



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV

611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TEXAS 76011-8064

April 4, 2001

William A. Eaton, Vice President  
Operations - Grand Gulf Nuclear Station  
Entergy Operations, Inc.  
P.O. Box 756  
Port Gibson, Mississippi 39150

SUBJECT: PUBLIC MEETING ON PLANNED CHANGES TO THE GRAND GULF  
NUCLEAR STATION EMERGENCY PLAN

Dear Mr. Eaton:

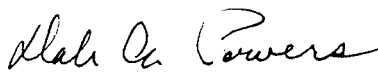
This refers to the meeting conducted in the Region IV office on March 30, 2001. This meeting was a briefing of NRC Region IV management and staff by members of your staff on planned revisions to the Grand Gulf Nuclear Station emergency plan. These revisions were recently approved by NRC's Office of Nuclear Reactor Regulation (NRR).

This meeting was also attended by members of NRR staff via video teleconferencing. A complete list of attendees is included as Enclosure 1. A summary of your staff's presentation is included as Enclosure 2.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Should you have any questions concerning this matter, we will be pleased to discuss them with you.

Sincerely,

*for*   
Arthur T. Howell III, Director  
Division of Reactor Safety

Docket No.: 50-416  
License No.: NPF-29

Enclosures:

1. Attendance List
2. Licensee Presentation

Entergy Operations, Inc.

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cc:

Executive Vice President  
and Chief Operating Officer  
Entergy Operations, Inc.  
P.O. Box 31995  
Jackson, Mississippi 39286-1995

Wise, Carter, Child & Caraway  
P.O. Box 651  
Jackson, Mississippi 39205

Winston & Strawn  
1400 L Street, N.W. - 12th Floor  
Washington, DC 20005-3502

Sam Mabry, Director  
Division of Solid Waste Management  
Mississippi Department of Natural  
Resources  
P.O. Box 10385  
Jackson, Mississippi 39209

President, District 1  
Claiborne County Board of Supervisors  
P.O. Box 339  
Port Gibson, Mississippi 39150

General Manager  
Grand Gulf Nuclear Station  
Entergy Operations, Inc.  
P.O. Box 756  
Port Gibson, Mississippi 39150

The Honorable Richard Ieyoub  
Attorney General  
Department of Justice  
State of Louisiana  
P.O. Box 94005  
Baton Rouge, Louisiana 70804-9005

Office of the Governor  
State of Mississippi  
Jackson, Mississippi 39201

Mike Moore, Attorney General  
Frank Spencer, Asst. Attorney General  
State of Mississippi  
P.O. Box 22947  
Jackson, Mississippi 39225

Entergy Operations, Inc.

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Dr. F. E. Thompson, Jr.  
State Health Officer  
State Board of Health  
P.O. Box 1700  
Jackson, Mississippi 39205

Robert W. Goff, Program Director  
Division of Radiological Health  
Mississippi Dept. of Health  
P.O. Box 1700  
Jackson, Mississippi 39215-1700

Vice President  
Operations Support  
Entergy Operations, Inc.  
P.O. Box 31995  
Jackson, Mississippi 39286-1995

Director, Nuclear Safety  
and Regulatory Affairs  
Entergy Operations, Inc.  
P.O. Box 756  
Port Gibson, Mississippi 39150

Vice President, Operations  
Grand Gulf Nuclear Station  
Entergy Operations, Inc.  
P.O. Box 756  
Port Gibson, Mississippi 39150

Entergy Operations, Inc.

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Branch Chief, DRP/A (**DNG**)

Senior Project Engineer, DRP/A (**DBA**)

Section Chief, DRP/TSS (**PHH**)

RITS Coordinator (**NBH**)

K. Gibson, NRR/DIPM/IOLB (**KHG**)

E. Fox, NRR/DIPM/IOLB (**EFF**)

P. Sekerak, NRR/DLPM/PDIV-1 (**PXS1**)

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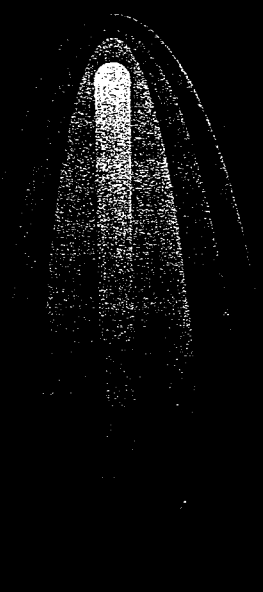
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**ENCLOSURE 1**

<b>MANAGEMENT MEETING ATTENDANCE</b>		
<b>LICENSEE/FACILITY</b>	Entergy Operations, Inc. / Grand Gulf Nuclear Station	
<b>DATE/TIME</b>	3/30/01 1:00 p.m. (CST)	
<b>MEETING LOCATION</b>	Region IV Training Conference Room	
<b>NAME</b>	<b>ORGANIZATION</b>	<b>TITLE</b>
J. Roberts	Entergy Operations, Inc.	Director, Nuclear Safety Assurance
M. Guynn	Entergy Operations, Inc.	Manager, Emergency Planning
G. Good	NRC/Region IV/DRS	Chief, Plant Support Branch
D. Graves	NRC/Region IV/DRP/PBA	Senior Project Engineer
W. Maier	NRC/Region IV/DRS/PSB	Senior Emergency Preparedness Inspector
K. Halvey Gibson	NRC/NRR/DIPM/IOLB	Chief, Emergency Preparedness and Health Physics Section
E. Fox	NRC/NRR/DIPM/IOLB/EPHP	Senior Emergency Preparedness Specialist
P. Sekerak	NRC/NRR/DLPM/LPD4/PDIV-1	Project Manager, Grand Gulf



