



**Duke Energy**

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W. R. McCollum, Jr.  
Vice President

September 25, 2000

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

Subject: Oconee Nuclear Station  
Docket Nos. 50-269, -270, -287  
Emergency Plan Implementing Procedures Manual  
Volume C Revision 2000-08

Please find attached for your use and review copies of the revision to the Oconee Nuclear Station Emergency Plan: Volume C Revision 2000-08, September, 2000.

This revision is being submitted in accordance with 10 CFR 50-54(q) and does not decrease the effectiveness of the Emergency Plan or the Emergency Plan Implementing Procedures.

Any questions or concerns pertaining to this revision please call Mike Thorne, Emergency Planning Manager at 864-885-3210.

By copy of this letter, two copies of this revision are being provided to the NRC, Region II, Atlanta, Georgia.

Very truly yours,

W. R. McCollum, Jr.  
VP, Oconee Nuclear Site

xc: (w/2 copies of attachments)  
Mr. Luis Reyes,  
Regional Administrator, Region II  
U. S. Nuclear Regulatory Commission  
61 Forsyth St., SW, Suite 24T23  
Atlanta, GA 30303

w/copy of attachments  
Mr. Steven Baggett  
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(w/o Attachments, Oconee Nuclear Station)  
NRC Resident Inspector  
M. D. Thorne, Manager, Emergency Planning

A045

September 25, 2000

OCONEE NUCLEAR SITE  
INTRASITE LETTER

SUBJECT: Emergency Plan Implementing Procedures  
Volume C, Revision 2000-08

Please make the following changes to the Emergency Plan Implementing  
Procedures Volume C by following the below instructions.

REMOVE

Cover Sheet Rev. 2000-07  
Table of Contents - Page 1 & 2  
RP/0/B/1000/007 - 05/15/96  
RP/0/B/1000/021 - 07/06/98  
RP/0/B/1000/022 - 06/04/96

ADD

Cover Sheet Rev. 2000-08  
Table of Contents - Page 1 & 2  
RP/0/B/1000/007 - 09/18/00  
RP/0/B/1000/021 - 09/19/00  
RP/0/B/1000/022 - 09/18/00

# DUKE POWER

## EMERGENCY PLAN IMPLEMENTING PROCEDURES VOLUME C



APPROVED:



W. W. Foster, Manager  
Safety Assurance

09/25/00

Date Approved

09/25/00

Effective Date

VOLUME C  
REVISION 2000-08  
SEPTEMBER, 2000

VOLUME C  
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HP/0/B/1009/018	Offsite Dose Projections - (05/19/00)
HP/0/B/1009/020	Estimating Food Chain Doses Under Post Accident Conditions - (10/09/98)
HP/0/B/1009/021	Source Term Assessment of a Gaseous Release From Non-routine Release Points - (12/01/97)
HP/0/B/1009/022	On Shift Offsite Dose Projections (06/02/99)
RP/0/B/1000/001	Emergency Classification - (05/30/00)
RP/0/B/1000/002	Control Room Emergency Coordinator Procedure - (05/03/00)
RP/0/B/1000/03A	ERDS Operation (12/03/98)
RP/0/B/1000/07	Security Event - (09/18/00)
RP/0/B/1000/009	Procedure for Site Assembly - (03/21/00)
RP/0/B/1000/10	Procedure for Emergency Evacuation/Relocation of Site Personnel -(03/21/00)
RP/0/B/1000/15A	Offsite Communications From The Control Room - (12/10/98)
RP/0/B/1000/15B	Offsite Communications From The Technical Support Center - (12/10/98)
RP/0/B/1000/15C	Offsite Communications From The Emergency Operations Facility - (12/10/98)
RP/0/B/1000/16	Medical Response - (05/27/99)
RP/0/B/1000/17	Spill Response (02/12/98)
RP/0/B/1000/18	Core Damage Assessment (09/30/97)
RP/0/B/1000/19	Technical Support Center Emergency Coordinator Procedure (05/30/00)
RP/0/B/1000/20	Emergency Operations Facility Director Procedure - (05/31/00)

Revision 2000-08  
September, 2000

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RP/0/B/1000/22	Procedure for Site Fire Damage Assessment and Repair - (09/18/00)
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RP/0/B/1000/28	Communications & Community Relations World of Energy Emergency Response Plan - (02/17/97)
RP/0/B/1000/29	Fire Brigade Response - (12/12/96)
RP/0/B/1000/31	Oconee Nuclear Station Joint Information Center Emergency Response Plan - (06/12/00)
SR/0/B/2000/001	Standard Procedure for Public Affairs Response to the Emergency Operations Facility - (03/23/00)
Business Management	Business Management Emergency Plan - (03/29/00)
C&F Functional Area Directive 102	C&F Emergency Response Plan - ONS Specific - (02/02/2000)
Engineering Directive 5.1	Engineering Emergency Response Plan - (04/12/00)
Human Resources Procedure	ONS Human Resources Emergency Plan - (04/26/00)
Radiation Protection Manual Section 11.3	Off-Site Dose Assessment and Data Evaluation (04/06/99)
Radiation Protection Manual Section 11.7	Radiation Protection Environmental Monitoring for Emergency Conditions - (04/15/99)
Safety Assurance Directive 6.1	Safety Assurance Emergency Response Organization - (11/28/94)
Safety Assurance Directive 6.2	Safety Assurance Contingency Plan - (03/27/00)
Training Division	Training Division Emergency Response Guide DTG-007 (02/01/2000)

Revision 2000-08  
September, 2000

**INFORMATION ONLY**

**Duke Power Company  
PROCEDURE PROCESS RECORD**

(1) ID No. RP/0/B/1000/007

Revision No. 2

**PREPARATION**

(2) Station Oconee Nuclear Station

(3) Procedure Title Security Event

(4) Prepared By \_\_\_\_\_ Date \_\_\_\_\_

(5) Requires 10CFR50.59 evaluation?

Yes (New procedure or revision with major changes)

No (Revision with minor changes)

No (To incorporate previously approved changes)

(6) Reviewed By Ray Waterman (QR) Date 8/31/00

Cross-Disciplinary Review By \_\_\_\_\_ (QR) NA RW Date 8/31/00

Reactivity Mgmt. Review By \_\_\_\_\_ (QR) NA Date \_\_\_\_\_

(7) Additional Reviews

QA Review By \_\_\_\_\_ Date \_\_\_\_\_

Reviewed By \_\_\_\_\_ Date \_\_\_\_\_

Reviewed By \_\_\_\_\_ Date \_\_\_\_\_

Temporary Approval (if necessary)

By \_\_\_\_\_ (SRO/QR) Date \_\_\_\_\_

By \_\_\_\_\_ (QR) Date \_\_\_\_\_

(9) Approved By M D Thome Date 9-18-00

**PERFORMANCE** (Compare with control copy every 14 calendar days while work is being performed.)

(10) Compared with Control Copy \_\_\_\_\_ Date \_\_\_\_\_

Compared with Control Copy \_\_\_\_\_ Date \_\_\_\_\_

Compared with Control Copy \_\_\_\_\_ Date \_\_\_\_\_

(11) Date(s) Performed \_\_\_\_\_

Work Order Number (WO#) \_\_\_\_\_

**COMPLETION**

(12) Procedure Completion Verification

Yes  NA Check lists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?

Yes  NA Listed enclosures attached?

Yes  NA Data sheets attached, completed, dated, and signed?

Yes  NA Charts, graphs, etc. attached, dated, identified, and marked?

Yes  NA Procedure requirements met?

Verified By \_\_\_\_\_ Date \_\_\_\_\_

(13) Procedure Completion Approved \_\_\_\_\_ Date \_\_\_\_\_

(14) Remarks (Attach additional pages, if necessary)

<b>Duke Power Company</b> <b>Oconee Nuclear Site</b>	<b>Procedure No.</b> <b>RP/0/B/1000/007</b>
	<b>Revision No.</b> <b>002</b>
	<b>Electronic Reference No.</b> <b>OX002WOZ</b>
<b>Security Event</b>	
<b>Reference Use</b>	

## Security Event

**NOTE:** This procedure is an implementing procedure to the Oconee Nuclear Site Emergency Plan and should be reviewed by the Emergency Planning Group prior to approval by the responsible group. Upon revision, a Control Copy of this procedure must be forwarded to Emergency Planning within three (3) working days of approval.

### 1. Symptoms

- 1.1 Personnel/Civil Disturbance (Hostile)
- 1.2 Intrusion/attempted intrusion (Protected Area)
- 1.3 Hostage Situation/Extortion
- 1.4 Discovery of Bomb/explosive device

### 2. Immediate Actions

- 2.1.1 Following an intrusion into the protected area by an outsider, Security personnel at the CAS will notify the control room of the intrusion using the emergency telephone number.

**NOTE:** • Lines left of procedure steps are used to indicate place in procedure. Check marks are acceptable in these blanks.

- \_\_\_\_ 2.2 **IF** Security notifies the control room of an intrusion into the protected area by an outsider.
- THEN** Perform the following steps:
- \_\_\_\_ 2.2.1 Maintain an open line over the phone with Security.
- \_\_\_\_ 2.2.2 Dispatch an RO or SRO to the communications area in the back of the control room and have them retrieve the portable Security radio.
- \_\_\_\_ 2.2.3 Establish radio communications on Channel 1 with the Security Officer in the CAS.
  - A. Discontinue phone communications once radio communication with the CAS has been established.

**CAUTION:** For drill purposes only, preface and close all PA announcements with the following statement, **“This is a drill. This is a drill.”**

2.2.4 Warn site personnel by performing the following steps:

A. Pick up a ROLM phone located on Unit 1&2 Control Room desk

B. Switch the Office Page to ON

C. Dial 70

D. Repeat the following announcement at least two (2) times;

**“Attention all personnel. An intrusion into the protected area has occurred. All personnel should take cover.”**

E. Switch the Office Page to OFF

2.2.5 Notify the Operations Shift Manager (OSM) that a Security Event is in progress.

A. Provide this procedure and the portable Security Radio to the OSM.

2.3 The OSM/Emergency Coordinator shall perform the following steps after notification by Security or control room personnel.

2.3.1 Review RP/0/B/1000/001 (Emergency Classification), and determine if an emergency classification is warranted.

2.3.2 Establish/monitor communications with Security on Channel 1 of the portable Security Radio until the security event is terminated.

**IF** Offsite Agency support is requested and an emergency classification is not applicable.

**THEN** the NRC must be notified within four (4) hours.  
(ref. 10CFR50.72 (b)(2)(vi)).

2.3.3 Authorize Security to notify Local Law Enforcement Agencies and/or Explosive Ordnance Disposal Center as applicable.

### 3. Subsequent Actions

- 3.1 Assess the operating status of each unit.
  - 3.1.1 Determine the advisability of continuing power generation.
- 3.2 Utilize emergency and operating procedures as applicable to mitigate the consequences of sabotage.
- 3.3 Assess the situation and take actions necessary within the scope of the Duke Power Nuclear Security and Contingency Plan as directed by the Senior Security Officer.
  - 3.3.1 Determine the need for the following:
    - A. Lock the Control Room doors.
    - B. Lock perimeter doors to buildings inside the protected area to control access and egress.

