TITLE: IMMEDIATE ACTION - PERSONNEL INJURY

RESPONSIBLE INDIVIDUAL: SHIFT SUPERVISOR (SS)
SITE EMERGENCY COORDINATOR (SEC)
RADIATION PROTECTION DIRECTOR (RPD)

SS/SEC/RPD

1.0 For determining the need for activation of the First Aid Team, use the following questions as guidance:

1.1 If the answer to any of the following questions is yes, continue with Step 2.0.

Is the victim unconscious?	YES / NO
Is the victim in obvious respiratory distress?	YES / NO
Is the victim bleeding profusely?	YES / NO
Does the victim have broken bones?	YES / NO
Is the victim incoherent or unresponsive?	YES / NO
Is the victim immobile?	YES / NO

If all answers were no, determine why the victim is in need of medical assistance. Use good judgment in any determination resulting in no medical assistance to the victim.

- NOTE -

IF THERE IS ANY DOUBT AS TO WHETHER OR NOT THE VICTIM REQUIRES MEDICAL ASSISTANCE, CONTINUE WITH STEP 2.0.

SS/SEC

2.0 If the First Aid Team is needed to provide assistance.

Sound a 5 second burst of the emergency alarm.

Notify all personnel over PA System:

If a drill, state "THIS IS A DRILL."

a. "A PERSONNEL INJURY EXISTS."

b. "FIRST AID TEAM REPORT TO (Location of Accident)."

If a drill, state "THIS IS A DRILL."

Repeat this step again.

Emergency Alarm Sounded and Message Announced and repeated: _____ / _____
Initials Time

3.0 Establish communications with the First Aid Team at the scene of the accident.

- NOTE -

In absence of the First Aid Team Leader (FATL), a First Aid Team member will assume the FATL immediate action responsibilities.

SS/SEC/RPD

4.0 Record the nature and extent of injuries, as follows:

Number of individuals _____

Whether or not radioactively contaminated (externally). _____

Extent of injuries, if known. _____

Medical Doctor's Assistance Required:

Yes ( ) No ( )

_____ / _____
Initials Time

Emergency Transportation to Hospital Required:

Yes ( ) No ( )

_____ / _____
Initials Time

SS/SEC (SEC MAY DELEGATE RESPONSIBILITY FOR STEP 5.0)

5.0 Call for ambulance if needed (911). If necessary, request Medevac helicopter.

_____ / _____
Initials Time

5.1 If the patient cannot be moved, contact the Calvert Cliffs Physician Assistant and local rescue service for onsite rescue assistance (535-1400 or 911).

Physician Assistance Contacted: _____ / _____
Initials Time

6.0 IF HOSPITAL ASSISTANCE IS NOT REQUIRED, CONTINUE WITH SECTION 8.0

6.1 If the FATL is at the accident scene or otherwise unavailable, the SS, SEC, RPD, or an Emergency Communicator should make an ALERTING telephone call to Calvert Memorial Hospital (535-4000) and relay the information above.

(OBSERVE NOTE ON FOLLOWING PAGE)

- NOTE -

Stress to Calvert Memorial Hospital whether THERE IS EXTERNAL RADIOACTIVE CONTAMINATION OR THERE IS NO EXTERNAL RADIOACTIVE CONTAMINATION involved.

7.0 Complete the actions under Step 7.1 if NO External Radioactive Contamination is present with injuries OR complete the actions under Step 7.2 if External Radioactive Contamination IS present with injuries.

7.1 Personnel Injury With No External Radioactive Contamination

7.1.1 Notify Security that rescue service personnel and vehicle will require immediate entry into Protected Area and should be directed to (location of injury).

Security Notified: _____ / _____
Initials Time

7.1.2 Call BG&E Medical Department or Medical Director giving details and treatment given thus far (Phone No's. in Appendix A.4).

- NOTE -

If extent of treatment or injury is unclear, consult with the FATL.

BG&E Medical Department Called: _____ / _____
Initials Time

7.1.3 If the FATL is detained at the accident scene, make "NOTIFICATION" call to Calvert Memorial Hospital that injured personnel are being transported to Calvert Memorial Hospital (535-4000). Stress that NO contamination is involved.

Calvert Memorial Hospital Notified: _____ / _____
Initials Time

7.2 Personnel Injury With Radioactive Contamination

7.2.1 Unless there is a minor injury with easily removed contamination, notify BG&E Medical Department or Medical Director immediately (Phone No's. in Appendix A.4).

- NOTE -

If extent of treatment or injury is unclear, consult with the FATL.

BG&E Medical Department Notified: _____ / _____
Initials Time

7.2.2 If it will not compound injuries, direct the transfer of the patient to the Controlled Area Medical Treatment Room (or Farm Demo Building, if necessary), and decontaminate in accordance with standard plant practices (Check as appropriate).
Patient Decontamination Ordered ( )
Patient Decontamination Deferred ( )

_____ / _____
Initials Time

7.2.3 Direct FATL to consult with contracted physician if injury is serious. (Phone No's. Appendix A.4).
Consultation With Physician Directed:

_____ / _____
Initials Time

7.2.4 If the FATL is detained at the accident scene, make "NOTIFICATION" call to Calvert Memorial Hospital that injured personnel are being transported. Stress that External Radioactive contamination IS involved (535-4000).
Calvert Memorial Hospital Notified:

_____ / _____
Initials Time

7.2.5 Notify Security that rescue service personnel and vehicle will require immediate entry into protected area and should be directed to (location of injury).
Security Notified:

_____ / _____
Initials Time

7.2.6 Notify the contracted consulting physician-on-call (Phone No's. in Appendix A.4) that patient is being sent to Calvert Memorial Hospital Radiation Emergency Area.
Physician Notified:

_____ / _____
Initials Time

7.2.7 Direct the FATL to assist rescue squad personnel while onsite and to dispatch an FAT member, equipped with an Ambulance Kit from the Controlled Area Medical Treatment Room, to accompany patient to hospital.
FATL Directed:

_____ / _____
Initials Time

8.0 Secure from "PERSONNEL INJURY" condition.
Secured:

_____ / _____
Initials Time

9.0 Direct FATL to restore emergency First Aid equipment to original emergency preparedness condition (equipment and supplies replenished and restored to proper location).

FATL Directed: _____ / _____

Initials Time

10.0 Forward this checklist and all records associated with this emergency to the Supervisor-Emergency Planning.

ERPIP 3.5 REVIEW/APPROVAL

REVISION	CHANGE	REVIEWER SIG/ DATE	SUPERVISOR EPU SIG/DATE	POSRC MTG	PLANT SUPERINTENDENT /DATE
9	—	C.L. Rayburn 01/06/83	J. Morris 1-10-83	83-04	R.S. Russell 1/10/83

CALVERT CLIFFS NUCLEAR POWER PLANT
EMERGENCY RESPONSE PLAN
IMPLEMENTATION PROCEDURES

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TITLE: FIRST AID TEAM LEADER CHECKLIST

1.0 RESPONSIBLE INDIVIDUAL

The First Aid Team Leader (FATL) is responsible to the Radiation Protection Director (RPD) or, in the absence of the RPD, the Site Emergency Coordinator (SEC) for directing the First Aid Team members in evaluating personnel accidents, performance of first aid procedures, triage of injured/irradiated personnel, recommending subsequent actions to the RPD or, in the absence of the RPD, SEC, and transportation of injured personnel as directed by the SEC.

