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Rev. 13

YANKEE NUCLEAR POWER STATION
IMPLEMENTING PROCEDURES TO THE EMERGENCY PLAN
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EMERGENCY MEDICAL PROCEDURE

SCOPE

To outline the actions by a medical team responding to Personnel Emergencies.

ENCLOSURES

OP-3305 - Pgs. 1, 3-5 - Rev. 1
OP-3305 - Pg. 2 - Original
OPF-3305.1-2 Original
OPF-3305.3 Original
Attachment A - Pg. 1 - Rev. 1
Attachment A - Pgs. 2-3 - Original

REFERENCES

1. Yankee Rowe Nuclear Power Station Emergency Plan
2. North Adams Regional Hospital Procedures For Radioactively Contaminated Patients.
3. OP-Memo 2A-1, "Policy for Notification of The NRC of Significant Events or Whenever the Reactor Is Not In A Controlled or Expected Condition of Operation"

DISCUSSION

This class involves accidents or occurrences on-site during which emergency medical treatment of one or more individuals is required. It includes those situations that have no potential for escalation to more severe emergency conditions. There may be no effect on the Plant, and immediate operator action to alter Plant status is not necessarily required. This procedure will activate such teams as the medical team and may also require local ambulance and hospital support.

Included in this procedure are injuries that may be complicated by contamination problems or excessive radiation exposures. Activation of this procedure is primarily a judgement matter for the Shift Supervisor or Health and Safety Supervisor.

Medical team members are trained to respond to injured personnel whose condition may be complicated by radiation exposure and/or contamination. Medical recovery teams responding during a SITE AREA, or GENERAL emergency may encounter adverse radiological conditions.

Medical team members should follow the instruction listed in the Emergency Radiation Exposure Control procedure for entering radiological incident areas in a safe and effective manner.

The Plant Health & Safety Supervisor or the senior medical team representative (in the former's absence) will, with the help of Health Physics, be responsible for deciding whether it is an acceptable risk to rescue an accident victim.

While entering an emergency area, the dose rate should be constantly evaluated. Upon reaching an accident victim(s), his total dose should be estimated. The judgement made as to whether a victim's injuries take precedence over his radiation exposure and/or bodily contamination will be made by the Senior Medical Representative and Health Physics in the emergency area.

Although any given medical emergency contains its own dose versus injury characteristics, the following statements concerning radiation exposure can be used as guidance:

1. Rescue and treatment of victim(s) should be of prime concern. Radiation exposure or contamination of the victim should be a secondary concern. If the whole body radiation dose to a rescuer is 100 rem or less, and the victim may be alive, all attempts will be made to rescue the victim(s). This would be a once in a life-time dose to the rescuer.

Biological effects of radiation exposure to 100 REM usually are not evident until years later. It is highly recommended that rescue attempts be made by the oldest possible rescuer.

Graphs OPF3305.1 and .2, are provided in this procedure and in the Jump Kits for quick estimation of dose in high field.

2. A situation could exist where the radiation dose to the victim may be as harmful to him as would be moving him. In other words, moving the victim may kill him; but leaving him would result in the lethal dose of 600 rem or more.

In this case, the rescue should be made immediately provided that no rescuer's dose exceeds 100 rem. This will give the victim the best overall chance of survival.

3. If the victim's estimated dose is 50 rem or less, do not remove victim if his life support systems will be threatened.

ACTIVATION

This procedure should be activated when any fatality or serious injury occurs on the site and requires transport to an off-site medical facility for treatment.

IMMEDIATE ACTION

1. Persons discovering the emergency condition shall immediately notify the Control Room by the most expeditious means available. The number, condition and location of victims should be provided.
2. Control Room personnel make the following announcement on the Plant page system:

"Medical Emergency, Medical Emergency, Medical Emergency"
"There is/are NATURE OF MEDICAL EMERGENCY in/at (LOCATION)"
"Medical team members proceed to (LOCATION)"

Repeat the above announcement.
3. Control Room personnel refer to OPF-3305.3 and fill in all available information.