### 4. Enclosures

None

# INFORMATION ONLY

## Duke Power Company PROCEDURE PROCESS RECORD

(1) ID No. RP/0/B/1000/007

Revision No. 2

### PREPARATION

(2) Station Oconee Nuclear Station

(3) Procedure Title Security Event

(4) Prepared By \_\_\_\_\_ Date \_\_\_\_\_

- (5) Requires 10CFR50.59 evaluation?
- Yes (New procedure or revision with major changes)
  - No (Revision with minor changes)
  - No (To incorporate previously approved changes)

(6) Reviewed By Ray Waterman (QR) Date 8/31/00

Cross-Disciplinary Review By \_\_\_\_\_ (QR) NA RW Date 8/31/00

Reactivity Mgmt. Review By \_\_\_\_\_ (QR) NA Date \_\_\_\_\_

### (7) Additional Reviews

QA Review By \_\_\_\_\_ Date \_\_\_\_\_

Reviewed By \_\_\_\_\_ Date \_\_\_\_\_

Reviewed By \_\_\_\_\_ Date \_\_\_\_\_

Temporary Approval (if necessary)

By \_\_\_\_\_ (SRO/QR) Date \_\_\_\_\_

By \_\_\_\_\_ (QR) Date \_\_\_\_\_

(9) Approved By M R Thome Date 9-18-00

### PERFORMANCE (Compare with control copy every 14 calendar days while work is being performed.)

(10) Compared with Control Copy \_\_\_\_\_ Date \_\_\_\_\_

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Compared with Control Copy \_\_\_\_\_ Date \_\_\_\_\_

(11) Date(s) Performed \_\_\_\_\_

Work Order Number (WO#) \_\_\_\_\_

### COMPLETION

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- Yes  NA Data sheets attached, completed, dated, and signed?
- Yes  NA Charts, graphs, etc. attached, dated, identified, and marked?
- Yes  NA Procedure requirements met?

Verified By \_\_\_\_\_ Date \_\_\_\_\_

(13) Procedure Completion Approved \_\_\_\_\_ Date \_\_\_\_\_

(14) Remarks (Attach additional pages, if necessary)

Duke Power Company  
Oconee Nuclear Site

**Security Event**

**Reference Use**

Procedure No.

RP/0/B/1000/007

Revision No.

002

Electronic Reference No.

OX002WOZ

## Security Event

**NOTE:** This procedure is an implementing procedure to the Oconee Nuclear Site Emergency Plan and should be reviewed by the Emergency Planning Group prior to approval by the responsible group. Upon revision, a Control Copy of this procedure must be forwarded to Emergency Planning within three (3) working days of approval.

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### 2. Immediate Actions

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- \_\_\_\_ 2.2 **IF** Security notifies the control room of an intrusion into the protected area by an outsider.
- THEN** Perform the following steps:
- \_\_\_\_ 2.2.1 Maintain an open line over the phone with Security.
- \_\_\_\_ 2.2.2 Dispatch an RO or SRO to the communications area in the back of the control room and have them retrieve the portable Security radio.
- \_\_\_\_ 2.2.3 Establish radio communications on Channel 1 with the Security Officer in the CAS.
- A. Discontinue phone communications once radio communication with the CAS has been established.

**CAUTION:** For drill purposes only, preface and close all PA announcements with the following statement, **“This is a drill. This is a drill.”**

2.2.4 Warn site personnel by performing the following steps:

- A. Pick up a ROLM phone located on Unit 1&2 Control Room desk
- B. Switch the Office Page to ON
- C. Dial 70
- D. Repeat the following announcement at least two (2) times;

**“Attention all personnel. An intrusion into the protected area has occurred. All personnel should take cover.”**

- E. Switch the Office Page to OFF

\_\_\_\_\_ 2.2.5 Notify the Operations Shift Manager (OSM) that a Security Event is in progress.

- A. Provide this procedure and the portable Security Radio to the OSM.

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2.3.1 Review RP/0/B/1000/001 (Emergency Classification), and determine if an emergency classification is warranted.

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**IF** Offsite Agency support is requested and an emergency classification is not applicable.

**THEN** the NRC must be notified within four (4) hours.  
(ref. 10CFR50.72 (b)(2)(vi)).

2.3.3 Authorize Security to notify Local Law Enforcement Agencies and/or Explosive Ordnance Disposal Center as applicable.

### **3. Subsequent Actions**

- 3.1 Assess the operating status of each unit.
  - 3.1.1 Determine the advisability of continuing power generation.
- 3.2 Utilize emergency and operating procedures as applicable to mitigate the consequences of sabotage.
- 3.3 Assess the situation and take actions necessary within the scope of the Duke Power Nuclear Security and Contingency Plan as directed by the Senior Security Officer.
  - 3.3.1 Determine the need for the following:
    - A. Lock the Control Room doors.
    - B. Lock perimeter doors to buildings inside the protected area to control access and egress.

### **4. Enclosures**

None

**INFORMATION ONLY**

**Duke Power Company  
PROCEDURE PROCESS RECORD**

Revision No. 2

**PREPARATION**

(2) Station Oconee Nuclear Station

(3) Procedure Title Operations Interface (EOF)

(4) Prepared By Dolice Kelley Date 9-19-00

- (5) Requires 10CFR50.59 evaluation?
- Yes (New procedure or revision with major changes)
  - No (Revision with minor changes)
  - No (To incorporate previously approved changes)

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Reviewed By \_\_\_\_\_ Date \_\_\_\_\_

Reviewed By \_\_\_\_\_ Date \_\_\_\_\_

(8) Temporary Approval (if necessary)

By \_\_\_\_\_ (SRO/QR) Date \_\_\_\_\_

By \_\_\_\_\_ (QR) Date \_\_\_\_\_

(9) Approved By M R Thom Date 9-19-00

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Compared with Control Copy \_\_\_\_\_ Date \_\_\_\_\_

(11) Date(s) Performed \_\_\_\_\_

Work Order Number (WO#) \_\_\_\_\_

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- Yes  NA Procedure requirements met?

Verified By \_\_\_\_\_ Date \_\_\_\_\_

(13) Procedure Completion Approved \_\_\_\_\_ Date \_\_\_\_\_

(14) Remarks (Attach additional pages, if necessary)

<b>Duke Power Company</b> Station Name	Procedure No.
	<b>RP/0/B/1000/021</b>
	Revision No. 002
<b>Operations Interface (EOF)</b>	Electronic Reference No. OX002WPI
<b>Reference Use</b>	

## Operations Interface

**NOTE:** This procedure is an implementing procedure to the Oconee Nuclear Site Emergency Plan and must be forwarded to Emergency Planning within three (3) working days of approval.

### 1. Symptoms

- 1.1 Conditions exist such that the Emergency Response Organization has been activated; the Emergency Operations Facility (EOF) is required to be staffed.

### 2. Immediate Actions

**NOTE:** The EOF is required to be staffed within 75 minutes of the declaration or upgrade to an EAL at which EOF activation is required (ALERT or higher).

- 2.1 If you are the on-call Operations Interface Manager (Ops Interface), upon activation of the Emergency Response Organization (ERO), report immediately to the EOF. (For actual emergencies, all other qualified and "fit for duty" Ops Interface Managers should also report to the EOF, or otherwise make themselves available for 24-hour staffing of the EOF).

For drills, particularly unannounced drills on backshifts, it is at their discretion whether or not "off duty" Ops Interface Managers report to the EOF. The Duty Ops Interface Manager should use Enclosure 4.2, (Telephone Numbers) to augment staffing if necessary.

- 2.1.1 If on site at the time of the activation, ensure that you are appropriately accounted for before leaving for the EOF.
- 2.1.2 Adhere to any special directions from control or security personnel regarding access to, or pass-through of, areas as you leave the site.
- 2.2 If you are the on-call Ops Interface person, and receive notification over the Emergency Phone Network as well as on your pager, provide a "NO" response to the phone request when asked if you can respond. The call tree looks for a second Ops Interface responder (in addition to the on-call person) and if you respond "YES," the phone net will stop looking. (Remember, the access code for phone network calls is 1,2,3,4).

### 3. Subsequent Actions

- 3.1 If the EOF is not open when you arrive, wait for Security personnel to open the EOF and establish entry control. After passing through Security, if it is a drill exercise, be sure to sign one of the Training Attendance sheets located in the entrance area so that you will receive credit for participating in the drill. Participation in, or observation of, at least one drill or EOF activation each year is a requirement for the Ops Interface Manager position.
- 3.2 If you are the first Ops Interface Manager to arrive at the EOF, sign in on the status board in the EOF Director's area. Even if you are not the scheduled Ops Interface Manager, sign yourself in at that position until the duty person arrives. Then turn over to the duty Ops Interface Manager and replace your name on the board with his.
- 3.3 Obtain working copies of the procedure RP/0/B/1000/021, (Operations Interface) and of the Emergency Classification procedure (RP/0/B/1000/001) from the procedures cart in the EOF Director's area.
- 3.4 Connect to the Operations Communications Bridge network:
  - 3.4.1 Replace the batteries in the Operations Interface QTR-2 Radio/Headset belt pack with two fresh 9V batteries from the supply room in the EOF. (A fresh set of batteries provides a minimum duty cycle of six hours).
  - 3.4.2 Put the headset on and turn the power for the QTR-2 radio (belt pack unit) on using the Volume control switch located on top of the belt pack unit. The "Power On" LED should come on.
  - 3.4.3 The FDL<sub>3</sub> Repeater is the "base unit" sitting on the table. (It has the Rolm phone base unit plugged into the back of it.) Turn the power on to the repeater by flipping the toggle switch up. The "Power On" and the "Channel 1" LED's now be lit.
  - 3.4.4 The telephone handset should **NOT** be plugged into the Rolm phone base. Remove the handset from the cradle, and a dial tone should be heard.

<p><b>NOTE:</b> Keep the handset out of the Rolm phone cradle during QTR-2 radio use. Returning the handset to the cradle will "hang the phone up" and break the communications link.</p>
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- 3.4.5 Dial **66**. Another dial tone should be received.

- 3.4.6 Dial **4908**. Several rings will occur and then one beep. The beep indicates that you have successfully dialed into the communications bridge. (Everyone already on the telephone bridge will also hear the beep to let them know that someone else has joined them). Although unlikely, if you are the first person to dial into the telephone bridge, the number will continue to ring until someone else also dials in. At that time, the phone will stop ringing and a beep will sound. You may then begin talking.
- 3.4.7 The “P-T-T” (push-to-talk) transmit switch on top of the belt pack unit is a three-position rocker switch:
- When the right side of the switch is pressed to the “CONT” position, the radio is locked into a continuous communication mode of operation, where, whenever you speak, your voice is transmitted.
  - Rocking the switch back to the neutral position blocks voice transmission from your unit.
  - The spring-return to neutral P-T-T position allows voice transmission from your unit for as long as the switch is held in the P-T-T position.
- 3.4.8 Adjust the volume to the headset with the volume control knob on the belt pack unit. The volume control knob on the repeater unit has no function in our present mode of operation.