In the absence of a FATL, a First Aid Team member will carry out the job functions of the FATL. The SEC may require the FATL to make notification calls referenced in this procedure.

2.0 CONDITIONS AND PREREQUISITES

2.1 A PERSONNEL INJURY has been announced.

2.2 Actions listed in Section 3.0 are to be performed as required by prevailing conditions or by the RPD.

3.0 ACTIONS AND LIMITATIONS

(In Operational Support Center or at scene of accidents, as appropriate)

- NOTE -

Checklists are to be used as determined by the FATL. Spaces for initials and times are to be utilized, as necessary, to clarify the status.

3.1 Onsite Actions

3.1.1 Ensure that team members are notified in accordance with ERPIPs 3.1 and 3.5.

Members Properly Notified: _____ / _____
Initials Time

3.1.2 Assemble First Aid Team members in designated Assembly Area. Report accountability and availability of team to the RPD.

Reported: _____ / _____
Initials Time

3.1.3 If injury occurred in very high radiation level area, or if potential exists, brief First Aid Team members on emergency exposure criteria per ERPIP 4.6.1.

Briefed: _____/_____
Initials Time

3.1.4 Direct First Aid Team member(s) to scene of accident to perform necessary actions per ERPIP 4.6.2.

First Aid Team Directed: _____/_____
Initials Time

- NOTE -

F/A bag, dose rate meter, stretcher, blankets, and other necessary equipment should be obtained by team member enroute to scene. If team member responding is unable to obtain necessary equipment, it should be transported to the scene as soon as possible.

3.1.5 Ensure each Team member is equipped with proper protective clothing and equipment as appropriate.

First Aid Team Properly Equipped: _____/_____
Initials Time

- CAUTION -

DONNING OF PROTECTIVE CLOTHING AND EQUIPMENT SHOULD NOT INTERFERE WITH IMMEDIATE LIFESAVING FIRST AID EFFORTS BY FIRST REPORTING TEAM MEMBERS. PROPERLY EQUIPPED TEAM MEMBERS WHEN AVAILABLE SHOULD RELIEVE FIRST REPORTING TEAM MEMBERS AS SOON AS POSSIBLE.

3.1.6 Increase the number of (qualified) participating First Aid personnel as necessary to control the accident.

3.1.7 Have a rapid assessment of the radiological hazards in the area performed and determine the need to remove injured to a lower exposure rate area.

- NOTE -

If an injury is severe, immediate lifesaving F/A is the highest priority and radiological conditions are considered secondary unless acute radiation hazard for casualty far exceeds injury hazard and if rescue

personnel would exceed preplanned emergency exposure levels for lifesaving purposes (e.g., 1200 R/h for aid results in a stay time of 5 minutes).

Radiological status: Exposure rates _____ R/h .

Contamination present (circle one): Yes No

3.1.8 Ensure communications have been established and constantly maintained (if possible) between the scene of the accident and the RPD.

Evaluate the nature and extent of injuries, report to the RPD by page and record the following:

(1) Injury Data

	Name	Type & Extent of Injuries	Reported by/Time
1.			
2.			
3.			
4.			
5.			

(2) OSC notified: _____ / _____
Initials Time

(3) Record request of assistance or supplies:

_____

_____

_____

_____

1.9 Determine need for medical or emergency transportation (see Section 4.2, Notification).

Medical Assistance Required (circle one): Yes No

Emergency transportation Required (circle one): Yes No

If use of a helicopter is necessary, call 911 and request the Medevac helicopter.

3.1.10 Ensure that injured personnel who are contaminated have loose contamination removed without aggravating injuries.

Completed: _____/_____
Initials Time

- NOTE -

Except for severe injuries requiring immediate medical treatment, injured personnel should be transported to the Controlled Area Medical Treatment Room (or Farm Demo Building, if necessary) for definitive decontamination prior to transport to CMH.

3.1.11 If need for hospital assistance is probable, report to OSC or Control Room, make an Alerting call to the Calvert Memorial Hospital, have contracted consulting physician on-call alerted, and provide the following information if available:

- NOTE -

If the FATL cannot leave the accident scene, contact the Control Room and have the SS, SEC, RPD, or an Emergency Communicator make the Alerting phone call.

(1) Number of individuals injured. _____

(2) Whether or not radioactively contaminated (if not, stress to CMH that there is NO radioactive contamination involved). _____

(3) Extent of injury, if known. _____

Alerting Call Made to CMH: _____/_____
Initials Time

3.1.12 If internal contamination exists or is probable, commence collecting Bioassay samples in accordance with standard plant practices.

Bioassay sampling required (circle one): Yes No

Bioassay samples collected (circle one): Yes No

3.1.13 Have the RPD, SS, or SEC arrange for transportation of seriously injured personnel (see ERPIP 3.5 Personnel Injury).

Transportation arranged: _____/_____
Initials Time

3.1.14 Assign a team member to accompany injured person to Calvert Memorial Hospital (see ERPIP 4.6.2 & 4.5.3).

Team member assigned: _____/_____
Initials Time

3.1.15 Have First Aid Team member or a Health Physics Technician report to hospital Radiation Emergency Area (REA) to perform duties per ERPIP 4.6.3 to advise as to contamination control and perform radiation safety coverage for the REA.

- NOTE -

Attending physician at hospital will be in-charge. Instruct team member he is to assist only until relieved by a Plant Health Physicist.

3.1.16 Make "Notification" call to Calvert Memorial Hospital just prior to transporting the injured personnel.

Provide the following information:

(1) Number of injured being transported to CMH_____

(2) Extent of injuries_____

(3) Whether or not radioactively contaminated_____

(4) Expected time of arrival at CMH_____

(5) Special equipment required by hospital personnel, if so, specify_____

(6) BG&E Medical Department notified (circle one): Yes No

Phone numbers in Appendix A.4.

Notification call made: _____/_____
Initials Time

3.1.17 Have RPD notify Plant Health Physicist.

NOTIFICATION CALL MADE: _____/_____
Initials Time

3.1.18 Ensure team member assigned to accompany ambulance or other vehicle:

(1) Has Ambulance kit.

(2) Completed EXHIBIT 4.6.2-A, PATIENT RADIATION & MEDICAL STATUS FORM and 4.6.2-B, BODY WOUND & CONTAMINATION FORM.