# *Emergency Preparedness Changes*

## *Key Changes From Revision 44*

- Activation of the EOF at an Alert
- Established goal of 45 minutes for having facilities operable during normal working hours
- Extended time to augment on-shift staffing
- Defines “Augmentation” and provides commitment for early augmentation of key positions
- Increases on-shift staffing
- Numerous alignment changes within the body of Table 5-1 for clarity of table

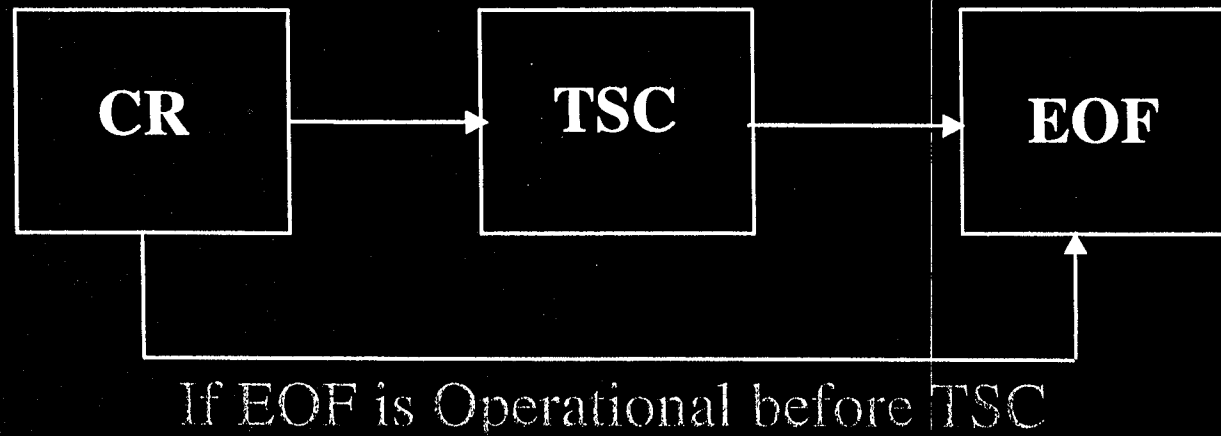
## *Activation Of EOF At Alert*

- Staffing of all facilities at Alert vice SAE provides States with direct plant interface if States dispatch response teams at Alert ↴ Improvement
- Staffing of all facilities at Alert vice SAE provides an increase in dedicated resources to communicate and coordinate activities with the States ↴ Improvement



# *Flow Of Emergency Functions*

Classification, Notification, Dose Assessment and PARs



## *45 Minute -vs- 90 Minute Response Time*

- If ERO personnel required to operate the facility are on site, the goal is to have the facility operational within 45 minutes
- If ERO personnel required to operate the facility are not on site, facility must be operational within 90 minutes
- Facility managers will attempt to fill vacant positions ASAP with other qualified ERO members (If required)



# *Review of Table 5-1 Changes*

# *Augmentation Of On-shift Staffing*

- “Capability for additions” column of Table 5-1 was changed to require additional personnel support of on-shift staff within 90 minutes (previously required within 30 and 60 minutes).
- Some key positions identified requiring 75 minute augmentation time

## *ERO Positions With 75 Minute Augmentation Times*

- Emergency Director (On-Call Manager)
- TSC Coordinator
- TSC Communicators (2)
- Radiological Assessment Dose Calculator (TSC)

## *Reassignment Of Emergency Tasks Within Major Functional Areas*

- Moved to Plant Operations and Assessment of Operational Aspects
  - **Technical Support & Core Thermal Hydraulics**
  - **Core Thermal Hydraulics**
  - **Firefighting and Firefighting Communications**
  - **Emergency Direction and Control**
- Moved to Radiation Protection
  - **Offsite Radiological Surveys**
  - **Onsite Radiological Surveys**
  - **In-plant Surveys**

# RADIATION PROTECTION CHANGES

Table 5-1 Excerpt

Major Functional Area	Emergency Tasks	Position Title or Expertise	Location	On Shift (e)	Capability for Additions
					90 Min
Radiation Protection	<ul style="list-style-type: none"> <li>-Access Control</li> <li>-HP coverage for repair, corrective actions, search and rescue/first-aid, and firefighting</li> <li>-Personnel monitoring</li> <li>-Dosimetry</li> <li>-Surveys (offsite, onsite, and in-plant surveys on as-needed basis only)</li> </ul>	Health Physicist	EOF/OSC	2	11(b)

# *Offsite Surveys*

- Do not expect to need them - Effluent instrumentation or onsite survey will be used for dose assessment
- Effluent instrumentation provide direct input to radiological dose assessment software
- During initial stages of an accident, EALs and PARs will normally be based on plant conditions/parameters. No EALs are totally dependent on offsite surveys
- Offsite survey can be performed on as needed basis



## *Onsite Surveys*

- Will initially be performed inside the protected area and only on as needed basis
- Can include onsite area's outside protected area
- Can be performed in minimum amount of time
- Is not a full time job - performed on an as needed basis

# *HP Coverage/Job Coverage & Implant Surveys*

- Major Engineered Safety Function (ESF) rooms have Area Radiation Monitors which provide local alarms to alert workers of rapidly changing conditions
- Conservative HP practice is team dispatch with SCBAs
- HP Coverage needs are based on actual radiological conditions - with no radiological issues, teams could be dispatched without HP coverage
- Implant surveys are performed as part of HP Coverage

