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**Charles A. Bottemiller**  
Manager  
Plant Licensing

February 28, 2003

U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555

Subject: Changes to Emergency Plan Implementing Procedures – February 28, 2003

Grand Gulf Nuclear Station  
Docket No. 50-416  
License No. NPF-29

GNRO-2003/00014

Ladies & Gentlemen:

Entergy Operations, Inc. submits in accordance with 10CFR50 Appendix E, Section V changes to the following Emergency Plan Implementing Procedure:

10-S-01-29, Rev. 19  
10-S-01-17, Rev. 16

This letter does not contain any commitments.

Yours truly,

A handwritten signature in black ink, appearing to read "Charles A. Bottemiller".

Charles A. Bottemiller,  
Licensing Manager

MJL

attachment: 1. Procedure 10-S-01-29  
2. Procedure 10-S-01-17  
cc: (See Next Page)

Hoeg	T. L.	(GGNS Senior Resident)	(w/a)
Levanway	D. E.	(Wise Carter)	(w/a)
Reynolds	N. S.		(w/a)
Smith	L. J.	(Wise Carter)	(w/a)
Thomas	H. L.		(w/o)

U.S. Nuclear Regulatory Commission ATTN: Mr. E. W. Merschoff (w/2) 611 Ryan Plaza Drive, Suite 400 Arlington, TX 76011-4005	ALL LETTERS
U.S. Nuclear Regulatory Commission ATTN: Mr. David H. Jaffe NRR/DLPM (w/2) <b>ATTN: FOR ADDRESSEE ONLY</b> ATTN: U.S. Postal Delivery Address Only Mail Stop OWFN/7D-1 Washington, D.C. 20555-0001	ALL LETTERS – U.S. POSTAL SERVICE MAIL DELIVERY ADDRESS ONLY

PLANT OPERATIONS MANUAL

Volume 10  
Section 01

10-S-01-29  
Revision: 19  
Date: 2/25/03

EMERGENCY PLAN PROCEDURE

OPERATIONS SUPPORT CENTER (OSC) OPERATIONS

SAFETY RELATED

Prepared: Trish Lundell  
Reviewed: [Signature]  
Technical  
Concurred: [Signature]  
Manager, Operations  
OSRC: [Signature]  
Approved: [Signature], [Signature]  
Plant General Manager Manager, Emergency Preparedness

List of Effective Pages:

Pages 1-14

Attachments I-II

List of TCNs Incorporated:

<u>Revision</u>	<u>TCN</u>
0-3	None
4	1
5	2
6	3
7	None
8	4
9	None
10	5
11-19	None

Title: OPERATIONS SUPPORT CENTER (OSC) OPERATIONS	No.: 10-S-01-29	Revision: 19	Emergency Plan Evaluation
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EVALUATION OF EMERGENCY PREPAREDNESS PROCEDURE

Procedure Number: 10-S-01-29

Procedure Name: OPERATIONS SUPPORT CENTER (OSC) OPERATIONS

Revision / TCN Number: Revision 19

Does the procedure Revision / TCN require an Emergency Plan change?

☐ Yes☒ No

**NOTE: IF YES, THIS PROCEDURE CAN NOT BE ISSUED UNTIL THE EMERGENCY PLAN IS CHANGED / REVISED.**

Reason for 'No' response:

Reviewed applicable portions of the Emergency Plan. The Emergency Plan does not provide detailed operating guidance in OSC such as minimum requirements for declaring the facility operational. This procedure provides that detailed guidance for implementing the generic responsibilities described in the Emergency Plan.

This change is not a decrease in effectiveness of the Emergency Plan, but a change in the method of implementing the Emergency Plan.

Section 7.3.2 describes the operation of the OSC, assignment of personnel to the Health Physics Lab to support Emergency operations, and that other shift personnel report to the OSC to provide assistance as necessary. It does not specify the minimum staffing positions for declaring the facility operational.


Prepared:



4/21/03

Date

Approved:



Manager, Emergency Preparedness

4/23/03

Date

Title: OPERATIONS SUPPORT CENTER (OSC) OPERATIONS	No.: 10-S-01-29	Revision: 19	Safety Evaluation
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**I. OVERVIEW / SIGNATURES**Facility: GGNSDocument Reviewed: 10-S-01-29 OPERATIONS SUPPORT CENTER (OSC) OPERATIONSChange/Rev. 19System Designator(s)/Description: N/A**Description of Proposed Change**Revise minimum staffing positions for declaring the OSC operational to satisfy CR-GGN-2002-2511 CA2.

If the proposed activity, in its entirety, involves any one of the criteria below, check the appropriate box, provide a justification/basis in the Description above, and forward to a Reviewer. No further 50.59 Review is required. If none of the criteria is applicable, continue with the 50.59 Review.

- ☐ The proposed activity is editorial/typographical as defined in Section 5.2.2.1.
- ☐ The proposed activity represents an "FSAR-only" change as allowed in Section 5.2.2.2\_\_\_\_\_. (Insert item # from Section 5.2.2.2).
- ☐ The proposed activity is controlled by another regulation per Section 5.2.2.3.

If further 50.59 Review is required, check the applicable review(s): (Only the sections indicated must be included in the Review.)

<input checked="" type="checkbox"/>	SCREENING	Sections I, II, and III required
<input type="checkbox"/>	50.59 EVALUATION EXEMPTION	Sections I, II, III, and IV required
<input type="checkbox"/>	50.59 EVALUATION (#: _____)	Sections I, II, III, and V required

Preparer: Richard Sumrall / Richard Sumrall / EOI / EP / 1-21-2003  
Name (print) / Signature / Company / Department / Date

Reviewer: Richard VanDerAuer / [Signature] / EOI / EP / 1-22-2003  
Name (print) / Signature / Company / Department / Date

OSRC: N/A  
Chairman's Name (print) / Signature / Date  
[Required only for Programmatic Exclusion Screenings (see Section 5.8) and 50.59 Evaluations.]

**List of Assisting/Contributing Personnel:**

Name:

Greg Brown

Scope of Assistance:

Review of Security Plan

Title: OPERATIONS SUPPORT CENTER (OSC) OPERATIONS	No.: 10-S-01-29	Revision: 19	Safety Evaluation
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**II. SCREENING****A. Licensing Basis Document Review**

- 1. Does the proposed activity impact the facility or a procedure as described in any of the following Licensing Basis Documents? (Check "N/A" for those documents that are not applicable to the facility.)**

<i>Operating License</i>	<b>YES</b>	<b>NO</b>	<b>N/A</b>	<i>CHANGE # and/or SECTIONS IMPACTED</i>
Operating License	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
TS	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
NRC Orders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<b>If "YES", obtain NRC approval prior to implementing the change. (See Section 5.1.13 for exceptions.)</b>				

<i>LBDs controlled under 50.59</i>	<b>YES</b>	<b>NO</b>	<b>N/A</b>	<i>CHANGE # (if applicable) and/or SECTIONS IMPACTED</i>
FSAR	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
TS Bases	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Technical Requirements Manual	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Core Operating Limits Report	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Offsite Dose Calculations Manual	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
NRC Safety Evaluation Reports <sup>1</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
<b>If "YES", perform an Exemption Review per Section IV <u>OR</u> perform a 50.59 Evaluation per Section V.</b>				

<i>LBDs controlled under other regulations</i>	<b>YES</b>	<b>NO</b>	<b>N/A</b>	<i>CHANGE # (if applicable) and/or SECTIONS IMPACTED</i>
Quality Assurance Program Manual <sup>2</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Emergency Plan <sup>2</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Security Plan <sup>2, 3</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Fire Protection Program <sup>4</sup> (includes the Fire Hazards Analysis)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<b>If "YES", evaluate/process any changes in accordance with the appropriate regulation.</b>				

- 2. Does the proposed activity involve a test or experiment not described in the FSAR?** ☐ Yes ☒ No  
**If "yes," perform an Exemption Review per Section IV OR perform a 50.59 Evaluation per Section V.**
- 3. Does the proposed activity potentially impact equipment, procedures, or facilities utilized for storing spent fuel at an Independent Spent Fuel Storage Installation?** ☐ Yes ☐ No ☒ N/A  
**(Check "N/A" if dry fuel storage is not applicable to the facility.)**  
**If "yes," perform a 72.48 Review in accordance with NMM Procedure LI-112. (See Sections 1.5 and 5.3.1.5 of the EOI 10CFR50.59 Review Program Guidelines.)**

<sup>1</sup> If "YES," see Section 5.1.5.

<sup>2</sup> If "YES," notify the responsible department and ensure a 50.54 Evaluation is performed.

<sup>3</sup> The Security Plan is classified as safeguards and can only be reviewed by personnel with the appropriate security clearance. The Preparer should notify the security department of potential changes to the Security Plan.

<sup>4</sup> If "YES," evaluate the change in accordance with the requirements of the facility's Operating License Condition.

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**B. Basis**

(Provide a clear, concise basis for the answers given in the applicable sections above. Adequate basis must be provided within the Screening such that a third-party reviewer can reach the same conclusions. Simply stating that the change does not affect TS or the FSAR is not an acceptable basis.)

Performed an on-line search of the Operating License, TECHSPECS, UFSAR, TS Bases, TRM, OAPM, COLR, and Emergency Plan using the keywords: OSC, Operational Support Center, Operations Support Center, and Operation Support Center. Reviewed all hits associated with these key words. The change addressed in this procedure does not change any systems, structures, components, or processes described in these documents.

Performed a review of ASERs and Fire Protection Program by use of the FULFIND utility with the keywords "operation\* support center", and "OSC". Reviewed all hits associated with these keywords. The change addressed in this procedure does not change any systems, structures, components, or processes described in these documents.

Performed manual review of applicable portions of the Emergency Plan. The Emergency Plan does not provide detailed operating guidance in OSC such as minimum requirements for declaring the facility operational. This procedure provides the detailed guidance for implementing the generic responsibilities described in the Emergency Plan.

Section 7.3.2 describes the operation of the OSC, assignment of personnel to the Health Physics Lab to support Emergency operations, and that other shift personnel report to the OSC to provide assistance as necessary. It does not specify the minimum staffing positions for declaring the facility operational. This change is not a decrease in effectiveness of the Emergency Plan, but a change in the method of implementing the Emergency Plan.

Emergency Plan Table 5-1 lists positions required to be present on-shift to support the OSC, but does not list minimum staffing positions.

Security has evaluated the change and determined that it does not affect the Security Plan.

**C. References**

[Discuss the methodology for performing the LBD search. State the location of relevant licensing document information and explain the scope of the review such as electronic search criteria used (e.g., key words) or the general extent of manual searches per Section 5.3.6.4 of LI-101.]

