

POWER AUTHORITY OF THE STATE OF NEW YORK  
JAMES A. FITZPATRICK NUCLEAR POWER PLANT  
OPERATIONS DEPARTMENT STANDING ORDER

TITLE: INCOMPLETE FIRE MODIFICATIONS\*

PROCEDURE NO. 15

REVIEWED BY: Plant Operations Review Committee/

Meeting No. 81-016

Date 2/18/51

APPROVED BY:

35 Mr. H. R. Giese  
Operations Superintendent

Date 2/5/9

APPROVED BY:

Resident Manager

Date 2/15/21

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12. Full Size

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DATE: 2-18-81

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To: Leon G. Aguilar

FROM: V. P. Rastvorov

DATE: 2-13-84

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Date 2/18/81

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PROCEDURE NO. 15

1.0 PURPOSE:

To ensure proper measures are taken to adequately protect the plant from fire situations while fire modifications are being completed.

2.0 APPLICABILITY:

This procedure applies until the inadequacies due to incomplete fire modifications are completed.

3.0 REFERENCES:

3.1 Letter J. P. Bayne (PASNY NYO) to T. A. Ippolito (NRC) dated February 11, 1981.

3.2 Operating Procedure F-OP-56, Relay Room Ventilation

3.3 Surveillance Test F-ST-400, Daily Surveillance Report

4.0 DEFINITIONS:

None.

5.0 RESPONSIBILITIES:

5.1 Each member of the fire brigade is responsible to ensure this procedure is carried out.

5.2 The Operations Department Superintendent is responsible to ensure training is complete on this standing order.

6.0 SPECIAL INSTRUCTIONS:

None.

7.0 PROCEDURE:

7.1 In the event of a fire in the relay room, the relay room ventilation will be immediately shut down in accordance with F-OP-56.

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- 7.2 In the event a fire alarm is received for RCIC or HPCI area, immediately initiate sprays to the associated area, also a foam cart shall be kept in reactor building 272' area.
- 7.3 New detector panels will be checked once per hour and any alarm investigated. The check shall also include power available light on. This will be added to surveillance test F-ST-400 (see Appendix A).
- 7.4 Fire doors will be checked once per shift. This will be signed off on F-ST-400 (see Appendix B).
- 7.5 Weekly, the ionization detector panel remote alarms will be tested by placing test/reset switch in test position and ensuring remote control room alarm is activated. This will be signed off on F-ST-400.

8.0 FIGURES:

None.

9.0 EXHIBITS:

None.

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#### 4. Loads

The primary loads imposed on the block walls were due to seismic events. Two levels of earthquakes were used - Operating Basis Earthquake, OBE and the Design Basis Earthquake, DBE, (2 times OBE). The loads obtained for the DBE were reduced by 2/3 to account for the 50 percent increase in allowable stresses. No increase in allowable stresses were permitted for the OBE.

The seismic loads were computed using the following basis:

- 4.1. Damping of 0.5 percent for OBE and DBE. This is highly conservative by today's standards.
- 4.2. Cracked moment of inertia for frequency calculation.
- 4.3. One way action for frequency calculation.
- 4.4. Boundary conditions: Simply supported or fixed at bottom and simply supported or free at top depending on the construction details at the top and bottom. Fixity was assumed when reinforcement was doweled into supporting concrete element. Simple supports were assumed when the walls were supported by steel support angles on both sides and separation between the wall and structural element was achieved by a joint filler.
- 4.5. The accelerations obtained from the response spectra were further increased to account for overall torsional effects of the buildings. These multiplying factors were obtained from the John A. Blume & Associate Report for the Kewaunee Plant, December 1968.

#### 5. Allowable Stresses

Working stress method has been used in the design of masonry walls.