# *Basis For Acceptability*

- Drills - observed performance of the task during non-augmented portions of drills
- Walkdowns - verified by tours of facilities and walkthroughs of what it would take to perform tasks
- Analysis - performed by subject matter experts (HP and ERO qualified) by review of procedures, actually knowing what it takes it to perform the tasks, analysis of observations during fully augmented drills, GGNS license basis review, and NRC document reviews

## *Drills When Fully Augmented*

- Each of the HP tasks has and is observed during full augmentation drills
- We know what HP resources it takes to do each of the HP emergency tasks
- If there had been any indication, based on full augmentation drills, that the tasks could not be performed by on-shift HPs, we would have identified them and adjusted Table 5-1 on-shift HP staffing accordingly

## *Initial License HP Processes - Manpower Intensive*

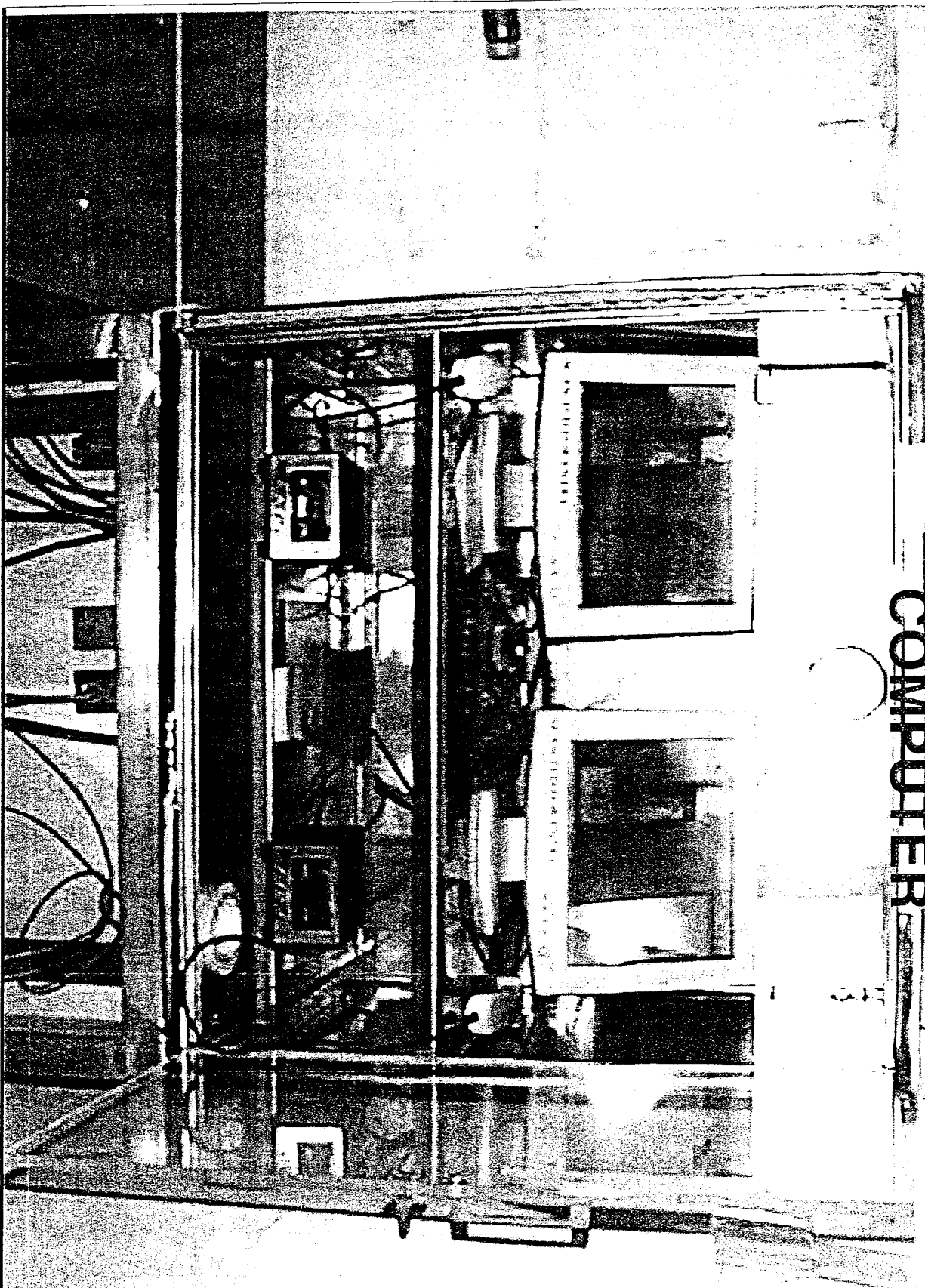
- Use of pocket ion chambers
- Access control was paper based
- Radiation Work Permits
- Dose margins and training checks performed manually
- Workers were dependent on HP