SUBSEQUENT ACTION

1. CONTROL ROOM PERSONNEL

Call the following:

- a. Charlemont Ambulance Service - (Refer to contact list)
- b. North Adams Regional Hospital ask for Nursing Supervisor (Refer to contact list) Provide information recorded on OPF-3305.3.
- c. Gatehouse give location of victims for pickup by ambulance.
- d. Health & Safety Supervisor.
- e. Health Physicist

NOTE: If and when radiation exposure and/or contamination information related to the accident victims is available, it will be communicated to the Nursing Supervisor at North Adams Regional Hospital. This information should be documented on OPF-3305.3 prior to calling the hospital.

2. SHIFT SUPERVISOR

- a. Initiate OP-3300, "Classification of Emergencies"
- b. If in the judgement of the Shift Supervisor, the serious injury will require admission to a hospital for treatment or observation for an extended period of time (greater than 48 hours), the NRC will be notified within one hour of occurrence via NRC, ENS (RED) phone. (OP-Memo 2A-1)

3. MEDICAL RESPONSE TEAM

- a. Proceed to the victim(s) with the following equipment:
 - 1. Jump Kit
 - 2. Scoop stretcher and/or backboard
 - 3. High Range Survey Instrument
- b. Notify the Control Room prior to entering and after departing any emergency area.

NOTE: Responding from off-site during a site evacuation the Medical Response Team would be equipped with additional protective apparel. Contact a Health Physics representative prior to entering Plant site.

- c. Locate victim(s).
- d. Move victim to a lower radiation area if it is an acceptable risk.
- e. Administer emergency medical treatment as needed.
- f. Transfer victim(s) to ambulance personnel upon their arrival.

4. HEALTH PHYSICS PERSONNEL

- a. Proceed to emergency area with the following equipment to assist Medical Response Team in recovery of victim(s).
 - 1. High Range Beta-Gamma Survey Instrument.
 - 2. TLD and High Range Dosimeter for each victim.
- b. Determine the dose rate in emergency area.
- c. Estimate total dose received by victim(s).
- d. Based on 'b' and 'c' above, the Health Physics representative will advise the Medical Response Team whether or not it is an acceptable risk to rescue the victim(s).
- e. Just prior to victim's departure from the site, remove the victim's dosimetry and replace it with new dosimetry. Note the time. Have the TLD and pocket dosimeter evaluated to determine the victim's dose.
- f. A Health Physics representative should be assigned to accompany the ambulance crew or meet them at the hospital.

5. SECURITY PERSONNEL

- a. A security guard will be dispatched to emergency area with a two-way radio.

- b. Security personnel in Gatehouse will expedite access of ambulance personnel to the emergency area by assigning a guard as an escort to the crew and assign dosimetry to ambulance crew.

FINAL CONDITIONS

1. First aid equipment has been inventoried and all items utilized have been replaced.
2. If the patient was contaminated, BioAssay or other applicable tests will be performed to determine if absorbance of contamination has occurred.

I. MEDICAL RESPONSE TO MAJOR INJURIES REQUIRING HOSPITALIZATION

1. First person who becomes aware of a serious injury will notify the Control Room.
2. The Control Room will alert the Emergency Medical Team, Health and Safety Supervisor, and the Health Physicist of the emergency and direct them to the accident victim(s).
3. Medical team notifies the Control Room that they are entering an emergency area.
4. Determine the dose rate in emergency area.
5. Locate victim(s).
6. Estimate total dose received by victim(s).
7. Based on the results of 4 and 6 above, the Senior Medical Team Representative and Health Physics decides whether or not it is an acceptable risk to rescue the victim(s).
8. If it is not an acceptable risk to rescue the accident victim(s), the Senior Medical Team Representative will inform the Emergency Director of the medical teams' intentions.
9. If it is an acceptable risk to rescue the accident victim, move him to a lower radiation area and commence administering first aid. Emergency life saving procedures must be of prime concern.
10. Remove the individual's dosimetry and replace it with new dosimetry just prior to his departure from the site. Note the time. Have the TLD and pocket dosimeter evaluated by Health Physics to determine the victim's dose.

Health Physics continuously evaluates radiation exposure of the Medical Team and victim. Included in the radiological survey, (as time permits) should be sites of contamination on victim(s), isotope(s) present, and amount of activity.

- (a) A member of the medical response team or Health Physics should be assigned duties as recorder of all vital medical and radiological findings. The data sheets and human survey forms (located in Jump Kits), should be maintained from time of rescue until transfer of victim(s) to ambulance personnel.