**NOTE:** Two screw-driver adjusted volume control pots located on the back of the repeater unit that may be adjusted by a Communications or C&F person if you are having difficulty hearing or being heard.

- 3.4.9 After connecting to the Operations Communication Bridge, identify yourself to those already on the bridge. Your primary contact for information will be the Operations Liaison, who is also the primary communications link between the Control Room and the TSC. Begin collecting preliminary data about the emergency, but keep voice traffic to a minimum in order to not interfere with the Control Room/TSC link.

Begin filling out Enclosure 4.3, (Operations Interface Manager Initial Report), which is attached to this procedure.

**NOTE:** Usually, one or more message forms will have already been sent by the TSC Offsite Communicator and will be available from the Offsite Communications personnel in the EOF. These should be the primary source of preliminary information for you about the emergency.

3.4.10 The EOF Director will ask for an up-to-date copy of the "Operations Interface Manager Initial Report" before he declares the EOF "operational".

### 3.5 Activate the Emergency Data System

3.5.1 Point the remote control towards the Epson overhead projector and press the "Power" button on the remote to turn the projection unit on. (There is also a red "power on" button located on the projection unit if the remote is unavailable).

3.5.2 Make sure the Extron keypad (located behind the computer monitor) is selected to the correct monitor, per the numbered list posted near the keypad. The overhead projector will project whichever monitor is selected by the keypad.

3.5.3 The SDS (Satellite Display System) computer is located at the Operations Interface Manager's station in the EOF; turn the monitor on and then boot the SDS computer.

3.5.4 The SDS computer will boot Windows NT; double-click on the appropriate SDS icon ("Drill SDS" or "Real SDS").

3.5.5 Double-click on the appropriate unit (Unit 1/**Simulator** if you are in the "Drill SDS" screen; or the affected unit if you are in the "Real SDS").

3.5.6 Navigate through the SDS screens to monitor desired parameters.

### 3.6 Continue to provide plant status and updates to the EOF Director:

3.6.1 Use the Operations Communication Bridge network to keep abreast of developments.

3.6.2 Use the EDS to help maintain a picture of overall plant conditions and equipment status.

### 3.7 Keep the EOF Director advised of the proper Emergency Action Level (EAL).

3.7.1 Use RP/0/B/1000/001, (Emergency Classification) to verify proper EAL.

- 3.7.2 Constantly review all possible conditions/scenarios that could require an upgrade in the EAL. Immediately recommend to the EOF Director that the EAL be upgraded, if conditions warrant this.
- 3.8 Help the Offsite Communications Manager, as requested, review Emergency Notification message updates for accuracy.
- 3.9 Assist the Radiological Assessment Manager, as requested, by providing plant status updates.
- 3.10 If additional Ops Interface personnel are present, they should maintain the "Event" and "Major Equipment" status boards. These should be maintained as accurate, detailed, and up-to-date as possible since the majority of people in the EOF Director's area use the boards as reference.
- 3.11 When a board is full, use the "Copy" switch on the board to make a paper copy of the information before erasing the board to make room for new information. Xerox copies may be made for individuals desiring them.
- 3.12 If 24-hour staffing is to be set up, refer to Enclosure 4.2, (Telephone Numbers).
- 3.13 The EOF Director will announce when to secure from the drill or emergency.
  - 3.13.1 Return the telephone handset to the phone cradle, power down the repeater unit, and turn the belt pack unit off.
  - 3.13.2 Use the remote control (or the power switch on the projector unit) to turn off the overhead projector.
  - 3.13.3 Shutdown SDS: Select "Main" with the left mouse button. From the drop-down menu, double-click "Exit." Turn off the monitor and the SDS computer.
  - 3.13.4 Clean the "Event" and "Major Equipment" status boards. Advance the boards through a complete cycle to ensure that both panels on the boards get erased.
  - 3.13.5 Return any drawings and manuals to the proper locations. Discard scratch paper, procedure working copies, and other trash in the appropriate receptacles.

#### **4. Enclosures**

- 4.1 Operations Interface Organization and Responsibilities
- 4.2 Telephone Numbers
- 4.3 Operations Interface Manager Initial Report

**Operations Interface Organization And  
Responsibilities**

**1. Operations Interface Organization and Responsibilities**

1.1 Organization

1.1.1 The Ops Interface Manager group is staffed by Oconee Nuclear Site Training personnel who hold or have held a Senior Reactor Operator License.

1.2 Duty Roster

1.2.1 Members of the Ops Interface group are assigned to the Oconee Nuclear Site Duty roster and carry a pager. The assigned duty person is required to be "fit for duty" and capable of reaching the EOF within 75 minutes.

1.3 Responsibilities

1.3.1 The **primary** responsibility of the Ops Interface Manager is to ensure that the EOF Director has complete and up-to-date information on which to base the declared Emergency Action Level for the event.

1.3.2 Additional duties may include assisting other groups at the EOF with technical information about the event, maintaining the Event and Equipment status boards, and tracking the progress of the mitigating actions via the Operations Communications Bridge.

**Enclosure 4.2**  
**Telephone Numbers**

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**1. Telephone Numbers**

<i>NAME</i>	<i>OFFICE</i>	<i>HOME</i>	<i>PAGE</i>
AYERS, BOBBY	885-3459	882-4889	777-9300
BLACK, JIM	885-3458	882-1416	777-9288
BYKO, JIM	885-3461	882-4052	777-9428
CAUDILL, BILL	885-3451	638-6079	777-9386
HINDMAN, LARRY	885-3347	638-6514	777-9384
INMAN, TROY	885-3450	638-8372	777-9290
LOFLIN, TOMMY	885-3457	843-6835	777-9289
PRESTON, JAMIE	885-3467	882-7491	777-9385
STEELY, J.R.	885-3446	296-9126	778-3562
WASHBURN, GABRIEL	885-3453	639-0460	777-9346
WHITTENER, ALAN	885-3456	944-2113	777-9387
YARBROUGH, RANDALL	885-3460	654-2579	777-9309
Operations Communications Bridge		66-4908	
Simulator Instructor Console		66-3828	

**Enclosure 4.3**  
**Operations Interface Manager Initial Report**

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1. PRESENT EAL \_\_\_\_\_ DECLARED TIME/DATE \_\_\_\_\_

INITIAL EAL \_\_\_\_\_ DECLARED TIME/DATE \_\_\_\_\_

2. INITIATING EVENT: Unit \_\_\_\_\_

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3. PRESENT STATUS OF AFFECTED UNIT(S): (including significant pieces of equipment out of service).

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IMPROVING \_\_\_\_\_ STABLE \_\_\_\_\_ DEGRADING \_\_\_\_\_

4. STATUS OF UNAFFECTED UNITS:

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5. Unit 1 SHUTDOWN AT (TIME/DATE) \_\_\_\_\_ OR AT \_\_\_\_\_ % POWER

Unit 2 SHUTDOWN AT (TIME/DATE) \_\_\_\_\_ OR AT \_\_\_\_\_ % POWER

Unit 3 SHUTDOWN AT (TIME/DATE) \_\_\_\_\_ OR AT \_\_\_\_\_ % POWER

**INFORMATION ONLY**

Duke Power Company  
**PROCEDURE PROCESS RECORD**

(1) ID No. RP/0/B/1000/022

Revision No 006

**REPARATION**

(2) Station Oconee Nuclear Station

(3) Procedure Title Procedure for Site Fire Damage Assessment and Repair

(4) Prepared By Harold Lefkowitz (Signature) [Signature] Date 08/29/2000

- (5) Requires 10CFR50.59 evaluation?
  - Yes (New procedure or revision with major changes)
  - No (Revision with minor changes)
  - No (To incorporate previously approved changes)

(6) Reviewed By Richard Ledford (QR) Date 9/18/00

Cross-Disciplinary Review By \_\_\_\_\_ (QR) NA Date 9/18/00

Reactivity Mgmt. Review By \_\_\_\_\_ (QR) NA Date 9/18/00

(7) Additional Reviews

QA Review By \_\_\_\_\_ Date \_\_\_\_\_

Reviewed By \_\_\_\_\_ Date \_\_\_\_\_

Reviewed By \_\_\_\_\_ Date \_\_\_\_\_

(8) Temporary Approval (if necessary)

By \_\_\_\_\_ (SRO/QR) Date \_\_\_\_\_

By \_\_\_\_\_ (QR) Date \_\_\_\_\_

(9) Approved By J. J. Taylor Date 9/18/00

**PERFORMANCE** (Compare with control copy every 14 calendar days while work is being performed.)

(10) Compared with Control Copy \_\_\_\_\_ Date \_\_\_\_\_

Compared with Control Copy \_\_\_\_\_ Date \_\_\_\_\_

Compared with Control Copy \_\_\_\_\_ Date \_\_\_\_\_

(11) Date(s) Performed \_\_\_\_\_

Work Order Number (WO#) \_\_\_\_\_

**COMPLETION**

(12) Procedure Completion Verification

- Yes  NA Check lists and/or blanks initialed, signed, dated, or filled in NA, as appropriate?
- Yes  NA Listed enclosures attached?
- Yes  NA Data sheets attached, completed, dated, and signed?
- Yes  NA Charts, graphs, etc. attached, dated, identified, and marked?
- Yes  NA Procedure requirements met?

Verified By \_\_\_\_\_ Date \_\_\_\_\_

(13) Procedure Completion Approved \_\_\_\_\_ Date \_\_\_\_\_

(14) Remarks (Attach additional pages, if necessary)

Duke Power Company  
Oconee Nuclear Station

**Procedure for Site Fire Damage  
Assessment and Repair**

**Reference Use**

Procedure No.

RP/0/B/1000/022

Revision No.

006

Electronic Reference No.

OX002WPJ

## Procedure for Site Fire Damage Assessment and Repair

**NOTE:** This procedure is an implementing procedure to the Oconee Nuclear Site Emergency Plan and must be forwarded to Emergency Planning within three (3) working days of approval.

### 1. Symptoms

- 1.1 A major damaging fire occurs as described in the Oconee Site Appendix "R" scenarios:
- Enclosure 5.1: Turbine and Auxiliary Building Fire
  - Enclosure 5.2: Turbine Building Fire
  - Enclosure 5.3: Reactor Building Fire
  - Enclosure 5.4: Fire in the West Penetration Room or SSF Cable Trench
  - Enclosure 5.5: Fire at CT-4 Transformer
- 1.2 Portions of the protected area require evacuation/personnel relocation or a site evacuation/personnel relocation may be required due to plant damage.

### 2. Immediate Actions

- 2.1 If required, the Fire Brigade is dispatched to put out the fire per the ONS Fire Plan.
- 2.2 Warn all Site personnel of fire location.
- 2.3 Activate the outside Site Assembly Horn to notify personnel outside the reach of the PA System.
- 2.4 Activate the Technical Support Center, Operations Support Center, and Emergency Operations Facility.