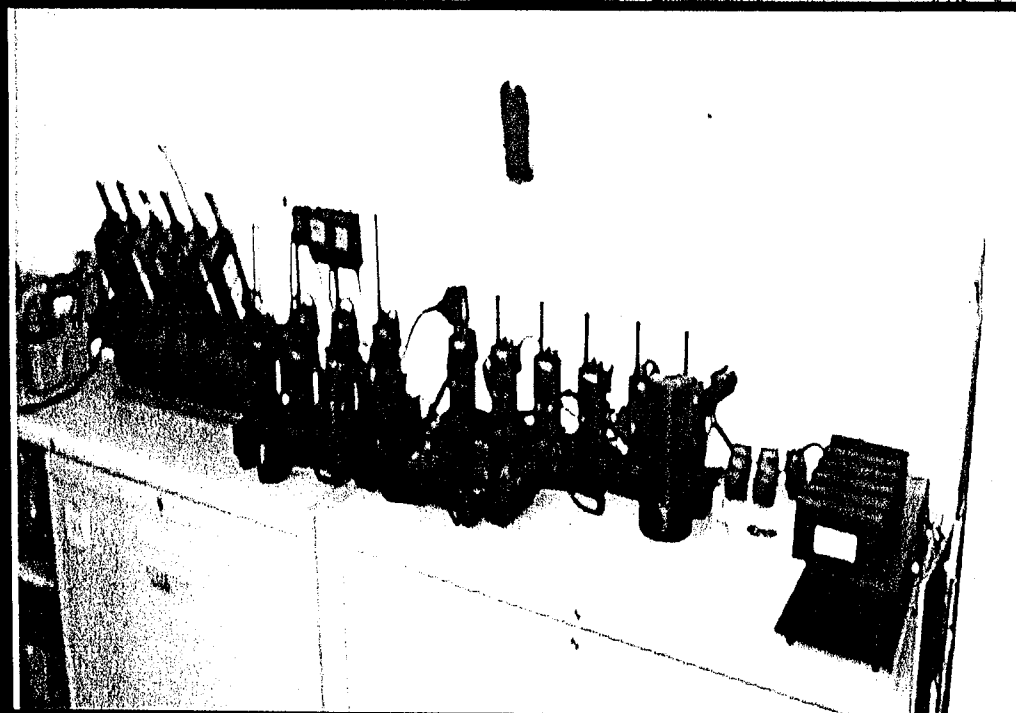
# *Current HP Processes*

- Workers self-issue Electronic Alarming Dosimeters (EADs) which provide dose and doserate information as well as audible and visual alarms
- Dose margins and training automatically checked
- Worker self-frisk without HP involvement
- Access control is automated using HIS20 computer and Merlin Gerin EAD
- Workers sign in on RWP using barcode scan of TLD
- EAD alarm setpoints automatically set by system
- OSC CAA would take only minutes to setup (if required)

