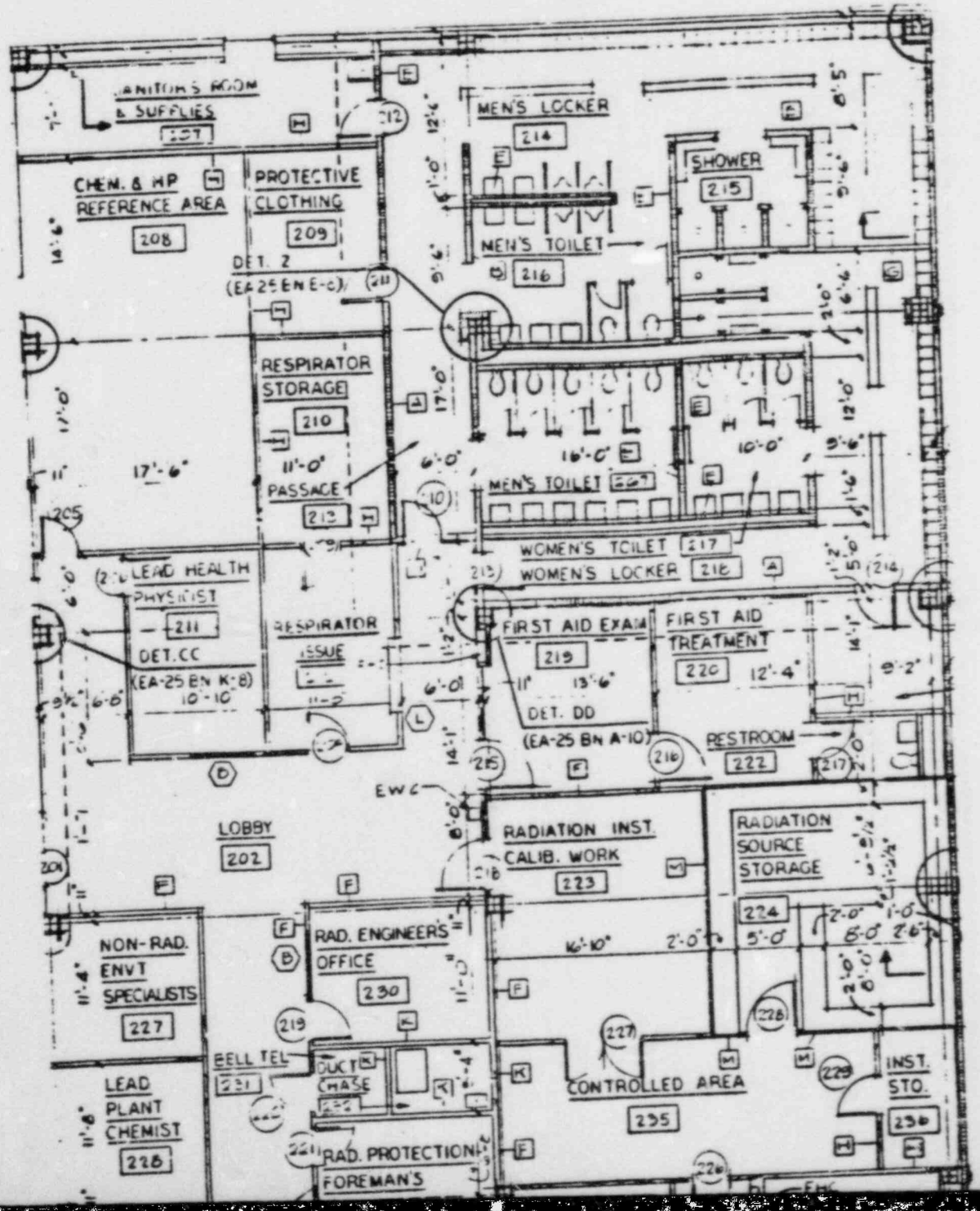

DECONTAMINATION AND TREATMENT

OF

THE RADIOACTIVELY CONTAMINATED PATIENT

AT

WEST FELICIANA PARISH HOSPITAL

DECONTAMINATION AND TREATMENT

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DECONTAMINATION & TREATMENT OF THE RADIOACTIVELY CONTAMINATED PATIENT AT WEST FELICIANA PARISH HOSPITAL

A. PURPOSE AND SUMMARY

1. By agreement between Gulf States Utilities Company and West Feliciana Parish Hospital, personnel at River Bend Station sustaining injuries from ionizing radiation or injuries complicated by radiation exposure or radioactive contamination will be provided care and treatment at West Feliciana Parish Hospital.

2. Most of these injury cases will present no hazard to hospital personnel and will be admitted and provided care and treatment in accordance with our standard operating procedures. However, in the event that an accident victim is radioactively contaminated, he will be admitted, decontaminated and treated in accordance with these procedures.

3. The purpose of these procedures is to assure the radiation protection of the hospital staff, other patients and visitors during admission and treatment of the radioactively contaminated patient. The hospital's protection program starts at River Bend Station with an alert or warning telephone call to the hospital with information that there has been an incident involving one or more injured and potentially contaminated persons who may require treatment. On receipt of such a call, the staff will prepare to admit the patient(s) through the Radiation Emergency Area (REA) that has been established in the OR Recovery Room. The REA will be set up in accordance with the directions given in Section E, "Procedure".

4. Hospital personnel will utilize protective clothing and personnel radiation dosimeters in accordance with directions contained in Attachment D, "Procedure for the Use of Protective Clothing and Dosimeters". Such decontamination of the patient as may be required, and the collection of contamination samples will follow the directions given in Attachment E, "Procedures for Patient Decontamination and Sample-Taking".

B. GENERAL INFORMATION

There are three major types of radiation exposure which may cause injury. These types of radiation exposure may occur together:

1. penetrating radiation exposure from a source external to the body (gamma rays, neutrons);
2. internal exposure to radionuclides by ingestion, inhalation, absorption, or through a skin break;
3. skin and superficial tissue exposure by contamination of the surface of the body with radioactive materials, including subcutaneous radioactive foreign objects.

A patient who has been excessively exposed to external radiation will not present a hazard to attending personnel. Radiation that has injured a patient will no more harm the attendant than heat that has injured a burn patient will harm the attendant.

Equally without hazard to others is the patient who has received an overdose of radionuclides by ingestion or inhalation. Internal contamination alone is no more hazardous than diagnostic radioisotopes administered to a patient in the hospital clinic. However, if internal contamination is present, external contamination may also be present.

An individual whose clothing, skin and/or wounds are contaminated with radioactive material may present a radiation hazard to attending personnel in the absence of adequate procedures to prevent the spread of the contaminant or control the radiation exposure from the contamination. Since radiation injuries are not immediately life-threatening, primary attention should always be directed to traumatic life-threatening injuries, e.g., severe bleeding, airway obstruction, shock. Concomitantly, or as soon as possible, the patient should be decontaminated.

C. PREREQUISITES

1. Alert/Notification

As soon as it has been established by the River Bend Station Shift Supervisor that a patient will be transported to the hospital for treatment, an alert call to this effect will be given. The alert and notification

2. PREREQUISITES (Continued)

calls will be directed to the Switchboard Operator (between the hours of 8:00 a.m. and 4:30 p.m.) at (504) 635-3811 or the Nurses Station (after 4:30 p.m.) at (504) 635-3811. The caller will ask to speak with the Charge Nurse.

2. Prior Action at River Bend Station

Before sending the patient(s) to the hospital, River Bend Station personnel will accomplish the following procedures:

a. Administer first aid.
b. Notify ambulance.
c. Call the hospital and inform them of expected arrival time, description of apparent injuries and number of patients.
d. Decontaminate the patient(s) to an extent compatible with injuries.
e. Assign station personnel qualified in radiation protection procedures to accompany the patient(s).

D. LIMITATIONS AND ACTIONS

1. West Feliciana Parish Hospital is the primary treatment facility where radioactively contaminated accident casualties from River Bend Station may be treated. Our Lady of the Lake Regional Medical Center is the secondary support hospital.

2. All decontamination of hospital personnel, equipment, and facilities shall be the responsibility of River Bend Station.

E. PROCEDURE

1. Notification/Charge Nurses Duties

In accordance with paragraph C.1, River Bend Station personnel will alert the hospital. It will be the responsibility of the Charge Nurse to notify the Director of Nurses (or in her absence, the Assistant Director of Nurses) and complete the Data Information Sheet seen under Attachment B of this manual.

Next, the Charge Nurse should place return call to the River Bend Station (504) 387-4257 to verify impending patient arrival from River Bend Station.

E. PROCEDURE (Continued)

2. Director of Nurses (or Assistant Director of Nurses) Duties

Prior to Patient Arrival

A. Notify the following personnel:

1. Emergency Room Staff
2. Emergency Room Physicians
3. Radiology
4. Maintenance
5. Respiratory Therapy
6. Laboratory
7. Hospital Administrator
8. Pharmacy

B. Perform the following:

1. Assign nursing personnel to assist attending physician in REA
2. Assign Control Point Attendant
3. Assign Buffer Zone Attendant
4. Assure that the REA is prepared to receive patient(s)
5. Assure that appropriate and sufficient medical supplies are brought to the REA

Patient Arrival

Coordinate all activities in treatment room and buffer zone.

E. PROCEDURE (Continued)

3. Maintenance Personnel Duties

Upon notification from the Director of Nurses of impending patient(s) arrival, Maintenance personnel will prepare the REA as follows:

Prior to Patient Arrival

Step 1

Clear OB Suite of non-stationary supplies and equipment.

Step 2

Obtain radiation emergency supplies from storage closet in OB Suite.

Step 3

Lay floor covering (Herculite) throughout the REA. The pre-cut colored pieces are marked as to proper location.

a. Yellow Herculite, to be placed as follows:

(1) Treatment Room
(2) Ambulance Entrance and hallway to Treatment Room

b. Green Herculite -- buffer zone

c. White Herculite -- use for patient exit only.

Step 4

Attach decontamination table top to gurney and place water receptacle under drain.

Place waste receptacles with plastic liners in Decontamination/Treatment Room and Buffer Zone.

Step 5

Erect stanchions and attach warning rope and signs across hallway and Buffer Zone.

Step 6

Attach hose with showerhead to faucet and adjust water temperature (luke warm).

Step 7

Place Decontamination and Sample-Taking Kits on counter in Treatment Room.

E. PROCEDURE (Continued)

4. Nursing Personnel Duties

Prior to Patient Arrival

A. Bring emergency cart to REA.

B. Obtain necessary medical equipment and supplies from the Emergency Room and deliver to REA.

C. Don protective clothing and dosimeters in accordance with directions contained in Attachment D of this manual.

D. Wait in treatment room for patient arrival.

Patient Arrival

A. Assist attending physician in patient stabilization.

B. Collect bioassay samples in accordance with directions contained in Attachment E of this manual.

C. Under direction of plant radiation protection personnel, perform decontamination of the patient in accordance with directions contained in Attachment E of this manual.

D. Assist in patient transfer and exit procedures.

E. Remove protective clothing and dosimeters in accordance with directions contained in Attachment D of this manual.

E. PROCEDURE (Continued)

5. Attending Physycian's Duties

Prior to Patient Arrival

A. Assure that the Radiation Emergency Area is set up for admission of a radioactively contaminated patient.

B. Assure that necessary medical supplies and equipment are brought to the REA.

C. Don protective clothing and dosimeters in accordance with directions contained in Attachment D of this manual.

Patient Arrival

A. In the event of multiple patients, assure that appropriate treatment priority is assigned. If the patient is not critically injured, he should remain in the ambulance and be admitted according to triage method.

B. Question the accompanying River Bend Station personnel concerning the patient's contamination status and precautions that should be taken by the hospital staff.

C. Administer emergency treatment.

D. Insure that requested medical supplies are passed into decontamination/ treatment room.

E. Decontaminate the patient and collect samples of the contaminant in accordance with Attachment E of this procedure.

F. Following decontamination and emergency treatment, direct the transfer of the patient from the REA to the appropriate section of the hospital for care or further treatment.

G. Remove protective clothing and dosimeters in accordance with directions contained in Attachment D of this manual.

E. PROCEDURE (Continued)

6. Control Point Attendant's Duties

Prior to Patient Arrival

A. Assure that the personnel entering the REA are wearing protective clothing, self-reading pocket dosimeters, film badges and ring TLDs.

B. Don protective clothing and dosimeters in accordance with directions contained in Attachment D of this manual.

C. Restrict access to only those personnel authorized entry by the attending physician or Director of Nursing.

D. Maintain a record showing name and time of each person entering or exiting REA. (Refer to Attachment J)

E. Record serial numbers of dosimeters, film badges and TLDs, as well as person's name (see Attachment J, Personnel Dosimetry Log).

Patient Arrival

A. Assure that no person or article is allowed to leave the REA (after the radioactively contaminated patient is admitted) until it has been monitored by River Bend Station personnel and found to be "clean", i.e., free of detectable radioactive contamination.

B. Record results of radiation surveys performed by plant radiation protection personnel on anatomical diagrams provided in the decontamination kits and Section J of this manual.

C. Record dosimeter readings and collect dosimetry from all individuals exiting the REA.

E. PROCEDURE (Continued)

7. Buffer Zone Attendant's Duties

Prior to Patient Arrival

A. Obtain medical supplies as requested by attending physician.

B. Don protective clothing and dosimeters in accordance with directions contained in Attachment D of this manual.

Patient Arrival

A. Pass medical supplies into treatment room as requested by attending physician. DO NOT ENTER TREATMENT ROOM UNLESS SPECIFICALLY REQUESTED TO DO SO BY ATTENDING PHYSICIAN.

B. Following emergency treatment and decontamination, prepare for removal of the patient from the REA.

(1) Roll white Herculite from Buffer Zone into Treatment Room.

(2) Wheel in a "clean" stretcher across the white pathway to the location immediately adjacent to the patient.

NOTE: It is important to remain on white Herculite while in REA to prevent cross-contamination.

(3) Assist in the transfer of the patient from the decontamination table top to the clean stretcher.

E. PROCEDURE (Continued)

8. Administration Duties

A. Assure that a responsible hospital representative is available to address any media concerns.

B. Assure that a representative from Gulf States Utilities Company is available to address any media concerns.

C. Provide support for additional personnel if required.

E. PROCEDURE (Continued)

9. Radiology Department Personnel Duties

Perform duties outlined in E.11 (which follow) in absence of plant radiation protection technician #2.

E. PROCEDURE (Continued)

10. Plant Radiation Protection Technician's (RPT) Duties

Prior to Patient Arrival

A radiation protection technician (RPT #1) from the River Bend Station will accompany the patient(s) in the ambulance and bring appropriate instrumentation. If staffing permits, a second radiation protection technician (RPT #2) will arrive at the hospital in a separate vehicle and assist in the duties outlined below.

Patient Arrival

RPT #1

A. Provide advice and guidance to attending staff regarding radiation exposure and protective actions.
B. Don protective clothing and dosimeters as provided by hospital staff.
C. Perform frequent radiation surveys of patient and attendants.
D. Maintain contamination control to treatment area.
E. Provide advice and guidance to hospital staff regarding collection of samples and decontamination procedures in accordance with directions contained in Attachment E of this manual.
F. Decontaminate REA and equipment following patient and attendant exit.

RPT #2

A. Survey ambulance and attendants prior to departure. If contamination is found, ambulance should be returned to River Bend Station for decontamination.
B. Control patient and attendant exit procedures.
C. Perform radiation surveys of patient and attendants upon exit from the REA.
D. Collect dosimetry from personnel exiting the REA at termination of emergency and return to River Bend Station for processing.
E. Decontaminate REA and equipment following patient and attendant exit.

F. RETURN OF REA TO NORMAL USE

Once the patient has been decontaminated, the REA and all equipment will be surveyed, decontaminated as required and released as soon as possible by River Bend Station radiation protection personnel.