### 3. Subsequent Actions

- 3.1 TSC will have the Operations Group maintain the unit(s) in hot shutdown while performing simultaneously the actions required per EOP/1,2,3/A/1800/001, (Emergency Operating Procedure), OP/0/A/1102/024, (Operational Guidelines following Fire in Auxiliary Building, Turbine Building or Vital Area), and AP/0/A/1700/025, (Standby Shutdown Facility Emergency Operating Procedure).

- 3.2 Operators and others are sent out to determine site damage and will report back to the OSC with their findings.
- 3.2.1 When repair procedures exist for damaged equipment, the OSC will make it known to the TSC.
- 3.2.2 If procedures do not exist to make the necessary equipment repairs in order to achieve cold shutdown within 72 hours, the TSC has available to it the resources of the OSC and EOF to evacuate, engineer, and proceduralize the methods of repair.
- 3.3 Once Operations has made an assessment of equipment damage and reports back to the OSC, the OSC will evacuate the additional personnel required to get the unit(s) to Cold Shutdown within approximately 72 hours of the initiating event.
- 3.4 Since repair activities continue for an extended time, the OSC Coordinator assures timely call out of relief personnel for repair workers. The OSC Coordinator also directs arrangement of relief for OSC members. OSC staffing may be altered as necessary.
- 3.4.1 Telephone numbers for the different maintenance managers are located in Enclosure 5.13, (Maintenance Telephone List of Appendix "R" Supervision).
- 3.5 Workforce will be allocated for repairs per referenced procedures in Enclosure 5.6, (List of Site Appendix "R" Fire Procedures), but these personnel will be dispatched as deemed necessary by OSC Coordinator.
- 3.6 The OSC obtains feedback from the Fire Brigade concerning fire status and accessible work staging locations. The locations are listed on Enclosure 5.11, (Fire Damage Repair Work Locations).
- As these areas become accessible, work location supervisors, with Safety and RP support, are sent to make surveys. The following information is reported to the OSC:
- special safety precautions necessary due to structural damage, electrical shorts, etc.
  - need for lighting
  - need for ventilation
  - RP requirements
  - repair procedure applicability (which steps may be omitted)
- 3.6.1 Site specific departmental repair responsibilities are listed in Enclosure 5.14, (Site Specific Departmental Repair Responsibilities for TSC and OSC) for the TSC and OSC.

- 3.6.2 If the TSC/OSC is not habitable (or may become so) due to fire, smoke, temperature, or radiological concerns, it should be relocated as soon as practical to the alternate location as agreed to by the Emergency Coordinator and OSC Manager. Continued availability of lighting, ventilation, and communications equipment must be considered.
- 3.6.3 The TSC Emergency Coordinator and OSC Manager assures that relocation is accomplished in an orderly manner. TSC and OSC emergency equipment, radios, and documents should be taken to the new location. Telephone and/or radio communication with the TSC must be reestablished promptly.
- 3.7 A brief description & priority of equipment repairs is listed in Enclosure 5.8, (Repair Priorities & Descriptions).
- 3.8 A guide to equipment repair priorities is given in Enclosure 5.7, (Repair Work Flow Diagram).
- 3.9 The Mechanical Shift Supervisor informs Commodities and Facilities to locate the necessary equipment and cable reels and move to the safe work location listed in Enclosure 5.11, (Fire Damage Repair Work Locations).

As described in Enclosure 5.11, "(Fire Damage Repair Work Locations) initial staging of major equipment is performed according to MP/0/A/3009/012 (Emergency Plan for replacement of HPI, LPI, LPSW motors following a Fire in the Turbine or Auxiliary Building) and IP/0/A/0050/002, (Fire Damage Control Procedure). This includes:

- moving HPIP and LPIP motors from Bldg. #8093 (OLD WHSE #6) to the Hot Shop
  - moving LPSWP motors from Bldg. #8093 (OLD WHSE #6) to the Unit 1 Heater Bay
  - moving the emergency switchgear trailer from Bldg. #8019 (OLD WHSE #4) to the Unit 1 & 2 electrical blockhouse
  - moving valve control panels from Bldg. #8093 (OLD WHSE #6) to the West Penetration Rooms' outside doors moving 4160V power cables and valve control cables from Bldg. #8019 (OLD WHSE #4) to the Unit 1 & 2 electrical blockhouse, West Penetration Room doors, and SSF
  - lifting cable trench covers at the North end of the SSF
- 3.10 It is assumed that lighting and power are lost at all in-plant work locations, and that ventilation equipment is necessary for motor replacement work in the HPI and LPI pump rooms. Actual conditions will be determined by RP and Safety surveys described in Step 3.6.

The I&E Manager has available portable generators from sources listed on Enclosure 5.10, (Appendix "R" Equipment). The I&E Manager will need to notify ESS-South to setup and operate the generators.

The I&E Manager directs initial lighting and ventilation equipment set up according to Enclosure 5.12, (Deployment of Lighting and Ventilation Equipment). Safety representatives and supervisors for affected locations assist the I&E Manager.

Remaining equipment is set up by location work crews as necessary.

- 3.11 When it is decided by the TSC to proceed with unit(s) shutdown to cold shutdown, the Supt. Of Operations will notify Operations to begin unit(s) cooldown utilizing OP/O/A/1102/025, (Cooldown Following a Fire) and OP/1,2,3/A/1102/010, (Controlling Procedure for Unit Shutdown).
- 3.12 When the EOF Director reduces the Emergency Classification such that the OSC is no longer required, control of fire damage repairs are turned over to the Work Control Organization.

#### 4. Abstract

10CFR50, Appendix "R" requires that nuclear stations maintain the ability to repair major fire damage such that the plant has 72 hours to reach "cold shutdown". The Appendix "R" postulated fire scenarios for Oconee Nuclear Site assume for conservatism, that before any repair action is initiated, that 8 hours has elapsed from the initial indications of a fire. This would leave 64 hours for repair and cooldown to cold shutdown on the affected unit(s). This implies that the fire brigade fights the fire for the initial 8 hours and no other functions are carried out. This will most probably not be the case; therefore as soon as possible repairs shall be initiated.

Eight hours are allocated for preparation. During this time, an initial work force is called in by the OSC. Security is notified to allow workers into the plant. If a Site Area Emergency or General Emergency is declared, the TSC arranges for state and local agencies to allow workers through the traffic control points.

Since repair activities continue for an extended time, the OSC Manager assures timely call out of relief personnel for repair workers. The OSC Manager also directs arrangement of relief for the OSC members. OSC staffing may be altered as necessary.

Repairs for the TB/AB Fire encompass those for the other scenarios. This fire is assumed to damage systems in the Turbine Building, electrical block houses (except CT-4 Transformer), and the Auxiliary Building (except the West Penetration Room). All AC power is lost. To bring all three units to cold shutdown, it may be necessary to:

- replace motors on HPIP's 1A, 2A, and 3A
- replace motors on LPIP's 1C, 2C, and 3A
- replace motors on LPSWP's 1A and 3A
- provide 4160V power to the replaced motors; power and cooling water to a CCWP motor
- provide power and controls for each unit's PORV, Core Flood isolation valves CF-1&2, Decay Heat suction valves LP-1&2, RCS Post-Accident sampling valves, and Condenser outlet valves
- install local instrumentation for HPI, LPI, and LPSW systems

This procedure is intended for use after major fire damage as described in the enclosures, however if another plant evolution (i.e. natural disaster, etc.) creates the need of restoration of site equipment as described in any of the listed procedures, the methodology of workforce and equipment repair as addressed in this procedure can be used.

Within 3 1/2 hours of the loss of power to the CCWP's, a submersible pump is installed at the intake to provide water to the SSF. This is not considered an Appendix "R" fire damage repair; it is a separate SSF operability requirement.

Within 36 hours of the loss of power to the SFP cooling system the emergency plan for Refilling Spent Fuel Pools contained in MP/0/A/3009/012 shall be implemented. This is not considered an Appendix 'R' repair; it is a separate Spent Fuel requirement.

## 5. Enclosures

- 5.1 Turbine and Auxiliary Building Fire
- 5.2 Turbine Building Fire
- 5.3 Reactor Building Fire
- 5.4 Fire in the West Penetration Room or SSF Cable Trench
- 5.5 Fire at CT-4 Transformer
- 5.6 List of Site Appendix "R" Fire Procedures
- 5.7 Repair Work Flow Diagram
- 5.8 Repair Priorities & Descriptions
- 5.9 Appendix "R" Material List
- 5.10 Appendix "R" Equipment
- 5.11 Fire Damage Repair Work Locations
- 5.12 Deployment of Lighting and Ventilation Equipment
- 5.13 Maintenance Telephone List of Appendix "R" Supervision
- 5.14 Site Specific Departmental Repair Responsibilities for TSC and OSC

This fire starts in the Turbine or Auxiliary Building. It is bounded by the Reactor Buildings' walls, fire walls around the West Penetration Rooms, and the fire wall between CT-4 transformer and the Unit 1 & 2 Electrical Blockhouse. Unattached structures are not affected.

As in all the scenarios, off-site power is lost and not recovered. The fire causes immediate damage to systems in the fire area, including loss of the main feeder buses and 6900V RCP buses (station blackout). Equipment subject to fire damage is assumed to fail and/or actuate spuriously, whichever is worst-case.

The reactors are shut down. Hot shutdown conditions are maintained from the SSF until repairs are made to allow cooldown.

Repairs cannot begin for 8 hours. During this time the Emergency Plan is activated, the SSF-dedicated submersible pump is installed, the fire is controlled, manpower and equipment are called to the site, and preparations for repairs are made.

Repair details are presented in Enclosure 5.7, (Repair Work Flow Diagram). \*HPI is restored to provide RCS inventory control, and valves for RV head venting and pressure control made operable, prior to starting cooldown. Natural circulation cooldown is performed using SSF ASW and the MS atmospheric dump valves. CF-1 & 2 are made operable and closed before RCS pressure is decreased below CFT pressure (600 psig). \*CCW, \*LPSW, and \*LPI are restored as prerequisites to establishing LPI cooling. LPI is then used to cool down from 250 °F to cold shutdown. RCS sampling valves and CCW condenser outlet valves are also restored.

\* including power to pump motors, valve controls, and instrumentation; as necessary for each system

**Enclosure 5.2**  
**Turbine Building Fire**

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The fire is the same as the TB/AB Fire, except that it is bounded on the west by the Auxiliary Building wall. The open structure of the Turbine Building makes this a more likely event, however.

Plant control is the same as for the Turbine and Auxiliary Building Fire.

Repair scope is decreased, since HPIP and LPIP motor replacement is not necessary. Restoration of Auxiliary Building valve controls and instrumentation remains necessary due to loss of power.

**Enclosure 5.3**  
**Reactor Building Fire**

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This scenario is presented for reference only. No repairs are necessary to achieve cold shutdown.

The fire is confined to a limited area within the Reactor Building. Shield walls and structural spacing prevent spread of the fire.

Main feeder bus and RCP power is automatically restored from Keowee via the overhead power path.

Various failures occur, depending upon the fire's location. All are mitigated by redundant systems (including SSF-operated equipment) or operator action. Reactor Building entry is necessary for manual valve operation if CF-1, CF-2, LP-1, or LP-2 power cables burn.