LBDs/Documents Reviewed:

Operating License, TECHSPECS, UFSAR, TS Bases, TRM, OAPM, and Emergency Plan

SERs

Keywords:

OSC, Operational Support Center, Operations Support Center, Operation Support Center

keywords "operation\* support center", "OSC"

- D. Is the validity of this Review dependent on any other change?** (See Section 5.3.4 of the EOI 10CFR50.59 Program Review Guidelines.) ☐ Yes ☒ No

If "Yes," list the required changes.

N/A

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### III. ENVIRONMENTAL SCREENING

If any of the following questions is answered "yes," an Environmental Review must be performed in accordance with NMM Procedure EV-115, "Environmental Evaluations," and attached to this 50.59 Review.

Will the proposed Change being evaluated:

Yes    No

- |                          |                                     |  |
|--------------------------|-------------------------------------|--|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Involve a land disturbance of previously disturbed land areas in excess of one acre (i.e., grading activities, construction of buildings, excavations, reforestation, creation or removal of ponds)? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Involve a land disturbance of undisturbed land areas (i.e., grading activities, construction, excavations, reforestation, creating, or removing ponds)?  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Involve dredging activities in a lake, river, pond, or stream?   |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Increase the amount of thermal heat being discharged to the river or lake?   |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Increase the concentration or quantity of chemicals being discharged to the river, lake, or air?   |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Discharge any chemicals new or different from that previously discharged?  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Change the design or operation of the intake or discharge structures?  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Modify the design or operation of the cooling tower that will change water or air flow characteristics?  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Modify the design or operation of the plant that will change the path of an existing water discharge or that will result in a new water discharge?   |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Modify existing stationary fuel burning equipment (i.e., diesel fuel oil, butane, gasoline, propane, and kerosene)? <sup>1</sup>   |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Involve the installation of stationary fuel burning equipment or use of portable fuel burning equipment (i.e., diesel fuel oil, butane, gasoline, propane, and kerosene)? <sup>1</sup>               |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Involve the installation or use of equipment that will result in an air emission discharge?  |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Involve the installation or modification of a stationary or mobile tank?   |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Involve the use or storage of oils or chemicals?   |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Involve burial or placement of any solid wastes in the site area that may effect runoff, surface water, or groundwater?  |
- 

<sup>1</sup> See NMM Procedure EV-117, "Air Emissions Management Program," for guidance in answering this question.



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**RPTS FORM**

<b>10CFR50.59 Review Required?</b>	(X) Yes	If Yes, attach 50.59 Review Form
	( ) No	Not required per LI-101

<b>Cross-Discipline review required?</b>	(X) Yes	(Note affected Departments Below)
	( ) No	
<b>Preparer Initials&gt;&gt;&gt;</b>	<b>RS</b>	

<b>Department Cross-Discipline Reviews Needed</b>	<b>Signoff</b> (signed, electronic, telcon)
OSC Coordinator Lead	<i>Billy Parmer</i>
OSC HP Coordinator Lead	<i>Jimmy Friberg</i>

Does this directive contain Tech Spec Triggers? ( ) YES (X) NO

**REQUIREMENTS CROSS-REFERENCE LIST**

Requirement Implemented	by Directive	Directive Paragraph Number
Name	Paragraph Number	That Implements Requirement
GGNS Emer Plan	7.3.2.S5	6.2.1.a(2), NOTE
GGNS Emer Plan	7.5.3.b.S2	6.4.3.e
GGNS Emer Plan	7.3.2.S6	6.1.1
GGNS Emer Plan	7.3.2.S1,S4	6.2.1
GNRO 97/00113	97-15-02-ITEM 2	6.3.2.a(5)
GNRO 97/00113	97-15-01-ITEM 1	6.3.2.a(4)
CR-GGN-2002-2511	CA2	6.2.3

\* Covered by directive as a whole or by various paragraphs of the directive.

**NOTE**

The Component Database Change Request statement is applicable only to Volume 06 and 07 maintenance directives.

Component Database Change Request generated and the backup documentation available for setpoint and/or calibration data only ☐ Yes ☒ N/A CDBCR # \_\_\_\_\_

**Current Revision Statement**

Revision 19:

- Revises minimum staffing requirements for declaring the OSC operational.

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## 1.0 PURPOSE AND DISCUSSION

### 1.1 Purpose

- 1.1.1 To provide guidelines for the Operations Support Center, including facility activation, personnel responsibilities, staffing and coordination of emergency response teams.

### 1.2 Discussion

- 1.2.1 This procedure should be used by the OSC and Health Physics Coordinators to coordinate and control general OSC emergency operations.

## 2.0 RESPONSIBILITIES

### NOTE

Emergency Response personnel who leave their assigned location temporarily should inform their immediate superior of their location, destination, and estimated time of return.

### 2.1 Operations Support Center Coordinator - Reports directly to the Emergency Director and is responsible for:

- 2.1.1 Coordinating OSC activities with the Technical Support Center Coordinator during an emergency.
- 2.1.2 Dispatching emergency response teams as directed by the Emergency Director.
  - a. Emergency Repair Team(s)
  - b. First Aid Team(s)
  - c. Search and Rescue Team(s)
  - d. Mobilizing other required support personnel

### NOTE

Ensure an individual is assigned to maintain Plant Status and OSC TEAM STATUS boards.

### 2.2 Health Physics Coordinator - Reports directly to the Radiation Protection Manager and is responsible for:

- 2.2.1 Dispatching Onsite Monitoring Teams.

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2.2.2 Coordinating the activities of the Radiation Protection Personnel.

2.2.3 Providing radiological support to the Operations Support Center Coordinator.

2.2.4 Ensuring that Decon and First Aid stations are established as necessary.

2.2.5 Ensuring that radiological monitoring is performed in manned areas of the Plant during site evacuation.

### 2.3 OSC Communicator

Reports to OSC Coordinator and provides communication with TSC, Control Room and EOF.

### 2.4 On-Shift Electrical Maintenance Personnel

Notifying additional maintenance personnel to support OSC operation and to meet the Emergency plan augmentation requirements for the OSC.

## 3.0 REFERENCES

3.1 Administrative Procedure 01-S-08-2, Exposure and Contamination Control

3.2 Emergency Plan Procedure 10-S-01-11, Evacuation of Onsite Personnel

3.3 Emergency Plan Procedure 10-S-01-23, Reentry

3.4 Emergency Preparedness Procedure 10-S-02-3, Emergency Preparedness Form Control

## 4.0 ATTACHMENTS

4.1 Attachment I - OSC Setup Instructions

4.2 Attachment II - BOSC Setup Instructions

### NOTE

Checklists are performance aids; they are intended to assist and aid ERO personnel in performance of their tasks. Completion of checklists is not mandatory. The forms are stored in storage bins in the facility.

## 5.0 DEFINITIONS

5.1 Emergency Dosimetry - TLD and High and Accident Range Dosimeters, or TLD and Electronic Alarming Dosimeter (EAD)

5.2 OSC - Operations Support Center

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- 5.3 EPP - Emergency Plan Procedures
- 5.4 HPC - Health Physics Coordinator
- 5.5 RPM - Radiation Protection Manager
- 5.6 EOF - Emergency Operations Facility
- 5.7 TSC - Technical Support Center
- 5.8 EAD - Electronic Alarming Dosimeter
- 5.9 OSC Issue Room - A supply room located on the mezzanine in the Maintenance Shop which contains equipment for response teams and OSC operations

## 6.0 DETAILS

### 6.1 OSC ACTIVATION

- 6.1.1 The OSC is activated for Alert, Site Area Emergency, and General Emergency classifications. Once activated, the OSC shall become operational as soon as possible (without delay). When facility staffing can be accomplished with onsite personnel, it will become operational within 45 minutes. Otherwise, when personnel staffing the facility are offsite, the facility shall be fully operational in 90 minutes.
- 6.1.2 The Emergency Director designates a person to be the OSC Lead until OSC Coordinator is available.

### 6.2 OSC SETUP AND MANNING

- 6.2.1 Emergency Response Personnel from Operations, Maintenance, Radiation Protection, Engineering, Chemistry and other support groups assemble to form OSC management and response teams.
  - a. OSC Coordinator - Designates one or more persons to man radio consoles and telephones. Communications will be established with:
    - (1) Technical Support Center (synchronize clocks)
    - (2) Control Room

#### NOTE

A radio console located in the OSC provides communication capabilities with the Control Room, TSC and EOF.

- b. OSC HP Coordinator - Designates one or more persons to :
  - (1) Set up OSC.
  - (2) Set up Control Point, First Aid and Decon stations.

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## 6.2.1 (Cont.)

- (3) Response check all survey instruments.
- (4) Inspect all respiratory equipment, as necessary.
- (5) Perform periodic OSC habitability surveys.
- (6) Conduct site boundary surveys (Radiological/Onsite Monitoring Team) as appropriate.
- (7) Establish communications with the TSC
- (8) Ensure EAD readers in OSC are operable
- c. OSC Communicator - Establish communications with Control Room and TSC
- d. On-Shift Electrical Maintenance Personnel- are responsible for:
  - (1) Determining if the required number of Maintenance personnel (3-Electrical, 2-Mechanical, and 1- I&C) are in the OSC or on site.
  - (2) **If** the required number of maintenance personnel are **not** in the OSC or on site, **call** the needed personnel in and have them report to the OSC as soon as possible to support OSC Operations.

NOTE

The Emergency Telephone Book (Section B) contains the names, discipline, and telephone numbers for Maintenance personnel.

## 6.2.2 Establish Appropriate Radiation Control Measures

- a. If the RPM has determined that radioactivity has extended beyond the CAA, the OSC HP Coordinator ensures that radiological controls are implemented for entry/exit from the OSC. OSC may be setup similar to diagram on Attachment I.

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6.2.3 The OSC may be declared operational when the following actions have been completed:

a. At a minimum, the following positions have been staffed:

- (1) OSC Coordinator
- (2) OSC HP Coordinator
- (3) manning is adequate to form required emergency response teams

NOTE

Since some personnel may be in the field performing tasks during activation, it is not necessary for all minimum staffing personnel to be physically present in the OSC.

b. Communication is established with the TSC or Control Room.

### 6.3 OSC OPERATION

#### 6.3.1 OSC Coordinator Activities

a. The OSC Coordinator must ensure that the following actions are performed as applicable, based on the nature of the emergency event:

- (1) Rotate Emergency Response Team personnel using available OSC staffing.
- (2) Monitor OSC supplies such as protective clothing and SCBA air reserves and replenish as necessary.
- (3) Develop shift schedule for extended OSC operations.
- (4) Periodically provide plant status updates to OSC staff members.