The allowable stresses used were taken from the 1957 Edition of the Uniform Building Code, Table No. 24-H under the requirement of special inspection. The value of  $f_m'$  was taken equal to 1350 psi per UBC-67.

|                                |               |                     |
|--------------------------------|---------------|---------------------|
| Compression flexural           | $= 0.33 f_m'$ | $= 450 \text{ psi}$ |
| Bond                           |               | $= 140 \text{ psi}$ |
| Shear (No shear reinforcement) |               | $= 50 \text{ psi}$  |

#### 6. Analysis Method

The stresses in the block walls were computed using one way action of the walls (spanning vertically). Typical boundary conditions used were:

| <u>Top</u>       | <u>Bottom</u>    |
|------------------|------------------|
| Free             | Fixed            |
| Simply Supported | Simply Supported |
| Simply Supported | Fixed            |

LOCAL FIRE PANELS

- 1) 76 CP-132 Location: Rx Building El. 272' N.E. Corner

ZONESDESCRIPTION

|    |                           |
|----|---------------------------|
| 1  | West Crescent Area        |
| 1A | RCIC Enclosure            |
| 2  | East Crescent Area        |
| 2A | HPCI Enclosure            |
| 3  | S.E. Rx Bldg. El. 272'    |
| 4  | S.W. Rx Bldg. El. 272'    |
| 5  | N.W. Rx Bldg. El. 272'    |
| 6  | N.E. Rx Bldg. El. 272'    |
| 7  | East RHR Hx. Room         |
| 8  | Drywell Access Hatch Area |
| 9  | CRD Decon. Room           |
| 10 | West RHR Hx. Room         |
| 12 | Railroad Air Lock         |
| 13 | Standby Gas Treatment     |
| 14 | MCCs 151/132 & 161/142    |

NOTE: Zone 11 does not exist.

- 2) 76 CP-133 Location: Rx Bldg. El. 300' N.E. Corner

ZONESDESCRIPTION

|    |                           |
|----|---------------------------|
| 15 | S.E. Rx Bldg. El. 300'    |
| 16 | S.W. Rx Bldg. El. 300'    |
| 17 | N.W. Rx Bldg. El. 300'    |
| 18 | N.E. Rx Bldg. El. 300'    |
| 20 | RMCU Heat Exch. Room      |
| 21 | Clean-up Decant Pump Room |
| 25 | S.E. Rx Bldg. El. 326'    |
| 26 | S.W. Rx Bldg. El. 326'    |
| 27 | N.W. Rx Bldg. El. 326'    |
| 28 | N.E. Rx Bldg. El. 326'    |
| 31 | Fuel Pool Hx. Room        |
| 32 | Cont. Equip. Storage      |

- 3) 76 UV-1 Location: Recirc. MS Set Area S.E. Corner

ZONEDESCRIPTION

|    |                       |
|----|-----------------------|
| 24 | Fire at MS Set A or B |
|----|-----------------------|

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# APPENDIX A

Sheet 2 of 3

## LOCAL FIRE PANELS

4) 76 CP-134

Location: Rx Bldg. Et. 344'-6" N.E. Corner

### ZONES

### DESCRIPTION

|    |   |
|----|---|
| 35 | S.E. Rx Bldg. Et. 344'-6"                 |
| 36 | S.W. Rx Bldg. Et. 344'-6"                 |
| 37 | N.E. Rx Bldg. Et. 344'-6"                 |
| 38 | N.W. Rx Bldg. Et. 344'-6"                 |
| 41 | Change Room Et. 266'                      |
| 43 | S. LPCI Inverter Area Et. 344' ("B" Side) |
| 44 | N. LPCI Inverter Area Et. 344' ("A" Side) |
| 47 | S.E. Rx Bldg. Et. 369'-0"                 |
| 48 | S.W. Rx Bldg. Et. 369'-0"                 |
| 49 | N.W. Rx Bldg. Et. 369'-0"                 |
| 50 | N.E. Rx Bldg. Et. 369'-0"                 |
| 51 | Refuel Exhaust Duct                       |