EFW is used for cooldown until LPI is established.

**Fire in the West Penetration Room or SSF  
Cable Trench**

This is actually a grouping of several scenarios with the same effect - a loss of off-site power (given), coupled with loss of SSF-to-plant electrical ties.

The fire is confined within a West Penetration Room (where SSF cabling enters the plant), or within a SSF-to-plant cable trench. The fire affects a single unit, unless it is in the SSF-to-Unit 3 cable trench. In this case the fire also burns CCWP power cabling, which intersects the SSF-to-Unit 3 cable trench, so that a total loss of station CCW occurs.

Main feeder bus and RCP power is automatically restored from Keowee via the overhead power path.

A fire in a West Penetration Room (WPR), or in the Unit 1 or 2 cable trench, requires no repairs for cooldown. EFW is used until LPI cooling is established. If WPR cables are burned, Reactor Building entries are made to manually operate CF 1 & 2 and LP 1 & 2.

Fire in the Unit 3 cable trench causes loss of station CCW. Lack of CCW can bring about loss of LPSWP suction, in-plant ASWP suction, EFW inventory, and SSF water supply.

Repairs consist of restoring power to one CCWP - a power cable is pulled to the Unit 3 4160V switchgear. The SSF-dedicated submersible pump is also installed at the CCW intake. It provides:

- suction for the jockey pump, which substitutes for LPSW cooling of the HPIP motors and the turbine driven EFWs
- suction for the in-plant ASWP and SSF
- cooling/sealing water for the CCWP.

On all three units, cooldown is begun with EFW. If EFW inventory becomes depleted, ASW is used to continue cooldown to 250°F. LPI cooling is established for cooldown to cold shutdown. Constraints are:

- The jockey pump must be started within 5 hours of loss of CCW flow, before the EWST is depleted. This time may be extended by isolating HPSW cooling/sealing water to CCWPs.
- If atmosphere dumps are used, EFW inventory will be depleted in a minimum of 12 hours at HSD, or 6 hours during cooldown.
- Since control of Unit 3's SSF-ASW valves is not available, in-plant ASW would be used. SSF-ASW could be used on Units 1 and 2.
- If LPSWP suction has been lost, the CCWP must be started prior to establishing LPI cooling.

**Enclosure 5.5**  
**Fire at CT-4 Transformer**

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No repairs are required for cooldown.

Fire is confined within the CT-4 room. CT-4 becomes inoperable.

Main feeder bus and RCP power is automatically restored from Keowee via the overhead power path.  
EFW is used for cooldown until LPI cooling is established.

Repair Procedures

- MP/0/A/3009/012 Emergency Plan for Replacement of HPI, LPI, LPSW Motors Following a Fire in Turbine Building or Auxiliary Building
- MP/0/A/1300/020: Pump Ingersol Rand - High Pressure Injection - Removal and Replacement of Pump and Motor
- MP/0/A/1300/040: Pumps - Alignment and Coupling to Motor
- MP/0/A/3009/XX  
X (series): Various ONS and Keowee Hydro Station Motor Inspection and Maintenance Procedures
- IP/0/A/0050/002: Fire Damage Control Procedure

Submersible Pump Procedures

- MP/0/B/1300/059: Pump - Submersible - Emergency SSF Water Supply - Installation
- IP/0/B/0050/003: Procedure to Provide Power for SSF Submersible Pump

Spent Fuel Pool Water Level Recovery

- MP/0/A/3009/012 Emergency Plan for Refilling Spent Fuel Pools  
A:

Operations Controlling Procedures

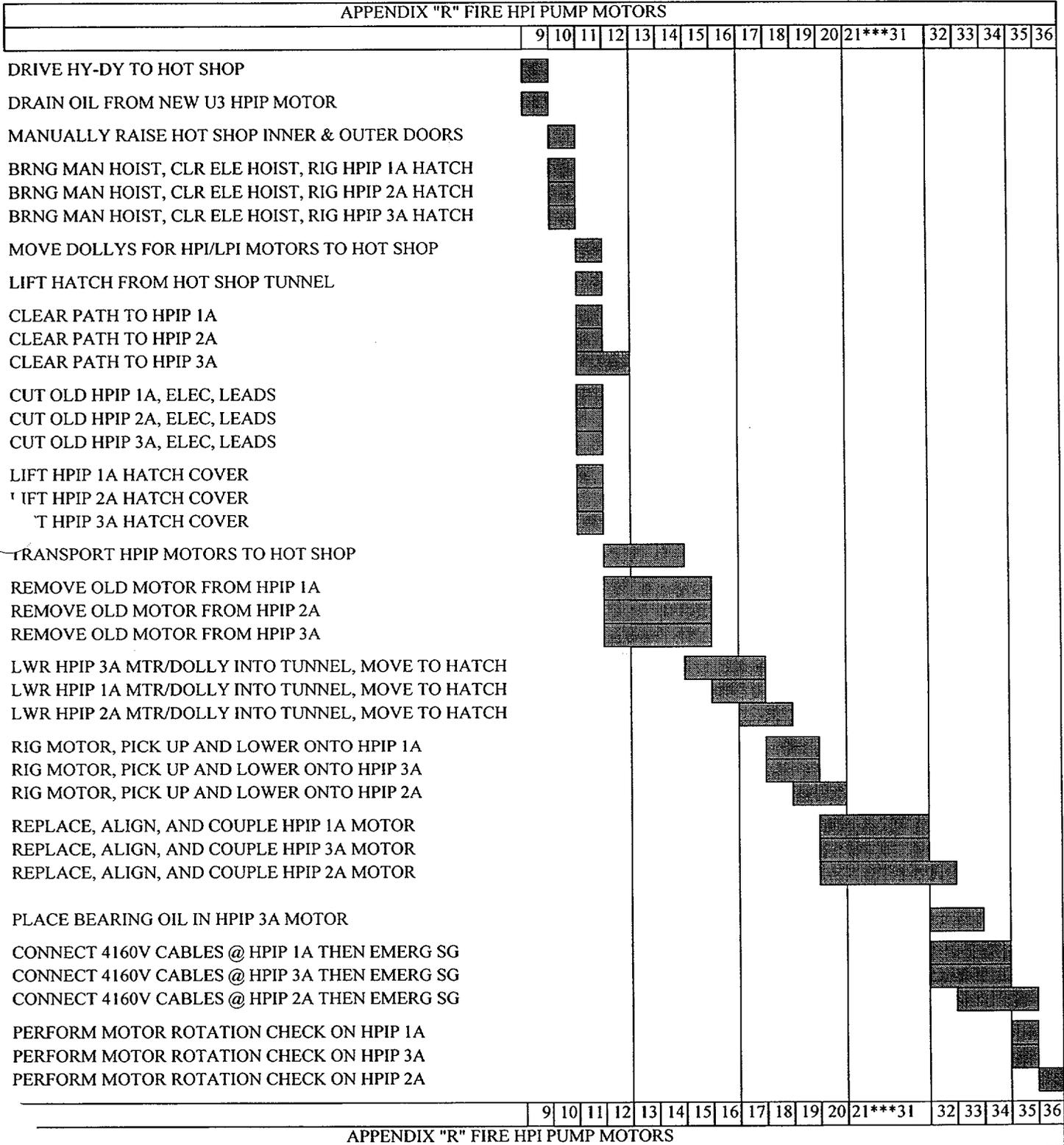
- OP/0/A/1102/024: Operational Guidelines Following Fire in Auxiliary Building, Turbine Building, or Vital Area
- OP/0/A/1102/025: Cooldown Following a Fire
- OP/0/A/1104/052: SSW System
- AP/0/A/1700/025: Standby Shutdown Facility Emergency Operating Procedure
- EP/1/A/1800/001: Emergency Operating Procedure
- EP/2/A/1800/001: Emergency Operating Procedure
- EP/3/A/1800/001: Emergency Operating Procedure