#### 6.3.2 OSC HP Coordinator activities

a. The OSC HP Coordinator must ensure that the following actions are performed as applicable, based on the nature of the emergency event.

- (1) Periodic OSC habitability surveys.
- (2) Review OSC access controls. If necessary, ensure OSC access controls are established as identified in Section 6.4.5
- (3) Develop shift schedules for extended OSC manning (Radiation Protection personnel)
- (4) Monitor OSC HP supplies and emergency respiratory equipment and obtain replacements as necessary.

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## 6.3.2 (Cont.)

- (5) If site evacuation occurs, maintain radiological monitoring of manned areas.

6.3.3 Habitability Surveys -  
The Health Physics Coordinator:

- a. Directs the performance of radiation, contamination and airborne activity surveys.
- b. Reports the results of the OSC habitability surveys to the OSC Coordinator and the Radiation Protection Manager in the TSC.
- c. Announces the habitability results to the facility.

NOTE

If the OSC is determined to be uninhabitable, refer to Section 7.0 of this procedure.

6.3.4 Personnel Accountability and Control  
The OSC Coordinator:

- a. Designates an individual to ensure that all available Emergency Response Personnel are listed on the OSC sign-in board and to update plant status information.
- b. Ensures that all OSC personnel use the accountability card reader (if SITE EVACUATION or ACCOUNTABILITY is initiated):
- c. Authorizes Radiation Protection personnel to man the in-plant staging area (HP Lab - 93' Control Building) until the Control Building is evacuated.

## 6.3.5 Dispatch and Control of an Offsite Monitoring Team from the OSC

- a. The OSC HP Coordinator dispatches an Offsite Monitoring Team (OMT) from the OSC upon request of the RPM (if the EOF is not operational) to track the plume and report offsite radiological data and other information. The monitoring is performed in accordance with 10-S-01-14.
  - (1) The HPC must designate OMT members and ensure that they are briefed and issued proper dosimetry prior to dispatch.
  - (2) The team obtains vehicle and Offsite Monitoring Kit as described in 10-S-01-28, Control of Designated Emergency Vehicles.



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## 6.3.5 (Cont.)

- b. The HPC should use the OSC OMT radio to direct the Offsite Monitoring team.

NOTE

When the EOF is operational, all Offsite Monitoring Teams presently in the field become the responsibility of the Plume Tracker (EOF).

- c. Radiological data received by the OSC from the team is reported to the RPM.

6.4 EMERGENCY RESPONSE TEAMS (OSC COORDINATOR)

6.4.1 Team Organization- Ensure the following teams are organized to support emergency actions. Specific guidelines for the organization, required equipment and control of each team is provided in the appropriate Emergency Plan Procedure.

- a. Radiological/Onsite Monitoring Team
- (1) This team is composed of personnel trained for radiological surveys.
- b. Search and Rescue Team/First Aid Team
- (1) This team is manned by at least one Radiation Protection qualified and one First Aid qualified individual.
- c. Repair Teams
- (1) This team is normally made up of maintenance and RP personnel (as appropriate) sufficient to perform the assigned tasks.

NOTE

The 'buddy system' is used whenever personnel enter hazardous areas (ie, plume affected areas or affected areas of the Power Block). To efficiently utilize personnel resources, single person teams may be used in non-hazardous areas.

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## 6.4.2 Dispatch And Control Of Control Room Teams

NOTE

The Control Room Team is intended for rapid mitigating actions such as EP Attachments before a release occurs or before radiation levels increase.

After these events, use of this team outside the Control Building is minimized and is preferably limited to the Control Room envelope, unless otherwise determined to be appropriate by the Shift Manager.

Past experience indicates that complications are introduced when using this team for complex functions or in areas of a release or elevated dose rates.

Control Room Team personnel should be briefed upon arrival and periodically during the event.

- a. Upon initial Alert or higher emergency classification, one of the shift RP technicians reports to the Emergency Director (Shift Manager) in the Control Room to be available for in-plant surveys, job coverage, or radiological consultation. The other shift RP technicians are available to perform site area surveys (as required), begin OSC preparations, or other duties as directed by the Emergency Director (Shift Manager).
- b. Before the OSC is operational, Operations personnel on-shift remain under the direction of the Emergency Director (Shift Manager) and remain in the Control Room. After the OSC is operational, the Safe Shutdown Operators remain in the Control Room and the other Operations Shift personnel may be directed to report to the OSC.
- c. The Shift Manager may immediately request an I&C Technician to report to the Control Room, prior to OSC being declared operational, by contacting the I&C Technician using any available means.
- d. The RP Technician and I&C Technician notify the Shift Manager/Emergency Director and the OSC Coordinator (if OSC is manned) of their arrival at the Control Room.
- e. After activation of the OSC, the OSC Coordinator determines if an I&C Technician has reported to the Control Room, and if required, designates an I&C Technician to report immediately to the Control Room.
- f. If not previously completed, the RP and I&C Technicians obtain appropriate emergency dosimetry and log into the Emergency Radiation Work Permit (RWP) after arrival at the Control Room (or drill RWP if appropriate).
- g. All personnel (including Operations, I&C, and RP) who leave the Control Room envelope are tracked as Control Room Team #1, #2, or similar.

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## 6.4.2 (Cont.)

- h. Command and control of the Control Room team(s) remains with the Shift Manager in the Control Room.

NOTE

Protective clothing is available in the Control Room and Technical Support Center emergency supply cabinets.

- i. The RP Technician that reports to the Control Room ensures radiological coverage is provided to Control Room teams either through radiological briefings or RP accompanying the team in the field. Any required radiological briefings are performed by the Control Room RP Technician.

NOTE

Briefings may be performed at the most appropriate location and using the most appropriate communication means determined by the RP Technician. The location of the brief may include the Control Room, or while escorting personnel to and from the work area, and/or while at the work area.

Briefings should be documented on EPP 29-03, Response Team Pre-Dispatch Requirements, but may be documented differently and at a later time at the discretion of the RP Technician.

After the OSC is operational, the Control Room RP Technician should maintain communications with the OSC HP Coordinator sufficient to provide radiological briefings that may be required for the Control Room Teams.

- j. The Control Room RP Technician utilizes in plant radiation monitoring equipment to determine if radiological job coverage is required when a team is dispatched and to advise the Emergency Director (Shift Manager) as needed.
- k. Once plant condition have stabilized and at the Emergency Directors discretion, the Control Room Team(s) personnel may be directed to physically report to the OSC.

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#### 6.4.3 General Team Guidelines (all OSC Emergency Response Teams)

- a. Response Team Predispatch Requirements (EPP Form 29-03) or similar form are completed before leaving the OSC.
- b. Specific instructions for the organization and control of Radiological Monitoring, Search and Rescue and First Aid Teams are provided in Emergency Plan Procedures 10-S-01-14, 10-S-01-18, and 10-S-01-19.
- c. Each team must be assigned a team leader who is responsible for the direction of the team members and communications with the OSC.

CAUTION

The team leader ensures that adequate communications and radiation detection instrumentation is available for each team.

- d. Each team member is issued emergency dosimetry in accordance with 10-S-01-17.
- e. Each team will be provided a portable radio for communications with the OSC.
- f. The team members must be provided with the appropriate personnel protection equipment based on the actual or potential hazards which the team may encounter. This equipment may include protective clothing, respiratory equipment (SCBAs), radiological survey instruments, and flashlights.
- g. All equipment (e.g., radios, meters, flashlights, voice boxes, PCs, etc.) must be thoroughly checked prior to OSC departure, especially the SCBAs.
- h. The HP Coordinator should periodically brief the dispatched Emergency Response Teams on current radiological conditions.
  - (1) The Team Leader should be notified immediately when radiation levels change in areas they are required to enter.
- i. The OSC Coordinator should periodically brief the dispatched teams on current plant status.

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#### 6.4.4 TSC Update

- a. The OSC Coordinator should periodically brief the TSC on the availability and status of Emergency Response Teams. This report should include:
  - (1) Number of available qualified personnel
  - (2) Remaining radiation exposure margin of team members

#### 6.4.5 OSC Entry and Exit

- a. Establish OSC access controls to direct Emergency Personnel reporting from offsite to the proper OSC entrance by placement of signs, ropes, barriers and/or walkways.
- b. OSC may be setup similar to diagram on Attachment I which shows a recommended setup of the OSC and describes the entry points.

### 7.0 BACKUP OSC

#### 7.1 Location

- 7.1.1 The Backup OSC is located in the Control Building Elevation 148' (FIN Team Room). The Health Physics Lab may be used as an in-plant staging area, if still habitable.

#### 7.2 Activation

- 7.2.1 If the OSC is not habitable or cannot perform its required functions, the OSC Coordinator directs the activation of the Backup OSC.
- 7.2.2 When relocating personnel from the OSC to the Backup OSC, the OSC Coordinator:
  - a. Contacts the ED and inform him/her of the situation
  - b. Contacts the Control Room, TSC, and Security
  - c. Contacts teams located in the field
  - d. Transfers the following functions to the Control Room:
    - (1) Response team control
  - e. If radiological conditions exist, request from the Radiation Protection Manager a determination of requirements (i.e. dosimetry, protective clothing) for relocation and route to the Backup OSC.
  - f. Ensures all logbooks, current paperwork, and position badges are taken to Backup OSC.
  - g. Designates personnel to carry additional equipment for use.

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7.2.3 Prior to leaving the OSC, the OSC Communicator:

- a. Contacts the Control Room to discuss the status of current teams and locations.

7.2.4 The OSC HP Coordinator:

- a. Dispatches a RP to the Backup OSC to setup.

### 7.3 Setup

7.3.1 Upon arrival to the Backup OSC, the OSC Coordinator ensures that the Backup OSC is setup using the BACKUP OSC CHECKLIST (Form EPP 29-07).

7.3.2 A board is used to display information normally displayed on the OSC Team Tracking boards.

7.3.3 The OSC Coordinator upon arrival:

- a. Ensure the Backup OSC is setup in accordance with the checklist.
- b. Communications can be establish with teams

7.3.4 The OSC HP Coordinator upon arrival:

- a. Ensures facility is habitable.
- b. Establishes contact with the Radiation Protection Manager.
- c. Briefs the OSC Coordinator on Radiological Conditions.
- d. BOSC may be setup similar to diagram on Attachment II which shows a recommended setup of the BOSC and describes the entry points.

### 7.4 Operation

7.4.1 The OSC Coordinator declares the Backup OSC operational when:

- a. Sufficient personnel are present to man the Backup OSC.
- b. Advised by the OSC HP Coordinator that the Backup OSC is ready to provide radiological information.