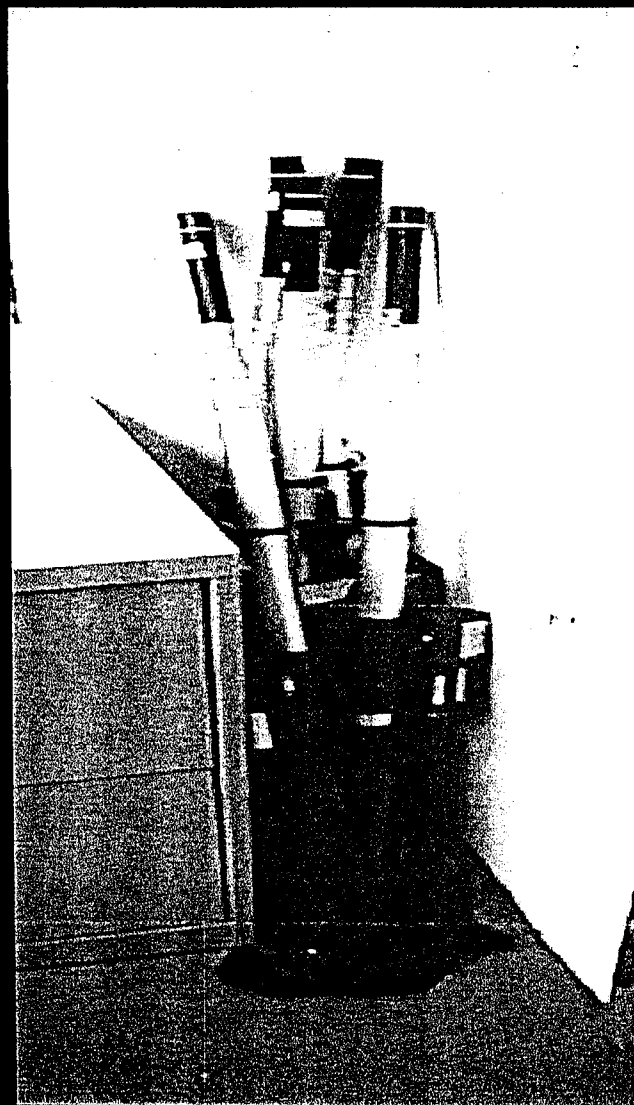
# RWP/EAD ACCESS CONTROL

## COMPUTER

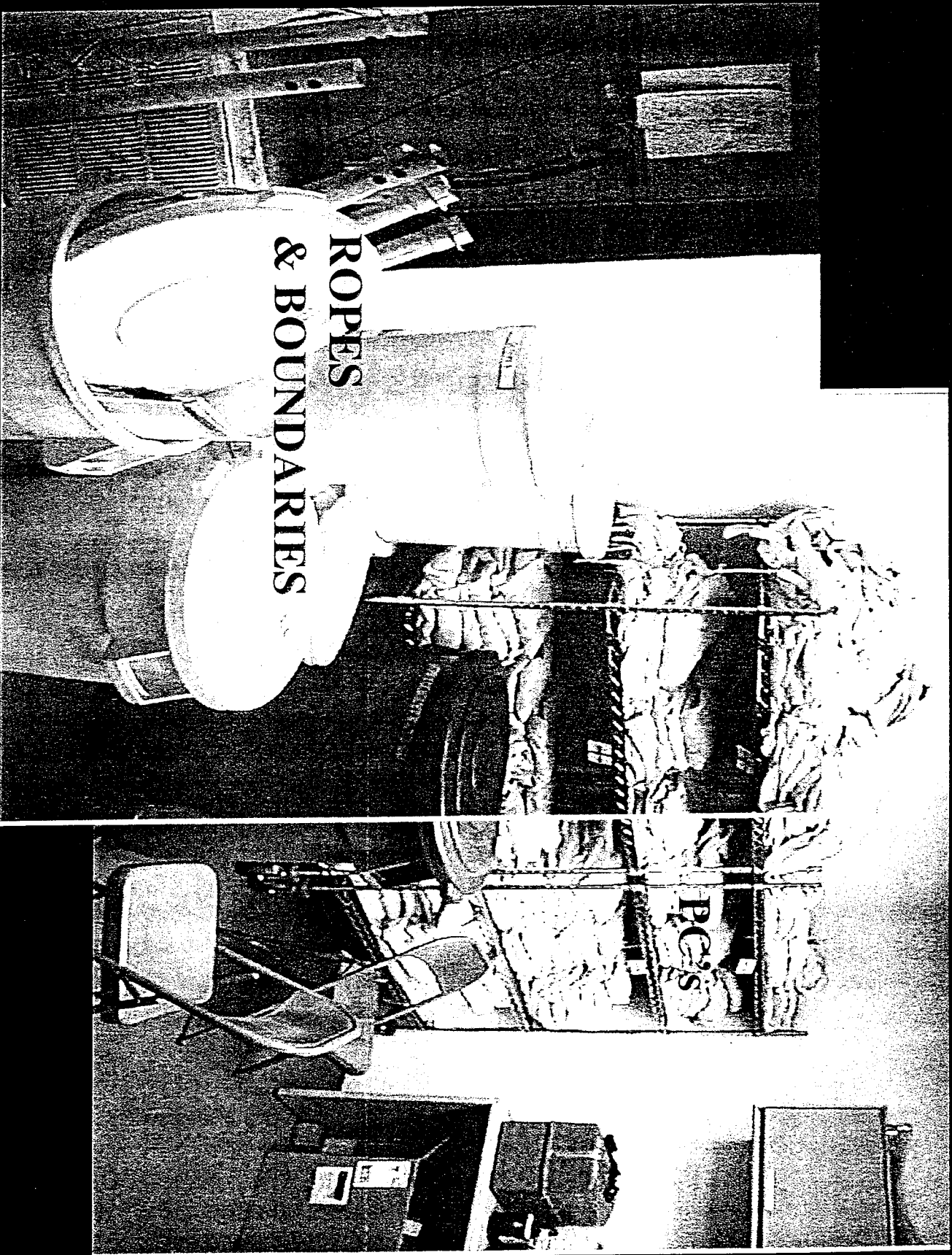


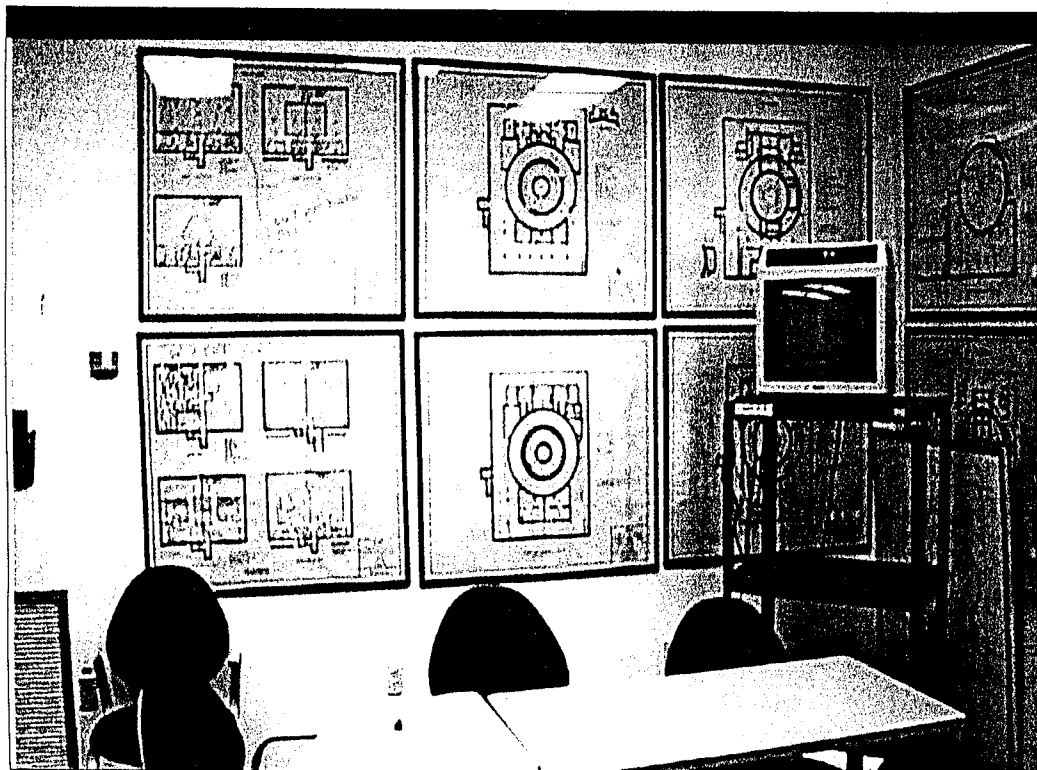


# EQUIPMENT

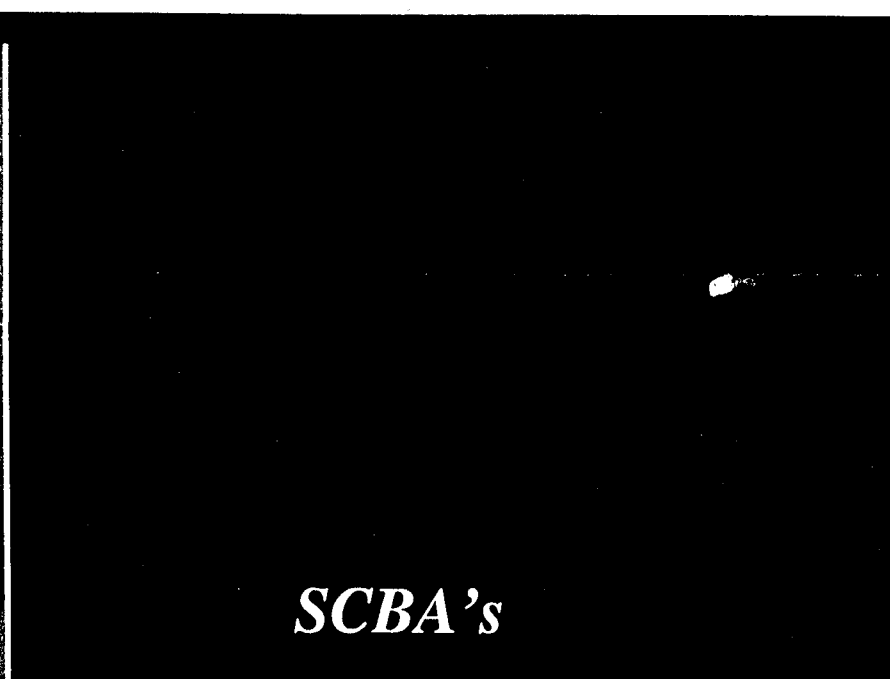




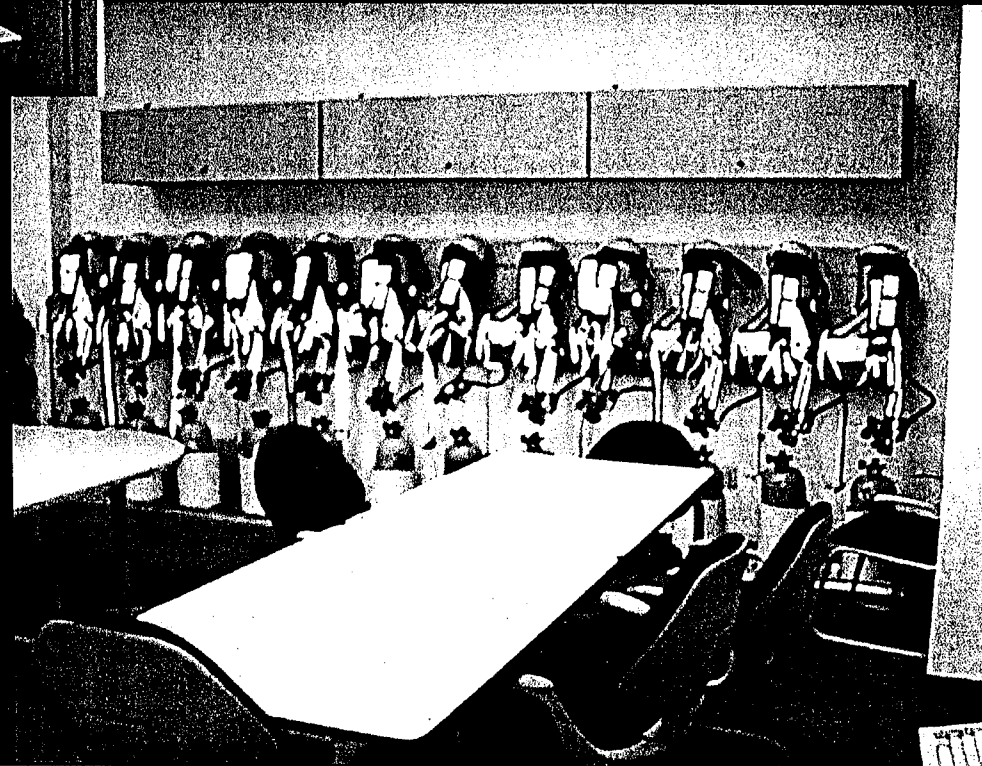




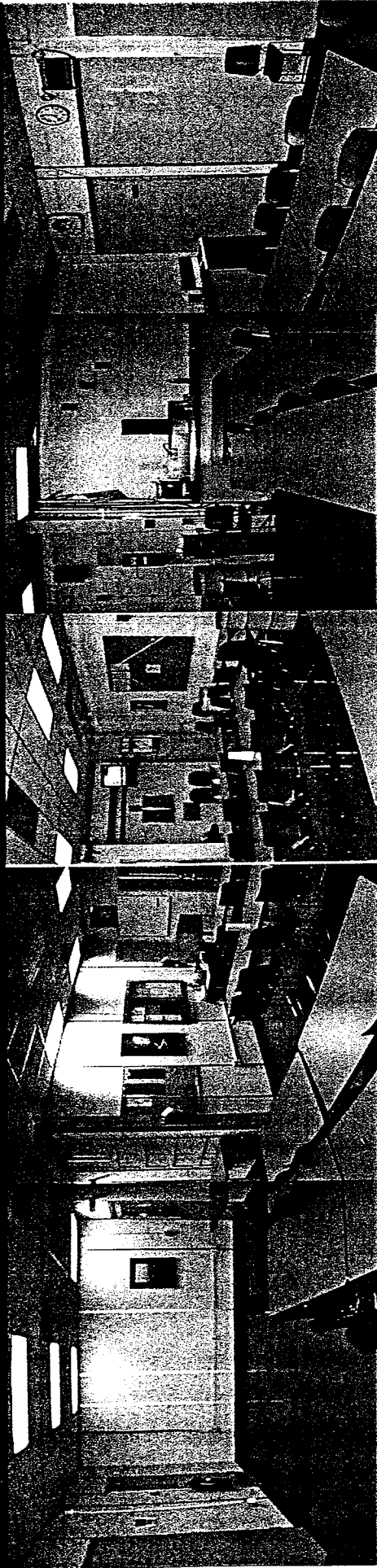
*MAP's*



*SCBA's*



# BRIEFING ROOM



# *Summary Of HP Staffing And Task Issues*

- HP's onshift can perform all functions
- Automated process allows HP resources to be focused on providing HP coverage thus reducing need for early staff augmentation
- OSC setup reduces work HP must do during initial stages of an event - all equipment is pre-staged and ready for issue
- Meets 10CFR50 Appendix E and 10CFR50.47(b)(2) requirements, specifically "adequate staffing to provide initial facility accident response in key functional areas is maintained at all times..."

## *Major Changes To Position Titles Or Expertise*

- OEC (EOF Director) to Senior Manager - identifying expertise vice position title
- Health Physics Supervisor (Offsite Dose Assessment) to Radiological Assessment - identifying expertise vice position title
- Plant System Engineer to Electrical and Mechanical - identifying expertise vice position title

# *Changes In Staffing Of Table B-1*

- Increase in on-shift communicators from 1 to 2
- Commitment to provide capability to perform offsite dose assessment on-shift
- Increased staffing in area of Repair and Corrective actions:
  - dedicated Mechanical Maintenance
  - dedicated Electrical Maintenance
  - dedicated I&C Maintenance
  - RW Operator (may be provided by shift personnel assigned other duties)