Chemistry Procedures

- CP/O/A/2002/04E: Reactor Coolant Sampling During Appendix "R" Accident

Repair Work Flow Diagram

HPIP Motor Replacements

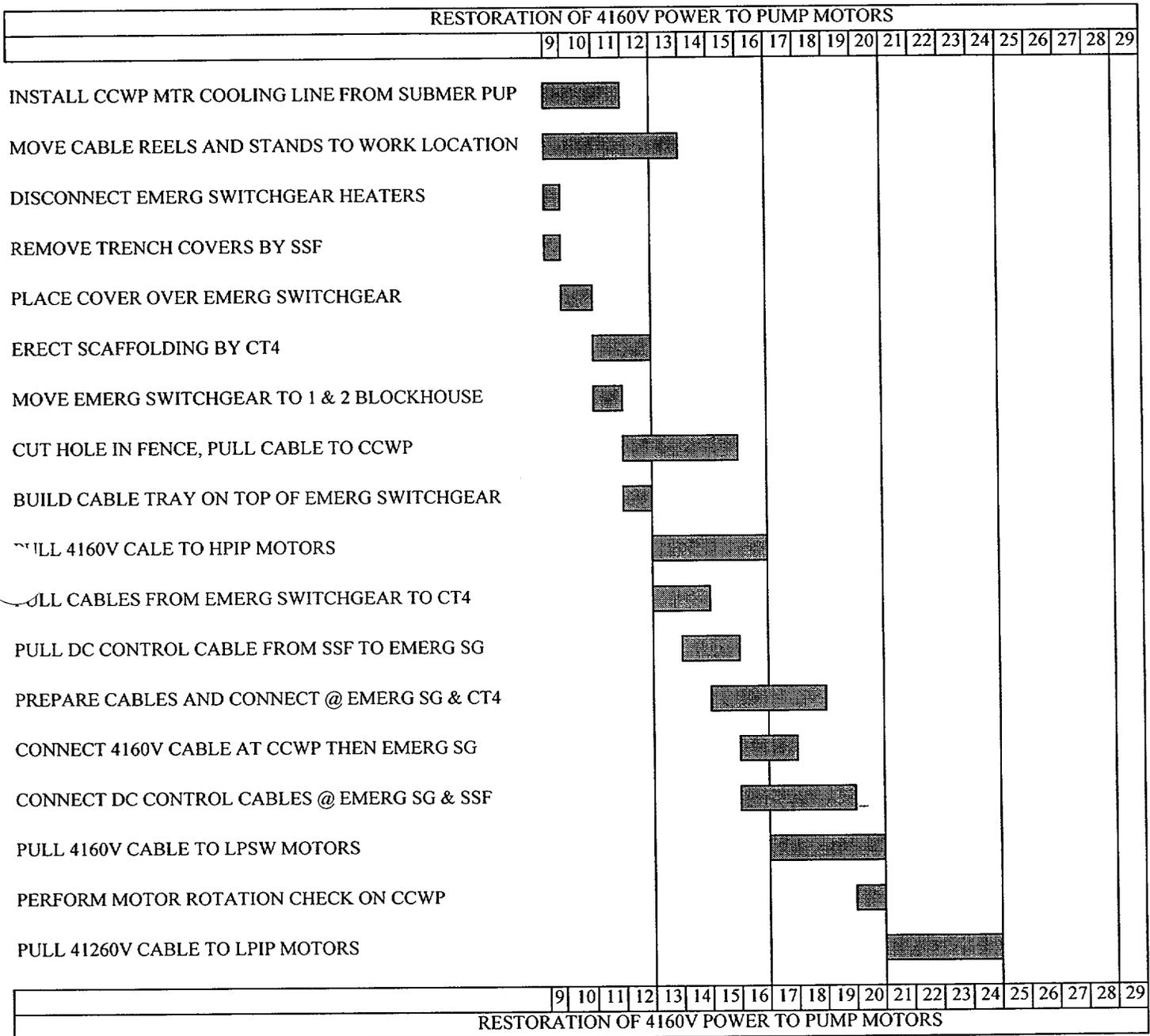






Repair Work Flow Diagram

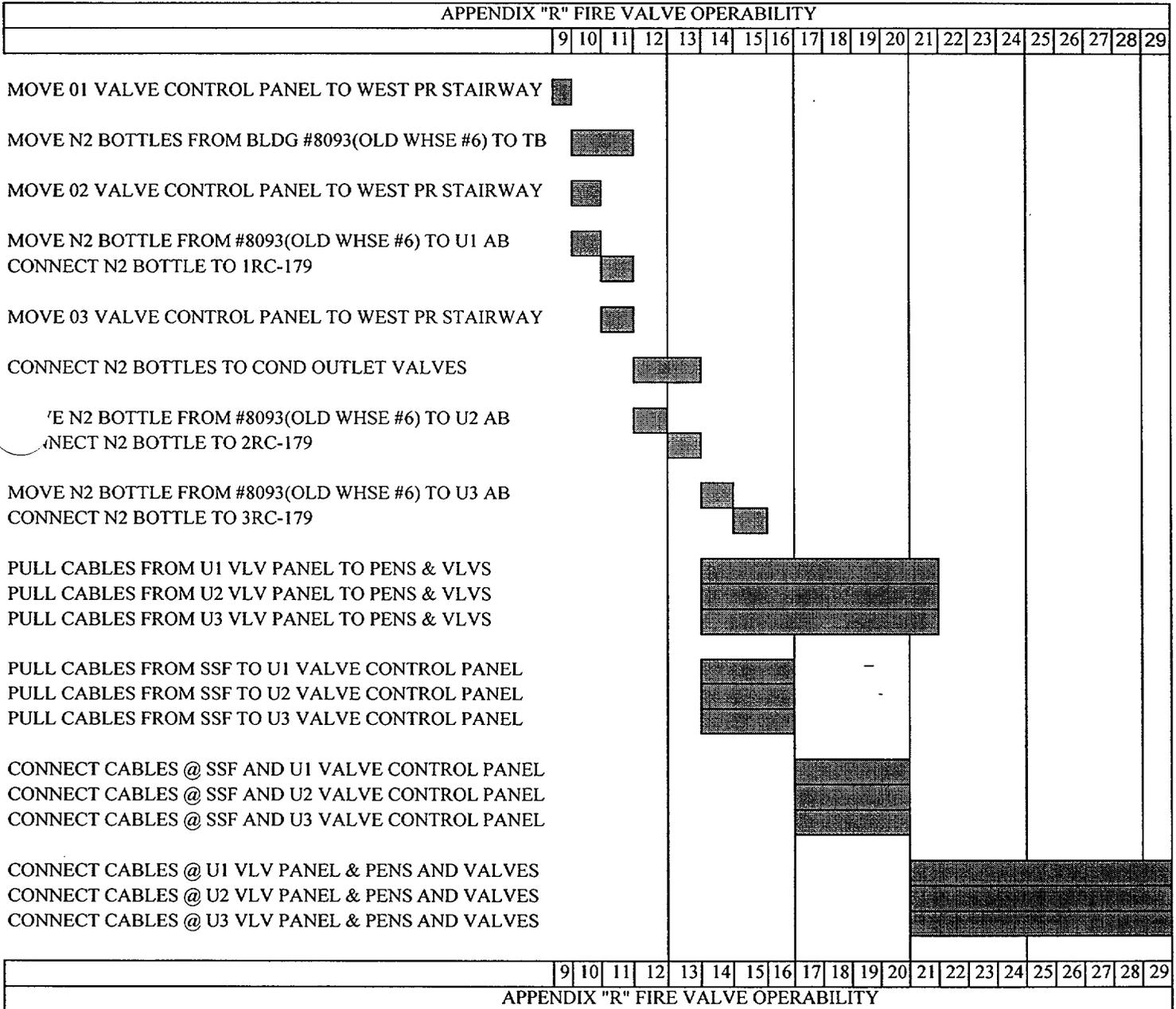
Restoration of 4160V Power to Pump Motors



**NOTE:** This flow diagram is representative of the time allotted to repair all necessary valves from the damage assessment to maintain the unit(s) in stable hot shutdown conditions.

Valve Operability Restoration

APPENDIX "R" FIRE VALVE OPERABILITY



APPENDIX "R" FIRE VALVE OPERABILITY

Repair Work Flow Diagram

Installation of Local Instruments and Miscellaneous Activities

**NOTE:** This flow diagram is representative of the time allotted to repair all necessary instrumentation from the damage assessment to maintain the unit(s) in stable hot shutdown conditions.

APPENDIX "R" FIRE INSTRUMENTS

	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24-----28	29	30	31	32	33	
MOVE INSTRUMENTATION FROM WHSE INTO PLANT (U1)																					
MOVE INSTRUMENTATION FROM WHSE INTO PLANT (U2)																					
MOVE INSTRUMENTATION FROM WHSE INTO PLANT (U3)																					
REPLACE U1 INSTRUMENTATION																					
REPLACE U2 INSTRUMENTATION																					
REPLACE U3 INSTRUMENTATION																					

APPENDIX "R" FIRE INSTRUMENTS

	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24-----28	29	30	31	32	33
--	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----------	----	----	----	----	----

APPENDIX "R" FIRE MISCELLANEOUS ACTIVITIES

	2	3	4	5	6	7	8	9	10	11	12	13	14	15-----25	-----35
INSTALL SUBMER PMP, ASSURING SSF WATER SUPPLY															
NOTIFY EXTRA MANPOWER FOR REPAIRS															
PORT. GEN. OPERATOR MANPOWER															
EXTRA MANPOWER FOR REPAIRS ONSITE															
SURVEY JOBS, DEPLOY LIGHTS & VENTILATION EQUIP															
SPENT FUEL POOL INVENTORY REPLACEMENT BY FIRE															

APPENDIX "R" FIRE MISCELLANEOUS ACTIVITIES

	2	3	4	5	6	7	8	9	10	11	12	13	14	15-----25	-----35
--	---	---	---	---	---	---	---	---	----	----	----	----	----	-----------	---------

- NOTE:**
1. The equipment listed in this enclosure are in order of repair priority, with #1 being the most important.
  2. Specific equipment restorations will depend on damage equipment assessments and particular fire, not necessarily on the pre-supposed scenario descriptions.

## 1. HPIP Motor Replacements

HPIP motor replacements are the longest duration, most challenging repairs. In addition, use of the HPI system is necessary to begin cooldown.

Controlling Procedure: MP/0/A/3009/012, (Emergency Plan for Replacement of HPI, LPI, LPSW Motors Following a Fire in Turbine Building or Auxiliary Building).

HPIP 1A, 2A, and 3A motors are replaced.

Oil is drained from the Unit 3 HPIP motor (only).\* A forklift moves each motor through the BLDG. #8093 (OLD WHSE #6) door to the Hy-Dynamic crane, which takes it into the Hot Shop. A forklift moves dollies from BLDG. #8093 (OLD WHSE #6) to the Hot Shop, where they are lowered into the Hot Shop tunnel. Each motor is lowered onto its dolly, Unit 3's first, then manually towed to the appropriate HPI Hatch Area. The Unit 1 & 2 motors are both taken to the south side of the Unit 1 & 2 Hatch Area.

Availability of electric power affects these staging activities. Without power, rollup doors at the Hot Shop are opened manually. The Hy-Dynamic removes the Hot Shop tunnel hatch and lowers motors into the tunnel. With power, the Hot Shop crane handles loads in the Hot Shop. Manual hoists are provided for handling hatches and motors in the HPI Hatch Areas, if the installed electric hoists are inoperable.

Parallel to initial staging activities, pathways are cleared from the Hot Shop to the HPI Hatch Areas. HPI hatches are removed. Electricians cut the old HPIP motor power cables, and pump crews begin removing the old motors.

When removed, the old motors are placed out of the way in the HPIP rooms or hatch areas. New motors are then installed and aligned according to MP/0/A/1300/020, (Pump Ingersol Rand-High Pressure Injection - Removal and Replacement of Pump and Motor).

The replacement motors are air-cooled, so that cooling water hookup is not required. Motor instrumentation is not reconnected. While careful motor-to-pump alignment is necessary, the usual Q.A. documentation of HPIP work is not required. On Unit 3 only, oil must be replaced after the new motor is set.

Power to the motors is restored according to IP/0/A/0050/002, (Fire Damage Control; Procedure), (see Restoration of 4160V Power to Pump Motors). After new power cables are pulled, electricians connect them to the motors. The motors are "bumped" to check for correct rotation before running the pump.

- Oil is drained because the Unit 3 motor is tipped on its side for handling. This is necessary due to low overhead clearance in the Auxiliary Building corridor.
- The Unit 3 motor is handled first because of the longer distance it must be towed.

## 2. LPSWP Motor Replacement

LPSW flow to LPI coolers is required at about 250 degrees F in the RCS, when LPI cooling is begun. Other LPSW cooling loads, though not essential for cooldown, make LPSWP motor replacements important.

Controlling Procedure: MP/0/A/3009/012, (Emergency Plan for Replacement of HPI, LPI, LPSW Motors Following a Fire in Turbine Building or Auxiliary Building).

LPSWP 1A and 3A motors are replaced.

After HPIP motors are moved, a forklift moves the two LPSWP motors and dollies to Bldg. #8093 (OLD WHSE #6) rollup door. These are loaded onto a crane truck, which is driven through the Turbine Building Heater Bay rollup door. The boom truck lowers the LPSWP motors and dollies to the basement through grating east of feedwater heater 1C2. (If the heater bay crane is operable, it may be used to lower LPSWP motors through the normal access holes.)

Activities parallel to LPSWP motor staging are similar to those for HPIP motors. The LPSWP motor pathways in the TB basement are shown in MP/0/A/3009/012, (Emergency Plan for Replacement of HPI, LPI, LPSWP Motors Following a Fire in Turbine Building or Auxiliary Building). Procedures used to remove, replace, and align the motors are MP/0/A/2000/003, (ONS and Keowee Hydro Station Motor Inspection and Maintenance), and MP/0/A/1300/040, (Pumps - Alignment and Coupling to Motor). Power is restored according to IP/0/A/0050/002, (Fire Damage Control Procedure).

## 3. LPIP Motor Replacements

LPIP motor replacement is completed after LPSWP motor replacement, but only because LPSWP motors are given priority during staging. LPI is required for cooldown below about 250°F.