7.4.2 After declaring the backup OSC operational:

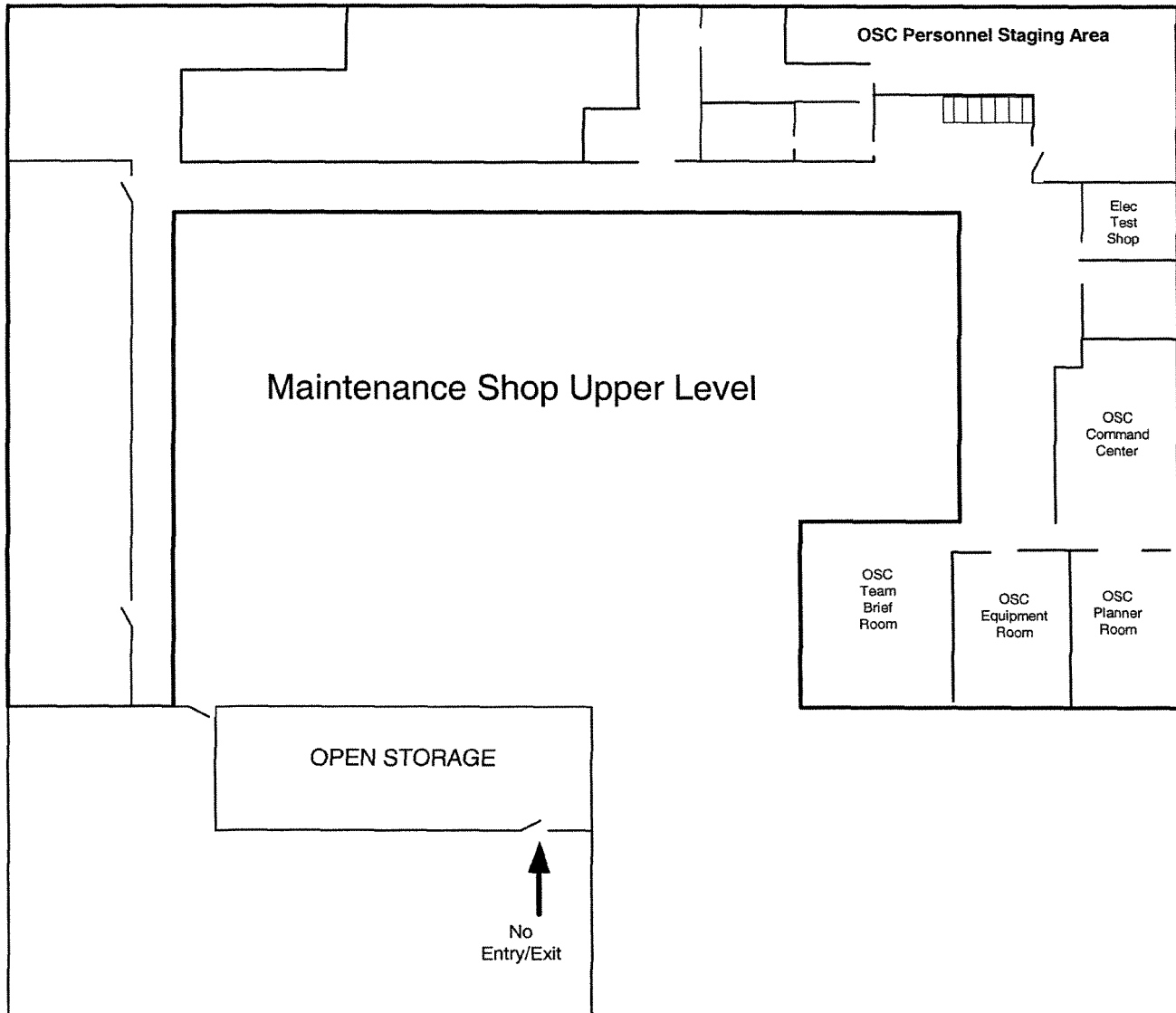
- a. Transfer the following functions from Control Room to the OSC.
  - (1) Response Team Control

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#### 8.0 RECORDS AND INFORMATION

- 8.1 Forms and paperwork generated by this procedure during emergencies are collected by the OSC Coordinator and forwarded to the Manager, Emergency Preparedness.

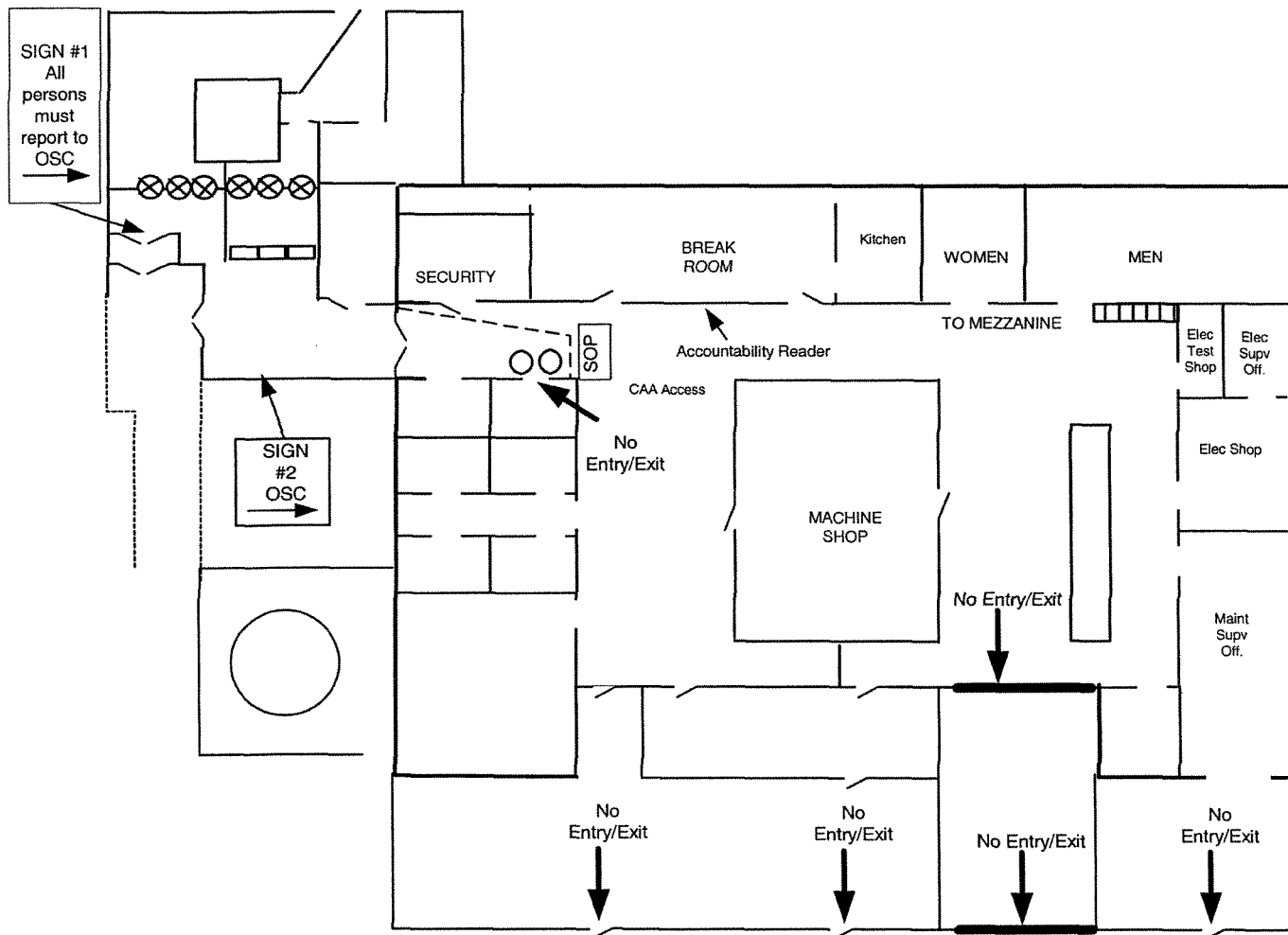
10-S-01-29	Revision: 19
Attachment I	Page 1 of 2

OSC SETUP INSTRUCTIONS**To set-up OSC:**

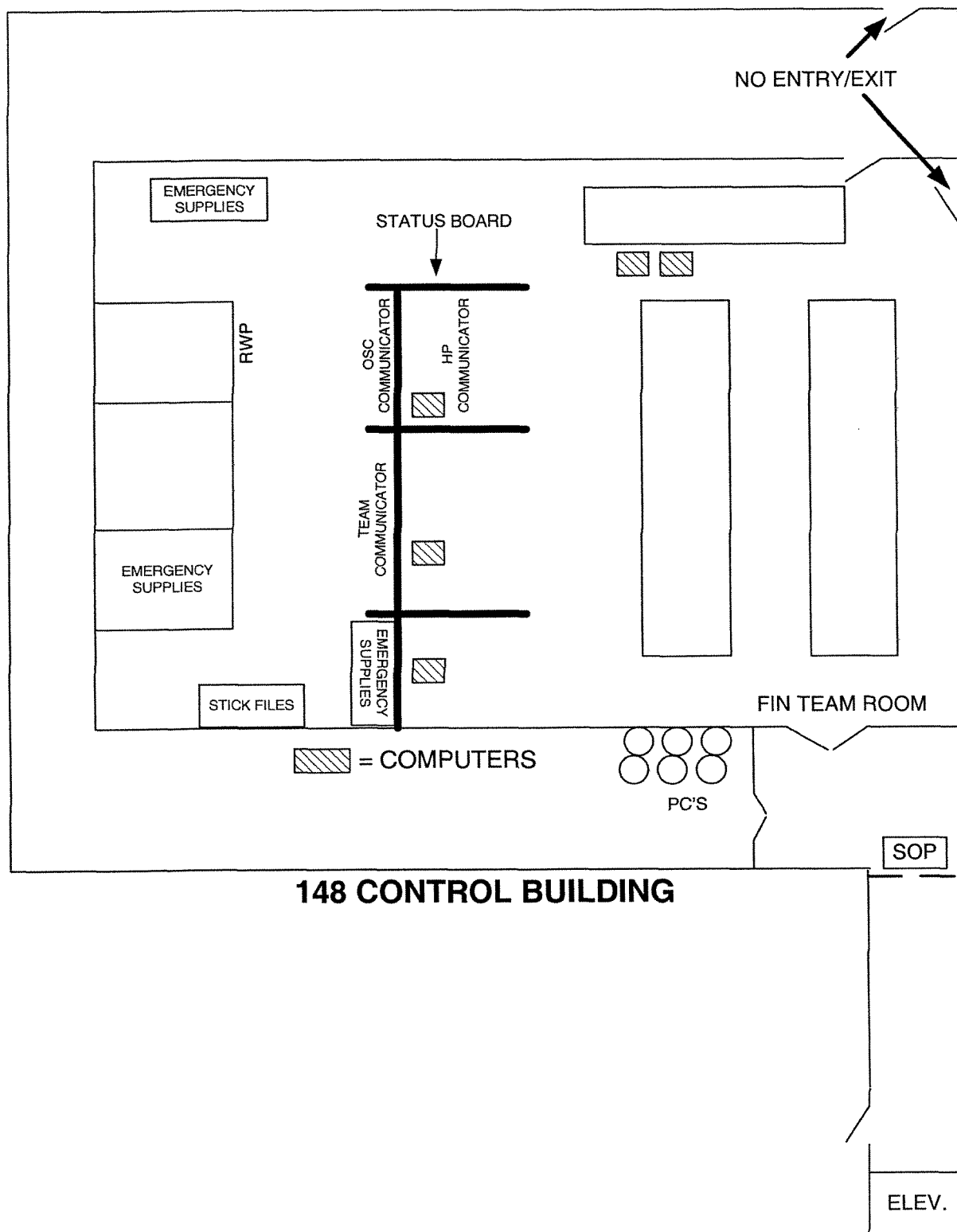
- 1) Obtain Keys to issue rooms from OSC key locker.
- 2) Turn on EAD Screens (computers and readers are normally on, reboot computer and readers only if needed)
- 3) If required, set up CAA Access as suggested on Maintenance Shop Lower Level drawing (or similar)
- 4) Place Sign #1 and Sign #2 at locations as shown on Maintenance Shop Lower Level drawing