(3) Directs driver to:

Emergency Room _____

Radiation Emergency Area _____

ERPIP 4.1.12 REVIEW/APPROVAL

REVISION	CHANGE	REVIEWER SIG/ DATE	SUPERVISOR EPU SIG/DATE	POSRC MTG	PLANT SUPERINTENDENT /DATE
9	—	C.L. Rayburn 01-06-83	J. Moreira 1-10-83	83-04	R B Russell 1/10/83

CALVERT CLIFFS NUCLEAR POWER PLANT
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TITLE: COMMUNICATIONS

1.0 Equipment Priorities
Communications shall be made using the following priority sequence:

1. Telephone; Baltimore exchange: 8-dial tone, 9-dial tone, number

2. Telephone; Annapolis exchange: 7-dial tone, number

3. Telephone; Local exchange: 9-dial tone, number

4. Telephone; Company operator: 8-dial tone, 0, operator will assist

5. Radiotelephone: _____, frequency _____ MHZ(Prince Frederick)

_____, frequency _____ MHZ(Load Dispatcher)

2.0 Document communications on Emergency Message Form, Attachment 3

ATTACHMENT 1

FOLLOW-UP COMMUNICATINS

SHORTFORM

Notify offiste agencies of items 1 through 8 sequentially. If plume is headed easterly notify DOR EOC after CC EOC.

1. This is/is not an exercise (circle one).
2. Name of Caller: _____
3. Location of Incident: Calvert Cliffs
4. Class of Emergency Classification (check one):
   ( ) Unusual Event ( ) Alert
   ( ) Site Emergency ( ) General Emergency
5. Date/Time Declared: ____/____
6. Affected Unit (check one) ( ) One ( ) Two ( ) Common Systems
7. Narrative (be concise; DO NOT use accronyms; Use space provided only):

_____

_____

_____

_____

8. This is/is not an exercise (circle one) _____/_____/_____

Site Emergency Coordinator
Signature Date Time

. . . . . .

Call to:	Date	Time	Call Received By	Contact Method
CC EOC	____	____	_____	( ) Dedicated Phone
ST. M EOC	____	____	_____	( ) Radiotelephone .Mhz (call sign WXD211 or KXE 463)
DOR EOC	____	____	_____	( ) Other (specify) _____
MD EOC	____	____	_____	_____
DRC	____	____	_____	_____
	DRC contact during non-work hours is possible only if Accident Assessment Center is manned.			
NRC	____	____	_____	_____
ANI (203) 677-7305	____	____	_____	_____
OTHERS	____	____	_____	_____
(specify)	____	____	_____	_____

ATTACHMENT 2

FOLLOW-UP COMMUNICATIONS

LONGFORM

Notify offsite agencies of items 1 through 19 sequentially. If plume is headed easterly notify DOR EOC after CC EOC.

Call to:	Date	Time	Call Received By	Contact Method for EOCs
CC EOC	_____	_____	_____	( ) Dedicated Phone
ST. M EOC	_____	_____	_____	( ) Radiotelephone Mhz (call sign)
DOR EOC	_____	_____	_____	( ) Other (specify) _____
MD EOC	_____	_____	_____	_____
DRC	_____	_____	_____	_____

DRC contact during non-work hours is possible only if Accident Assessment Center is manned.

NRC ANI (203) 677-7305	_____	_____	_____	_____	_____
OTHERS (specify)	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____

1. This is (is not) an exercise (circle one).
2. Name of Caller: _____
3. Location of Incident: Calvert Cliffs
4. Emergency Classificaton
   (check one): ( ) Unusual Event ( ) Alert
   ( ) Site Emergency ( ) General Emergency
5. Date/Time Declared: _____ / _____
6. Affected Unit (check one) ( ) One ( ) Two ( ) Common Systems
7. Nature of Incident (EAL,etc): _____

*8. Reactor/Plant Status (check):

( ) Has Not Tripped ( ) Has Tripped ( ) Hot Standby
( ) Hot Shutdown ( ) Cooling Down ( ) Cold Shutdown

*9. Emergency Safeguards System actuated: (e.g., SIAS, CIS, etc.)_____

*10. Response Actions underway:_____

*11. Off-Site Power (check one): Is Available ( ) Is Not Available ( )

*12. Status of Emergency Power Diesel Generators:

Diesel-Generator	Operable	Non-Operable
#11	( )	( )
#12	( )	( )
#21	( )	( )

13. Personnel Status (Injuries/Contamination):

Name	Status	Extent/Levels of Exposure or Contamination

14. Radioactivity (check one): ( ) Has Not Been Released ( ) Is Being Released
( ) Has Been Released ( ) In the Plant ( ) From the Plant

*Data Required by DRC for Release Calculations

Type of actual or potential release:

*A. Airborne:

Noble Gases, Composite (Xe,Kr)_____ Ci/s
Iodines (I-131 equivalent)_____ Ci/s
Particulates_____ Ci/s
Others_____ Ci/s
_____ Ci/s

1) Time of Reactor Shutdown: _____ Date: _____
2) Time released to containment building: _____
3) Time released from Plant: _____
4) Wind Speed: _____mi/h; _____m/s
5) Wind direction (from): _____°, (to): _____°
6) Plume centerline X/Q at _____ miles: _____s/m^3
7) Estimated duration of release: _____h.
8) Atmospheric Stability Class: A B C D E F G (circle one)
9) Form of precipitation (if any): _____; Location: _____

Impact Times:

Sector	Zone	Impact Times/Date
_____	_____	_____/_____
_____	_____	_____/_____
_____	_____	_____/_____

*B. Surface Spill: V= _____ gal.,
A= _____uCi/cm^3

Spill (circle one): Inplant Outside plant

Release Rate: _____ Ci/s

Date/Time (h) occurred: _____/_____

*C. Waterborne: _____gal.; _____uCi/cm^3

Date/Time (h) occurred: _____/_____

14. Measured or (projected) Exposure Rates and Integrated Dose: (circle one)

Location	Sector/Zone	Exposure Rate (R/h)	Exposure Rate W.B.	Dose (rem) Thyroid Adult	Dose (rem) Thyroid Child	Date/Time (h)
Site Boundary						
2 miles						
5 miles						
10 miles						

15. Estimated Surface Contamination:

Sector/Zone	General Area dpm/100 cm^2	Hot Spots dpm/100 cm^2	Time (h)/Date

16. Offsite Emergency Response Actions Underway:

_____

_____

_____

17. Recommended Protective Actions:

Sector	Zone	Action	Date/Time (h)

18. On-Site Assistance: Required Not Required Request Standby

Personnel: _____

Supplies: _____

Equipment: _____

19. Prognosis of Incident (circle one): Worsening Terminating Improving No Change

_____

Site Emergency Coordinator

Signature Date Time

NO:_____

Attachment 3

EMERGENCY MESSAGE FORM

DATE: ___/___/___
TIME: _____

FROM:	TO:
( ) SEC	( ) SEC
( ) RAD	( ) RAD
( ) TSC	( ) TSC
( ) RPD	( ) RPD
( ) CR	( ) CR-
( ) PS	( ) PS
( ) OSC	( ) OSC
( ) _____	( ) _____

(Distribute copies of this form to Personnel checked. Maintain white copy for file.)