11. The Senior Medical Team Representative and Health Physics should reevaluate the dose received by the team and victim(s) with regards to medical considerations.
12. Transport the victim(s) to the Emergency Operations Facility, the closest access to the ambulance, or the control side lavatory area as applicable.
13. Decontaminate victim and/or maintain contamination control as applicable.

Gross decontamination of the victim(s) will be accomplished to the extent that the stability of the patient(s) is not endangered. If decontamination is feasible, all clothing, jewelry and gross contaminants will be removed as practicable. A hose (located in the Utility Room) will be used when feasible for gross decontamination of victim(s) body.

14. Contact the Control Room and advise them of accident victim's medical status. Also acknowledge that the medical response team is clear of emergency area.
15. If hospitalization is required, the Control Room can perform the necessary actions as follows:
 - a. Call the ambulance (Charlemont, refer to contact list) and request transportation to North Adams Hospital.
 - b. Notify security to expedite processing of the ambulance personnel and to escort the ambulance to the pick-up point.
 - c. Provide North Adams Hospital (refer to contact list) with the following information before ambulance is to arrive at the hospital:
 - 1) Number of accident victims (names, if possible)
 - 2) Nature of medical problem(s).
 - 3) Radiological considerations, including as applicable, the site of contamination, isotope and activity present. If no contamination problems exist, so indicate.
 - 4) Anticipated time of arrival at the hospital.
 - 5) Name of person(s) escorting victim(s).
16. A Health Physics representative should be assigned to accompany the ambulance crew or meet them at the hospital.
17. Recover patient's individual TLD and dosimeter for processing.

18. When ambulance arrives, brief attending personnel on the patient's medical and radiological status, provide protective clothing (as applicable) and turn over responsibility of the patient to the ambulance personnel.

19. For cases of high radiation exposures (i.e. greater than 50 REM whole body), the Plant Health and Safety Supervisor or North Adams Hospital will contact the Peter Bent Brigham Hospital (PBBH) Emergency Ward Head Nurse of the possible referral of patient(s). Indicate the most probable time of arrival and the nature and the extent of the injuries if this information is available. PBBH will then activate their emergency procedures to the alert phase. The numbers are:

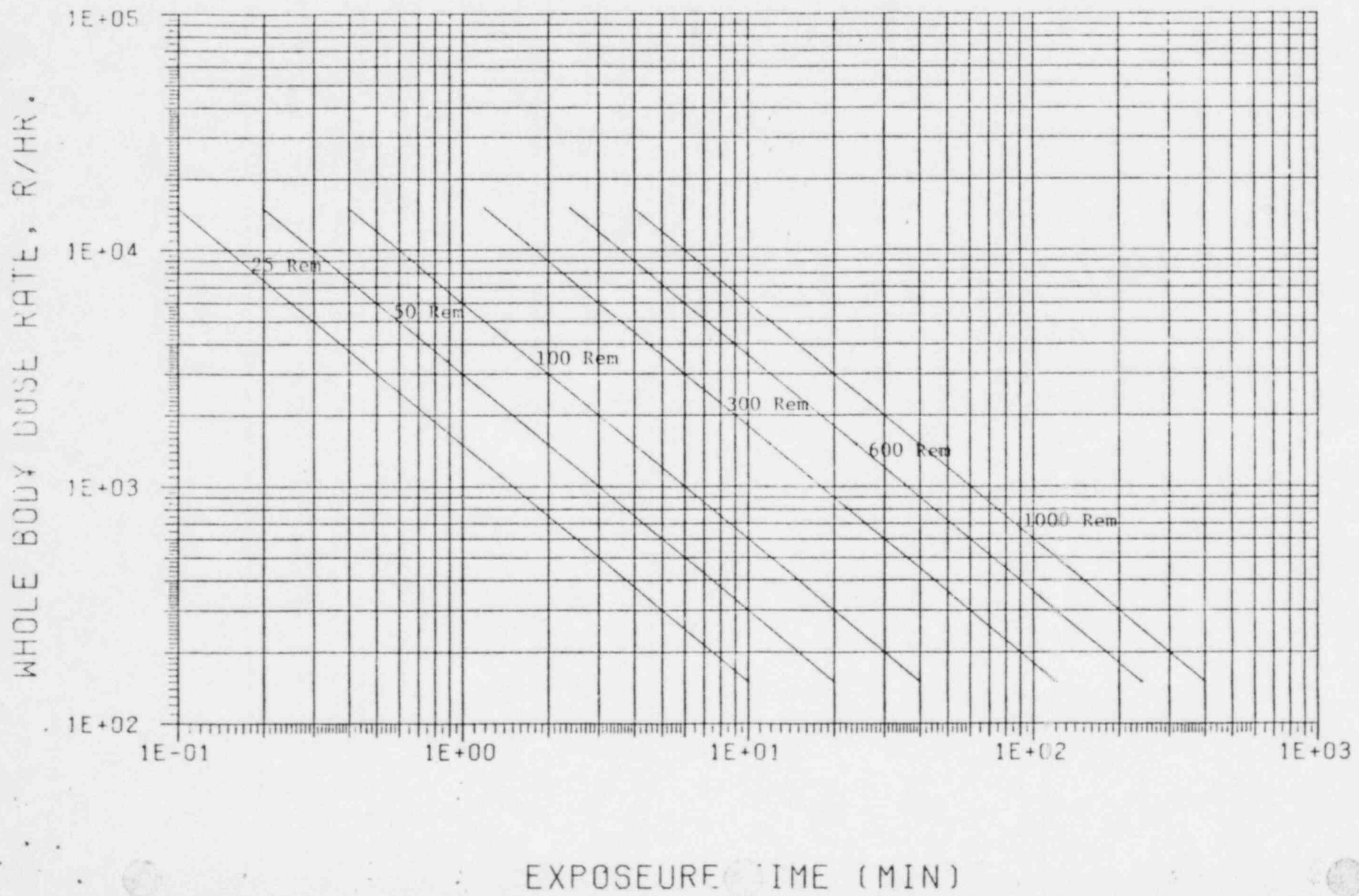
PBBH Emergency Ward Head Nurse (refer to contact list)