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OSC SETUP INSTRUCTIONS**Maintenance Shop Lower Level**

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BOSC Setup Instructions

PLANT OPERATIONS MANUAL


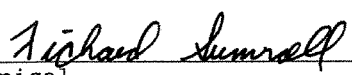

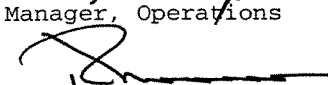
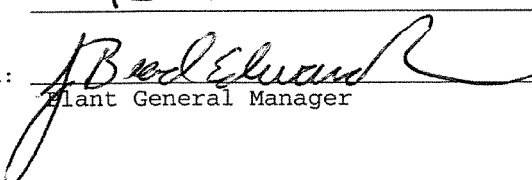
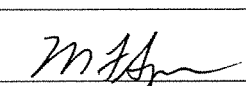
Volume 10  
Section 01

10-S-01-17  
Revision: 16  
Date: 2/26/03

EMERGENCY PLAN PROCEDURE

EMERGENCY PERSONNEL EXPOSURE CONTROL

SAFETY RELATED

Prepared:   
Reviewed:   
Technical  
Concurred:   
Manager, Operations  
OSRC:   
Approved:    
Plant General Manager Manager, Emergency Preparedness


List of Effective Pages:

Pages 1-9

Attachments I-II

List of TCNs Incorporated:

<u>Revision</u>	<u>TCN</u>
0-15	None
16	None

	<b>EN-S NUCLEAR MANAGEMENT MANUAL</b>	QUALITY RELATED ADMINISTRATIVE	LI-101	Revision 2		
		INFORMATION USE				
<b>ATTACHMENT 9.1</b>		<b>50.59 REVIEW FORM</b>	Page	1	of	6

# **I. OVERVIEW / SIGNATURES**

Facility: GGNS

Document Reviewed: 10-S-01-17 Emergency Personnel Exposure Control

Change/Rev. 16 System Designator(s)/Description: N/A

## **Description of Proposed Change**

Add reference to new OMT Emergency Dose Margin Tracking Form, EPP 17-03.

If the proposed activity, in its entirety, involves any one of the criteria below, check the appropriate box, provide a justification/basis in the Description above, and forward to a Reviewer. No further 50.59 Review is required. If none of the criteria is applicable, continue with the 50.59 Review.

- ☐ The proposed activity is editorial/typographical as defined in Section 5.2.2.1.
- ☐ The proposed activity represents an "FSAR-only" change as allowed in Section 5.2.2.2\_\_\_\_\_. (Insert item # from Section 5.2.2.2).
- ☐ The proposed activity is controlled by another regulation per Section 5.2.2.3.

If further 50.59 Review is required, check the applicable review(s): (Only the sections indicated must be included in the Review.)

<input checked="" type="checkbox"/>	<b>SCREENING</b>	Sections I, II, and III required
<input type="checkbox"/>	<b>50.59 EVALUATION EXEMPTION</b>	Sections I, II, III, and IV required
<input type="checkbox"/>	<b>50.59 EVALUATION (#: _____)</b>	Sections I, II, III, and V required

Preparer: Richard Van Den Akker /  / EOI/EP/ 2-3-03  
Name (print) / Signature / Company / Department / Date

Reviewer: R Sumrell  EOI-EP 2-4-03  
Name (print) / Signature / Company / Department / Date

OSRC: N/A  
Chairman's Name (print) / Signature / Date  
[Required only for Programmatic Exclusion Screenings (see Section 5.8) and 50.59 Evaluations.]


## **List of Assisting/Contributing Personnel:**

Name:

Gregg Brown

Scope of Assistance:

Review of Security Plan

	<b>EN-S NUCLEAR MANAGEMENT MANUAL</b>	<b>QUALITY RELATED ADMINISTRATIVE</b>	<b>LI-101</b>	<b>Revision 2</b>		
		<b>INFORMATION USE</b>				
<b>ATTACHMENT 9.1</b>		<b>50.59 REVIEW FORM</b>	<b>Page</b>	<b>2</b>	<b>of</b>	<b>6</b>

## II. SCREENING

### A. Licensing Basis Document Review

1. Does the proposed activity impact the facility or a procedure as described in any of the following Licensing Basis Documents? (Check "N/A" for those documents that are not applicable to the facility.)

<i>Operating License</i>	YES	NO	N/A	<i>CHANGE # and/or SECTIONS IMPACTED</i>
Operating License	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
TS	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
NRC Orders	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

If "YES", obtain NRC approval prior to implementing the change. (See Section 5.1.13 for exceptions.)

<i>LBDs controlled under 50.59</i>	YES	NO	N/A	<i>CHANGE # (if applicable) and/or SECTIONS IMPACTED</i>
FSAR	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
TS Bases	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Technical Requirements Manual	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Core Operating Limits Report	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Offsite Dose Calculations Manual	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
NRC Safety Evaluation Reports <sup>1</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		

If "YES", perform an Exemption Review per Section IV OR perform a 50.59 Evaluation per Section V.

<i>LBDs controlled under other regulations</i>	YES	NO	N/A	<i>CHANGE # (if applicable) and/or SECTIONS IMPACTED</i>
Quality Assurance Program Manual <sup>2</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Emergency Plan <sup>2</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Security Plan <sup>3</sup>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Fire Protection Program <sup>4</sup> (includes the Fire Hazards Analysis)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

If "YES", evaluate/process any changes in accordance with the appropriate regulation.

2. Does the proposed activity involve a test or experiment not described in the FSAR? ☐ Yes  
☒ No

If "yes," perform an Exemption Review per Section IV OR perform a 50.59 Evaluation per Section V.

3. Does the proposed activity potentially impact equipment, procedures, or facilities utilized for storing spent fuel at an Independent Spent Fuel Storage Installation? ☐ Yes  
☐ No  
☒ N/A

(Check "N/A" if dry fuel storage is not applicable to the facility.)

If "yes," perform a 72.48 Review in accordance with NMM Procedure LI-112.


(See Sections 1.5 and 5.3.1.5 of the EOI 10CFR50.59 Review Program Guidelines.)

<sup>1</sup> If "YES," see Section 5.1.5.

<sup>2</sup> If "YES," notify the responsible department and ensure a 50.54 Evaluation is performed.

<sup>3</sup> The Security Plan is classified as safeguards and can only be reviewed by personnel with the appropriate security clearance. The Preparer should notify the security department of potential changes to the Security Plan.

<sup>4</sup> If "YES," evaluate the change in accordance with the requirements of the facility's Operating License Condition.

	<b>EN-S NUCLEAR MANAGEMENT MANUAL</b>	<b>QUALITY RELATED ADMINISTRATIVE</b>	<b>LI-101</b>	<b>Revision 2</b>		
		<b>INFORMATION USE</b>				
<b>ATTACHMENT 9.1</b>		<b>50.59 REVIEW FORM</b>	<b>Page</b>	<b>3</b>	<b>of</b>	<b>6</b>

**B. Basis**

(Provide a clear, concise basis for the answers given in the applicable sections above. Adequate basis must be provided within the Screening such that a third-party reviewer can reach the same conclusions. Simply stating that the change does not affect TS or the FSAR is not an acceptable basis.)

An electronic search was conducted on the following Licensing Basis Documents: Technical Specifications, FSAR, COLR, FHA, and Emergency Plan. The search was conducted using the keywords TLD, Dosimetry, Dosimeter, Exposure, Internal Exposure, Respirator, Respiratory, OMT, Offsite Monitoring Team, Dose Margin, and Overexposure. 10CFR20.2202, 10CFR20.2203, and 10CFR20.1502 were also reviewed.

Searches revealed that there are requirements to monitor individuals, but does not discuss the estimation of internal exposure (UFSAR 12.5.2.2.3, Emergency Plan 6.7.1).

This change does not affect when emergency personnel are monitored or what type of monitoring devices are used. This change allows the use of a TEDE-DDE correction factor provided by Dosecalc to estimate an individuals TEDE based on his dosimeter readings and current release conditions.

Security personnel have verified that these changes will not affect the Security Plan.

**C. References**

[Discuss the methodology for performing the LBD search. State the location of relevant licensing document information and explain the scope of the review such as electronic search criteria used (e.g., key words) or the general extent of manual searches per Section 5.3.6.4 of LI-101.]

LBDs/Documents Reviewed:

Keywords:

FSAR, Technical Specifications, GGNS Emergency Plan, 10CFR20.2202, 10CFR20.2203, 10CFR20.1502


TLD, Dosimetry, Dosimeter, Exposure, Internal Exposure, Respirator, Respiratory, OMT, Offsite Monitoring Team, Dose Margin, and Overexposure

**D. Is the validity of this Review dependent on any other change?**  
(See Section 5.3.4 of the EOI 10CFR50.59 Program Review Guidelines.)

☐ Yes  
☒ No

If "Yes," list the required changes.