*These changes result in an overall increase in on-shift personnel as specified in Table 5-1 from 10 to 15 individuals.*

## *Additional Changes To Table 5-1*

- Changed location for offsite dose assessment from CR to CR/TSC/EOF
- Changed location for Plant System Engineers from TSC to TSC/OSC
- Changed location for Radiation Protection function from OSC to OSC/EOF



# *Additional Changes To Table 5-1*

## *(Cont.)*

- Note (b) - added to allow individuals to be task trained to perform their ERO function
- Note (d) - identifies the task of Core/Thermal Hydraulics as part of the normal STA duties
- Note (e) - provides an allowance that the on-shift ERO positions may be vacant for not more than 2 hours provided actions are being taken to fill the position(not applicable in an emergency)

## *Additional Changes To Table 5-1 (Cont.)*

- Note (f) - identifies that overall direction of facility response is assumed from the Shift Manager by the On-Call Manager. Upon relief, the Shift Manager resumes plant operational duties
- Note (g) - provides for on-shift augmentation of key personnel within 75 minutes
- Note (h) - provides augmentation of on-shift personnel within 45 minutes when personnel are on-site

# *E-plan Changes Implemented On 2-8-01*

- All Implementing procedures revised to reflect changes
- Changes included in appropriate ERO training modules
- ERO trained through all-hands training sessions with individualized training for specific groups
- Controllers/Evaluators sensitive to changes for continued monitoring during training drills
- Successfully demonstrated numerous aspects of this change during March training drill