G. PATIENT TRANSFER TO DEFINITIVE CARE CENTER

1. If it is determined by the attending physician and Radiation Management Corporation that the patient should be transferred to a definitive care center for the evaluation, diagnosis and long-term care of the radiation injury, this patient can be transferred to RMC's definitive care center located at the Hospital of the University of Pennsylvania in Philadelphia or Northwestern Memorial Hospital in Chicago, Illinois.

2. Arrangements for transportation of the patient will be coordinated through Radiation Management Corporation (215) 243-2990 -- 24-hour emergency phone number.

H. PROCEDURE FOR HANDLING MULTIPLE VICTIMS

1. Multiple injuries occurring at River Bend Station 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. Upon notification from River Bend Station that there has been an accident involving more than one patient, complete the form seen under Attachment B, Data Information Sheet. In addition, inquire as to the extent of medical assistance available on-site. The Data Information Sheet should be given to the Emergency Room physician.

2. On-site medical personnel with the assistance of ambulance attendants should institute triage principles with primary attention to life-threatening injuries. The most seriously injured should receive priority evacuation. Minimum decontamination should include the removal of contaminated clothing. If time, availability of transportation and patients' medical condition warrant, further decontamination (e.g., bathing with soap and water) can be accomplished. Each contaminated patient sent to the hospital should be

H. PROCEDURE FOR HANDLING MULTIPLE VICTIMS (Continued)

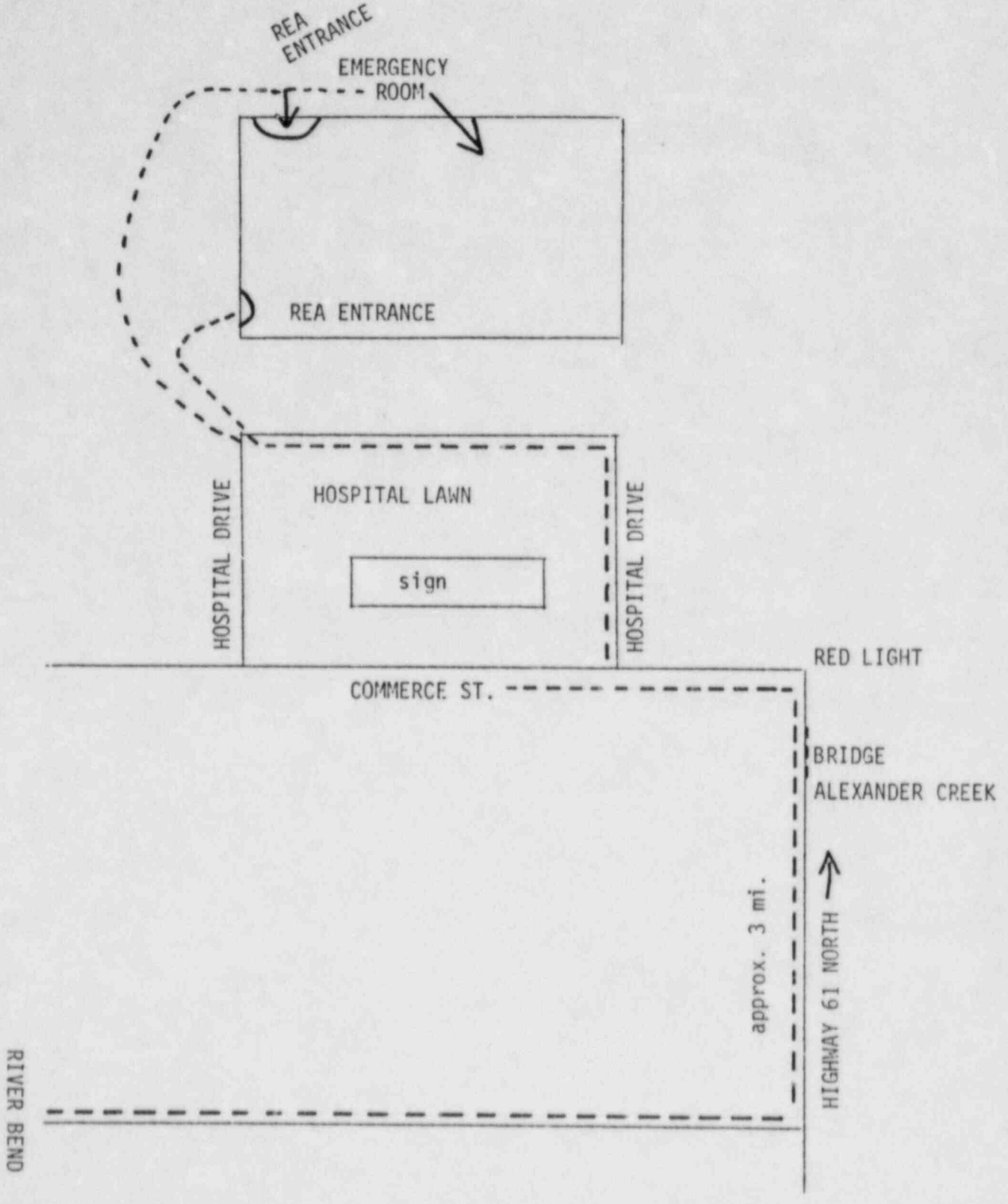
accompanied by a trained radiation technician. Less seriously injured victims should be completely decontaminated at the plant and be transported to the hospital in a "clean" ambulance to the normal emergency room entrance.

3. Prior to patient(s) arrival, West Feliciana Parish Hospital should initiate its Disaster Plan for handling multiple casualties, as well as its procedure for handling contaminated and injured patients. The medical triage team should dress in protective clothing (see Attachment D). The present REA should be set up and ready to receive multiple contaminated and injured patients.

4. Upon arrival of the ambulance the triage team should have the most seriously injured and contaminated brought into the decontamination/ treatment room. The less seriously injured should remain in the ambulance. A decontamination team should be assigned to begin decontamination in the ambulance. Contaminated clothing can be removed and collected and contaminated areas can be wiped with a damp cloth. If decontamination cannot be completed, the areas should be covered with plastic or cloth.

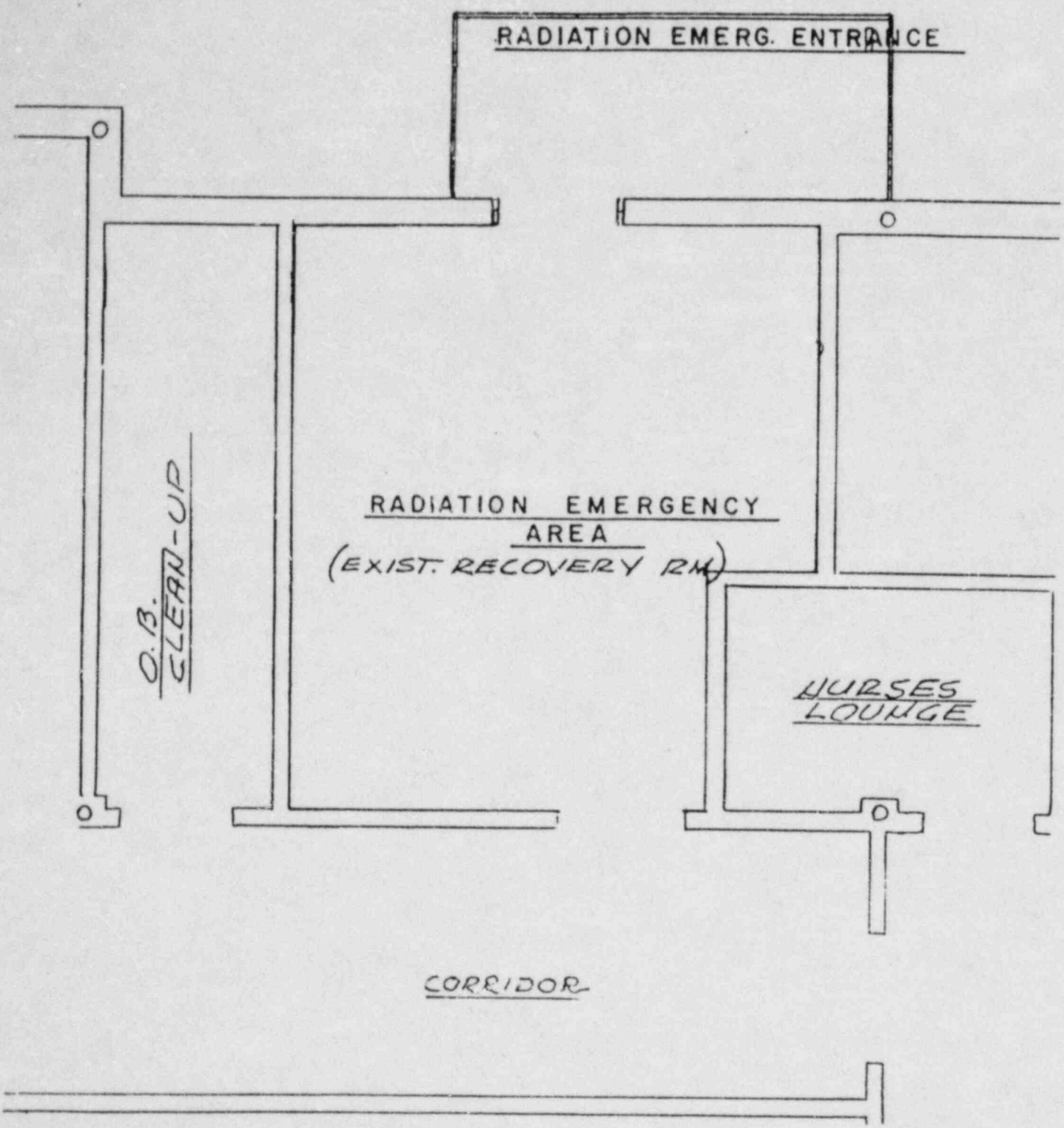
5. After the patients have been treated and decontaminated, the REA should be closed off; River Bend Station personnel should survey and decontaminate hospital supplies, equipment, ambulances and the area prior to releasing it for routine usage.

WEST FELICIANA PARISH HOSPITAL



AMBULANCE ACCESS ROUTE TO REA

DIAGRAM I



PLAN VIEW OF REA

DIAGRAM II

ATTACHMENT A

QUICK SORT PROCEDURE FOR HANDLING ANY
RADIATION ACCIDENT VICTIM

ATTACHMENT A

Quick SORT Procedure for Handling Any
Radiation Accident Victim at the
Emergency Room Unloading Dock

1. Ascertain whether the patient is CONTAMINATED (Use GM Tube)
   A. If so ... Admit the patient to REA Ambulance Entrance when set up as Radiation Emergency Area (REA)
   B. If not ... Admit to normal Emergency Room
   C. If in doubt ... Admit patient to REA

2. Treat traumatic injury

3. If contaminated, decontaminate in REA

4. Call for assistance
   - Attending Staff, Emergency Room
   - Radiation Management Corporation (RMC)

PROCEDURE FOR ADMISSION OF UNANNOUNCED ACCIDENT VICTIM(S)
BY EMERGENCY ROOM PERSONNEL

Admission

Guidance is provided for the unannounced arrival of accident patients under two circumstances: (1) Emergency Room personnel become aware of the patient's status as a "radiation accident patient" before the patient has been removed from the ambulance; and (2) the patient has been brought into the Emergency Room before his status as a "radiation accident patient" has been determined.

Patient Still in Ambulance

If general medical condition warrants, sustain patient in ambulance, instruct driver, attendants, and Emergency Room personnel who have been in contact with the patient to stay in the vicinity of the ambulance (but not inside the ambulance).

Patient Still in Ambulance (Continued)

Clear an area of about 8 feet around ambulance and keep unnecessary personnel and vehicles away. Attend to patient's medical condition as required. Use surgical gloves and mask. If immediate life-saving measures are not necessary, observe patient from a distance. All equipment and supplies used to attend to patient MUST stay in vicinity of the ambulance. DO NOT carry anything back to the Emergency Room.

Immediately telephone Radiation Management Corporation to request assistance. Then:

- Request of Emergency Room staff that the Ambulance Entrance at the REA be set up as a Radiation Emergency Area;
- Clear every person out of REA before bringing patient in;
- Instruct driver to stay with ambulance until a radiation survey has been made;
- Bring necessary equipment and supplies to treat patient from Emergency Room to REA. All equipment, supplies and personnel entering REA MUST stay there until arrival of radiation monitoring personnel. Establish a guard at the door. Pass Emergency Room supplies and equipment into REA; but DO NOT allow personnel and equipment to come out; and
- Personnel attending patient in REA should stand next to patient, only as long as necessary to perform life-saving measures. At all other times, stand about five to eight feet back and observe patient;
- Only persons attending the patient should be in the room.

Radiation Status Discovered After Admission to Emergency Room

- Immediately secure the entire area through which the patient has passed or is located. Keep all personnel and equipment in the area. DO NOT allow anyone or anything to leave;
- Establish a control point through which necessary personnel and equipment pass into restricted area;
- Make arrangements to admit other patients to uninvolved area of Emergency Room through an alternate route.
- Attend to patient's emergency medical condition as required. Use surgical gloves, mask and gown when treating patient. If immediate life-saving measures are not necessary, observe the patient from a distance (five to eight feet). Immediately request assistance from Radiation Management Corporation or River Bend Station (see Telephone Directory, Attachment I).

ATTACHMENT B

TELEPHONE PROCEDURE FOR RADIATION ACCIDENT EMERGENCIES

CHARGE NURSE

ATTACHMENT B

DATA INFORMATION SHEET

The Charge Nurse should obtain the following information from the caller:

Date and Time of Call: _____

_____

Person Calling:

Name: _____

Address: _____

_____

Telephone Number: _____

Accident:

Location: _____

Date and Time: _____

Number of Patients: _____

_____

_____

Extent of Injuries: _____

_____

_____

Contamination Status: _____

_____

_____

Expected Time of Arrival: _____

_____

_____

ATTACHMENT C

EMERGENCY TREATMENT OF
RADIATION ACCIDENTS

ATTACHMENT C

EMERGENCY TREATMENT OF RADIATION ACCIDENTS

GENERAL

Emergency treatment of radiation accidents may have to be given before contact with or arrival of specialists having expertise in evaluation and management of these accidents. In this case the management of the patient should take place in the following order:

- Resuscitation and Stabilization
- Initial Decontamination
- Evaluation of Radiation Status
- Initial Treatment of Radiation Injury

RESUSCITATION AND STABILIZATION

Since radiation injury is not immediately life-threatening, primary attention should always be directed to traumatic life-threatening injuries -- maintenance of airway, arrest of bleeding, treatment of shock and control of pain.

DECONTAMINATION

Concomitantly with the procedure above, or as soon as possible, the patient should be decontaminated. In the initial decontamination .....

- Remove all clothing;
- Obtain samples of contamination (skin smears, tissue, fluids, etc.);
- Survey with a G-M tube and note levels of contamination on Patient Data Sheets. (see Attachment J);
- Remove obvious dirt and debris; bathe, if necessary while protecting wounds;
- Repeat surveying and sampling as necessary;
- Flush wounds with copious amounts of sterile water and/or saline;
- Flush orifices with water or saline. Do not allow patient to swallow;
- Stop with initial decontamination when activity levels are measured in the few thousand counts/minute
- See Attachment E for details on decontamination and sample taking.