N/A

 <b>Entergy</b>	<b>EN-S NUCLEAR MANAGEMENT MANUAL</b>	<b>QUALITY RELATED ADMINISTRATIVE</b>	<b>LI-101</b>	<b>Revision 2</b>		
		<b>INFORMATION USE</b>				
<b>ATTACHMENT 9.1</b>		<b>50.59 REVIEW FORM</b>	<b>Page</b>	<b>4</b>	<b>of</b>	<b>6</b>

### III. ENVIRONMENTAL SCREENING

If any of the following questions is answered "yes," an Environmental Review must be performed in accordance with NMM Procedure EV-115, "Environmental Evaluations," and attached to this 50.59 Review.

Will the proposed Change being evaluated:

Yes

No

- ☐ ☒ Involve a land disturbance of previously disturbed land areas in excess of one acre (i.e., grading activities, construction of buildings, excavations, reforestation, creation or removal of ponds)?
- ☐ ☒ Involve a land disturbance of undisturbed land areas (i.e., grading activities, construction, excavations, reforestation, creating, or removing ponds)?
- ☐ ☒ Involve dredging activities in a lake, river, pond, or stream?
- ☐ ☒ Increase the amount of thermal heat being discharged to the river or lake?
- ☐ ☒ Increase the concentration or quantity of chemicals being discharged to the river, lake, or air?
- ☐ ☒ Discharge any chemicals new or different from that previously discharged?
- ☐ ☒ Change the design or operation of the intake or discharge structures?
- ☐ ☒ Modify the design or operation of the cooling tower that will change water or air flow characteristics?
- ☐ ☒ Modify the design or operation of the plant that will change the path of an existing water discharge or that will result in a new water discharge?
- ☐ ☒ Modify existing stationary fuel burning equipment (i.e., diesel fuel oil, butane, gasoline, propane, and kerosene)?<sup>1</sup>
- ☐ ☒ Involve the installation of stationary fuel burning equipment or use of portable fuel burning equipment (i.e., diesel fuel oil, butane, gasoline, propane, and kerosene)?<sup>1</sup>
- ☐ ☒ Involve the installation or use of equipment that will result in an air emission discharge?
- ☐ ☒ Involve the installation or modification of a stationary or mobile tank?
- ☐ ☒ Involve the use or storage of oils or chemicals?
- ☐ ☒ Involve burial or placement of any solid wastes in the site area that may effect runoff, surface water, or groundwater?

<sup>1</sup> See NMM Procedure EV-117, "Air Emissions Management Program," for guidance in answering this question.

Title: Emergency Personnel Exposure Control	No.: 10-S-01-17	Revision: 16	Emergency Plan Evaluation
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10CFR50.54(q) SCREENING**1. DOCUMENT INFORMATION**

Procedure/Document Number: 10-S-01-17	Proc./Doc. Revision: 16
Document Title: Emergency Personnel Exposure Control	
Brief Description of Proposed Revision:	
Add reference to new OMT Emergency Dose Margin Tracking Form, EPP 17-03.	

**2. SCREENING**

A.) Does the proposed revision require a change to the Emergency Plan?

\_\_\_ Yes \_\_\_ X No

B.) Does the proposed revision change the site Emergency Action Levels (EALs)?

\_\_\_ Yes \_\_\_ X No

If the answer to either question is YES, then a 50.54(q) evaluation must be performed.

**3. Reason for no response**

This revision of 10-S-01-17 adds a reference to a checklist that estimates internal dose based on release conditions, and allows us to estimate TEDE and thereby get a better estimation of remaining dose margin.

Though the GGNS Emergency Plan provides exposure guidelines and requires the use of appropriate dosimetry for emergency response personnel, it does not specify how Total Effective Dose Equivalent (TEDE) is determined when personnel receive significant internal exposure. This type of detail does not need to be included in the GGNS Emergency Plan and is best promulgated through the implementing procedures and checklists used during the emergency response.

The GGNS EALs do not include any EALs for personnel exposure. Personnel exposure is monitored and personnel receive extension or reassignment as necessary when their limits are approached.

Based on the above this change does not require a revision to the Emergency Plan and does not affect EALs.

**4. APPROVAL**

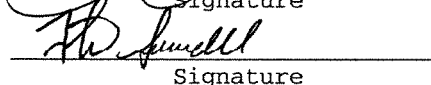
Screening Completed By:

  
Signature

2-25-03

Date

Screening Reviewed By:

  
Signature

2-25-03


Date



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## RPTS FORM

10CFR50.59 Review Required?	(X) Yes	If Yes, attach 50.59 Review Form
	( ) No	Not required per LI-101

Cross-Discipline review required?	( ) Yes	(Note affected Departments Below)
	(X) No	
Preparer Initials>>>		

Department Cross-Discipline Reviews Needed	Signoff (signed, electronic, telcon)

Does this directive contain Tech Spec Triggers? ( ) YES (X) NO

## REQUIREMENTS CROSS-REFERENCE LIST

Requirement Implemented	by Directive	Directive Paragraph Number
Name	Paragraph Number	That Implements Requirement
GGNS Emergency Plan	6.7.1.S4.b.s1	6.0 Table 1
GGNS Emergency Plan	6.7.1.S4.a	6.8.2

\* Covered by directive as a whole or by various paragraphs of the directive.

NOTE

The Component Database Change Request statement is applicable only to Volume 06 and 07 maintenance directives.

Component Database Change Request generated and the backup documentation available for setpoint and/or calibration data only ☐ Yes ☒ N/A CDBCR # \_\_\_\_\_Current Revision Statement

Revision 16:

Add reference to new OMT Emergency Dose Margin Tracking Form, EPP 17-03.

Title: Emergency Personnel Exposure Control	No.: 10-S-01-17	Revision: 16	Page: 1
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#### 1.0 PURPOSE AND DISCUSSION

- 1.1 This procedure provides guidelines for emergency exposure authorization, issuing dosimetry, and RWP access during emergencies.

#### 2.0 RESPONSIBILITIES

- 2.1 Emergency Director/Emergency Response Facility Coordinator - Ensure that they and personnel under their direction are monitored per this procedure.
- 2.2 Emergency Director, Offsite Emergency Coordinator - responsible for approving personnel exposures exceeding the limits of 10CFR20.
- 2.3 GGNS Radiation Protection section - Is responsible for updating the exposure margins for all appropriate GGNS ERO personnel.
- 2.4 Manager, Emergency Preparedness - Is responsible for ensuring that EOF dosimetry is processed as soon as possible and that the results of the processing are hand-delivered to the GGNS Radiation Protections section.
- 2.5 Radiation Emergency Manager - Is responsible for collecting all EOF dosimetry, ensuring that all EOF dosimetry is delivered to the Manager, Emergency Preparedness; and notifying the Radiation Protection Dosimetry section of which (if any) EOF personnel (including OMT personnel) may have received occupational radiation exposure.
- 2.6 Radiation Protection Manager - Is responsible for tracking the dose history for those personnel authorized to receive exposures in excess of 10CFR20 and notifying the NRC of any overexposures. Is responsible for ensuring NRC Notifications and Reports of overexposures are completed as outlined in Ref. 3.1.

#### 3.0 REFERENCES

- 3.1 01-S-06-5, Reportable Events or Conditions
- 3.2 01-S-08-2, Exposure and Contamination Control
- 3.3 10-S-01-26, Offsite Emergency Response
- 3.4 Nuclear Management Manual Procedure RP-201, Dosimetry Administration
- 3.5 Nuclear Management Manual Procedure TQ-110, Emergency Preparedness Training Program

#### 4.0 ATTACHMENTS

- 4.1 Attachment I - EOF TLD Locations
- 4.2 Attachment II - Risks Associated with Large Doses of Radiation

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## 5.0 DEFINITIONS

- 5.1 Accident Range Dosimeter -  $\geq 100R$
- 5.2 EAD - Electronic Alarming Dosimeter
- 5.3 Electronic Dosimeter System - Computer system consisting of electronic dosimeters and dosimeter readers that is used for exposure monitoring at GGNS.
- 5.4 Emergency TLD - A TLD issued to an Emergency Response Organization member during a drill or emergency. Usually issued if their personal TLD is unavailable.
- 5.5 Emergency Dosimetry - TLD and High Range and Accident Range Dosimeters, or TLD and Electronic Alarming Dosimeter
- 5.6 Emergency Personnel - Emergency Response Personnel and Emergency Support Personnel
- 5.7 Emergency Response Personnel - GGNS and contractor personnel who are required to respond to an emergency and meet the necessary qualification requirements.
- 5.8 Emergency Support Personnel - GGNS and contractor personnel who are required to respond to support Emergency Response Personnel and their actions during an emergency and have completed the minimum training requirements as per reference 3.5.
- 5.9 EOF - Emergency Operations Facility
- 5.10 High Range Dosimeter -  $> 1R$  but  $< 100R$
- 5.11 HIS-20 - Health Physics Information System Computer
- 5.12 Offsite Emergency personnel - personnel responding to assist emergency efforts that may require training and briefings as outlined in Ref. 3.3.
- 5.13 OSC - Operations Support Center
- 5.14 Personal TLD - TLD's issued to personnel on a permanent basis.
- 5.15 RP- Radiation Protection technician
- 5.16 RWP - Radiation Work Permit
- 5.17 TLD - Thermoluminescent Dosimetry. For the purposes of this procedure two types of TLD are discussed: Emergency TLD's and Personal TLD's.
- 5.18 TSC - Technical Support Center

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6.0 DETAILSNOTE

- EMERGENCY DOSE MARGIN TRACKING FORMS (EPP 17-02) are used during emergencies. The forms are completed by the individuals issuing dosimetry only if the Electronic Dosimeter System is not in service, not available, or being used in the power on - power off modes. EPP 17-02's are not used for OMT's.
- OMT EMERGENCY DOSE MARGIN TRACKING FORMS (EPP 17-03) are used for OMT's during emergencies. The forms are completed by the individuals issuing dosimetry to track exposure while offsite and estimate internal exposure.
- Initial Dose Margins for individuals designated as emergency workers must be obtained from Radiation Protection personnel located in the OSC. Maintaining dose margins current is the responsibility of each emergency facility issuing dosimetry.
- Normally only those persons in each emergency facility who are leaving the facility and are expected to receive a whole body exposure are issued emergency dosimetry. Surveys or installed area radiation monitors in each facility normally provide adequate radiological controls for all persons remaining in that facility.
- Self-Reading dosimeters are read at the frequency specified in the Emergency RWP or at a frequency specified (if appropriate) by the:  
  
Radiation Protection Manager - TSC  
  
Radiation Emergency Manager - EOF  
  
OSC HP Coordinator - OSC

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## 6.1 Emergency Exposure Authorization

TABLE 1

### DOSE LIMITS FOR EMERGENCY WORKERS

The following table represents those extensions of administrative exposure limits for which authorization, by the Emergency Director (ED) or Offsite Emergency Coordinator (OEC), shall be obtained prior to the exposure being received:

DOSE LIMITS (TEDE)	ACTIVITY	CONDITIONS
>5 up to 10 Rem	Protecting Valuable Property	Lower dose not practicable
>10 up to 25 Rem	Life saving or Protection of Large Populations	Lower dose not practicable
>25 Rem	Life saving or Protection of Large Populations	Only on a voluntary basis to persons fully aware of the risks involved

- 6.1.1 Workers performing services during emergencies should limit dose to the lens of the eye to three times the listed value and doses to any other organ (including skin and body extremities) to ten times the listed value.
- 6.1.2 The administrative limits and extension process of Reference 3.4 are automatically suspended at the declaration of an Alert, Site Area Emergency, or General Emergency.
- 6.1.3 Emergency Response personnel are administratively extended to the Federal Limits of 10CFR20 at the declaration of an Alert, Site Area Emergency, or General Emergency. Efforts are made to maintain personnel exposures within the limits established by 10CFR20.