5) 76 CP-135

Location: Relay Room Et. 266' at North Wall Below Stair

### ZONES

### DESCRIPTION

|     |                     |
|-----|---------------------|
| 74A | West Batt Room      |
| 74B | East Batt Room      |
| 75  | West Batt Chrg Room |
| 76  | East Batt Chrg Room |
| 77  | Batt Room Corridor  |

6) 76 CP-137

Location: Operations Office

### ZONES

### DESCRIPTION

|    |                           |
|----|---------------------------|
| 54 | Control Room Air Intake   |
| 55 | Control Room Chiller Area |

7) 76 CP-2

Location: Foam Room Et. 272' T.S.

### ZONES

### DESCRIPTION

|    |                           |
|----|---------------------------|
| 51 | West Cable Tunnel         |
| 52 | West Cable Tunnel         |
| 53 | West Cable Tunnel         |
| 54 | East Cable Tunnel         |
| 55 | East Cable Tunnel         |
| 56 | East Cable Tunnel         |
| 70 | West Switchgear Room      |
| 71 | East Switchgear Room      |
| 72 | Emergency Swgr Room South |
| 73 | Emergency Swgr Room North |
| 80 | Diesel Fire Pump Room     |
| 81 | Radwaste Sample Room      |

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LOCAL FIRE PANELS

8) 76 CP-136 Location: Foam Room E1. 272' T.B.

ZONESDESCRIPTION78 S. Safety Pump Room  
79 N. Safety Pump Room

9) 76 CP-1 Location: Instrument Shop Admin. Bldg. E1: 300'

ZONESDESCRIPTION42 Batt Room South  
45 Batt Room North  
53 Control Room & AC Equipment Room  
57 Relay Room E1. 284'  
58 Cable Spreading Room E1. 272'  
60 Cable Run Room South E1. 286'  
69 Cable Run Room North E1. 286'

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SUPERVISED FIRE DOORS

| <u>DOOR NUMBER</u> | <u>DESCRIPTION OF LOCATION</u>                                |
|--------------------|---|
| R227/1             | West Wall of HPCI Enclosure                                   |
| R227/2             | East Wall of HPCI Enclosure                                   |
| R227/3             | West Wall of RCIC Enclosure                                   |
| R227/4             | East Wall of RCIC Enclosure                                   |
| R272/15            | Spiral Stairway Enclosure                                     |
| R272/10            | Door between SSGT & Track Bay                                 |
| R300/4             | Airlock Doors between Recirc MG Set Room and Reactor Building |
| HB272/2            | A Side Batt Chgr Room   |
| HB272/3            | A Side Batt Room  |
| HB272/4            | B Side Batt Room  |
| HB272/5            | B Side Batt Chgr Room   |
| D6256/1            | North Entrance to West Cable Tunnel                           |
| D6272/2            | Door Between Emerg Gwgr Rooms A & B                           |
| D6272/3            | Diesel Gen. "D" Room  |
| D6272/4            | Diesel Gen. "B" Room  |
| D6272/5            | Diesel Gen. "C" Room  |
| D6272/6            | Diesel Gen. "A" Room  |
| E286/3             | Door Between A & B Elet. Bay Fan Rooms                        |
| A286/23            | North Cable Run Room (Off Relay Room)                         |
| A286/24            | South Cable Run Room (Off Relay Room)                         |
| A300/16            | Control Room Stairs from Relay Room                           |
| SP255/2            | Elec. Fire Pump Room to Elect. Tunnel                         |
| SP255/4            | Fire Door Between A & B Service Water Pump Rooms              |
| SP255/6            | Fire Door Between Diesel Fire Pump Room and Screenwell        |

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ATTACHMENT TO F-ST-400

SEE OPS DEPARTMENT STANDING ORDER NO. 15, STEP 7.3

DATE \_\_\_\_\_

TIME

SIGNATURE

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