ATTACHMENT C (Continued)

EVALUATION OF RADIATION EXPOSURE STATUS

History:

When did the accident occur? _____

_____

_____

What was the source of the accident? _____

_____

_____

Type of radioisotopes involved? _____

_____

How long was the patient in the accident environment? _____

_____

Where was he in relation to radiation source? _____

_____

Was there airborne contamination? _____

Was the patient wearing breathing apparatus? _____

Was there surface contamination? _____

Any skin broken? _____

Was source in contact with body? _____

Was the patient wearing dosimeters? _____

Dose Evaluation: This will require the assistance of persons knowledgeable in radiation. This assistance cay be by someone on location or by telephone. In any case, gather as much of the following information as possible:

- Dose rate (gamma, x-ray, neutrons, etc.) as measured by instruments in accident environment;
- Radiation exposure reading on patient's and others' dosimeters (TLD, film badge, "pencil" dosimeter);
- Level of residual contaminant (beta, gamma) on patient using survey meter (mark area on Patient Data Sheets -- See Attachment J);
- Neutron exposure? Collect metal objects, hair or nails; and
- Calculation of dose to the patient and to attendants.

Clinical Picture: A good estimation of the severity of the patient's external, total body exposure can be obtained by observing the following clinical symptoms and signs:

- Nausea and vomiting ... ~100R*

  Beginning within 2 hours - >400R
  Beginning after 4 hours - <200R
  None within 24 hours - < 75R

- Erythema ... >300R (total body); >600R (surface contact)
- Diarrhea ... >400R
- CNS symptoms ... >2000R to the head
- Serial lymphocyte count within 48 hours ...

$1200/mm^3$	good prognosis
$300\text{-}1200/mm^3$	guarded prognosis
$300/mm^3$	poor prognosis

* Rems, air exposure

INITIAL TREATMENT OF RADIATION INJURY

Detailed Decontamination: It is particularly important at this stage to remove high level contamination caused by penetrating missiles or splinters in wounds.

Overexposure: Since overexposure to radiation results in a slowly unfolding course over a long period of time, there is little in the way of specific treatment in the initial stage of the disease. Treatment is symptomatic and consists of making the patient comfortable and allaying his fears. He may require antiemetics, fluids, sedatives, and analgesics. Order CBC with differential stat, at 4, 8 and 12 hours. Obtain blood sample (10 cc sterile heparinized blood) for chromosome analysis. Keep sample chilled in ice water.

Internal Contamination: Except in a few instances, there is also little to offer in the way of specific treatment in the initial stages. Generally, specific treatment to eliminate any absorbed radioactivity requires rather detailed and complex analyses, including bioassay of excreta and blood, and whole body counting. Begin 24-hour urine collections and 72 hour continuous fecal collections. Arrange for whole body count as soon as patient's condition warrants. Arrange for thyroid uptake study for I-131.

If it has been determined that an appreciable amount of radioactivity has been ingested (which is seldom the case), a stomach lavage, emetics ($ZnSO_4$) or cathartics (10% $MgSO_4$) may be indicated.

If it has been determined that the patient absorbed considerable amounts of ....

Tritium (^3H) ..... force fluids

Radioiodine ..... give Lugol's solution or other thyroid-blocking agent immediately (reduces thyroid uptake of I-131 by 50% if given within 4 hours post exposure; probably not effective after 12 hours)

PRINCIPLES OF RADIATION PROTECTION

Certain precautions to minimize exposure to attendants are necessary when dealing with a patient who has external contamination, specifically:

PRINCIPLES OF RADIATION PROTECTION (Continued)

- Always wear two sets of disposable gowns, plastic aprons, shoe covers:
- As few attendants as necessary should be in the same room with patient;
- Only in the performance of emergency treatment and initial decontamination should attendants be next to patients. At all other times, e.g., while evaluating the patient, attendants should stand at least five to eight feet from the patient and observe him from a distance.
- Rope off and control the area in which the patient is being treated. ALL persons, equipment and supplies that enter this area MUST stay there until Radiation Emergency Teams arrive to assist in the monitoring and decontamination of people and equipment;
- Suggested permissible levels of attendant exposure in the course of treating a patient are:

  to 5R ..... routine treatment and decontamination
  to 25R ..... emergency treatment and decontamination
  to 100R ..... lifesaving treatment and decontamination

To estimate attendant exposure, pass the probe of the G-M survey meter or ion chamber with the beta window closed 6" above the patient. If the reading is 5R/hour, an estimate of attendant exposure would be 5R; treatment should take one hour. Experience shows that it is extremely unlikely that an accident would be so severe that an attendant would receive an exposure of even 5R. In high radiation fields personnel may be rotated in order to minimize the exposure to any single individual. It is also suggested that anticipated exposures over 5R should be on a voluntary basis.

INITIAL BIOASSAY SAMPLES

Each of the following bioassay samples should be obtained as soon as possible and labeled with name, date, time and type of specimen. Avoid cross-contamination of samples from external sources of contamination or from other samples.

- Blood:
  (1) 10 cc for radiobioassay;
  (2) 10 cc (sterile heparinized) for chromosomes; keep samples chilled in a glass of ice;
  (3) 10 cc oxylated for hemogram and differential*
  (4) 10 cc for:
    (a) chemistries;
    (b) electrolytes

*differential - repeat t.i.d. for 3 days or more frequently if clinical condition warrants.

INITIAL BIOASSAY SAMPLES (Continued)

- Hair, nails, metals from neutron-exposed patient;
- Urine:
    (1) first urine;
    (2) 24 hour urine for several succeeding days
- Feces, total sample for several succeeding days
- Sputum;
- Vomitus;
- Tissue and tissue exudates (note location);
- Irrigation fluids (note location); and
- Filter paper or cotton smears of orifices, wounds, skin areas (note locations).

ATTACHMENT D

PROCEDURE FOR THE

USE OF PROTECTIVE CLOTHING AND DOSIMETERS

ATTACHMENT D

Procedure for the Use of Protective Clothing and Dosimeters

All work past the Control Point requires protective clothing, independent of the degree of contamination present on the patient or his clothing. Be sure all female attendants assigned to the REA are wearing scrub pants in addition to protective garb. All personnel should remove everything from the pockets of their uniforms or scrub clothing, in case this clothing must be discarded.

Each person entering the REA should don two surgical gowns, two sets of surgical gloves, and two vinyl aprons, mask, cap and shoe covers as well as dosimetry (see Diagram III for donning protective clothing and proper placement of attendant dosimetry). After gross decontamination is completed, the outer surgical gown, gloves and apron are removed. Wound care and decontamination will then be attended to.

Removal of Contaminated Protective Clothing

Upon completion of their activities in the Radiation Emergency Treatment Room personnel will proceed to the Control Point between the Treatment Room and the Buffer Zone. They will remove their protective clothing and personnel dosimeter(s) in the following order:

(1) self-reading dosimeters (read and recorded by Control Point Attendant):
(2) headwear and mask;
(3) apron and gown (turning them inside-out);
(4) footwear and gloves (remove at Step-Off Pad).

Clearance Procedures

After having removed protective apparel, each person who occupied the Treatment Area will be monitored by River Bend radiation protection technician prior to leaving the Buffer Zone. If contamination is found, personnel will remain in the Buffer Zone, away from the normal exit.* River Bend Station radiation protection personnel will direct them through a decontamination process utilizing the water supply, soap and water collection system available in the treatment room. A final survey will be performed at the control point prior to entering the clean part of the hospital.
*If no contamination is found, personnel may proceed to the change area and put on their normal clothing.

Use of Dosimeters

Dosimeters will be supplied by the Control Point Attendant to all personnel entering the Radiation Emergency Area.

Use of Dosimeters (Continued)

Dosimeters are of three types:

(1) Direct reading dosimeters ("pen dosimeters") to monitor exposed dose on a continuing basis. These must be recharged to read "zero" before they are distributed to each attendee.

(2) Badge (TLD) dosimeters - to form a permanent record of exposure.

(3) Ring (TLD) dosimeters - to form a permanent record of finger exposure.

Dosimeters are to be worn in the following manner:

(1) At the neck line, clipped under the protective clothing;

(2) On the ring fingers of hands, under the gloves, with detecting element at palm surface.

Upon leaving the Radiation Emergency Area the wearer shall surrender his dosimeter to the Control Point attendant, who will record the reading and number of the pen dosimeter and retain the badge and ring dosimeters for later processing. The Control Point Attendant must assure that the records clearly show the serial number of each dosimeter and period of time worn by each individual who occupied the Radiation Emergency Area.

ATTENDANT GARB

DRESSING SEQUENCE

1. PROTECTIVE SHOE COVERS
2. RING TLD (RECORD ↵)
3. BADGE TLD (ON SHIRT POCKET • RECORD ↵)
4. 1ST GOWN
5. 1ST APRON
6. 1ST PAIR GLOVES (OVER 1ST GOWN CUFF)
7. 2ND GOWN
8. 2ND APRON
9. 2ND PAIR GLOVES (OVER 2ND GOWN CUFF)
10. CAP AND MASK
11. SELF READING DOSIMETER (ON 2ND GOWN • RECORD ↵ • 'ZERO')

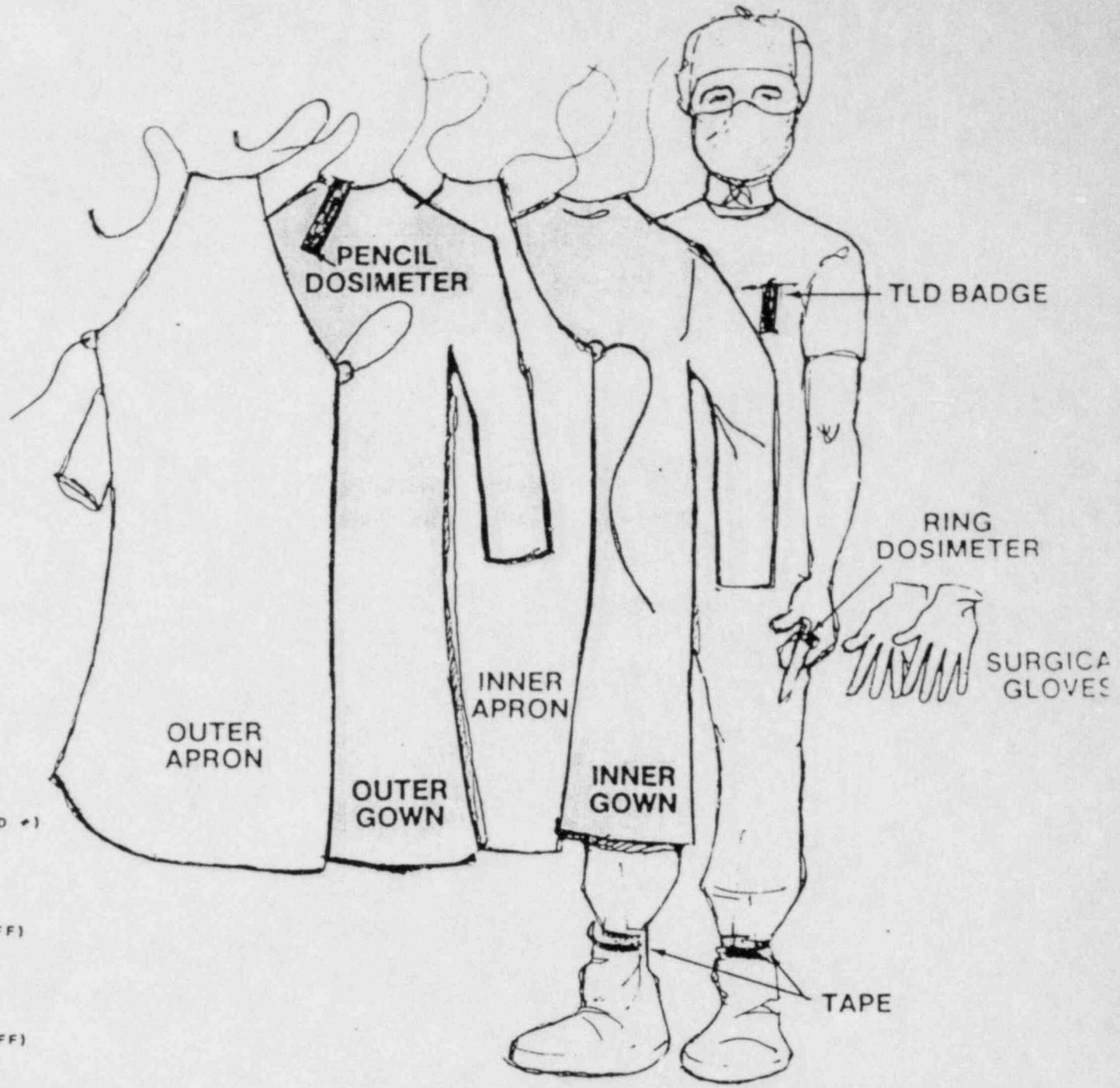


DIAGRAM III

ATTACHMENT E

PROCEDURE FOR

PATIENT DECONTAMINATION AND SAMPLE TAKING

ATTACHMENT E

General

These procedures cover the use of the Decontamination and Sample Taking Kits. The kits provide all the necessary items for the decontamination of a radioactively contaminated patient and the collection of specimens of this contamination.

The collection of specimens is a prerequisite for a thorough evaluation of the medical and radiation status of the patient. It should be performed in conjunction with patient decontamination.

Attachment F provides a parts list for each of the two kits. There is also a parts list in each kit. Following use, the lists should be consulted for replenishment. The intended use of several of the items is indicated on the parts list.

Patient Decontamination Procedures

Principles

The objectives of decontamination are:

1. to prevent injury caused by the presence of radioactive substances on the body;
2. to prevent the spread of contamination over and into the patient; and
3. to prevent attending personnel from becoming contaminated themselves or (in extreme cases) from being exposed to a source of radiation.

Although decontamination should be started as soon as possible, primary attention should be given to the alleviation of life-threatening conditions created by traumatic injury.

Decontamination is essentially the physical removal of radioactive dirt from the skin, wounds, or body orifices. Most decontaminants contain detergents or other chemical agents to facilitate this removal. Therefore most decontaminants are suitable for decontamination of the intact skin only, and are not appropriate for wound cleansing or irrigation of body orifices.

Decontamination is performed in the following manner:

1. from the highest level of contamination to the lowest;
2. starting with the simplest procedure (e.g., soap and water) to more complicated procedures;
3. with due regard to contamination of wounds, body orifices, etc. (see below for specific guidelines)

Patient Decontamination Procedures (Continued)

Usually, the effect of decontamination is greatest in the earliest stages, i.e., most of the radioactive material is removed during the first decontamination effort. Continued decontamination may show diminishing effectiveness. At some point a decision has to be made to either accept some residual contamination, or proceed with the use of more potent decontaminants (more specific guidelines are seen below).

Decontamination Procedures

In some cases decontamination may have been started before the patient arrives at West Feliciana Parish Hospital. It can be expected that the residual contamination is minor and/or that serious contamination is localized, e.g., around and in a wound.

A. General

Two general rules apply to the performance of decontamination:

1. check the effectiveness of the technique applied by monitoring periodically; and
2. avoid the spread of radioactive materials from the area being decontaminated to areas of lesser contamination by covering the adjacent area.

Except when prohibitive degrees of contamination are present on/in any of the locations listed below, decontamination is performed in the following order:

1. high level intact skin;
2. body orifices and adjacent skin;
3. wounds and adjacent skin;
4. low-level skin areas.

B. Steps To Be Taken For Decontamination and Sample Taking

1. judge whether the patient's medical condition requires immediate intervention; stabilize wound, if necessary, and redress for later decontamination;
2. obtain a briefing from the attending health physics personnel as to the contamination status of the patient, the exposure of the patient, and as to the specific measures to be taken by attending personnel with regard to their protection;

Decontamination Procedures (Continued)

B. Steps to be Taken for Decontamination and Sample Taking (Continued)

3. remove all clothing and monitor the patient with the radiation survey instrument by scanning the entire body (holding the probe about two inches from the skin), and record the findings on the Patient Data Sheets.

4. obtain patient samples in accordance with Procedures for Sample Taking, which follow. COLLECTION OF SAMPLES SHOULD BE PERFORMED PRIOR TO DECONTAMINATION.