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TABLE 5-1

## SHIFT STAFFING AND AUGMENTATION CAPABILITIES

\*\*\*PREVIOUS TABLE\*\*\*

Major Functional Area	Emergency Tasks	Position Title or Expertise	Location	On Shift	Capability for Additions	
					30 Min (a)	60 Min (a)
Plant Operations and Assessment of Operational Aspects		Shift Manager (SRO)	CR	1	--	--
		Shift Supervisor (SRO)	CR	1(c)	--	--
		Nuclear Operator A (RO)	CR	2	--	--
		Auxiliary Operator	CR	2	--	--
Emergency Direction and Control		Shift Manager	CR	1(b)	--	--
		On-Call Manager (Emergency Director)	CR/TSC	--	--	1
Notification/Communication	Offsite Notifications (State, Local, Federal) and maintain communications, Notification of plant On-call emergency personnel	Operator/ Systems Engineer/Engineering Technician	CR/TSC	1	1	2
Radiological Accident Assessment and Support of Operational Accident Assessment	EOF Director	OEC	EOF	--	--	1
	Offsite Dose Assessment	Health Physics Supervisor	TSC	--	1	--
	Offsite Radiological Surveys	Health Physicist/Other as Designated (d)	EOF	--	2	2
	Onsite Radiological Surveys (out of plant)	Health Physicist	OSC	--	1	1
	In-plant Surveys	Health Physicist	OSC	1	1	1
	Chemistry/ Radio-Chemistry	Chemist	OSC	1	--	1
Plant System Engineering	Technical Support	Shift Technical Advisor	CR	1(e)	--	--
	Core/Thermal Hydraulics	TSC Coordinator/Operations Coordinator/SRO/STA	TSC/CR	--	1	--
	Electrical	Plant Systems Engineer	TSC	--	--	1
	Mechanical	Plant Systems Engineer	TSC	--	--	1
Repair and Corrective Actions		Mechanical Maintenance	OSC	1(b)	--	1
		Radwaste Operator	OSC	--	--	1
		Electrical Maintenance	OSC	1(b)	1	1
		I&C Maintenance	OSC	--	1	--