NOTE

HIS-20 margins are not automatically extended. Manual reset of exposure margins in HIS-20 or manually resetting EAD setpoints is required by Radiation Protection Personnel.

- 6.1.4 Each situation in which an individual may receive exposure in excess of Federal Limits must be evaluated with regard to the risk to the individual, protection of valuable property, or protection of other persons.
- 6.1.5 Those individuals requesting authorization should do so through the appropriate Lead Radiation Protection personnel (REM or RPM), if possible.

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- 6.1.6 The Lead Radiation Protection personnel present the authorization request to the ED or the OEC.
- 6.1.7 The ED or OEC considers each request on a case by case basis. "Blanket" authorizations are not to be considered.
- 6.1.8 The ED or OEC may either grant authorization or deny authorization (by verbal, facsimile, or written communication).
- 6.1.9 All authorization requests, approvals, and denials must be entered into the log of the person requesting the authorization and the person granting the authorization (or designee). Log entry should include the appropriate information to support the authorization decision.
- 6.2 CONTROL ROOM ENVELOPE EXPOSURE CONTROL  
(Control Room, TSC, Central Alarm Station, Operator Work Area)
- 6.2.1 The Shift Supervisor/Manager/Emergency Director is to ensure that personnel who are leaving the Control Room Envelope and are expected to receive a whole body exposure meet the requirements of section 6.7 of this procedure.
- 6.2.2 The area radiation monitors or habitability surveys in the Control Room Envelope provide monitoring that may be used to determine habitability. Individual issue of emergency dosimetry is not required unless:
- As specified in Step 6.2.1.
  - Radiation levels exceed ARM setpoint.
- 6.3 OPERATIONS SUPPORT CENTER EXPOSURE CONTROL
- 6.3.1 The OSC Coordinator ensures that personnel leaving the OSC and are expected to receive a whole body exposure meet the requirements of section 6.7 of this procedure. The OSC Health Physics (HP) Coordinator assumes the responsibility upon arrival.

NOTE

The Daily Dose Margin Report should be in the OSC. This printout is generated by the RP section daily. The age of the data contained on the printout should not exceed 24 hours plus 25%.

- 6.3.2 Area surveys of the OSC are taken to document radiological conditions in the OSC. A Senior RP must evaluate the results of the surveys to determine habitability and the need for issuing Emergency Dosimetry to all OSC personnel.
- 6.3.3 Upon activation of the OSC, the on-shift Radiation Protection Supervision ensures that a sufficient number of Electronic Alarming Dosimeters (EADs) are taken from the RP Lab to the OSC. (A guideline for a sufficient number is approximately 40 EADs.)

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- 6.3.4 Each person assigned to an emergency response team is issued a TLD and an EAD, or a TLD and dosimeters (High Range and Accident Range).
- 6.3.5 Personnel leaving the OSC are logged into the Emergency RWP in accordance with section 6.7 of this procedure.
- 6.3.6 Activation of the Electronic Dosimeter System (EDS) is as follows:

NOTE

The normal use of the electronic dosimeter system requires the HIS-20 computer system to be operational and in communication with the EAD reader being used.

- a. EAD readers should be "on" and operating at all times.
- b. If the EAD readers are not operating in normal mode, use the ED Power program to manually set dose and dose rate alarm setpoints. Setpoints should be set to the RWP setpoints unless determined otherwise by Radiation Protection personnel.

NOTE

WHEN USING THE EAD READER TO "POWER ON" OR "POWER OFF" AN EAD:

- ♦ The cumulative dose alarm setpoint and the exposure rate setpoint may be set to values that are different than the corresponding setpoints in the Emergency RWP.

6.4 OFFSITE MONITORING TEAM (OMT) EXPOSURE CONTROL

NOTE

The OSC HP Coordinator/EOF Plume Tracker / Senior RP ensures that appropriate emergency dosimetry is issued to each OMT member and verifies that each member meets the requirements of section 6.7 of this procedure.

OMT members may bring their personal TLD with them when responding to the EOF.

- 6.4.1 Obtain dose margin for OMT members by contacting the OSC HP Coordinator or using HIS-20 (if available) and record on OMT Emergency Dose Margin Form (EP Form EPP 17-03). OMT Emergency Dose Margin Tracking Forms are used to estimate TEDE using dosimeter readings and a correction factor provided by DOSECALC. A separate form is filled out for each OMT member.

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- 6.4.2 Obtain dosimetry. In the EOF the dosimetry is normally located at the Habitability Specialist Desk. Issue dosimetry in accordance with section 6.7 of this procedure.

6.5 EMERGENCY OPERATIONS FACILITY EXPOSURE CONTROL

NOTE

Occupational exposure monitoring in the EOF is accomplished using posted TLDs distributed throughout the EOF, habitability surveys, and if necessary, individually issued pocket ion chamber dosimetry devices. At the termination of the Emergency or discretion of the Radiation Emergency Manager (REM), the REM must ensure that EOF posted TLDs, EOF Personnel Monitoring Logs (EOF), Emergency Dose Margin Forms and EOF Habitability Surveys are delivered directly to the Manager, Emergency Preparedness for processing as soon as possible. (EOF posted TLD locations are in Attachment I of this procedure.)

- 6.5.1 Upon reporting to the EOF and passing through Security, personnel find (or record) their name and Social Security Number on the EOF Personnel Monitoring Log that is posted on the wall near the main entrance to the EOF.
- 6.5.2 Personnel verify that their SSN is correct and record the date and time of reporting for duty at the EOF under the IN column.
- 6.5.3 When leaving the EOF, personnel record the date and time of leaving under the OUT column.
- 6.5.4 The Offsite Emergency Coordinator ensures personnel leaving the EOF and are expected to receive whole body exposure meet the requirements of section 6.7 of this procedure.

6.6 OFFSITE EMERGENCY PERSONNEL MONITORING (Entry into the Protected Area)

- 6.6.1 The following guidelines must be followed for issuance of dosimetry to Offsite Emergency personnel during declared emergencies:
- Visitor Key Cards with a TLD attached is issued by Security Island personnel. The Visitor Key Cards are issued to personnel responding inside the Protected Area only.
  - The Security Island personnel must notify the OSC Coordinator (if manned) that Offsite Emergency personnel are to enter the Protected Area.
  - The OSC Coordinator, through the Health Physics Coordinator, assigns an EAD to all offsite personnel responding (if necessary) using the ED Power program and the Emergency Dose Margin Tracking Form (EPP Form EPP 17-02). Pocket ion chambers may be issued if determined appropriate by the OSC Health Physics Coordinator.
  - The OSC HP Coordinator ensures requirements of Ref. 3.3 are satisfied.



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- d. The OSC HP Coordinator ensures requirements of Ref. 3.3 are satisfied.
- e. When the Offsite Emergency personnel leave the Protected Area, the TLDs attached to the issued key cards are removed from the cards and continue to be worn by the Offsite Emergency personnel throughout the emergency.
- f. After the incident is terminated, the RP escorting the personnel must collect the dosimetry worn, collect all issuance paperwork, and turn in the paperwork to the OSC HP Coordinator or the Radiation Protection Shift Supervisor.

#### 6.7 EXPOSURE CONTROL FOR PERSONNEL LEAVING EMERGENCY FACILITIES

##### 6.7.1 Dose Margins

- a. The facility lead, or his designee, ensures that each person leaving the facility and expecting to receive a whole body exposure has a sufficient exposure margin to complete the expected task. This may be done using the HIS-20 terminal or the Daily Dose Margin Report, both of which are available in the OSC.
- b. If the person's dose limit is likely to be exceeded, obtain an Exposure Extension Authorization in accordance with section 6.1 of this procedure.
- c. EMERGENCY DOSE MARGIN TRACKING FORMS (EPP 17-02) are used during emergencies. The forms are completed by the individuals issuing dosimetry only if the Electronic Dosimeter System is not in service, not available, or being used in the power on - power off modes.
- d. Record the dose margin on Emergency Dose Margin Form (EP Form EPP 17-02). A separate form is filled out for each person.

##### 6.7.2 Emergency RWP

- a. The Emergency RWP uses the Response Team Pre-Dispatch Requirements as a Pre-Job Brief for OSC Teams and the OMT Briefing Checklist for Offsite Monitoring Teams. Personnel leaving other facilities must be briefed by the facility lead (or designee) prior to leaving the facility. The details of the briefing, and personnel briefed, should be logged if no briefing form is used.
- b. All personnel who report to emergency facilities and expect to be sent out into the field should log into the RWP upon arrival. Personnel who experience problems logging in report to Radiation Protection personnel to determine appropriate action to allow the person to log in.
- c. The Emergency RWP is used for personnel who leave emergency response facilities during a declared emergency. Working copies of the Emergency RWP are posted at the Control Room, TSC, Back-up TSC, OSC, Back-up OSC, EOF, and the RP Lab. (The master copy is in the RP Lab.)

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### 6.7.3 Issuing Dosimetry

- a. Select and assign a TLD (if the personal TLD is unavailable) and EAD, (or pocket dosimeters) for each person. Record TLD and dosimeter numbers on the Emergency Dose Margin Form.
- b. Rezero all dosimeters.
- c. Record dosimeter readings in "dose in" block of the Emergency Dose Margin Form.
- d. Record the date and time that the person actually left the facility.