5. perform a gross decontamination (see Decontamination of Skin and Body Orifices which follow);

6. clean up room and remove outer garments from attendants;

7. proceed with wound survey and decontamination (see Procedures for Decontamination of Wounds);

8. complete detailed decontamination of patient;

9. transfer patient to "clean" area of hospital. (see Diagram IV)

Waste material will be appropriately collected and returned to River Bend Station for disposal.

C. Decontamination of Skin

1. take smear sample of area (see "Sample Taking Techniques and Indications");

2. protect adjacent area if indicated by covering with towels;

3. cleanse skin area; wash thoroughly with Turco soap and tepid water, using either cotton balls, preop sponges or surgical brushes; cover area with a good lather; rinse off after two to three minutes with copious amounts of running water; monitor; record results;

4. if contamination persists, repeat step (3) once;

5. if contamination still persists, try gentle application of clorox or hydrogen peroxide. NOTE: Avoid any of these entering wound or body openings. Repeat a few times using new cotton balls; remove decontaminants with water; monitor; record results;

6. after complete decontamination, dry skin and apply Nivea cream to abraded or injured areas.

7. if residual contamination is present, consult with radiation specialists to decide whether further efforts are indicated; if it is decided to accept residual contamination, dry skin and apply colloidon, mark the area involved and record;

8. collect all materials used and place in separate labeled containers.

NOTE: In case of serious contamination around a wound, rapid removal of the bulk of radioactivity can be obtained by shaving. In case of serious contamination of hair or under nails, clip nails, remove hair and scrub thoroughly and repeatedly with intermittent surveying.

Decontamination Procedures (continued)

D. Decontamination of Body Orifices

1. take samples of activity in nostrils, ear canals, and other orifices as indicated (see "Sample Taking Techniques and Indications");
2. decontaminate area surrounding orifices;
3. gently clean orifices using wetted swabs;
4. if nose swab indicates significant radioactivity in nasal cavity, use nasal blows and nasal irrigation;
5. collect all materials used and label containers.

E. Decontamination of Wounds

1. use aperature drape to isolate the contaminated wound;
2. survey and take samples of wound (see "Procedures for Sample Taking");
3. decontaminate skin adjacent to wound;
4. depending on surface and depth of wound, irrigate wound with sterile saline, dab with guaze pads soaked in sterile saline to cleanse wound; collect all materials used and place in separate labeled containers;
5. remove obviously necrotic and devitalized tissue surgically; keep all tissue specimens removed;
6. repeatedly monitor wound; record results on patient record sheet;
7. if contamination persists, consult with RMC to determine further course of action;
8. if wound is clean, treat wound as necessary.

Procedures for Sample Taking

Principles

The objectives of collecting specimens from a radioactively contaminated patient are as follows:

1. to evaluate the amount and composition of the radioactive contaminants on and in the body;
2. to obtain data with regard to the patient's exposure to external radiation; and
3. to supply information on the biological injury inflicted by the radiation.

To meet these objectives, the following types of specimens are collected routinely:

1. materials containing the external contaminant (swabs, smears, tissue samples, contaminated cleansing fluids, etc.);
2. specimens containing internal contaminant (feces, urine, sputum, etc.);

CLEAN FLOOR COVERING AS UTILIZED FOR PATIENT TRANSFER

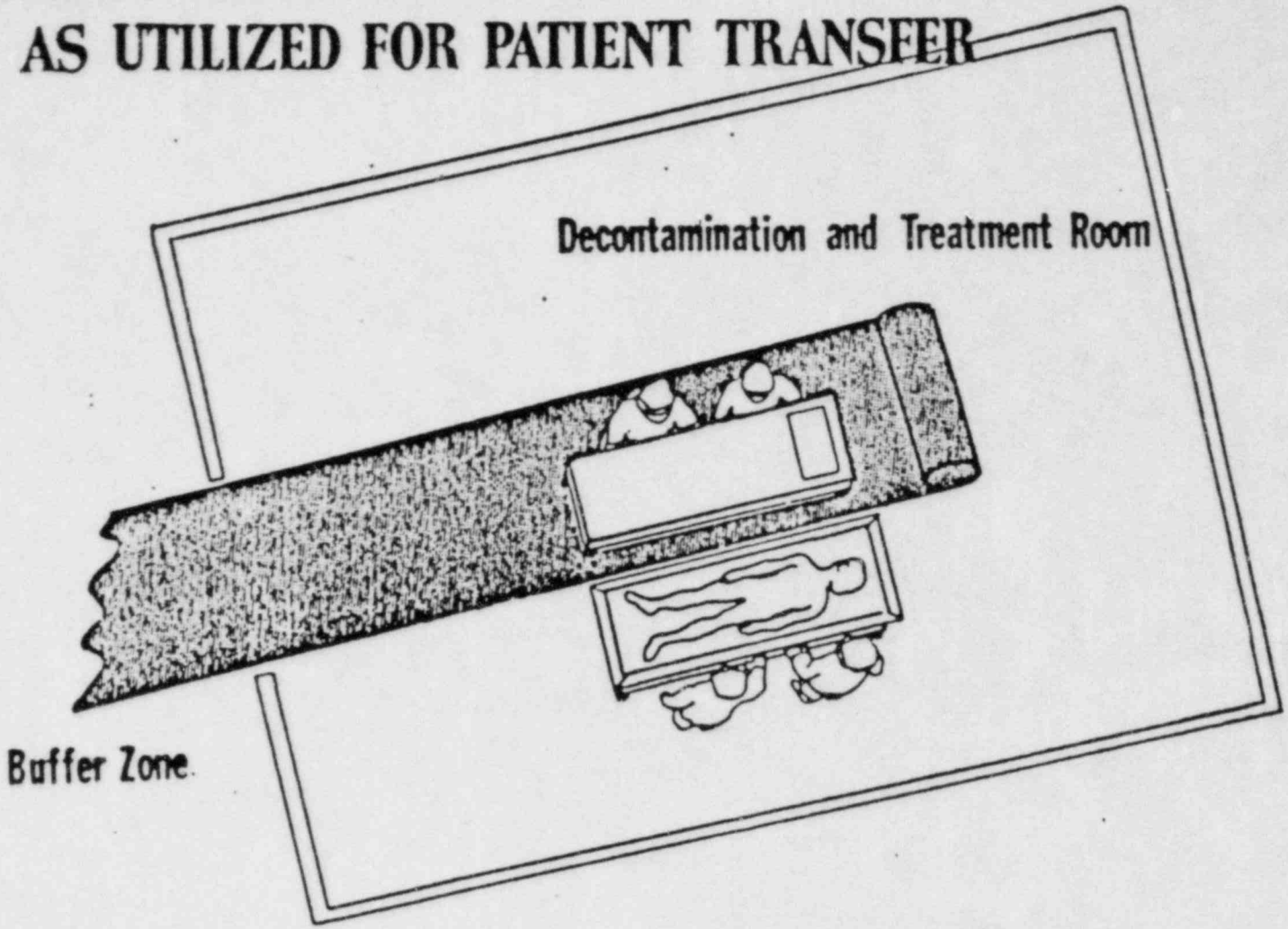


DIAGRAM IV

Procedures for Sample Taking (continued)

3. in case of neutron irradiation ... materials in which neutron induced radioactively may be present (gold rings, buttons, hair, nail clippings);
4. hematological specimens (whole blood in heparinized, oxalated, and uncoated tubes; blood smears).

As the analysis of radioactive samples with regard to their composition is only possible in samples with a relatively high radioactivity, care should be taken to collect and store these samples separately from the usually bulky samples with rather low radioactivity (such as cleansing fluids, drapes, towels, etc.).

A sample which is not identifiable as to its source (location, time taken) may be practically worthless; therefore, take care to properly collect, store, and mark all samples.

Sample Taking Techniques and Indications

External Contamination:

Before decontamination, the following samples shall be obtained:

1. Skin Smears: use Nucon smear pads, moisten with a few drops of water, and smear a skin area of about 100 cm^2 (4" X 4"), if possible, by allowing sticky side of the smear to adhere to gloves and rubbing the smear pad over the surface to be sampled; place smear on record paper, record location and time and area smeared, if other than 100 cm^2 and place in envelope. Alternatively, tape may be used to remove contaminants for later examination.
2. Take samples of nails, hair and collect metallic objects (rings, watches, glasses, belt buckles, etc.).
3. Wound Samples: 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 wounds with visible dirt or debris -- remove with cotton tip or use tweezers; transfer sample to small glass vial and label.

Internal Contamination:

1. Body Orifices: wet Q-tip with a few drops of water; swab, and store in waterproof envelope and label.
2. In all cases where internal contamination is expected: collect urine and feces in containers supplied, and record time of voiding.

Sample Taking Techniques and Indications (continued)

External Exposure:

In all cases where a total body exposure is suspected:

1. obtain 10 cc of oxalated blood for complete blood count and differential;
2. obtain 10 cc of sterile heparinized blood for chromosome analysis;
3. obtain 10 cc blood for electrolytes and chemistries.

Record time these samples were taken.

NOTE: Return bioassay samples to kit. With any specimens necessary to the emergency medical treatment of the patient which are obtained prior to completion of decontamination and are to be processed in the hospital laboratory, be sure to clean the outside of the specimen container (test tube, etc.) and have it surveyed before handing it out to the buffer zone attendant.

ATTACHMENT F

PARTS LIST FOR DECONTAMINATION AND SAMPLE TAKING KITS

ATTACHMENT F

DECONTAMINATION KIT

	Quantity
Skin Decontamination	
Absorbent Balls, extra large	1 box
Sponge-holding forceps	1
Plastic Beaker, large	2
Preop Sponges	6
Surgical Scrub brushes	10
Wash Bottle (for localized contamination)	1
Decontaminants (Skin Only)	
Turco decon soap, bottle (for first decon effort: general)	1
Clorox, bottle (for second decon effort)	1
Hydrogen Peroxide (H_2O_2), bottle* (for third decon effort)	1

*shelf life - three years

Wound Cleansing	
Gauze pads, sterile	50
Sterile Surgical Gloves, assorted sizes	8 pair
Solution bowl, plastic	1
Syringe, 50 cc	1
Cotton-tipped applicators	100
Aperature Drape	1
Decontaminants (Wounds)	
Saline Solution, normal*, sterile bottle	1
Betadine Surgical Scrub bottle	1
Treatment Agents	
Nivea cream, jar	1
Colloidon, bottle	1

*shelf life - two to three years

DECONTAMINATION KIT (continued)

	Quantity
Miscellaneous Materials	
Prep Kit	1
Scissors, heavy duty	1
Patient Radiation and Medical Status Anatomical Diagram	12
Plastic bags, assorted sizes (to hold decon materials after use)	8
Tissue paper, box	1
Notebook	1
Pencils	2
Finger-Nail Clippers	1

SAMPLE TAKING KIT

Sample Type	Sampling Instrument	Quantity
Nasal	swabs	4
Aural	swabs	4
Oral	swabs	4
Skin Folds	swabs	4
Swipes	swabs	4
Swipes	Nucon Smear	25 slots
Hair	small container	4
Nails	small container	4
Metallic Objects	medium container/ plastic bags	2 small 2 large
Blood	10 cc vacutainers	2 heparinized (green) 1 oxalated (gray) 1 sterile (red)
Urine (24 hour)	2000 cc plastic container	1
Feces	fecal container	2
Wound Exudate	swabs eyedropper & bottle	4 2
Tissue	containers	2 small 2 medium
Vomitus	fecal container	2
Irrigation fluids	100 cc plastic bottle	2

ATTACHMENT F (Continued)

SAMPLE TAKING KIT (continued)

Miscellaneous Items	Quantity
Envelopes	10
Labels	50
Pens	1 grease 1 writing
Scissors	1
Tweezers	1
Clippers	1

ATTACHMENT G

REA STORED SUPPLIES & EQUIPMENT

ATTACHMENT G

REA STORED SUPPLIES & EQUIPMENT

To be completed following procurement of equipment and supplies.

ATTACHMENT H

RADIATION EMERGENCY TELEPHONE DIRECTORY

(LATER)

ATTACHMENT I

LOCATION OF MANUALS

ATTACHMENT I

LOCATION OF MANUALS

Copy Number	Location
	Radiation Management Corporation
1	Philadelphia Office
	River Bend Station
2	Emergency Operations Facility
3	Radiation Protection
4	Control Room
5	Technical Support Center
	West Feliciana Parish Hospital
6	Administration
7	Director of Nurses
8	Nurses Station
9	Maintenance
10	Pharmacy
11	Radiology

ATTACHMENT J

PERSONNEL DOSIMETRY LOG

AND

PATIENT DATA SHEETS

PERSONNEL DOSIMETRY LOG

NAME/SOC. SEC. #	DATE/TIME ISSUED	RING TLD #	POCKET TLD #	PEN DOSIMETER #	READING PEN DOSIMETER		REMARKS
					Initial	Final	

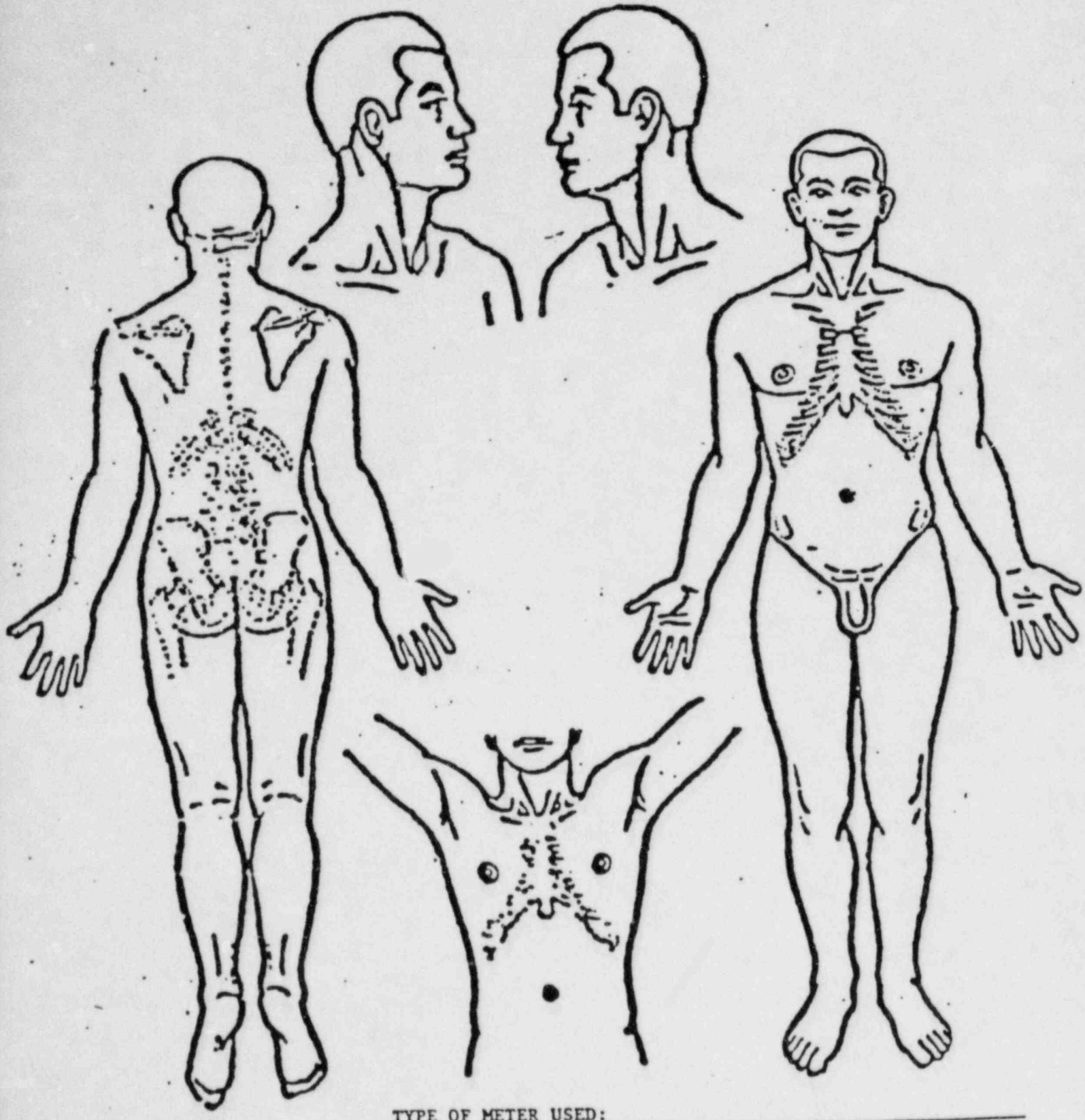
Signature
(CONTROL POINT ATTENDANT)

SURVEY # _____

TIME _____

INDICATE CONTAMINATED AREAS AS TO LOCATION, DEGREE OF CONTAMINATION, DECON EFFORT

INDICATE LOCATION OF WOUNDS



TYPE OF METER USED: _____
(model and number)

DISTANCE SKIN TO PROBE: _____ inches

DECONTAMINATION AND TREATMENT

OF

THE RADIOACTIVELY CONTAMINATED PATIENT

AT

OUR LADY OF THE LAKE REGIONAL MEDICAL CENTER

DECONTAMINATION AND TREATMENT

OF

THE RADIOACTIVELY CONTAMINATED PATIENT

AT

OUR LADY OF THE LAKE REGIONAL MEDICAL CENTER

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

DECONTAMINATION & TREATMENT OF THE RADIOACTIVELY CONTAMINATED PATIENT AT OUR LADY OF THE LAKE REGIONAL MEDICAL CENTER

A. PURPOSE AND SUMMARY

1. By agreement between Gulf States Utilities Company and Our Lady of the Lake Regional Medical Center, personnel at River Bend Station sustaining injuries from ionizing radiation or injuries complicated by radiation exposure or radioactive contamination will be provided care and treatment at Our Lady of the Lake Regional Medical Center. Our Lady of the Lake Regional Medical Center is a secondary support hospital facility for West Feliciana Parish Hospital.