MESSAGE: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____
Communicator Signature

ERPIP 4.2 REVIEW/APPROVAL

REVISION	CHANGE	REVIEWER SIG/ DATE	SUPERVISOR EPU SIG/DATE	POSRC MTG	PLANT SUPERINTENDENT /DATE
8	1	[signature] 11-30-82	[signature]	82-107	J R Russell 12/4/82
8	2	[signature] 12-17-82	[signature]	82-113	[signature]
9	–	[signature] 12-29-82	[signature]	83-03	J R Russell 1/7/83

CALVERT CLIFFS NUCLEAR POWER PLANT
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TITLE: FIRST AID AND MEDICAL CARE

1.0 RESPONSIBLE INDIVIDUAL

First Aid Team members are responsible to the Team Leader to ensure that prompt and effective first aid and medical care is administered when required. | ch.1

2.0 CONDITIONS AND PREREQUISITES

2.1 PERSONNEL INJURY has been announced.

2.2 As directed by the FATL, RPD, SEC or SS. | ch.1

3.0 ACTIONS AND LIMITATIONS

Upon notification of the location of the emergency, perform the following actions:

3.1 Proceed to the scene of the casualty; while en route, obtain F/A bag, dose rate instrument, stretcher and blanket.

- NOTE -

Request Control Room to send needed equipment to scene if equipment is not readily available en route.

3.2 Perform a quick assessment of the radiological hazards in the area.

3.3 Determine extent and circumstances of the injuries.

- CAUTION -

EXERCISE CARE NOT TO AGGRAVATE ANY INJURY.

3.4 Perform an analysis (Triage) of radiological hazard and injuries to determine when removal of injured personnel to a lower radiation exposure rate area is necessary.

- CAUTION -

IF AN INJURY IS SEVERE, RADIOLOGICAL CONDITIONS ARE CONSIDERED SECONDARY TO IMMEDIATE MEDICAL TREATMENT UNLESS ACUTE RADIATION HAZARD FOR CASUALTY EXCEEDS INJURY HAZARD. FOR LIFESAVING PURPOSES, 5 MINUTES IS THE MAXIMUM EXPOSURE TIME OF 1200 R/h.

3.5 Administer first aid as necessary to ensure breathing and stoppage of

excessive bleeding and record first aid steps taken:

_____

_____

_____

_____

_____

_____

_____

_____ /

Initials Time

- NOTE -

Treatment for trauma and shock, hemorrhage and embarrassment of respiration always takes precedence over decontamination procedures and treatment of possible symptoms from irradiation. When possible, however, external and internal contamination should be diminished or eliminated promptly.

3.6 Remove the injured person from any high radiation area as soon as possible.

3.7 Establish and maintain constant (if possible) communications with the Control Room and/or the OSC and provide the following: | ch.

(1) Location of injured persons

(2) Number of injured persons

(3) Extent of injuries

(4) Injured persons names

(5) Exposure rates and contamination levels

(6) Cause of injuries

_____ /

Initials Time

3.8 If injured personnel are contaminated, remove contaminated clothing by cutting with scissors and decontaminate per standard plant practices. | ch.1

- NOTE -

All injuries in a controlled area to be considered as potentially contaminated. Removal of clothing usually removes about 90% of contamination.

3.9 Except for personnel with severe injuries requiring immediate medical treatment, transport all possibly contaminated personnel to the Controlled Area Medical Treatment Room for definitive decontamination prior to transport to CMH.

3.10 Subsequent Actions - - If following first aid, further medical attention is deemed necessary, the First Aid Team members will be directed by the Team Leader or RPD to perform one of the following actions: | ch.1

3.10.1 Personnel Injury With No Residual Skin Contamination

3.10.1.1 Prepare injured individual for transportation to Calvert Memorial Hospital.

(1) Place injured individual on a stretcher with an open blanket spread between the stretcher and patient.

- NOTE -

If unable to move the patient, request assistance from the Control Room or OSC. | ch.1

(2) Wrap patient in blanket.

3.10.1.2 Transport patient to egress area designated by RPD or SS for patient pick-up by local emergency rescue squad. | ch.1

3.10.1.3 Report to rescue squad personnel extent of injuries, F/A measures taken, and stress that there is no radioactive contamination involved.

- NOTE -

Non-contaminated patients shall be directed to the Emergency Room at CMH per normal hospital procedures.

3.10.2 Personnel Injury With Residual Skin Contamination

3.10.2.1 If immediate medical treatment is required, discontinue decontamination procedures.

3.10.2.2 Make patient ready for transportation to hospital per steps 3.10.1.1 and 3.10.1.3.

3.10.2.3 Inform Team Leader or Control Room when ready to transport patient.

3.10.2.4 Complete EXHIBITS 4.6.2-A, PATIENT RADIATION & MEDICAL STATUS FORM, & 4.6.2-B, BODY WOUND & CONTAMINATION FORM.

3.10.2.5 Report to rescue squad personnel extent of injuries, F/A measures and current status.

3.10.2.6 Contain any residual contamination that may exist on patient or stretcher by the use of blankets, sheeting, etc.

_____/_____
Initials Time

3.10.2.7 Obtain Ambulance Kit from Controlled Area Medical Treatment Room and take to hospital.

_____/_____
Initials Time

3.10.2.8 Direct transportation attendant to the Radiation Emergency Area (REA) at CMH.

3.10.2.9 Report all actions taken to the team leader.

_____/_____
Initials Time

EXHIBIT 4.6.2-A
PATIENT RADIATION & MEDICAL STATUS FORM

Name of patient:_____ Age:___yr
Location, date, and time of incident:_____
Summary description of incident:_____