### 6.7.4 Personnel should read their dosimetry at the frequency required by the Emergency RWP. Readings should be reported to the emergency facility so the person's exposure margin may be updated. Report all dosimeter readings to the facility lead, or his designee, if requested.

- a. TLD and dosimeter numbers need not be recorded for each entry except when there is a change of dosimetry or continuing data on a new Emergency Dose Margin Form.
- b. Return the emergency dosimetry to the facility it was issued from, if possible.

## 6.8 EMERGENCY SUPPORT PERSONNEL EXPOSURE

- 6.8.1 Emergency Support personnel are administratively extended to the Federal Limits of 10CFR20 at the declaration of an Alert, Site Area Emergency, or General Emergency.
- 6.8.2 Support personnel are furnished appropriate dosimetry. In situations when it appears that administrative dose limits may be exceeded, these individuals are relieved of duties involving additional exposure to radiation.

## 6.9 RECORDS AND INFORMATION

- 6.9.1 Forms and paperwork generated during actual emergencies are retained for information, legal records of exposure, event reconstruction, and are submitted to the Manager, Emergency Preparedness to be filed as a Quality Assurance Record.
- 6.9.2 Ensure dose received during an emergency is recorded on the individual's dose history file. All occupational doses, including emergency doses, are required to be included as part of the individual's accumulated dose history and can affect the individual's allowable exposure during the current and subsequent years.

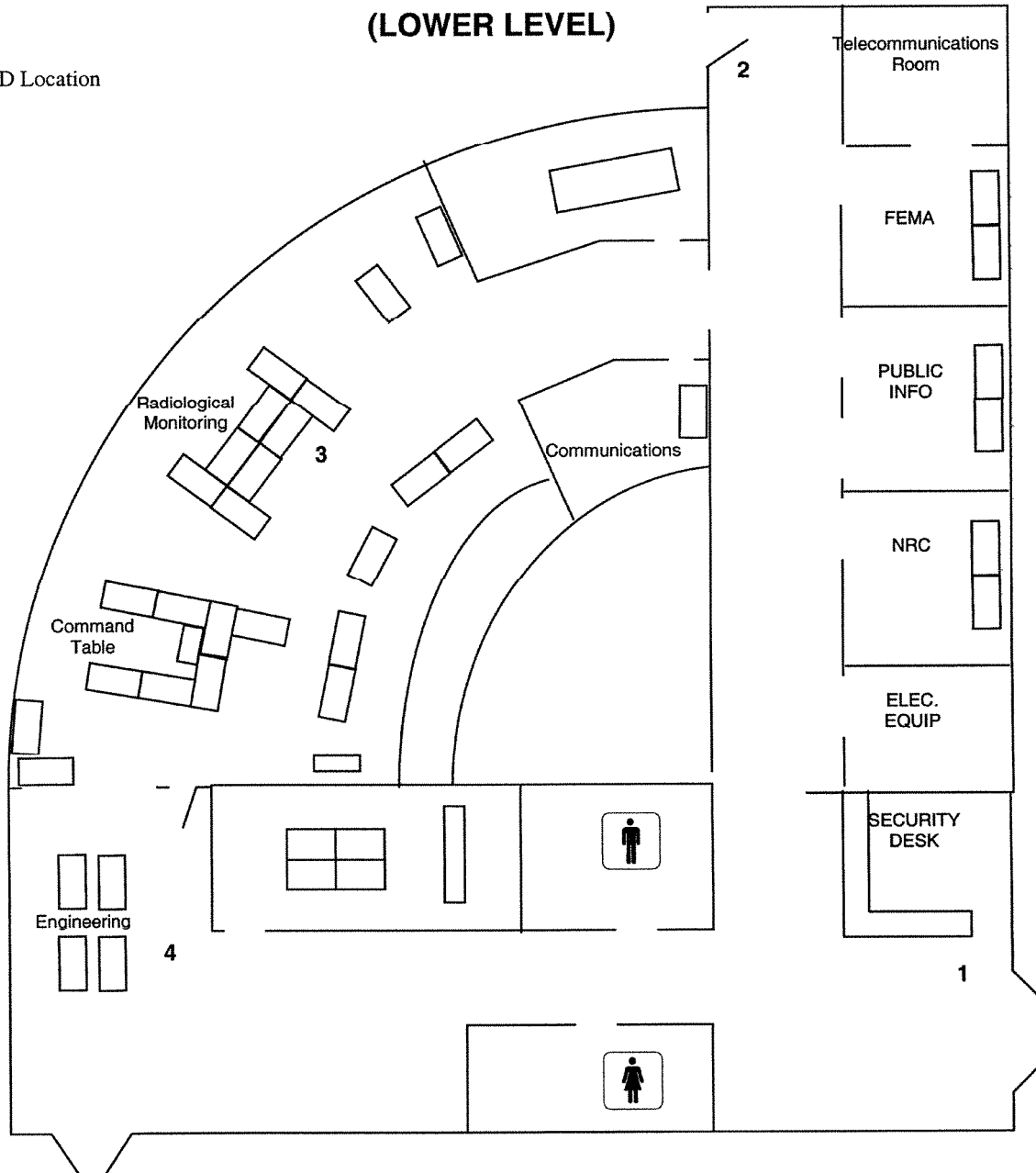
## 6.10 NOTIFICATIONS AND REPORTS

- 6.10.1 Ensure oral and written reports of overexposure are conveyed to the NRC as outlined in Ref. 3.1.

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## EMERGENCY OPERATIONS FACILITY TLD LOCATIONS (LOWER LEVEL)

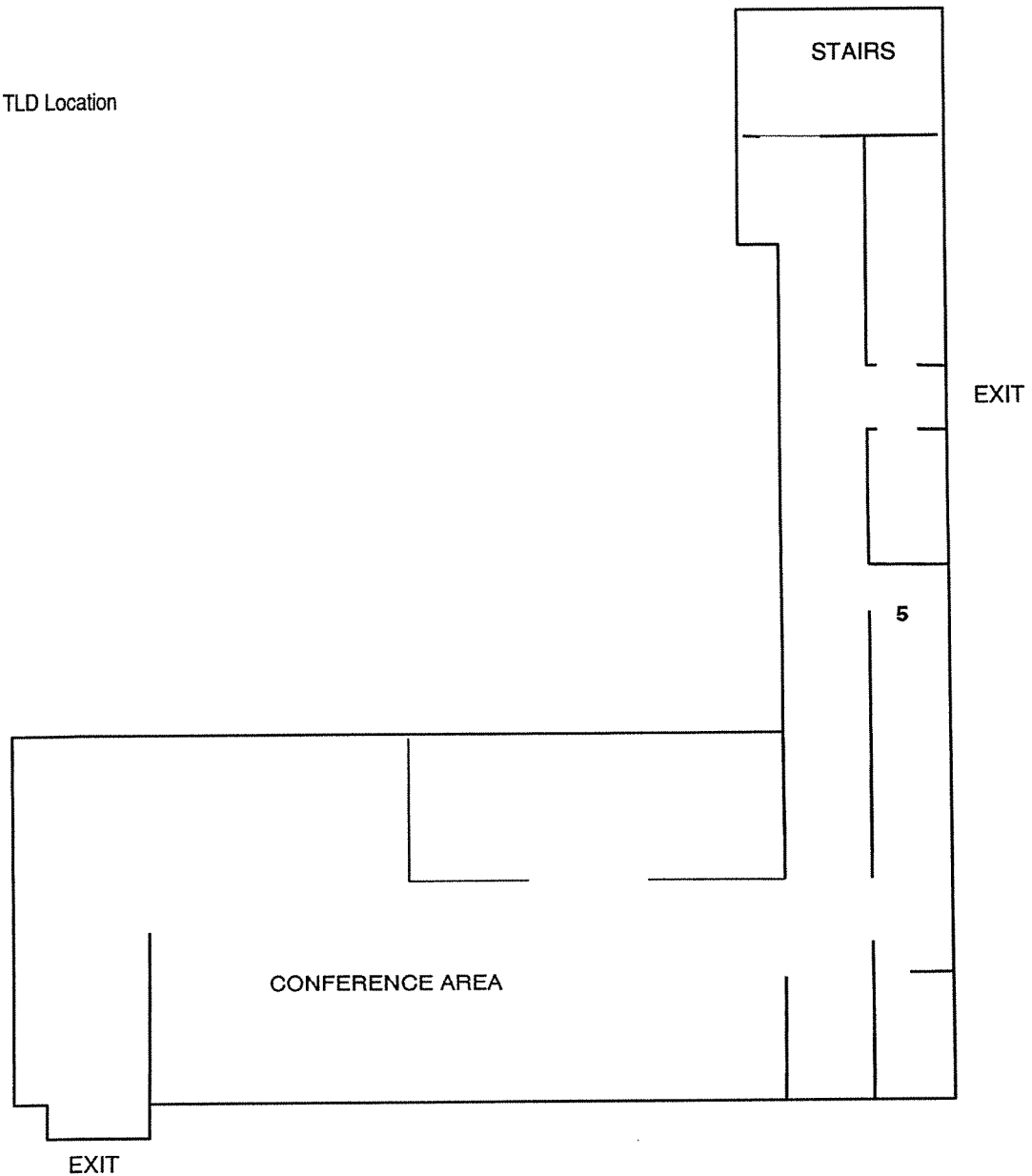
Num=TLD Location



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**EMERGENCY OPERATIONS FACILITY  
TLD LOCATIONS  
(UPPER LEVEL)**

Num = TLD Location



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RISKS ASSOCIATED WITH LARGE DOSES OF RADIATION

EPA-400-R-92-001, Table 2-3

Health Effects Associated With Whole-Body Absorbed Doses Received Within A Few Hours<sup>a</sup>:

Whole Body Absorbed Dose (rad)	Early Fatalities <sup>b</sup> (percent)	Whole Body Absorbed Dose (rad)	Prodromal Effects <sup>c</sup> (percent affected)
140	5	50	2
200	15	100	15
300	50	150	50
400	85	200	85
460	95	250	98

<sup>a</sup> Risks will be lower for protracted exposure periods.<sup>b</sup> Supportive medical treatment may increase the dose at which these frequencies occur by approximately 50 percent.<sup>c</sup> Forewarning symptoms of more serious health effects associated with large doses of radiation.

EPA-400-R-92-001, Table 2-4

Approximate cancer risk to average individuals from 25 Rem Effective Dose Equivalent delivered promptly:

Age at exposure (years)	Approximate risk of premature death (death per 1,000 persons exposed)	Average years of life lost if premature death occurs (years)
20 to 30	9.1	24
30 to 40	7.2	19
40 to 50	5.3	15
50 to 60	3.5	11