2. Most of these injury cases will present no hazard to hospital personnel and will be admitted and provided care and treatment in accordance with our standard operating procedures. However, in the event that an accident victim is radioactively contaminated, he will be admitted, decontaminated and treated in accordance with these procedures.

3. The purpose of these procedures is to assure the radiation protection of the hospital staff, other patients and visitors during admission and treatment of the radioactively contaminated patient. The hospital's protection program starts at River Bend Station with an alert or warning telephone call to the hospital with information that there has been an incident involving one or more injured and potentially contaminated persons who may require treatment. On receipt of such a call, the staff will prepare to admit the patient(s) through the Radiation Emergency Area (REA) that has been established in the Emergency Care Unit. The REA will be set up in accordance with the directions given in Section E, "Procedure".

4. Hospital personnel will utilize protective clothing and personnel radiation dosimeters in accordance with directions contained in Attachment D, "Procedure for the Use of Protective Clothing and Dosimeters". Such decontamination of the patient as may be required, and the collection of contamination samples will follow the directions given in Attachment E, "Procedures for Patient Decontamination and Sample-Taking".

B. GENERAL INFORMATION

There are three major types of radiation exposure which may cause injury. These types of radiation exposure may occur together:

1. penetrating radiation exposure from a source external to the body (gamma rays, neutrons);
2. internal exposure to radionuclides by ingestion, inhalation, absorption, or through a skin break;
3. skin and superficial tissue exposure by contamination of the surface of the body with radioactive materials, including subcutaneous radioactive foreign objects.

A patient who has been excessively exposed to external radiation will not present a hazard to attending personnel. Radiation that has injured a patient will no more harm the attendant than heat that has injured a burn patient will harm the attendant.

Equally without hazard to others is the patient who has received an overdose of radionuclides by ingestion or inhalation. Internal contamination alone is no more hazardous than diagnostic radioisotopes administered to a patient in the hospital clinic. However, if internal contamination is present, external contamination may also be present.

An individual whose clothing, skin and/or wounds are contaminated with radioactive material may present a radiation hazard to attending personnel in the absence of adequate procedures to prevent the spread of the contaminant or control the radiation exposure from the contamination. Since radiation injuries are not immediately life-threatening, primary attention should always be directed to traumatic life-threatening injuries, e.g., severe bleeding, airway obstruction, shock. Concomitantly, or as soon as possible, the patient should be decontaminated.

C. PREREQUISITES

1. Alert/Notification

As soon as it has been established by the River Bend Station Shift Supervisor that a patient will be transported to the hospital for treatment, an alert call to this effect will be given. The alert and notification calls will be

C. PREREQUISITES (Continued)

directed to the Emergency Care Unit Charge Nurse at (504) 387-8826 (see E.1 below). The ECU Charge Nurse will, in turn, notify the ECU Physician.

2. Prior Action at River Bend Station

Before sending the patient(s) to the hosp'tal, River Bend Station personnel will accomplish the following procedures.

a. Administer first aid.
b. Notify ambulance.
c. Call the hospital and inform them of expected arrival time, description of apparent injuries and number of patients.
d. Decontaminate the patient(s) to an extent compatible with injuries.
e. Assign station personnel qualified in radiation protection procedures to accompany the patient(s).

D. LIMITATIONS AND ACTIONS

1. West Feliciana Parish Hospital is the primary treatment facility where radioactively contaminated accident victims from River Bend Station will be treated.

2. All decontamination of hospital personnel, equipment, and facilities shall be the responsibility of River Bend Station personnel.

E. PROCEDURE

1. Notification/ECU Charge Nurse

In accordance with paragraph C.1, River Bend Station personnel will alert the hospital. It will be the responsibility of the ECU Charge Nurse to notify the Nursing Service Supervisor and complete the Data Information Sheet seen under Attachment B of this manual.

Next, the ECU Charge Nurse should place return call to River Bend Station (504) 387-4257 to verify impending patient arrival.

E. PROCEDURE (Continued)

2. Nursing Service Supervisor's Duties

Prior to Patient Arrival

A. Notify the following personnel:

1. Emergency Room Physician
2. Emergency Room Nurses, Nurses Aides and Clerical Staff
3. Radiation Control Officer
4. Administration
5. X-Ray
6. Laboratory
7. Maintenance
8. Housekeeping
9. Security
10. Nuclear Medicine Representative

B. Perform the following:

1. Assist ECU Nurse to assign nursing personnel to assist attending physician in REA
2. Assign Control Point Attendant (Nuclear Medicine Technician)
3. Assign Buffer Zone Nurse
4. Assure that the REA is prepared to receive patient(s)
5. Assure that appropriate and sufficient medical supplies are brought to the REA

Patient Arrival

Coordinate all activities in treatment room and buffer zone.

E. PROCEDURE (Continued)

3. Maintenance/Housekeeping

A. Upon notification from the Nursing Service Supervisor of impending patient(s) arrival, Maintenance personnel with the assistance of available Housekeeping personnel, will prepare the REA as follows:

Prior to Patient Arrival

Step 1

Clear decontamination/treatment room of non-stationary supplies and equipment under direction of Nursing personnel.

Step 2

Obtain radiation emergency supplies from storage area.

Step 3

Lay floor covering (Herculite) throughout the REA. The pre-cut colored pieces are marked as to proper location.

a. Yellow Herculite, to be placed as follows:

(1) Treatment Room
(2) Ambulance Entrance and hallway to Treatment Room

b. Green Herculite -- buffer zone

c. White Herculite -- use for patient exit only

Step 4

Attach decontamination table top to gurney and place water receptacle under drain.

Place waste receptacles with plastic liners in Decontamination/Treatment Room and Buffer Zone.

Step 5

Erect stanchions and attach warning rope and signs across hallway and Buffer Zone.

Step 6

Attach hose with showerhead to faucet and adjust water temperature (luke warm).

Step 7

Place Decontamination and Sample-Taking Kits on counter in treatment room.

E. PROCEDURE (Continued)

4. Nursing Personnel Duties

Prior to Patient Arrival

A. Obtain necessary medical equipment and supplies from the Emergency Care Unit and deliver to REA.

B. Don protective clothing and dosimeters in accordance with directions contained in Attachment D of this manual.

C. Wait in treatment room for patient arrival.

D. Request additional Nursing personnel for ER as needed.

Patient Arrival

A. Assist attending physician in patient stabilization.

B. Collect bioassay samples in accordance with directions contained in Attachment E of this manual.

C. Perform decontamination of the patient in accordance with directions contained in Attachment E of this manual. Plant radiation protection personnel may be called upon for guidance, if necessary.

D. Assist in patient transfer and exit procedures.

E. Remove protective clothing and dosimeters in accordance with directions contained in Attachment D of this manual.

E. PROCEDURE (Continued)

5. Attending Physician's Duties

Prior to Patient Arrival

A. Assure that the Radiation Emergency Area is set up for admission of a radioactively contaminated patient.

B. Assure that necessary medical supplies and equipment are brought to the REA.

C. Don protective clothing and dosimeters in accordance with directions contained in Attachment D of this manual.

D. Request additional physician assistance to cover Emergency Room.

E. Notify appropriate medical specialist.

Patient Arrival

A. ECU Physician will assume medical management of the patient and direct attending personnel accordingly.

B. In the event of multiple patients, assure that appropriate treatment priority is assigned. If the patient is not critically injured, he should remain in the ambulance and be admitted according to triage method.

C. Question the accompanying River Bend Station personnel concerning the patient's contamination status and precautions that should be taken by the hospital staff.

D. Administer emergency treatment.

E. Insure that requested medical supplies are passed into decontamination/ treatment room.

F. Decontaminate the patient and collect samples of the contaminant in accordance with Attachment E of this procedure.

G. Following decontamination and emergency treatment, direct the transfer of the patient from the REA to the appropriate section of the hospital for care or further treatment.

H. Remove protective clothing and dosimeters in accordance with directions contained in Attachment D of this manual.

E. PROCEDURE (Continued)

6. Control Point Attendant's (Nuclear Medicine Technician) Duties

Prior to Patient Arrival

A. Assure that the personnel entering the REA are wearing protective clothing, self-reading pocket dosimeters, film badges and ring TLDs.

B. Don protective clothing and dosimeters in accordance with directions contained in Attachment D of this manual.

C. Restrict access to only those personnel authorized entry by the attending physician or nursing service supervisor.

D. Maintain a record showing name and time of each person entering or exiting REA.

E. Record serial numbers of dosimeters, film badges and TLDs, as well as person's name (see Attachment J, Personnel Dosimetry Log).

Patient Arrival

A. Assure that no person or article is allowed to leave the REA (after the radioactively contaminated patient is admitted) until it has been monitored by River Bend Station personnel and found to be "clean", i.e., free of detectable radioactive contamination.

B. Record results of radiation surveys performed by plant radiation protection personnel on anatomical diagrams provided in the decontamination kits and Section J of this manual.

C. Record dosimeter readings and collect dosimetry from all individuals exiting the REA.

E. PROCEDURE (Continued)

7. Buffer Zone Nurse's Duties

Prior to Patient Arrival

A. Obtain medical supplies as requested by attending physician.

B. Don protective clothing and dosimeters in accordance with directions contained in Attachment D of this manual.

Patient Arrival

A. Pass medical supplies into treatment room as requested by attending physician. DO NOT ENTER TREATMENT ROOM UNLESS SPECIFICALLY REQUESTED TO DO SO BY ATTENDING PHYSICIAN.

B. Following emergency treatment and decontamination, prepare for removal of the patient from the REA.

(1) Roll white Herculite from Buffer Zone into Treatment Room.

(2) Wheel in a "clean" stretcher across the white pathway to the location immediately adjacent to the patient.

NOTE: It is important to remain on white Herculite while in REA to prevent cross-contamination.

(3) Assist in the transfer of the patient from the decontamination table top to the clean stretcher.

E. PROCEDURE (Continued)

8. Security's Duties

Prior to Patient Arrival

Remain outside of ambulance entrance to REA to direct ambulance to proper entrance.

Patient Arrival

A. Following ambulance arrival, erect radiation warning rope around ambulance.

B. Restrict unauthorized personnel from access to (enclosed) ambulance area.

C. Assure that ambulance remains at hospital until it has been monitored by River Bend Station personnel.

E. PROCEDURE (Continued)

9. Administration Duties

A. Assure that a responsible hospital representative is available to address any media concerns.

B. Assure that a representative from Gulf States Utilities Company is available to address any media concerns.

C. Provide support for additional personnel if required.

E. PROCEDURE (Continued)

10. Nuclear Medicine Department Personnel Duties

Perform duties outlined in E.11 (which follow) in absence of plant radiation protection technician #2.

E. PROCEDURE (Continued)

11. Plant Radiation Protection Technician's (RPT) Duties

Prior to Patient Arrival

A radiation protection technician (RPT #1) from the River Bend Station will accompany the patient(s) in the ambulance and bring appropriate instrumentation. If staffing permits, a second radiation protection technician (RPT #2) will arrive at the hospital in a separate vehicle and assist in the duties outlined below.

Patient Arrival

RPT #1

A. Provide advice and guidance to attending staff regarding radiation exposure and protective actions.
B. Don protective clothing and dosimeters as provided by hospital staff.
C. Perform frequent radiation surveys of patient and attendants.
D. Maintain contamination control to treatment area.
E. Provide advice and guidance to hospital staff regarding collection of samples and decontamination procedures in accordance with directions contained in Attachment E of this manual.
F. Decontaminate REA and equipment following patient and attendant exit.

RPT #2

A. Survey ambulance and attendants prior to departure. If contamination is found, ambulance should be returned to River Bend Station for decontamination.
B. Control patient and attendant exit procedures.
C. Perform radiation surveys of patients and attendants upon exit from the REA.
D. Collect dosimetry from personnel exiting the REA at termination of emergency and return to River Bend Station for processing.
E. Decontaminate REA and equipment following patient and attendant exit.

F. RETURN OF REA TO NORMAL USE

Once the patient has been decontaminated, the REA and all equipment will be surveyed, decontaminated as required and released as soon as possible by River Bend Station radiation protection personnel.

G. PATIENT TRANSFER TO DEFINITIVE CARE CENTER

1. If it is determined by the attending physician and Radiation Management Corporation that the patient should be transferred to a definitive care center for the evaluation, diagnosis and long-term care of the radiation injury, this patient can be transferred to RMC's definitive care center located at the Hospital of the University of Pennsylvania in Philadelphia or Northwestern Memorial Hospital in Chicago, Illinois.

2. Arrangements for transportation of the patient will be coordinated through Radiation Management Corporation (215) 243-2990 -- 24-hour emergency phone number.

H. PROCEDURE FOR HANDLING MULTIPLE VICTIMS

1. Multiple injuries occurring at River Bend Station 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. Upon notification from River Bend Station that there has been an accident involving more than one patient, complete the form seen under Attachment B, Data Information Sheet. In addition, inquire as to the extent of medical assistance available on-site. The Data Information Sheet should be given to the Emergency Room physician.