Controlling Procedure: MP/0/A/3009/012, (Emergency Plan for Replacement of HPI, LPI, LPSW Motors Following a Fire in Turbine Building or Auxiliary Building).

LPIP 1C, 2C, and 3A motors are replaced.

This job is essentially the same as HPIP motor replacements, with the following exceptions:

- After LPSW motors are moved, a forklift moves the LPIP motors to the Hot Shop.
- LPIP motors are all handled in their normal orientation; no oil draining is required.
- Procedures used for pump motor removal, replacement, and alignment are MP/0/A/2000/003, (ONS and Keowee Hydro Station Motor inspection and Maintenance) and MP/0/A/1300/040, (Pumps-Alignment and Coupling to Motor).

#### **4. Restoration of 4160V Power to Pump Motors**

Power restoration has shorter duration than motor replacements. The CCWP is required to supply suction to LPSWP's.

Priorities between the pump motors are:

- 1) HPIP's
- 2) CCWP
- 3) LPSWP's
- 4) LPIP's

Procedure: IP/0/A/0050/002, (Fire Damage Control Procedure)

Power is restored to the eight replaced HPIP/LPIP/LPSW motors, and to a CCWP motor.

A special 4160V power control system has been designed for this purpose. It consists of 9 trailer-mounted 4160V breakers and a control panel (the emergency switchgear) powered from CT-4 transformer. DC control power for the breakers is supplied from the SSF. 4160V power cables are pulled from the emergency switchgear to the pump motors.

Several staging activities are conducted. A road tractor pulls the emergency switchgear trailer from Bldg. #8019 (OLD WHSE #4) to its parking area just southeast of the Unit 1 & 2 electrical blockhouse\*. A crane truck picks up 4160V cable reels from Bldg. #8019 (OLD WHSE #4) and moves them to the blockhouse. Another crane truck picks up the DC-control cable reel (along with those for valve operators) and takes it to the SSF. Cable reel stands are moved with the cables. Pipes for cable reel handling are obtained from the pipeyard.

A Demag or Grove crane lifts two sections of cable trench cover - one on each side of the roadway between the SSF (north end) and the Hot Shop. This allows cable pulling for the DC control cable, as well as the valve operator cables. Care is taken to avoid interference with pump motor staging.

Scaffolding is erected for safe access to terminal points on top of CT-4. After the emergency switchgear is moved, cable trays (stored on the switchgear trailer) are erected over the breakers.

Cable is pulled manually, following pathways described in IP/0/A/0050/002, (Fire Damage Control Procedure). Cable for the eight HPIP/LPIP/LPSWP motors is stored on three reels, so that simultaneous cable pulling is not possible. Cable is first pulled to the three HPIP motors, followed by the LPSWP and LPIP motors. Cable for the CCWP is on a separate reel. A hole for CCWP cable pulling may be cut in the security fence near the Radwaste Interium Facility if the time duration to get the gate open is too long.

Transmissions Substations technicians connect cables at CT-4 and the emergency switchgear. Electricians make connections at the motors and SSF (DC control cable). Power cables are connected at the motors first.

In a separate mechanical job, cooling water is restored to the CCWP motor according to MP/0/B/1300/059, (Pump-Submersible-Emergency SSF Water Supply-Installation). A line from the SSF submersible pump is connected to the motor's HPSW cooling line.

- The emergency switchgear can not be exposed to rain or fire-fighting water. If necessary, it is wrapped with Herculite which is available at Bldg. #8093 (OLD WHSE #6).

## 5. Valve Operability Restoration

Individual valve priorities depend upon plant conditions, as stated below:

- (1) 1/2/3 RC-66 PORV  
**IF** both RCP's on the PZR loop are inoperable, **AND** PZR auxiliary spray cannot be aligned, this valve must be used for RCS pressure control during cooldown.
- (2) 1/2/3 RC-159, 160 RV Head Vents  
**IF** no RCP's are operable, these valves are required for venting during natural circulation cooldown.
- (3) 1/2/3 CF-1, 2 Core Flood Tank Isolation Valves  
These valves must be closed before the RCS is depressurized below 600 psig.
- (4) Condenser Outlet Valves  
These valves are opened when the CCWP is started.
- (5) 1/2/3 LP-1, 2 Decay Heat Drop Line Valves  
These valves must be opened to establish LPI cooling.
- (6) 1/2/3 RC-162, 163, 179; 1/2 RC-164, 165 RCS Post Accident Sample Valves  
Sampling is required for RCS boron and fuel failure analysis. These valves may be given a higher priority if RCS conditions are in question.

Procedure: IP/0/A/0050/002, (Fire Damage Control Procedure)

Electrically operated valves to be restored are 1/2/3 RC-66; 1/2/3 CF-1&2; 1/2/3 LP-1&2; 1/2/3 RC-159&160; 1/2/3 RC-162&163; 1/2 RC-164&165.

Pneumatic valves are 1/2/3 RC-179 and two condenser outlet valves.

A power/control system has been designed for the electrically operated valves. It consists of a valve control panel (VCP) for each unit, power cables from the SSF to the VCP's, and control cables from the VCP's to the valve operators or their RB electrical penetrations.

A forklift moves the VCP's, which are unit-specific, from Bldg. #8093 (OLD WHSE #6) to the West Penetration Rooms' outside doors. A crane truck brings valve control cable reels from the Bldg. #8019 (OLD WHSE #4) to the VCP's (see Restoration of 4160V Power to Pump Motors).

Cable is pulled from the VCP's to the SSF Electrical Equipment Room. Cables from the VCP's are pulled up the West Penetration Room stairways to the electrical penetrations in the East and West Penetration Rooms (on Unit 3, West only). Cables are also pulled to two valve operators in both the North and South Unit 1&2 LPIP rooms.

Connections at the VCP's, penetrations, and valve operators are made by electricians.

The pneumatically operated valves are located in the respective units' A LPIP rooms, and in the Turbine Building basement. Operations determines which condenser outlet valves are to be restored. A nitrogen bottle (Bldg. #8093 (OLD WHSE #6)) is taken to each valve. I&E technicians connect the nitrogen supply and a pressure regulator to each valve operator.

## 6. Installation of Local Instrument

This is the shortest duration repair activity.

Priorities between systems are:

- 1) HPI
- 2) BWST (if being used)
- 3) LPSW
- 4) LPI

Procedure: IP/0/A/0050/002, (Fire Damage Control Procedure)

I&E technicians pick up replacement local instrumentation (from Bldg. #8093 (OLD WHSE #6)) and install it for the below-listed parameters. This work is done in the AB 1st floor corridor, the HPI pump rooms, the LPI pump rooms, and at the BWST.

HPI: RC makeup flow  
HPIP discharge pressure

LPI: LPI flow  
LPIP discharge pressure LPI return temperature

LPSW: LPSW flow to LPI cooler

BWST: BWST level

## **7. Refilling the Spent Fuel Pools with Lake Water from Fire Trucks**

This activity should be completed and ready within 36 hours of the loss of cooling to the spent fuel pool.

Procedure: MP/0/A/3009/012A, (Emergency Plan For Refilling Spent Fuel Pools.

Fire trucks will be used to take suction from the lake either at the Intake or Boat Ramp Basin and discharge through a filter unit to each Spent Fuel Pool.

A minimum of 3100' of 2 1/2" fire hose (total hose supply to be used from the offsite agencies), 1 filtration unit (stored at the SSF)(spare filters are in Warehouse 3, Zone A -3AA040020001), 1 gate Wye valve will be needed.

If the lake is >793.5' suction can be taken for the fire truck at the Intake Structure.

If the lake is <793.5' suction can be taken for the fire truck at the Boat Ramp Basin.

**Appendix "R" Material List  
(Designated Materials)**

MECHANICAL

<u>Quantity</u>	<u>Description</u>	<u>Building Nos. (OLD LOCATION)</u>
3	HPIP motors	8093 (OLD WHSE #6)
3	LPIP motors	8093 (OLD WHSE #6)
2	LPSWP motors	8093 (OLD WHSE #6)
8	Dollies for HPIP/LPIP/LPSWP motors	8093 (OLD WHSE #6)
16	18' tie-downs for motors/dollies	8093 (OLD WHSE #6)
3	Quad-leg chain slings for HPIP motors	8093 (OLD WHSE #6)
5	Multi-leg steel slings LPIP/LPSWP motors	8093 (OLD WHSE #6)
8	Ball bearings for handling motors	8093 (OLD WHSE #6)
6	3-ton hand hoists HPIP/LPIP hatches and motors	8093 (OLD WHSE #6)
2	3-ton chain hoists for LPSWP motors	8093 (OLD WHSE #6)
2	Submersible Pumps - Primary	SSF
	Back-Up	8093 (OLD WHSE #6)
1	SFP Makeup Filtration Unit	SSF

**Enclosure 5.9**  
**Appendix "R" Material List**  
**(Designated Materials)**

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**ELECTRICAL**

<u>Quantity</u>	<u>Description</u>	<u>Building Nos.</u> <u>(OLD LOCATION)</u>
1	Emergency switchgear - trailer mounted	8019 (OLD WHSE #4)
1	Manual Spring Charging Tool	8019 (OLD WHSE #4)
1	Cable tray for emergency switchgear	8019 (OLD WHSE #4)
21	Reels of cable for power to pump motors and valves	8019 (OLD WHSE #4)
1	Motorized Cable Reel Trailer	8019 (OLD WHSE #4)
17	Cable reel stands	8019 (OLD WHSE #4)
-	Parts and materials for cable connections	8093 (OLD WHSE #6)
3	Valve control panels	8093 (OLD WHSE #6)
9	Nitrogen bottles for pneumatic valves	8093 (OLD WHSE #6)
9	Pressure regulators for pneumatic valves	8093 (OLD WHSE #6)
9	Sets of copper tubing for pneumatic valves	8093 (OLD WHSE #6)
-	Parts and materials for tubing connections	8093 (OLD WHSE #6)
12	Pressure indicators	8093 (OLD WHSE #6)
6	Pressure testers	8093 (OLD WHSE #6)
3	Thermometers	8093 (OLD WHSE #6)
-	Parts and materials for instrument connections	8093 (OLD WHSE #6)
120	Filters for SFP makeup filtration unit	8093 (OLD WHSE #6)
15	Cla-ton 500 watt light stands	8093 (OLD WHSE #6)

**Enclosure 5.10**  
**Appendix "R" Equipment**

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Sources\*

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Portable generators	Commodities and Facilities (C&F)	2 - 30 KVA Generators • 2 - 5.0 KW Generators • 1 - 200 KVA Generator •
	Wenwood:	Several portable generators
Portable lights (28)	8093 (OLD WHSE #6)	15 Cla-ton 500 watt light stands
	Security:	13 Cla-ton 500 and 1000 watt light stands several sets of string lights
	Tool Issue:	Several sets of low voltage lights Several drop lights
Ventilation blowers (6 amps)	Fire Brigade:	2 Supervac P164SE (115V, 6.6)
	First Aid Room:	2 Supervac P164S (115V, 5.4 amps)
	Maint. Supp. Building:	2 Supervac (115V/230V, 230.4/10.2 amps)
	Tools Issue: 8096/8055 (OLD WHSE #5/7)	About 25 units on site, Various models and sizes
Extension lines (as needed)	ONS Supply:	Materials for fabricating lines
	Tool Issue:	Various extension lines