_____

TYPE OF EXPOSURE / INJURY

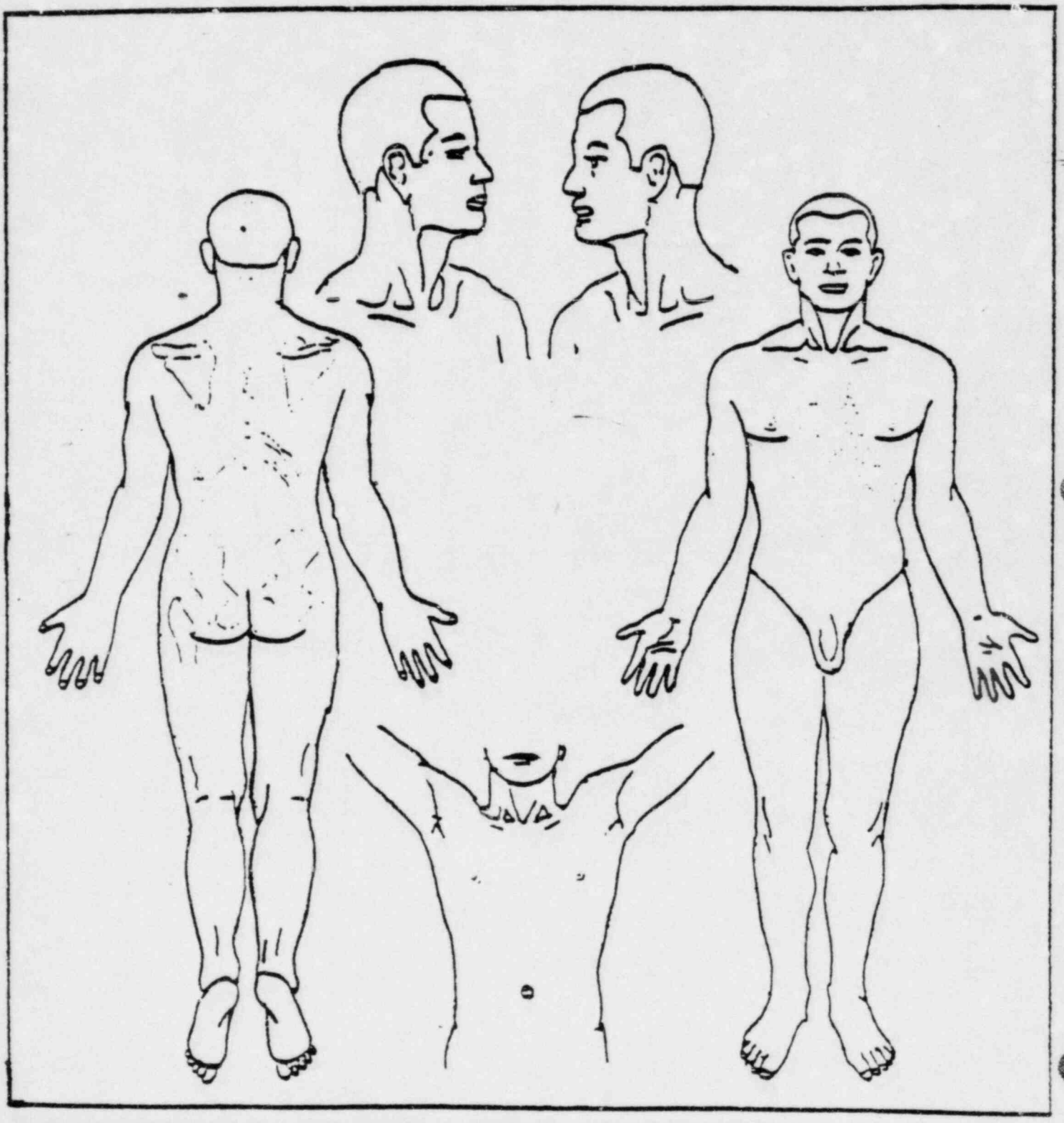
WOUNDS	EXTERNAL EXPOSURE	SKIN CONTAMINATION	INTERNAL CONTAMINATION
yes/no where?-indicate on EXHIBIT 4.6.2-B; how serious?_____ _____ _____ general condition?_____ _____	yes/no where? .whole body .local_____ _____ how much?_____rems (likely/possible) what? Beta/gamma/neutron	yes/no where? indicate on EXHIBIT 4.6.2-B; how much? indicate meter readings What? mixed fission products other (describe):_____ _____	yes/no how? wounds/ingestion/inhalation how much?_____ _____ What? mixed fission products? other (describe):_____ _____

MEASURES TAKEN

time:	time:	time:	time:
first aid: medical: wound decon: how: effect:	symptoms? nausea +/- vomiting +/- skin erythema +/- other?_____ symptomatic treatment? _____ blood samples taken? _____ badge taken?_____ NEUTRON IRRADIATION ONLY: ring taken? buttons, hair, nail clippings taken?	decon: technique: effect: indicate decontaminated areas on EXHIBIT 4.6.2-B; residual contamination at time of transfer? (describe; mark on skin):	nose blow: sample kept? decon of orifices: where? how? decon fluids kept? other samples taken: urine? feces? other?

Course/follow-up:

EXHIBIT 4.6.2-8
INDICATE CONTAMINATED AREAS AS TO LOCATIONS, DEGREE OF CONTAMINATION,
DECON EFFORT
INDICATE LOCATION OF WOUNDS
(use additional sheets if necessary)



DISTANCE SKIN-to-PROBE: _____ in.
TYPE OF METER USED: _____
(Indicate model and number)

ERPIP 4.6.2 REVIEW/APPROVAL

REVISION	CHANGE	REVIEWER SIG/ DATE	SUPERVISOR EPU SIG/DATE	POSRC MTG	PLANT SUPERINTENDENT /DATE
8	1	C.L. Rayburn 12/29/82	[signature] 12/30/82	83-04	2B Russell 1/10/83

CALVERT CLIFFS NUCLEAR POWER PLANT
EMERGENCY RESPONSE PLAN
IMPLEMENTATION PROCEDURES

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TITLE: HEALTH PHYSICS ASSISTANCE AT CALVERT MEMORIAL HOSPITAL

1.0 RESPONSIBLE INDIVIDUAL

The assigned First Aid Team member or Rad-Chem Technician is responsible for implementing this procedure until relieved by the Plant Health Physicist or other company or consultant professional health physicist. | ch. 1

2.0 CONDITIONS AND PREREQUISITES

Upon patient transfer to hospital when required by ERPIP 3.5 or 4.6.2.

3.0 ACTIONS AND LIMITATIONS

3.1 Ensure Radiation Emergency Area (REA) entrance has been properly activated, posted, and guarded.

REA Activated: _____ / _____
Initials Time

3.2 Direct ambulance/transportation personnel to remain with transport vehicle until cleared by Plant Health Physicist or his designee.

Personnel Directed: _____ / _____
Initials Time

3.3 Escort patient to REA entrance area.

3.4 Inform attending physician of patient's radiation and medical status (refer to EXHIBITS 4.6.2-A and 4.6.2-B) and any radiological hazards that may be encountered.

_____ / _____
Initials Time

3.5 Don CMH supplied anti-C clothing and enter REA to ensure the following actions have been previously performed.

(1) Hospital Staff wearing anti-Cs: _____ / _____
Initials Time

(2) Wearing TLDs and SRDs: _____ / _____
Initials Time

(3) Step-Off-Pad Areas Set-Up with Friskers:

_____ / _____
Initials Time

(4) Waste containers properly set-up

_____ / _____
Initials Time

3.6 Consult with attending physician concerning definitive evaluation and care of the patient.

-NOTE-

Emphasis should be on assisting the physician and making recommendations with regard to contamination of the patient and radiological hazard. Contaminated wound decontamination requires close cooperation between the surgeon and the Radiation Safety Technician. The physician will make all treatment decisions.