2. On-site medical personnel with the assistance of ambulance attendants should institute triage principles with primary attention to life-threatening injuries. The most seriously injured should receive priority evacuation. Minimum decontamination should include the removal of contaminated clothing. If time, availability of transportation and patients' medical condition warrant, further decontamination (e.g., bathing with soap and water) can be accomplished. Each contaminated patient sent to the hospital should be

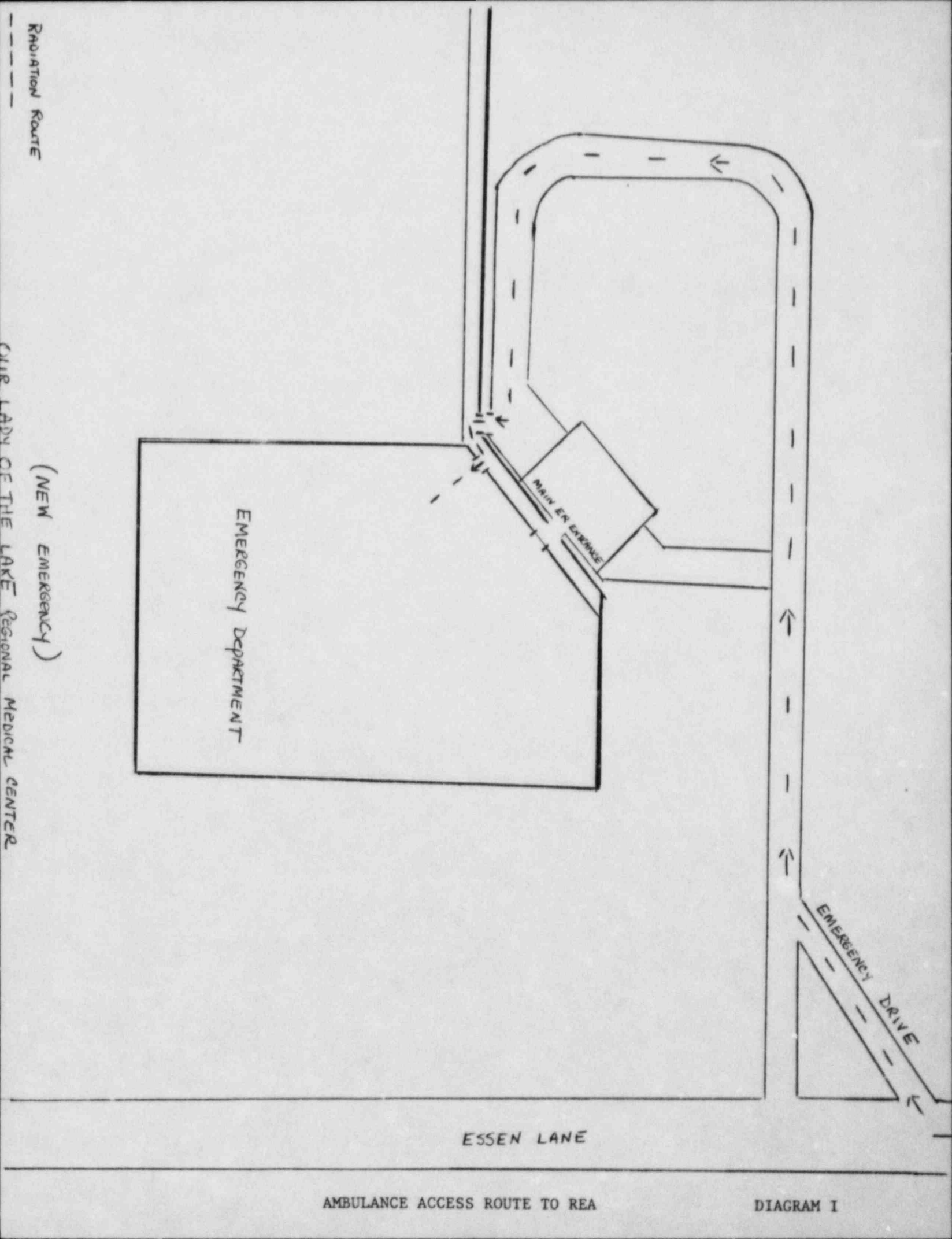
H. PROCEDURE FOR HANDLING MULTIPLE VICTIMS (Continued)

accompanied by a trained radiation technician. Less seriously injured victims should be completely decontaminated at the plant and be transported to the hospital in a "clean" ambulance to the normal emergency room entrance.

3. The medical triage team should dress in protective clothing (see Attachment D). The present REA should be set up and ready to receive multiple contaminated and injured patients.

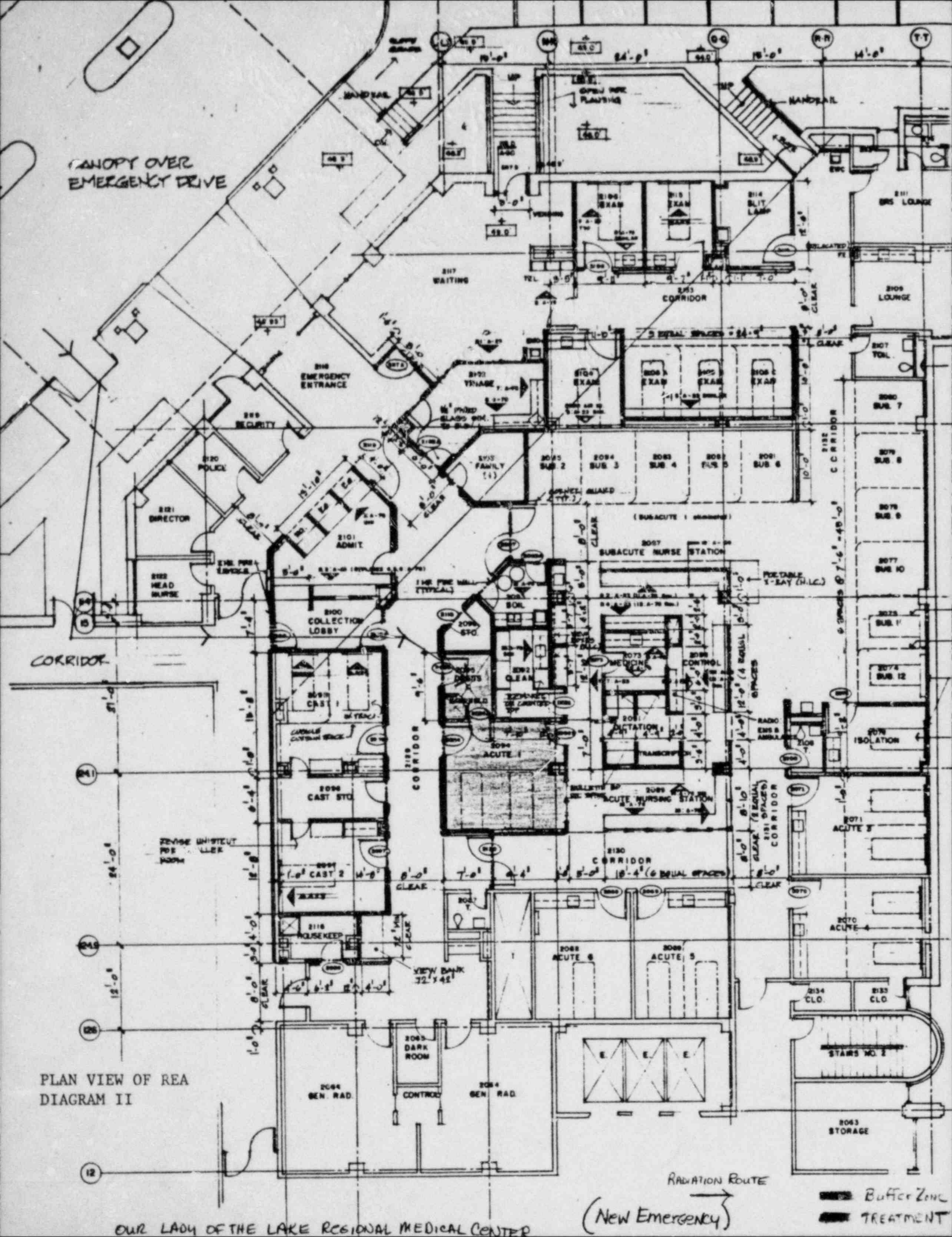
4. Upon arrival of the ambulance the triage team should have the most seriously injured and contaminated brought into the decontamination/ treatment room. The less seriously injured should remain in the ambulance. A decontamination team should be assigned to begin decontamination in the ambulance. Contaminated clothing can be removed and collected and contaminated areas can be wiped with a damp cloth. If decontamination cannot be completed, the areas should be covered with plastic or cloth.

5. After the patients have been treated and decontaminated, the REA should be closed off; River Bend Station personnel should survey and decontaminate hospital supplies, equipment, ambulances and the area prior to releasing it for routine usage.



AMBULANCE ACCESS ROUTE TO REA

DIAGRAM I


CANOPY OVER EMERGENCY DRIVE
CORRIDOR
PLAN VIEW OF REA DIAGRAM II
RADIATION ROUTE
(New Emergency)
BUFFER ZONE
TREATMENT
OUR LADY OF THE LAKE REGIONAL MEDICAL CENTER

ATTACHMENT A

QUICK SORT PROCEDURE FOR HANDLING ANY
RADIATION ACCIDENT VICTIM

ATTACHMENT A

Quick SORT Procedure for Handling Any
Radiation Accident Victim at the
Emergency Room Unloading Dock

1. Ascertain whether the patient is CONTAMINATED (Use GM Tube)
   A. If so ... Admit the patient to REA Ambulance Entrance when set up as Radiation Emergency Area (REA)
   B. If not ... Admit to normal Emergency Room
   C. If in doubt ... Admit patient to REA

2. Treat traumatic injury

3. If contaminated, decontaminate in REA

4. Call for assistance
   - Attending Staff, Emergency Room
   - Radiation Management Corporation (RMC)

PROCEDURE FOR ADMISSION OF UNANNOUNCED ACCIDENT VICTIM(S)
BY EMERGENCY ROOM PERSONNEL

Admission

Guidance is provided for the unannounced arrival of accident patients under two circumstances: (1) Emergency Room personnel become aware of the patient's status as a "radiation accident patient" before the patient has been removed from the ambulance; and (2) the patient has been brought into the Emergency Room before his status as a "radiation accident patient" has been determined.

Patient Still in Ambulance

If general medical condition warrants, sustain patient in ambulance, instruct driver, attendants, and Emergency Room personnel who have been in contact with the patient to stay in the vicinity of the ambulance (but not inside the ambulance).

Patient Still in Ambulance (Continued)

Clear an area of about 8 feet around ambulance and keep unnecessary personnel and vehicles away. Attend to patient's medical condition as required. Use surgical gloves and mask. If immediate life-saving measures are not necessary, observe patient from a distance. All equipment and supplies used to attend to patient MUST stay in vicinity of the ambulance. DO NOT carry anything back to the Emergency Room.

Immediately telephone Radiation Management Corporation to request assistance. Then:

- Request of Emergency Room staff that the Ambulance Entrance at the REA be set up as a Radiation Emergency Area;
- Clear every person out of REA before bringing patient in;
- Instruct driver to stay with ambulance until a radiation survey has been made;
- Bring necessary equipment and supplies to treat patient from Emergency Room to REA. All equipment, supplies and personnel entering REA MUST stay there until arrival of radiation monitoring personnel. Establish a guard at the door. Pass Emergency Room supplies and equipment into REA; but DO NOT allow personnel and equipment to come out; and
- Personnel attending patient in REA should stand next to patient, only as long as necessary to perform life-saving measures. At all other times, stand about five to eight feet back and observe patient;
- Only persons attending the patient should be in the room.

Radiation Status Discovered After Admission to Emergency Room

- Immediately secure the entire area through which the patient has passed or is located. Keep all personnel and equipment in the area. DO NOT allow anyone or anything to leave;
- Establish a control point through which necessary personnel and equipment pass into restricted area;
- Make arrangements to admit other patients to uninvolved area of Emergency Room through an alternate route.
- Attend to patient's emergency medical condition as required. Use surgical gloves, mask and gown when treating patient. If immediate life-saving measures are not necessary, observe the patient from a distance (five to eight feet). Immediately request assistance from Radiation Management Corporation or River Bend Station (see Telephone Directory, Attachment I).

ATTACHMENT B

TELEPHONE PROCEDURE FOR RADIATION ACCIDENT EMERGENCIES
CHARGE NURSE

ATTACHMENT B

DATA INFORMATION SHEET

The Charge Nurse should obtain the following information from the caller:

Date and Time of Call: _____

_____

Person Calling:

Name: _____

Address: _____

_____

Telephone Number: _____

Accident:

Location: _____

Date and Time: _____

Number of Patients: _____

_____

_____

Extent of Injuries: _____

_____

_____

Contamination Status: _____

_____

_____

Expected Time of Arrival: _____

_____

_____

ATTACHMENT C

EMERGENCY TREATMENT OF
RADIATION ACCIDENTS

ATTACHMENT C

EMERGENCY TREATMENT OF RADIATION ACCIDENTS

GENERAL

Emergency treatment of radiation accidents may have to be given before contact with or arrival of specialists having expertise in evaluation and management of these accidents. In this case the management of the patient should take place in the following order:

- Resuscitation and Stabilization
- Initial Decontamination
- Evaluation of Radiation Status
- Initial Treatment of Radiation Injury

RESUSCITATION AND STABILIZATION

Since radiation injury is not immediately life-threatening, primary attention should always be directed to traumatic life-threatening injuries -- maintenance of airway, arrest of bleeding, treatment of shock and control of pain.

DECONTAMINATION

Concomitantly with the procedure above, or as soon as possible, the patient should be decontaminated. In the initial decontamination .....

- Remove all clothing;
- Obtain samples of contamination (skin smears, tissue, fluids, etc.);
- Survey with a G-M tube and note levels of contamination on Patient Data Sheets. (see Attachment J);
- Remove obvious dirt and debris; bathe, if necessary while protecting wounds;
- Repeat surveying and sampling as necessary;
- Flush wounds with copious amounts of sterile water and/or saline;
- Flush orifices with water or saline. Do not allow patient to swallow;
- Stop with initial decontamination when activity levels are measured in the few thousand counts/minute
- See Attachment E for details on decontamination and sample taking.

EVALUATION OF RADIATION EXPOSURE STATUS

History:

When did the accident occur? _____

_____

_____

What was the source of the accident? _____

_____

_____

Type of radioisotopes involved? _____

_____

How long was the patient in the accident environment? _____

_____

Where was he in relation to radiation source? _____

_____

Was there airborne contamination? _____

Was the patient wearing breathing apparatus? _____

Was there surface contamination? _____

Any skin broken? _____

Was source in contact with body? _____

Was the patient wearing dosimeters? _____

Dose Evaluation: This will require the assistance of persons knowledgeable in radiation. This assistance cay be by someone on location or by telephone. In any case, gather as much of the following information as possible:

- Dose rate (gamma, x-ray, neutrons, etc.) as measured by instruments in accident environment;
- Radiation exposure reading on patient's and others' dosimeters (TLD, film badge, "pencil" dosimeter);
- Level of residual contaminant (beta, gamma) on patient using survey meter (mark area on Patient Data Sheets -- See Attachment J);
- Neutron exposure? Collect metal objects, hair or nails; and
- Calculation of dose to the patient and to attendants.

Clinical Picture: A good estimation of the severity of the patient's external, total body exposure can be obtained by observing the following clinical symptoms and signs:

- Nausea and vomiting ... ~100R*

  Beginning within 2 hours - >400R
  Beginning after 4 hours - <200R
  None within 24 hours - < 75R

- Erythema ... >300R (total body); >600R (surface contact)
- Diarrhea ... >400R
- CNS symptoms ... >2000R to the head
- Serial lymphocyte count within 48 hours ...

$1200/mm^3$	good prognosis
$300\text{-}1200/mm^3$	guarded prognosis
$300/mm^3$	poor prognosis

* Rems, air exposure

INITIAL TREATMENT OF RADIATION INJURY

Detailed Decontamination: It is particularly important at this stage to remove high level contamination caused by penetrating missiles or splinters in wounds.

Overexposure: Since overexposure to radiation results in a slowly unfolding course over a long period of time, there is little in the way of specific treatment in the initial stage of the disease. Treatment is symptomatic and consists of making the patient comfortable and allaying his fears. He may require antiemetics, fluids, sedatives, and analgesics. Order CBC with differential stat, at 4, 8 and 12 hours. Obtain blood sample (10 cc sterile heparinized blood) for chromosome analysis. Keep sample chilled in ice water.