PBBH Radiation Protection Officer

Dr. David Drum (work) (refer to contact list)

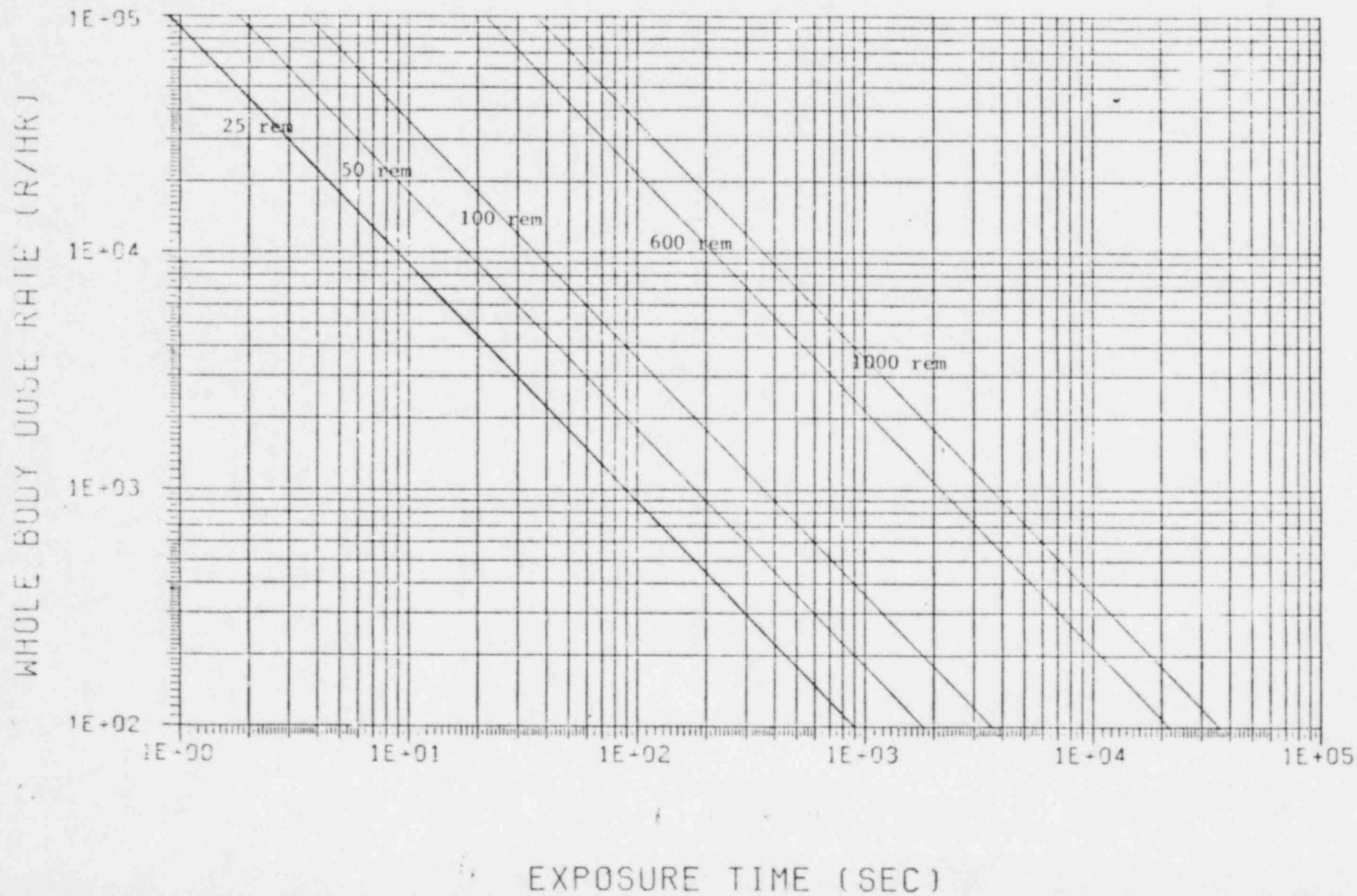
Dr. David Drum (home) (refer to contact list)