3.7 Monitor all tissue specimens for residual contamination.

3.8 Assist in the decontamination of the patient when treatment of injury permits as determined by attending physician.

3.9 Monitor patient periodically to determine effectiveness of medical decontamination and inform physician of the success of the decontamination performed.

-NOTE-

Recommend need to continue or discontinue decontamination efforts.

Recomendation Made (circle one):

Continue
Discontinue

_____ / _____
Initials Time

3.10 Save and label all specimens of urine, vomitus, feces, blood, tissue and metals from the patient until their use in radiation evaluation has been completed.

3.11 Supervise and regulate protection of personnel entering or exiting from the area.

3.12 Maintain adequate traffice control of all equipment entering or exiting from the area.

3.13 Subsequent Actions - - after the injured individual has been suitably decontaminated and removed from the REA perform the following actions:

3.13.1 Collect pocket dosimeters; monitor and evaluate personnel exposure upon completion of emergency:

Exposure (s) Determined: _____ / _____
Initials Time

3.13.2 Collect used protective clothing and all other contaminated material and wastes; package and return to Calvert Cliffs plant for laundering and disposal.
Collected and returned to CCNPP:

_____ / _____
Initials Time

3.13.3 Monitor equipment and property after the emergency.
Equipment & Property Monitored: _____ / _____
Initials Time

3.13.4 Decontaminate equipment and hospital areas as required.
REA Totally Decontaminated: _____ / _____
Initials Time

3.13.5 Re-open the Radiation Emergency Area when "clean".
REA Re-opened: _____ / _____
Initials Time

3.13.6 Assist attending physician with accident history, estimate of radiation exposure and bioassay studies.
Physician Assisted: _____ / _____
Initials Time

3.14 Inventory all ERPIP emergency kits in REA and replenish kits with missing or used items.
Kits Replenished: _____ / _____
Initials Time

3.15 Return all applicable records concerning injuries and exposures to the RPD at CCNPP.
Records Returned: _____ / _____
Initials Time

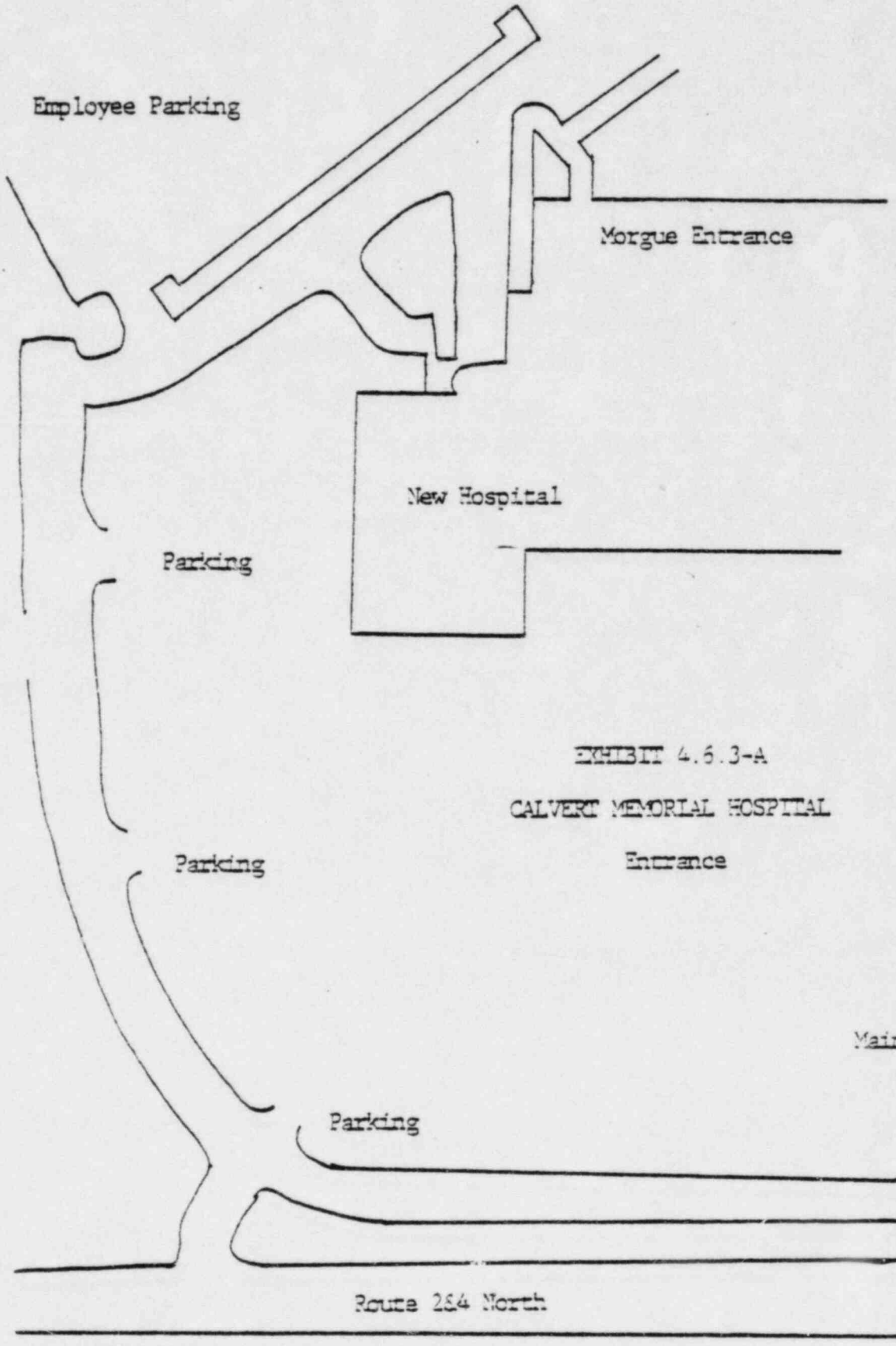
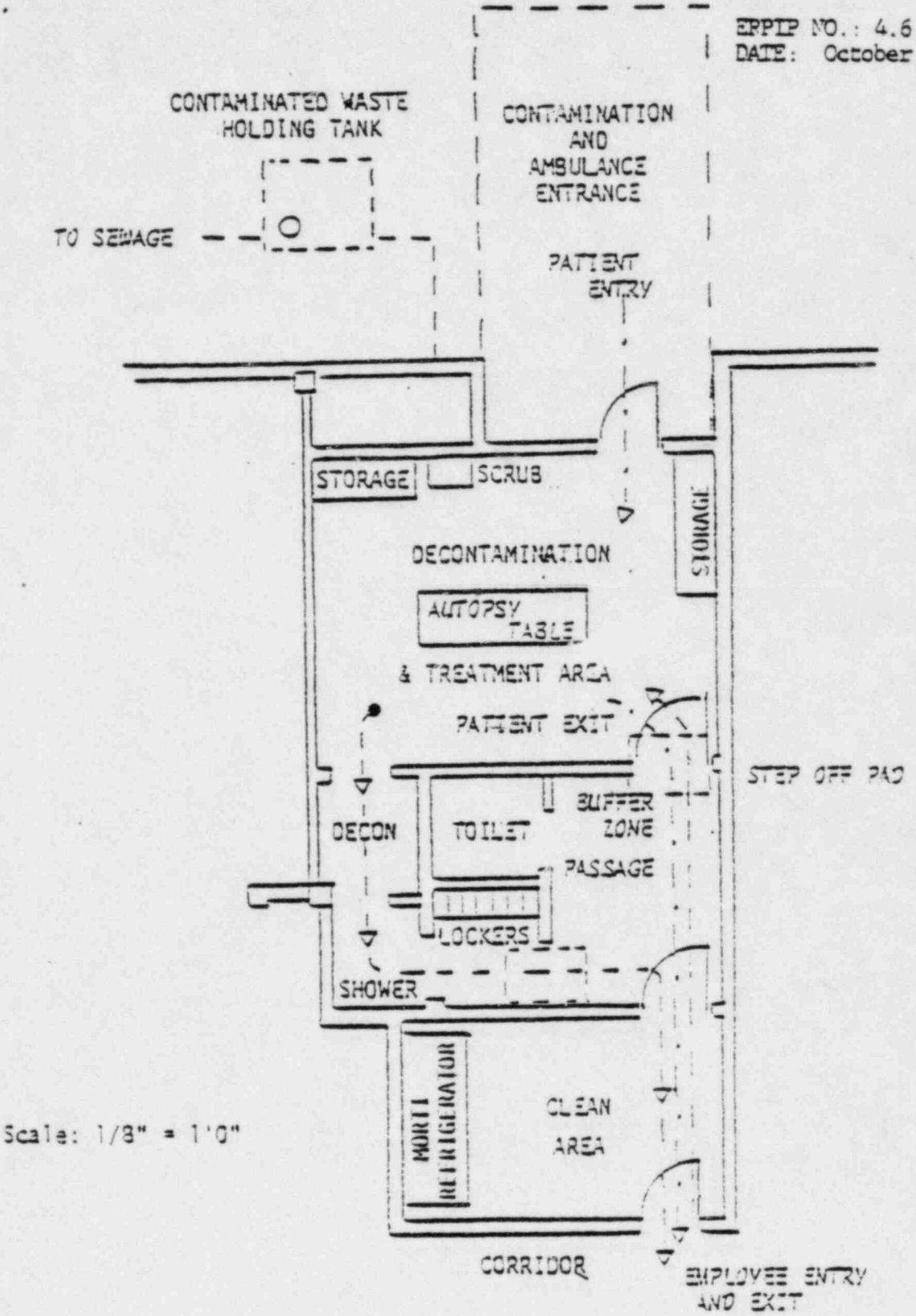