Internal Contamination: Except in a few instances, there is also little to offer in the way of specific treatment in the initial stages. Generally, specific treatment to eliminate any absorbed radioactivity requires rather detailed and complex analyses, including bioassay of excreta and blood, and whole body counting. Begin 24-hour urine collections and 72 hour continuous fecal collections. Arrange for whole body count as soon as patient's condition warrants. Arrange for thyroid uptake study for I-131.

If it has been determined that an appreciable amount of radioactivity has been ingested (which is seldom the case), a stomach lavage, emetics ($ZnSO_4$) or cathartics (10% $MgSO_4$) may be indicated.

If it has been determined that the patient absorbed considerable amounts of ....

Tritium (^3H) ..... force fluids

Radioiodine ..... give Lugol's solution or other thyroid-blocking agent immediately (reduces thyroid uptake of I-131 by 50% if given within 4 hours post exposure; probably not effective after 12 hours)

PRINCIPLES OF RADIATION PROTECTION

Certain precautions to minimize exposure to attendants are necessary when dealing with a patient who has external contamination, specifically:

PRINCIPLES OF RADIATION PROTECTION (Continued)

- Always wear two sets of disposable gowns, plastic aprons, shoe covers:
- As few attendants as necessary should be in the same room with patient;
- Only in the performance of emergency treatment and initial decontamination should attendants be next to patients. At all other times, e.g., while evaluating the patient, attendants should stand at least five to eight feet from the patient and observe him from a distance.
- Rope off and control the area in which the patient is being treated. ALL persons, equipment and supplies that enter this area MUST stay there until Radiation Emergency Teams arrive to assist in the monitoring and decontamination of people and equipment;
- Suggested permissible levels of attendant exposure in the course of treating a patient are:

  to 5R ..... routine treatment and decontamination
  to 25R ..... emergency treatment and decontamination
  to 100R ..... lifesaving treatment and decontamination

To estimate attendant exposure, pass the probe of the G-M survey meter or ion chamber with the beta window closed 6" above the patient. If the reading is 5R/hour, an estimate of attendant exposure would be 5R; treatment should take one hour. Experience shows that it is extremely unlikely that an accident would be so severe that an attendant would receive an exposure of even 5R. In high radiation fields personnel may be rotated in order to minimize the exposure to any single individual. It is also suggested that anticipated exposures over 5R should be on a voluntary basis.

INITIAL BIOASSAY SAMPLES

Each of the following bioassay samples should be obtained as soon as possible and labeled with name, date, time and type of specimen. Avoid cross-contamination of samples from external sources of contamination or from other samples.

- Blood:
  (1) 10 cc for radiobioassay;
  (2) 10 cc (sterile heparinized) for chromosomes; keep samples chilled in a glass of ice;
  (3) 10 cc oxylated for hemogram and differential*
  (4) 10 cc for:
    (a) chemistries;
    (b) electrolytes

*differential - repeat t.i.d. for 3 days or more frequently if clinical condition warrants.

INITIAL BIOASSAY SAMPLES (Continued)

- Hair, nails, metals from neutron-exposed patient;
- Urine:
  - (1) first urine;
  - (2) 24 hour urine for several succeeding days
- Feces, total sample for several succeeding days
- Sputum;
- Vomitus;
- Tissue and tissue exudates (note location);
- Irrigation fluids (note location); and
- Filter paper or cotton smears of orifices, wounds, skin areas (note locations).

INITIAL BIOASSAY SAMPLES (Continued)

- Hair, nails, metals from neutron-exposed patient;
- Urine:
    (1) first urine;
    (2) 24 hour urine for several succeeding days
- Feces, total sample for several succeeding days
- Sputum;
- Vomitus;
- Tissue and tissue exudates (note location);
- Irrigation fluids (note location); and
- Filter paper or cotton smears of orifices, wounds, skin areas (note locations).

ATTACHMENT D

PROCEDURE FOR THE

USE OF PROTECTIVE CLOTHING AND DOSIMETERS

ATTACHMENT D

Procedure for the Use of Protective Clothing and Dosimeters

All work past the Control Point requires protective clothing, independent of the degree of contamination present on the patient or his clothing. Be sure all female attendants assigned to the REA are wearing scrub pants in addition to protective garb. All personnel should remove everything from the pockets of their uniforms or scrub clothing, in case this clothing must be discarded.

Each person entering the REA should don two surgical gowns, two sets of surgical gloves, and two vinyl aprons, mask, cap and shoe covers, as well as dosimetry (see Diagram III for donning protective clothing and proper placement of attendant dosimetry). After gross decontamination is completed, the outer surgical gown, gloves and apron are removed. Wound care and decontamination will then be attended to.

Removal of Contaminated Protective Clothing

Upon completion of their activities in the Radiation Emergency Treatment Room personnel will proceed to the Control Point between the Treatment Room and the Buffer Zone. They will remove their protective clothing and personnel dosimeter(s) in the following order:

(1) self-reading dosimeters (read and recorded by Control Point Attendant);
(2) headwear and mask;
(3) apron and gown (turning them inside-out);
(4) footwear and gloves (remove at Step-Off Pad).

Clearance Procedures

After having removed protective apparel, each person who occupied the Treatment Area will be monitored by River Bend radiation protection technician prior to leaving the Buffer Zone. If contamination is found, personnel will remain in the Buffer Zone, away from the normal exit.* River Bend Station radiation protection personnel will direct them through a decontamination process utilizing the water supply, soap and water collection system available in the treatment room. A final survey will be performed at the control point prior to entering the clean part of the hospital.
*If no contamination is found, personnel may proceed to the change area and put on their normal clothing.

Use of Dosimeters

Dosimeters will be supplied by the Control Point Attendant to all personnel entering the Radiation Emergency Area.

Use of Dosimeters (Continued)

Dosimeters are of three types:

(1) Direct reading dosimeters ("pen dosimeters") to monitor exposed dose on a continuing basis. These must be recharged to read "zero" before they are distributed to each attendee.

(2) Badge (TLD) dosimeters - to form a permanent record of exposure.

(3) Ring (TLD) dosimeters - to form a permanent record of finger exposure.

Dosimeters are to be worn in the following manner:

(1) At the neck line, clipped under the protective clothing;

(2) On the ring fingers of hands, under the gloves, with detecting element at palm surface.

Upon leaving the Radiation Emergency Area the wearer shall surrender his dosimeter to the Control Point attendant, who will record the reading and number of the pen dosimeter and retain the badge and ring dosimeters for later processing. The Control Point Attendant must assure that the records clearly show the serial number of each dosimeter and period of time worn by each individual who occupied the Radiation Emergency Area.

ATTENDANT GARB

DRESSING SEQUENCE

1. PROTECTIVE SHOE COVERS
2. RING TLD (RECORD ↵)
3. BADGE TLD (ON SHIRT POCKET • RECORD ↵)
4. 1ST GOWN
5. 1ST APRON
6. 1ST PAIR GLOVES (OVER 1ST GOWN CUFF)
7. 2ND GOWN
8. 2ND APRON
9. 2ND PAIR GLOVES (OVER 2ND GOWN CUFF)
10. CAP AND MASK
11. SELF READING DOSIMETER (ON 2ND GOWN • RECORD ↵ • 'ZERO')

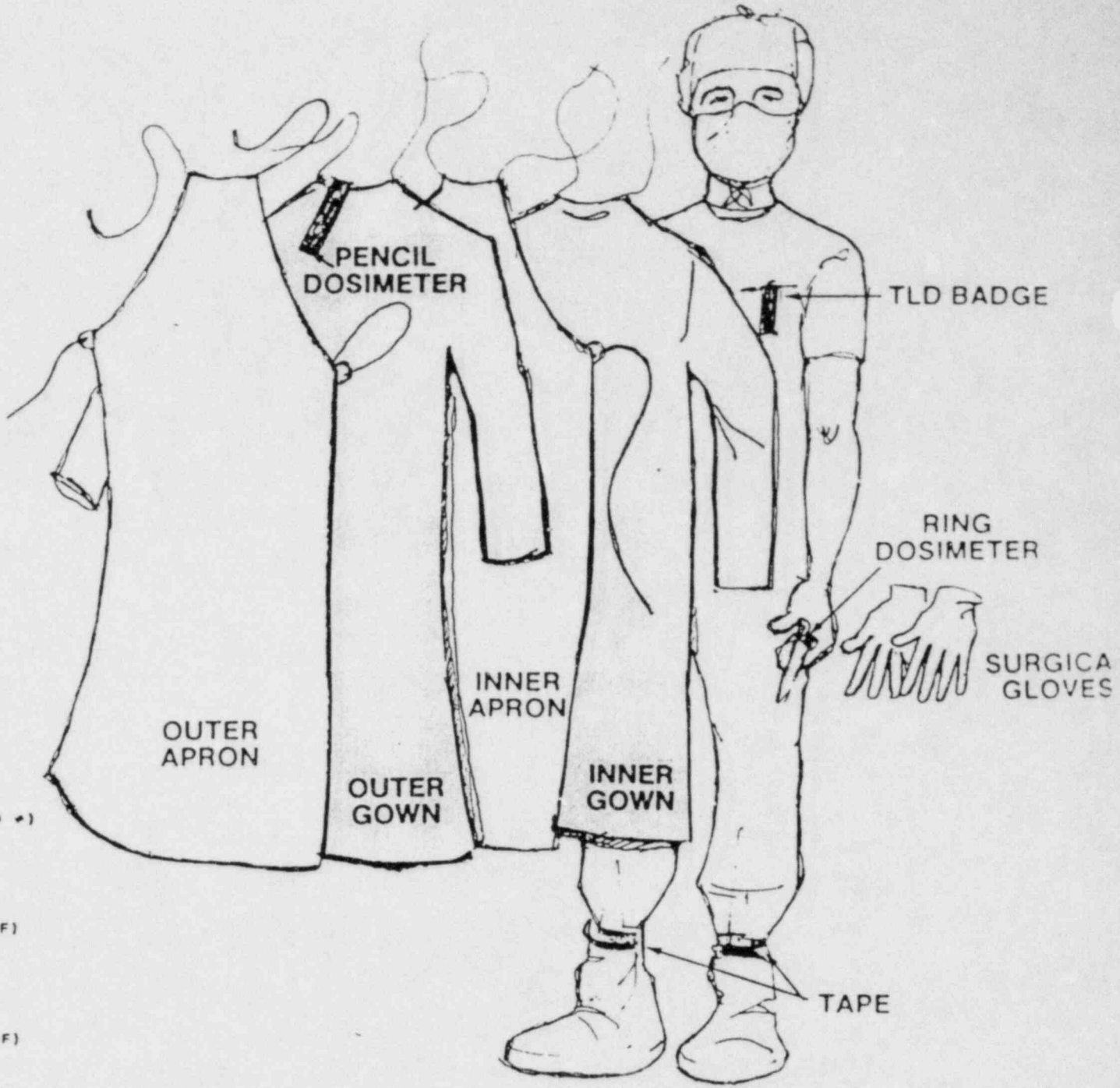


DIAGRAM III

ATTACHMENT E

PROCEDURE FOR

PATIENT DECONTAMINATION AND SAMPLE TAKING

ATTACHMENT E

General

These procedures cover the use of the Decontamination and Sample Taking Kits. The kits provide all the necessary items for the decontamination of a radioactively contaminated patient and the collection of specimens of this contamination.

The collection of specimens is a prerequisite for a thorough evaluation of the medical and radiation status of the patient. It should be performed in conjunction with patient decontamination.

Attachment F provides a parts list for each of the two kits. There is also a parts list in each kit. Following use, the lists should be consulted for replenishment. The intended use of several of the items is indicated on the parts list.

Patient Decontamination Procedures

Principles

The objectives of decontamination are:

1. to prevent injury caused by the presence of radioactive substances on the body;
2. to prevent the spread of contamination over and into the patient; and
3. to prevent attending personnel from becoming contaminated themselves or (in extreme cases) from being exposed to a source of radiation.

Although decontamination should be started as soon as possible, primary attention should be given to the alleviation of life-threatening conditions created by traumatic injury.

Decontamination is essentially the physical removal of radioactive dirt from the skin, wounds, or body orifices. Most decontaminants contain detergents or other chemical agents to facilitate this removal. Therefore most decontaminants are suitable for decontamination of the intact skin only, and are not appropriate for wound cleansing or irrigation of body orifices.

Decontamination is performed in the following manner:

1. from the highest level of contamination to the lowest;
2. starting with the simplest procedure (e.g., soap and water) to more complicated procedures;
3. with due regard to contamination of wounds, body orifices, etc. (see below for specific guidelines)

Patient Decontamination Procedures (Continued)

Usually, the effect of decontamination is greatest in the earliest stages, i.e., most of the radioactive material is removed during the first decontamination effort. Continued decontamination may show diminishing effectiveness. At some point a decision has to be made to either accept some residual contamination, or proceed with the use of more potent decontaminants (more specific guidelines are seen below).

Decontamination Procedures

In some cases decontamination may have been started before the patient arrives at Our Lady of the Lake Regional Medical Center. It can be expected that the residual contamination is minor and/or that serious contamination is localized, e.g., around and in a wound.

A. General

Two general rules apply to the performance of decontamination:

1. check the effectiveness of the technique applied by monitoring periodically; and
2. avoid the spread of radioactive materials from the area being decontaminated to areas of lesser contamination by covering the adjacent area.

Except when prohibitive degrees of contamination are present on/in any of the locations listed below, decontamination is performed in the following order:

1. high leve intact skin;
2. body orifices and adjacent skin;
3. wounds and adjacent skin;
4. low-level skin areas.

B. Steps To Be Taken For Decontamination and Sample Taking

1. judge whether the patient's medical condition requires immediate intervention; stabilize wound, if necessary, and redress for later decontamination;
2. obtain a briefing from the attending health physics personnel as to the contamination status of the patient, the exposure of the patient, and as to the specific measures to be taken by attending personnel with regard to their protection;

Decontamination Procedures (Continued)

B. Steps to be Taken for Decontamination and Sample Taking (Continued)

3. remove all clothing and monitor the patient with the radiation survey instrument by scanning the entire body (holding the probe about two inches from the skin), and record the findings on the Patient Data Sheets.

4. obtain patient samples in accordance with Procedures for Sample Taking, which follow. COLLECTION OF SAMPLES SHOULD BE PERFORMED PRIOR TO DECONTAMINATION.

5. perform a gross decontamination (see Decontamination of Skin and Body Orifices which follow);

6. clean up room and remove outer garments from attendants;

7. proceed with wound survey and decontamination (see Procedures for Decontamination of Wounds);

8. complete detailed decontamination of patient;

9. transfer patient to "clean" area of hospital. (see Diagram IV)

Waste material will be appropriately collected and returned to River Bend Station for disposal.

C. Decontamination of Skin

1. take smear sample of area (see "Sample Taking Techniques and Indications");

2. protect adjacent area if indicated by covering with towels;

3. cleanse skin area; wash thoroughly with Turco soap and tepid water, using either cotton balls, preop sponges or surgical brushes; cover area with a good lather; rinse off after two to three minutes with copious amounts of running water; monitor; record results;

4. if contamination persists, repeat step (3) once;

5. if contamination still persists, try gentle application of clorox or hydrogen peroxide. NOTE: Avoid any of these entering wound or body openings. Repeat a few times using new cotton balls; remove decontaminants with water; monitor; record results;

6. after complete decontamination, dry skin and apply Nivea cream to abraded or injured areas.

7. if residual contamination is present, consult with radiation specialists to decide whether further efforts are indicated; if it is decided to accept residual contamination, dry skin and apply colloidon, mark the area involved and record;

8. collect all materials used and place in separate labeled containers.

NOTE: In case of serious contamination around a wound, rapid removal of the bulk of radioactivity can be obtained by shaving. In case of serious contamination of hair or under nails, clip nails, remove hair and scrub thoroughly and repeatedly with intermittent surveying.