\* Listed in order of preference

- On Commodities and Facilities **ON-SITE** emergency equipment list

**Enclosure 5.10**  
**Appendix "R" Equipment**

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Sources\*

Fork lifts (4)	ONS Warehouse C&F Equipment:	1 - 8000 lb • 1 - 18000 lb • 1 - 5000 lb •
Hy-Dynamic (1)	ONS Maintenance	22 Ton Hy-Dynamic Rough Terrain •
Demag or Grove Crane	C & F Equipment:	78 ton
Crane truck (3) (or, "boom truck")	C & F Equipment:	1 - Boom Truck 2 - Boom Trucks •
Dump Truck	C & F Equipment:	1 - Dump Truck •
Road tractors (2)	C & F Equipment:	1 - Yard Tractor 1 - Road Tractor •
Lowboy Trailer	C & F Equipment:	1 - Equipment Hauling
Road Trailer	C & F Equipment:	2 - Equipment and Materials •
Loader/Backhoe	C & F Equipment:	1 - Loader/backhoe •
Welding Machines	C & F Equipment:	2 - Mobile •
Air Compressor	C & F Equipment:	1 - 1300 CFM
Sump Pumps	C & F Equipment:	2 - Gas Powered •
Core Drill Machine	C & F Equipment:	Air Operated •
Cable Reel Cart	C & F Equipment:	Homemade (Motorized Winch) • DPC #02883
Pipes for cable reels	8019 (OLD WHSE #4) & ONS Pipeyard	17

\* Listed in order of preference

• On Commodities and Facilities **ON-SITE** emergency equipment list

**Enclosure 5.10**  
**Appendix "R" Equipment**

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Sources\*

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Scaffolding for CT4 (~ =13 ft. high scaffold to buswork access plate on west side of CT 4)	C & F,	Scaffolding in use of temporarily stored at various plant locations
"Herculite" for covering emergency switchgear RP monitoring	ONS, 8093 (OLD WHSE #6) (Plant supply, managed by min-max program)	
Equipment	ONS RP, CNS RP, MNS RP	
Anti-contamination clothing	Change Rooms, ONS Supply, Complex Warehouse (marked "Emergency Use Only")	

\* Listed in order of preference

- On Commodities and Facilities **ON-SITE** emergency equipment list

## Fire Damage Repair Work Locations

Building Nos. (Location)	<u>Work Performed</u>
8093(OLD WHSE #6) 8019(OLD WHSE #4) 8019(OLD WHSE #4) 8095 - Hot Shop 8095 - Hot Shop Tunnel	Appendix "R" Materials emergency 4160V switchgear cables for 4160V power, valve control staging HPIP, LPIP, motors Unit 1 & 2 HPI Hatch Area handling HPIP motors
Unit 3 HPI Hatch Area Unit 1 & 2 HPI Pump Room Unit 3 HPI Pump Room Unit 1 & 2 LPI Hatch Area Unit 3 LPI Hatch Area Unit 1 North LPI Pump Room Unit 3 South LPI Pump Room Unit 3 North LPI Pump Room AB 1st Floor Corridor	HPIP motors, instrumentation  Handling LPIP motors  LPIP motors, valve operators, instrumentation instrumentation Towing U3 HPI/LPI pump motors: instrumentation
Roadway running north/south between Auxiliary Building and SSF	Transporting pump motors and valve control panels; cable pulling pathways
TB Breezeway West Entrance TB ground floor at 1C2 heater Unit 1 & 2 LPSW Pump Area Unit 3 LPSW Pump Area TB basement LPSWP pathways see MP/0/A/3009/012, (Emergency Plan for Replacement of HPI, LPI, LPSW motors Following a Fire in Turbine Building or Auxiliary Building) TB/AB basement 4160V cable pathways see IP/0/A/0050/008, (Fire Damage Control Procedure) TB basement east of condensers CT-4 transformer Roadway east of TB	LPSWP motor entry  LPSWP motors Towing LPSWP motors  pulling cables  condenser outlet valves 4160V power transforming switchgear and cables, pulling cable to CCWP
CCWP service structure Unit 1, 2, and 3 West Penetration Room outside doors and stairways Unit 1 and 2 East Penetration Rooms Unit 1, 2, and 3 West Penetration Rooms Unit 1, 2 and 3 BWST's	connecting power cables to CCWP valve control panels  valve control cables valve control cables; instrumentation instrumentation

**Enclosure 5.12**  
**Deployment of Lighting and Ventilation**  
**Equipment**

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LIGHTING STAND LOCATIONS

NUMBER

* Hot Shop (Building 8095)	1
• Hot Shop tunnel (Building 8095)	1
• Unit 1 and 3 AB 1st floor corridor	2
* Unit 1 & 2, and Unit 3 HPI hatch areas	2
* HPIP's 1A, 2A, and 3A	3
Unit 1 & 2, and Unit 3 LPI hatch areas	2
LPIP's 1C, 2C, and 3A	3
• Unit 1, 2, and 3 West Penetration Rooms	3
• Unit 1 and 2 East Penetration Rooms	2
CT-4 transformer	1
LPSWP's 1A and 3A	2
LPSWP motor pathways to TB basement: Col. K-14 (betw. 1C1 & 1C2 heaters); col. K-21; col. M-33.	3
4160V cable pathways in TB basement: col. E-25; col. H-40; col. M-31 (at TB/AB door)	3

Total 28

<b>NOTE:</b> Vehicle lights are used at outdoor locations.	-
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VENTILATION BLOWER LOCATIONS

NUMBER

* HPIP's 1A, 2A, and 3A	3
LPIP's 1C, 2C, and 3A	3
	Total <u>6</u>

\* high priority equipment (initial set-up)

• drop lights or string lights may be submitted

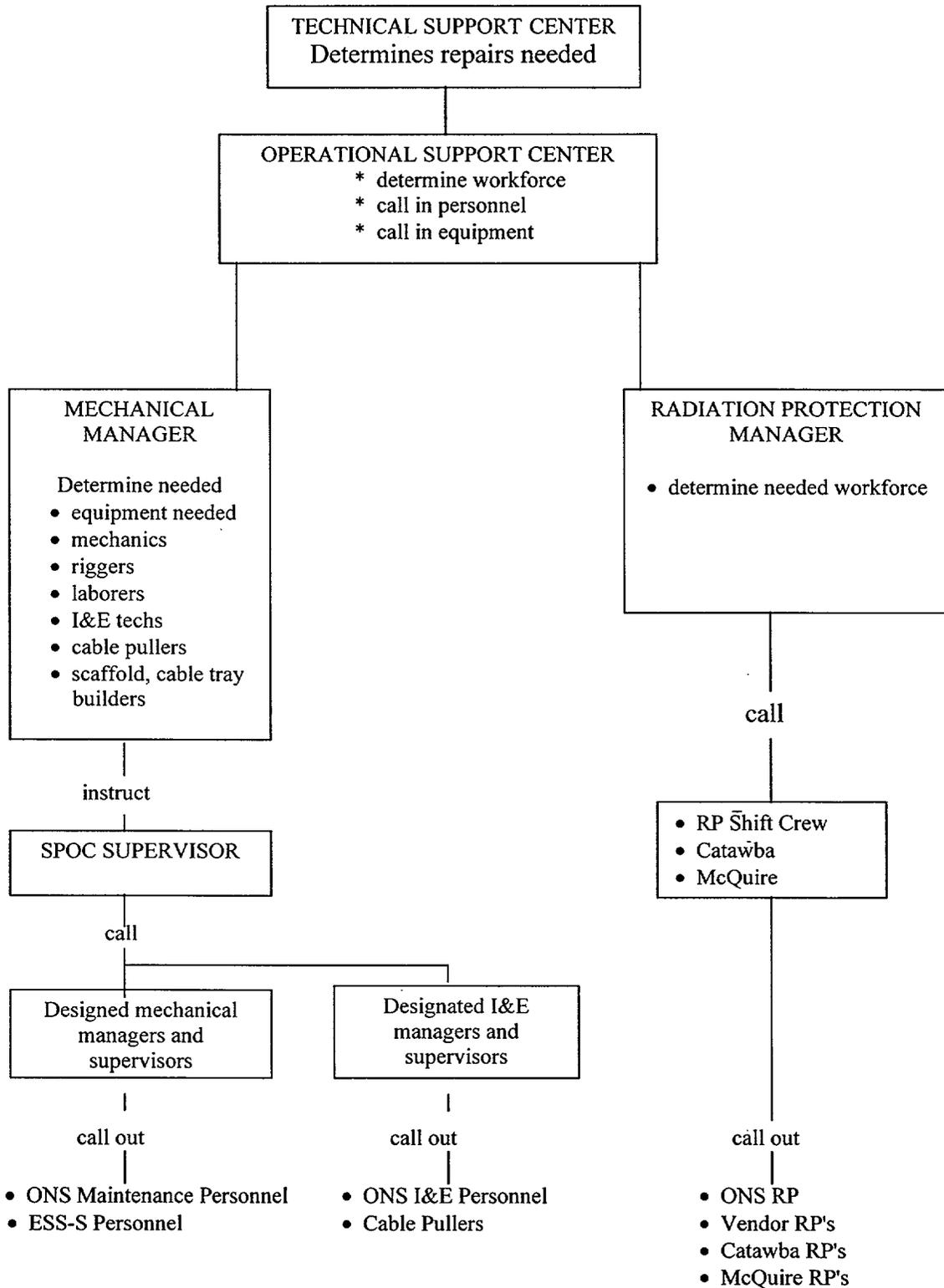
<b>NOTE:</b> Enclosure 5.10, (appendix "R" Equipment) lists equipment power requirements, generator capacities, and extension line locations.
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**Maintenance Telephone List of Appendix "R"  
Supervision**

GROUP	SUPERVISOR NAME	HOME TELEPHONE #
ONS Mechanical:	Scott Lynch	882-4073
	Craig Tompkins	654-6854
	Barry Millsaps	654-7323
	Donnie McMahan	638-7809
	John Warren	855-1186
	Doug Moore	647-9172
	J.R. Hunnicutt (Catman) Maint. Duty Engineer	885-9293
Commodities/Facilities:	Larry Crouse	639-4905
	Duran Denny	647-5532
ONS I&E	George Hamrick	882-3844
	Michael Parker	654-5841
	Doug Hunter	638-3687
	Bill McAlister	638-3439
ESS-South Equip. Operators & Additional Personnel	Bill Sams	638-7969
	Gains Bowers	868-5410
Equip. Operator Duty Person:	ESS/South Bill Sams	885-4474 / 638-7969
Electric Transmission (South)	Donnie Wilson	864-234-4301 778-6165 (Pager #)

Site Specific Departmental Repair  
Responsibilities for TSC/OSC

1. Site Specific Departmental Repair Responsibilities for TSC/OSC



Site Specific Departmental Repair  
Responsibilities for TSC/OSC