EXHIBIT 4.6.3-A

CALVERT MEMORIAL HOSPITAL

Entrance



Scale: 1/8" = 1'0"

EXHIBIT 4.6.3-B

CALVERT MEMORIAL HOSPITAL

RADIATION EMERGENCY AREA

Plan View of REA

ERPIP 4.6.3 REVIEW/APPROVAL

REVISION	CHANGE	REVIEWER SIG/ DATE	SUPERVISOR EPU SIG/DATE	POSRC MTG	PLANT SUPERINTENDENT /DATE
8	1	C L Rayburn 1-6-83	1-10-83	83-04	2 B Russell 1/10/83

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TITLE: EQUIPMENT AND INSTRUMENTATION

1.0 OBJECTIVES

This procedure is to assure the maintenance of the appropriate level of preparedness of emergency equipment and instrumentation to safely mitigate emergency conditions at CCNPP.

2.0 DISCUSSION

All emergency equipment and instrumentation shall be inventoried, checked, calibrated, and maintained in accordance with normally enforced CCNPP procedures. At the onset of emergency conditions the normally enforced CCNPP procedures shall have assured that all that is required to use this emergency equipment and instrumentation is to perform a very brief visual inspection or inventory, and to check the power supply (if portable).

Although plant personnel required to use emergency equipment and instrumentation are trained on its proper use, emergency conditions may dictate that additional personnel from offsite sources may be required to assist plant personnel. The guidelines and procedures in the following section are for use by any emergency personnel required to operate CCNPP emergency equipment and instrumentation. For equipment lists and locations, see Appendix B.1.

3.0 GUIDELINES AND PROCEDURES FOR USE

This section consists of general guidelines (EXHIBIT 5.3-A), descriptions (EXHIBIT 5.3-B) and instructions (EXHIBIT 5.3-C) for operation of some of the more frequently used emergency equipment at CCNPP, including those presently designated for emergency use and those in emergency monitoring kits listed in Appendix B.1.

EXHIBIT 5.3-A

GENERAL GUIDELINES FOR USE OF MONITORING EQUIPMENT

1. Prior to Selecting Equipment obtain the best available information on the activity level or dose rate (and the predominant isotopes) at the location to be monitored.
2. Select Available Equipment which has monitoring ranges in excess of those anticipated at the location to be monitored. For lists of equipment contained in Emergency Kits and Kit locations, refer to Appendix B.
3. Prior to Using Equipment perform the following checks:
   - 3.1 Battery Check (if portable)
   - 3.2 Existence of Current Calibration Sticker
   - 3.3 Modifications or Limitations Listed on Sticker
   - 3.4 Source Check

   - NOTE -

   Check sources are maintained in the South Gate House, the Rad Chem Instrumentation Trailer, the OSC Locker, the Reentry Locker, the ECC Locker, the North Service Building Kit, the Mobile Monitoring Kits, and in Rad Chem at the 69' elevation of the Service Building. Use of check sources may be waived by the RPD under special conditions.
4. Inoperable or Faulty Equipment should be immediately made unavailable for use and should be turned in to CCNPP Radiation Support Group. If RMS equipment is determined to be faulty, contact the ECC and report the location of the Faulty RMS equipment and radioactivity levels at the location of the equipment (if measurable).
5. While Using Monitoring Equipment:
   - 5.1 Assure that instrumentation utilized to measure doses is appropriately shielded against radioactivity encountered en route to the locations where dose is to be measured.
   - 5.2 Prior to entering an area to determine radioactivity levels, turn the instrument on and set it to measure the highest activity range available. If the instrument is pegged at the high end, backtrack out of the area, check to see if the appropriate instrument is being used and contact the RPD for further instructions.