Decontamination Procedures (continued)

D. Decontamination of Body Orifices

1. take samples of activity in nostrils, ear canals, and other orifices as indicated (see "Sample Taking Techniques and Indications");
2. decontaminate area surrounding orifices;
3. gently clean orifices using wetted swabs;
4. if nose swab indicates significant radioactivity in nasal cavity, use nasal blows and nasal irrigation;
5. collect all materials used and label containers.

E. Decontamination of Wounds

1. use aperature drape to isolate the contaminated wound;
2. survey and take samples of wound (see "Procedures for Sample Taking");
3. decontaminate skin adjacent to wound;
4. depending on surface and depth of wound, irrigate wound with sterile saline, dab with guaze pads soaked in sterile saline to cleanse wound; collect all materials used and place in separate labeled containers;
5. remove obviously necrotic and devitalized tissue surgically; keep all tissue specimens removed;
6. repeatedly monitor wound; record results on patient record sheet;
7. if contamination persists, consult with RMC to determine further course of action;
8. if wound is clean, treat wound as necessary.

Procedures for Sample Taking

Principles

The objectives of collecting specimens from a radioactively contaminated patient are as follows:

1. to evaluate the amount and composition of the radioactive contaminants on and in the body;
2. to obtain data with regard to the patient's exposure to external radiation; and
3. to supply information on the biological injury inflicted by the radiation.

To meet these objectives, the following types of specimens are collected routinely:

1. materials containing the external contaminant (swabs, smears, tissue samples, contaminated cleansing fluids, etc.);
2. specimens containing internal contaminant (feces, urine, sputum, etc.);

CLEAN FLOOR COVERING
AS UTILIZED FOR PATIENT TRANSFER

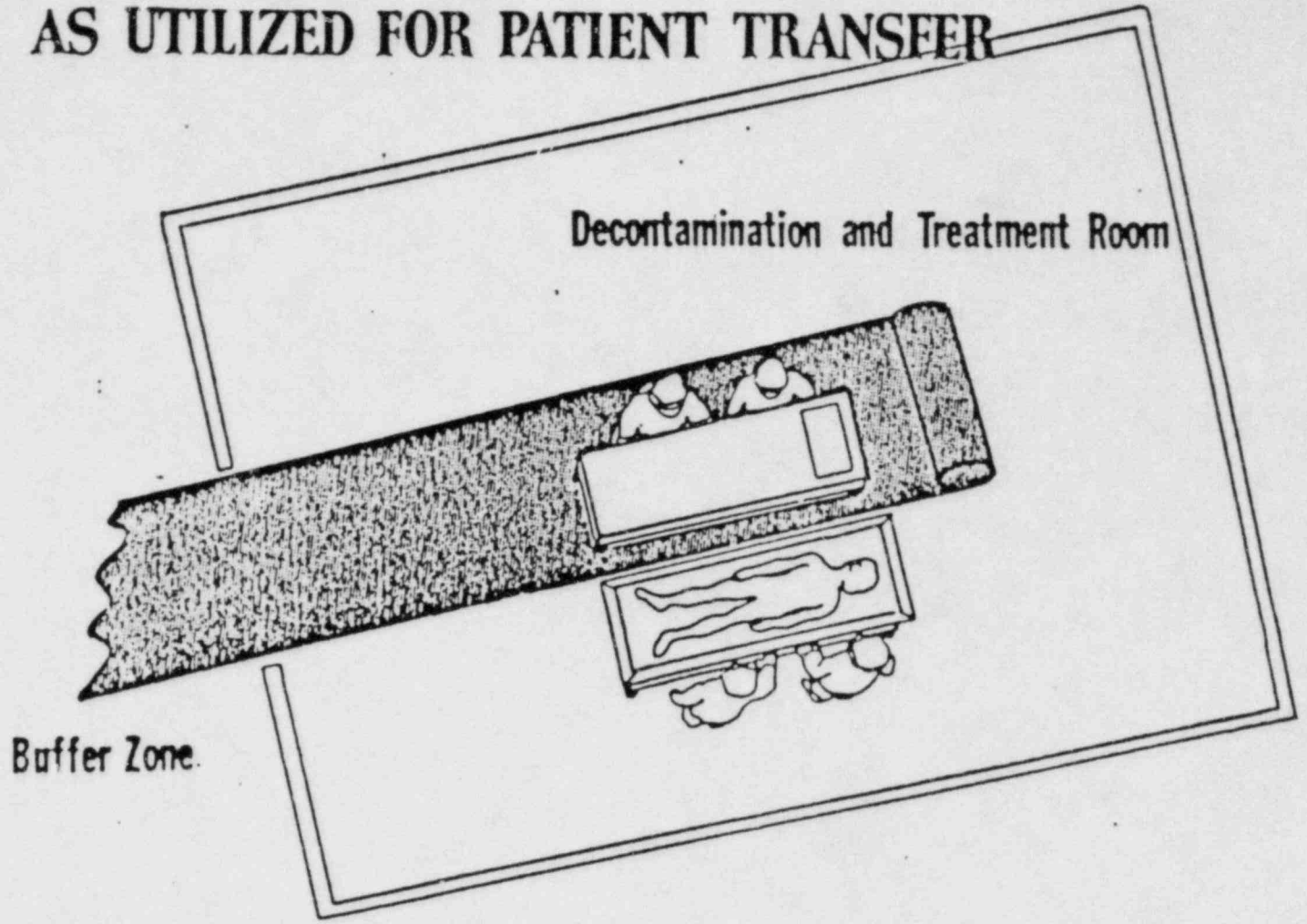


DIAGRAM IV

Procedures for Sample Taking (continued)

3. in case of neutron irradiation ... materials in which neutron induced radioactively may be present (gold rings, buttons, hair, nail clippings);
4. hematological specimens (whole blood in heparinized, oxalated, and uncoated tubes; blood smears).

As the analysis of radioactive samples with regard to their composition is only possible in samples with a relatively high radioactivity, care should be taken to collect and store these samples separately from the usually bulky samples with rather low radioactivity (such as cleansing fluids, drapes, towels, etc.).

A sample which is not identifiable as to its source (location, time taken) may be practically worthless; therefore, take care to properly collect, store, and mark all samples.

Sample Taking Techniques and Indications

External Contamination:

Before decontamination, the following samples shall be obtained:

1. Skin Smears: use Nucon smear pads, moisten with a few drops of water, and smear a skin area of about 100 cm^2 (4" X 4"), if possible, by allowing sticky side of the smear to adhere to gloves and rubbing the smear pad over the surface to be sampled; place smear on record paper, record location and time and area smeared, if other than 100 cm^2 and place in envelope. Alternatively, tape may be used to remove contaminants for later examination.
2. Take samples of nails, hair and collect metallic objects (rings, watches, glasses, belt buckles, etc.).
3. Wound Samples: 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 wounds with visible dirt or debris -- remove with cotton tip or use tweezers; transfer sample to small glass vial and label.

Internal Contamination:

1. Body Orifices: wet Q-tip with a few drops of water; swab, and store in waterproof envelope and label.
2. In all cases where internal contamination is expected: collect urine and feces in containers supplied, and record time of voiding.

Sample Taking Techniques and Indications (continued)

External Exposure:

In all cases where a total body exposure is suspected:

1. obtain 10 cc of oxalated blood for complete blood count and differential;
2. obtain 10 cc of sterile heparinized blood for chromosome analysis;
3. obtain 10 cc blood for electrolytes and chemistries.

Record time these samples were taken.

NOTE: Return bioassay samples to kit. With any specimens necessary to the emergency medical treatment of the patient which are obtained prior to completion of decontamination and are to be processed in the hospital laboratory, be sure to clean the outside of the specimen container (test tube, etc.) and have it surveyed before handing it out to the buffer zone attendant.

ATTACHMENT F

PARTS LIST FOR DECONTAMINATION AND SAMPLE TAKING KITS

ATTACHMENT F

DECONTAMINATION KIT

	Quantity
Skin Decontamination	
Absorbent Balls, extra large	1 box
Sponge-holding forceps	1
Plastic Beaker, large	2
Preop Sponges	6
Surgical Scrub brushes	10
Wash Bottle (for localized contamination)	1
Decontaminants (Skin Only)	
Turco decon soap, bottle (for first decon effort; general)	1
Clorox, bottle (for second decon effort)	1
Hydrogen Peroxide (H_2O_2), bottle* (for third decon effort)	1

*shelf life - three years

Wound Cleansing	
Gauze pads, sterile	50
Sterile Surgical Gloves, assorted sizes	8 pair
Solution bowl, plastic	1
Syringe, 50 cc	1
Cotton-tipped applicators	100
Aperature Drape	1
Decontaminants (Wounds)	
Saline Solution, normal*, sterile bottle	1
Betadine Surgical Scrub bottle	1
Treatment Agents	
Nivea cream, jar	1
Colloidon, bottle	1

*shelf life - two to three years

DECONTAMINATION KIT (continued)

	Quantity
Miscellaneous Materials	
Prep Kit	1
Scissors, heavy duty	1
Patient Radiation and Medical Status Anatomical Diagram	12
Plastic bags, assorted sizes (to hold decon materials after use)	8
Tissue paper, box	1
Notebook	1
Pencils	2
Finger-Nail Clippers	1

SAMPLE TAKING KIT

Sample Type	Sampling Instrument	Quantity
Nasal	swabs	4
Aural	swabs	4
Oral	swabs	4
Skin Folds	swabs	4
Swipes	swabs	4
Swipes	Nucon Smear	25 slots
Hair	small container	4
Nails	small container	4
Metallic Objects	medium container/ plastic bags	2 small 2 large
Blood	10 cc vacutainers	2 heparinized (green)
		1 oxalated (gray)
		1 sterile (red)
Urine (24 hour)	2000 cc plastic container	1
Feces	fecal container	2
Wound Exudate	swabs	4
	eyedropper & bottle	2
Tissue	containers	2 small 2 medium
Vomitus	fecal container	2
Irrigation fluids	100 cc plastic bottle	2

ATTACHMENT F (Continued)

SAMPLE TAKING KIT (continued)

Miscellaneous Items	Quantity
Envelopes	10
Labels	50
Pens	1 grease 1 writing
Scissors	1
Tweezers	1
Clippers	1

ATTACHMENT G

REA STORED SUPPLIES & EQUIPMENT

ATTACHMENT G

REA STORED SUPPLIES & EQUIPMENT

To be completed following procurement of equipment and supplies.

ATTACHMENT H

RADIATION EMERGENCY TELEPHONE DIRECTORY

(LATER)

ATTACHMENT I

LOCATION OF MANUALS

ATTACHMENT I

LOCATION OF MANUALS

Copy Number	Location
	Radiation Management Corporation
1	Philadelphia Office
	Our Lady of the Lake Regional Medical Ctr.
2	Emergency Care Unit
3	Head Nurse, Emergency Care Unit
4	Radiation Control Officer
5	Administration
6	Nursing Service
7	Education Department
8	Maintenance
9	Housekeeping
10	Security
11	Nuclear Medicine
12	Emergency Care Physicians
	River Bend Station
13	Emergency Operations Facility
14	Radiation Protection
15	Control Room
16	Technical Support Center

ATTACHMENT J

PERSONNEL DOSIMETRY LOG

AND

PATIENT DATA SHEETS

PERSONNEL DOSIMETRY LOG

NAME/SOC. SEC. #	DATE/TIME ISSUED	RING TLD #	POCKET TLD #	PEN DOSIMETER #	READING PEN DOSIMETER		REMARKS
					Initial	Final	

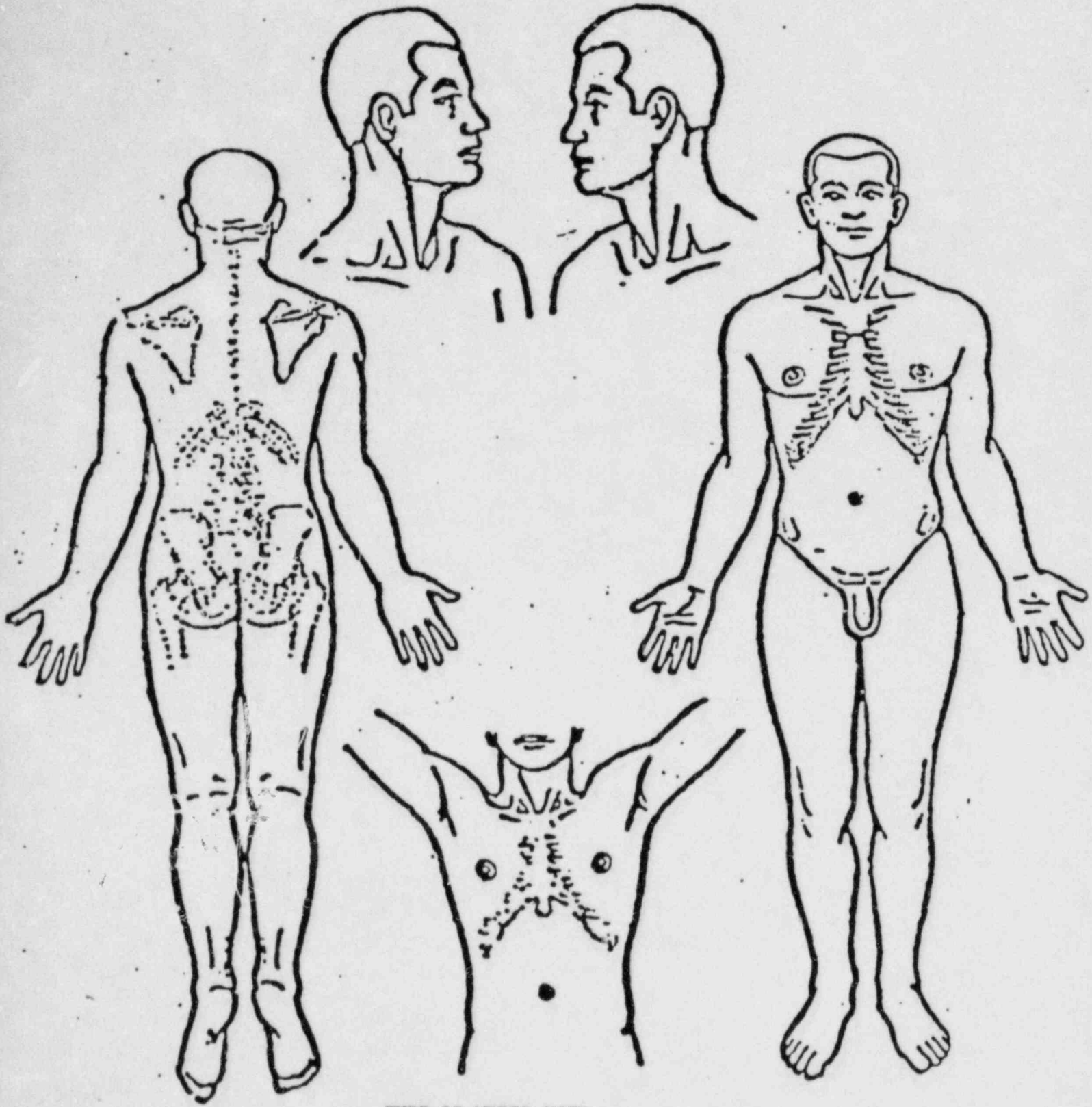
Signature
(CONTROL POINT ATTENDANT)

SURVEY # _____

TIME _____

INDICATE CONTAMINATED AREAS AS TO LOCATION, DEGREE OF CONTAMINATION, DECON EFFORT

INDICATE LOCATION OF WOUNDS



TYPE OF METER USED: _____

(model and number)

DISTANCE SKIN TO PROBE: _____ inches

QUESTION 810.24

Provide, as a separate package in draft format, the public information documents that will be used to educate the public. (G 2)

RESPONSE

The public information brochure is under development, and a draft will be submitted for review by ~~January~~ August 31, 1984.