WHOLE BODY DOSE RATE VS EXPOSURE TIME (MINUTES) FOR VARIOUS WHOLE BODY DOSES



OPF-3305.1
Original

WHOLE BODY DOSE RATE VS EXPOSURE TIME (SEC)
FOR VARIOUS WHOLE BODY DOSES



OPF-3305.2
Original

RADIATION ACCIDENT MESSAGE RECEIPT

(To be used by Control Room Personnel When Receiving Call Concerning Radiation Accident and When Notifying the Hospital)

DATE: _____ TIME: _____ SUPERVISOR: _____

CASUALTY #1

CASUALTY #2

ACCIDENT LOCATION: _____

VICTIMS' NAMES: _____

MEDICAL PROBLEMS: _____

FIRST AID MEASURE GIVEN: _____

- _____

- _____

- _____

NOTIFICATION:

- (1) (PAGE) Medical Response Team to respond to scene of accident
- (2) (CALL) Charlemont Ambulance Service
(refer to contact list)
- (3) (CALL) North Adams Regional Hospital - ask for Nursing Supervisor
(refer to contact list)
- (4) (CALL) Gatehouse (give location of
victims for pickup by ambulance)
- (5) (CALL) Health & Safety Supervisor at home during back shift

EXPECTED TIME OF ARRIVAL AT HOSPITAL: _____

NAME OF H. P. ATTENDANT ACCOMPANYING AMBULANCE OR SENT TO HOSPITAL

(CONTAMINATION CASES ONLY) : _____

RADIATION ACCIDENT MESSAGE RECEIPT

(To be used by Control Room Personnel When Receiving Call Concerning Radiation Accident and When Notifying the Hospital)

DATE: _____ TIME: _____ SUPERVISOR: _____

CASUALTY #1

CASUALTY #2

* If and when the following radiation information is available, call the Nursing Supervisor at North Adams Hospital. (refer to contact list)

RADIATION INJURY

CIRCLE ONE

CIRCLE ONE

- | | | |
|---|----------|----------|
| 1. Exposure | yes / no | yes / no |
| | _____ R | _____ R |
| 2. Skin contamination: | yes / no | yes / no |
| Which isotopes? | _____ | _____ |
| Level (mR/hr) | _____ | _____ |
| 3. Inhalation: | yes / no | yes / no |
| Which isotopes? | _____ | _____ |
| Amount Inhaled
% of Quarterly Occupational Limit | _____ | _____ |
| 4. Potassium Iodide Given? | yes / no | yes / no |
| Time | _____ | _____ |
| 5. Decontaminated? | yes / no | yes / no |