EXHIBIT 5.3-B

DESCRIPTIONS OF MONITORING EQUIPMENT

1. PIC-6A EBERLINE SURVEY METER
2. RM-14 EBERLINE SURVEY METER
3. E-520 EBERLINE SURVEY MONITOR
4. TFIA-STAPLEX HI-VOLUME AIR SAMPLER
5. H-809C LOW VOLUME AIR SAMPLER
6. TELETECTOR 6112 HIGH RANGE SURVEY METER
7. MS-2/SPA-3 EBERLINE SCALER WITH SPA-3 DETECTOR
8. RO-2A EBERLINE SURVEY METER
9. RO-7 EBERLINE HIGH RANGE SURVEY METER
10. RO-4A EBERLINE SURVEY METER
11. RO-5A EBERLINE SURVEY METER
12. PRM-4A/AC-3 EBERLINE PULSE RATE METER

EXHIBIT 5.3-B (cont'd)

1. PIC-6A-EBERLINE SURVEY METER

The PIC-6A is a small, lightweight portable instrument which measures the exposure rate from gamma radiation. The detecting element is a gas filled ionization chamber operating in the proportional (gas multiplication) region. Six decades of exposure rate, from 1 mR/hr, are measured in two ranges of three decades each. A single rotary switch turns the instrument OFF, provides a Battery check, and selects the range. A beta window in the bottom of the instrument (optional feature) provides for the detection of energetic beta particles.

2. RM-14-EBERLINE MONITOR

The RM-14 is a small, compact count rate meter operated by AC line or away from AC line by a Ni-Cd battery which is continously trickle charged while the unit is plugged into the line. Battery condition is checked by front panel controls.

This monitor is intended primarily for use with a Geiger-Mueller detector, but, with slight modifications, can be used with appropriate scintillation detectors.

The radiation count rate is read out on a front panel meter with 0-500 counts per minute full scale. Three switch selected ranges of X1, X10 and X100 are provided. Response time of the meter can be selected by a "FAST-SLOW" response switch.

A high limit alarm is provided, adjustable over the scale of the meter by a control on the rear panel. The alarm, when actuated, does not interrupt or affect meter reading and is a locking type which will continue to alarm until the reset switch is depressed.

An audible indication is integral and the loudness can be controlled from no sound to maximum.

External recorder and scaler outputs are provided on the rear panel.

3. E-520-EBERLINE SURVEY MONITOR

The E-520 is a small, compact, portable geiger counter with 0-2R monitoring capabilities. Five Ranges, 0-0.2, 0-2, 0-20, 0-200, and 0-2000 mR/h are provided. Two different detectors are utilized, one being located in the case itself for the detection of high level gamma radiation in the range of 0-2000 mR/h. A tube sensitive to lower level gamma and beta radiation is located in the hand probe used on the four lower ranges Discrimination between beta and gamma radiation is made by means of a movable shield on the probe. Both mR/h (closed shield) and cpm (open shield) are presented on the meter scale.

4. TF1A-STAPLEX HI-VOLUME AIR SAMPLER

The staplex is a portable hi-volume air sampler. Monitoring personnel carry the TF1A to the area where the air sample is required and plug it into any convenient 115 volt AC outlet. The 4 inch filter holder is used either with or without the annular kinetic impactor attached to it. A clean 4 inch filter is placed within the 4 inch filter holder. The TF1A can now be turned on with the line switch and run for the time specified to accumulate the required volume. The air sampler is turned off and the filter removed and handled as per RCP 3-403.

5. LOW VOLUME AIR SAMPLER

6. TELETECTOR 6112-HIGH RANGE SURVEY METER

The teletector is a high range (2mR/hr to 1000R/hr) survey instrument with telescoping probe holder telescoping 160" fully extended.

7. MS-2/SPA-3-EBERLINE SCALER WITH SPA-3 DETECTOR

The MS-2 is a complete scaler system consisting of variable high voltage, charge sensitive input amplifier, single channel pulse height analyzer, six decade scaler, ratemeter and timer.

The unit is designed for use with practically any scintillation, G-M or proportional detector.

8. RO-2A EBERLINE SURVEY METER

The RO-2A is a small, compact, portable air ion chamber instrument used to detect beta (B), gamma (γ), and x-ray radiation. Four linear ranges are provided: 0-50 mR/hr, 0-500 mR/hr, 0-5 R/hr, and 0-50 R/hr. A single rotary switch turns the instrument off, checks the batteries, checks the zero setting and selects the range of operation.

9. RO-7 EBERLINE HIGH RANGE SURVEY METER

The RO-7 is a multi-purpose, hand held survey instrument. Three detectors are available to provide a wide detection range. The detectors may attach directly to the hand held unit or they may also be attached via rigid extensions or flexible cables for remote surveys. Also available is an underwater housing for pool or other underwater surveys to depths of up to 60 feet. The low range detector (gamma) ranges to 1.999 R/hr, the mid-range detector (Beta/Gamma) ranges to 199.9 R/hr, and the high-range detector (Beta/Gamma) ranges to 19.99 kR/hr.

10. RO-4A EBERLINE SURVEY METER

The RO-4A is equivalent to the RO-2A with the exception that the RO-4A has an LCD digital readout.

11. RO-5A EBERLINE SURVEY METER

The RO-5A has the same detection features as the RO-2A and provides the same ranges. It is equipped with an LCD digital readout.

12. PRM-4A EBERLINE PULSE RATE METER WITH AC-3 PROBE

The PRM-4A/AC-3 is a portable battery-operated alpha radiation survey meter. The instrument has a range of 0 to 500k cpm in four linear continuously progressive LIN-LOG decades.

EXHIBIT 5.3-C INSTRUCTIONS FOR OPERATION OF MONITORING EQUIPMENT

TFIA-STAPLX HI-VOLUME AIR SAMPLER

- NOTE -

The TFIA may be internally contaminated and precautions should be observed.

1. Plug TFIA into an 115 volt AC outlet.
2. Attach the 4 inch filter holder with a clear 4 inch filter inserted in the filter holder.
3. Turn on the line switch and run the hi-volume air sampler for the time specified to accumulate the required volume as per ERPIPs 4.3.a and 4.3.2.
4. After the specific time has elapsed turn off the line switch and immediately remove the 4 inch filter holder from the air sample.
5. Remove the filter form the filter holder and handle as per ERPIPs 4.3.1 and 4.3.2.
6. Unplug the TFIA.

LOW VOLUME AIR SAMPLER

1. Connect sampler to power source.
2. Place filter media to be used in air sampler filter holder. This may consist of a filter paper such as a Millipore 0.45 micron or Glass Fiber in conjunction with a charcoal cannister.
3. Turn the sampler on and either record the start time or reset the elapsed time reader.
4. When the necessary volume has been collected, turn off the sampler and record the time and flow rate.

- NOTE -

The necessary volume to be collected is a minimum of 30 cubic feet.

ERPIP 5.3 REVIEW/APPROVAL

REVISION	CHANGE	REVIEWER SIG/ DATE	SUPERVISOR EPU SIG/DATE	POSRC MTG	PLANT SUPERINTENDENT /DATE
9	—	C.L. Rayburn 12/30/82	[signature] 01/04/83	83-04	2 B Russell 1/10/83

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