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TABLE 5-1

## SHIFT STAFFING AND AUGMENTATION CAPABILITIES

\*\*\*CURRENT TABLE\*\*\*

Major Functional Area	Emergency Tasks	Position Title or Expertise	Location	On Shift (e)	Capability for Additions
					90 Min(h)
Radiation Protection	-Access Control -HP coverage for repair, corrective actions, search and rescue/first-aid, and firefighting -Personnel monitoring -Dosimetry -Surveys (offsite, onsite, and in-plant surveys on as needed basis only)	Health Physicist	EOF/OSC	2	11(h)
Rescue / First aid		Rescue and First Aid	OSC	2(a)	Provided by Claiborne County / Port Gibson
Security	Security, personnel accountability	Security Personnel			(See Security Plan)

Notes:

- (a) May be provided by Shift Personnel assigned other duties.
  - (b) Must be trained for the Emergency Task being performed.
  - (c) STA staffing in accordance with GGNS Technical Specification.
  - (d) Core/Thermal Hydraulics is part of normal STA duties as listed in the Updated Final Safety Analysis Report and Technical Specifications.
  - (e) These ERO positions may be vacant for not more than 2 hours, in order to provide for unexpected absences, provided action is taken to fill the required position. This allowance is not applicable during declared emergencies.
  - (f) Overall direction of facility response is assumed from the Shift Manager (SRO) by the On-Call Manager. Upon relief, the Shift Manager (SRO) resumes plant operational duties.
  - (g) These personnel will report and augment shift personnel as soon as possible without delay but no later than 75 minutes.
- If personnel are onsite they will report and augment the onshift personnel as soon as possible without delay, but no later than 45 minutes.

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TABLE 5-1

## SHIFT STAFFING AND AUGMENTATION CAPABILITIES

\*\*\*CURRENT TABLE\*\*\*

Major Functional Area	Emergency Tasks	Position Title or Expertise	Location	On Shift (e)	Capability for Additions
					90 Min(h)
Plant Operations and Assessment of Operational Aspects	Emergency Direction and Control (f)	Shift Manager (SRO)	CR	1	--
		On-Call Manager	CR/TSC	--	1(g)
		Shift Supervisor (SRO)	CR	1	--
		Nuclear Operator A (RO)	CR	2	--
		Auxiliary Operator	CR	2	--
	Firefighting, firefighting communications	Shift Personnel (Operations)	CR	5(a)	Provided by Claiborne County / Port Gibson
	Technical Support and Core/Thermal Hydraulics(d)	Shift Technical Advisor	CR	1(c)	--
	Core/Thermal Hydraulics	TSC Coordinator/Operations Coordinator/SRO/STA	TSC/CR	--	1(g)
Notification/Communication	Offsite Notifications (State, Local, Federal) and maintain communications, Notification of Plant On-Call emergency personnel	Communicator	CR/TSC/EOF	2	2(g)
Radiological Accident Assessment and Support of Operational Accident Assessment	EOF Direction and Control	Senior Management	EOF	--	1
	Offsite Dose Assessment	Radiological Assessment	CR/TSC/EOF	1(a)	1(g)
	Chemistry/Radio-Chemistry	Chemist	OSC	1	1
Plant System Engineering	Technical Support	Electrical	TSC/OSC	--	1
		Mechanical	TSC/OSC	--	1
Repair and Corrective Actions		Mechanical Maintenance	OSC	1	1
		Radwaste Operator	OSC	1(a)	1
		Electrical Maintenance	OSC	1	2
		I&C Maintenance	OSC	1	--

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TABLE 5-1

SHIFT STAFFING AND AUGMENTATION CAPABILITIES

\*\*\*PREVIOUS TABLE\*\*\*

Major Functional Area	Emergency Tasks	Position Title or Expertise	Location	On Shift	Capability for Additions	
					30 Min (a)	60 Min (a)
Protective Actions (in-plant) Radiation Protection	-Access Control -HP coverage for repair, corrective actions, search and rescue/first-aid, and firefighting -Personnel monitoring -Dosimetry	Health Physicist	OSC	2(b)	2	2
Firefighting	--	Shift Personnel (Operations)		5(b)	Provided by Claiborne County / Port Gibson	
Rescue / First aid	--	Shift Personnel (ie., Computer Support, Maintenance)		2(b)		
Security	Security, firefighting communications, personnel accountability	Security Personnel			(See Security Plan)	

Notes:

- (a) Shift augmentation begins at the declaration of an Alert, Site Area Emergency, or General Emergency.
- (b) May be provided by Shift Personnel assigned other duties.
- (c) Not required in Mode 4 or 5 per GGNS Technical Specifications.
- (d) Must be Offsite Monitoring Team trained.
- (e) STA staffing in accordance with GGNS Technical Specification.