

Docket Number 50-346
License Number NPF-3
Serial Number 1788
Attachment 2
Page 1

Proposed Change to License Condition 2.C(4)
and
Proposed Changes to NRC Fire Protection Safety
Evaluation Report (dated July 26, 1979)

Docket Number 50-346
License Number NPF-3
Serial Number 1788
Attachment 2
Page 2

Revise License Condition 2.C(4) as follows:

Prior to plant heatup following the first refueling outage, the licensee is required to complete the modifications identified in Table 1 of the NRC's Fire Protection Safety Evaluation Report dated July 26, 1979, except that the Service Water System backup which is independent of offsite power will be provided by mid-1984.

AS REVISED BY
NRC SAFETY
EVALUATION REPORT
DATED [NRC TO PROVIDE
DATE]

Docket Number 50-346
License Number NPF-3
Serial Number 1788
Attachment 2
Page 3

The following sheets are proposed changes in markup form to the NRC Fire Protection Safety Evaluation Report Table 1, dated July 26, 1979, which was issued as part of License Amendment Number 18. The numbers in the revision bar triangles are the item number from Toledo Edison letter dated February 16, 1990 (Serial Number 1757), and are also used in the discussions in the Safety Assessment and Significant Hazards Consideration.

Docket Number 50-346
License Number NPF-3
Serial Number 1788
Attachment 2
Page 4



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

FIRE PROTECTION
SAFETY EVALUATION REPORT
BY THE
OFFICE OF NUCLEAR REACTOR REGULATION
IN THE MATTER OF
TOLEDO EDISON COMPANY
AND
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY
DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1
DOCKET NO. 50-346

Revision 1
[date]

TABLE 1

Davis-Besse 1 Fire Protection System Modifications

- A. 1. Service water pump and valve room fire protection system modifications are scheduled to be complete by July 1, 1979.
2. Procedures for backup to the Service Water system from the Circulating Water system were implemented by February 28, 1979.
3. Procedures on Fire Fighting Procedures (Preplans) will be completed by October 1979.
- B. In accord with License Condition 2.C.(3)h, the licensee is scheduling completion of all of the following modifications by April 22, 1980* except that the licensee will provide a Service Water system backup system which is independent of offsite power by mid-1984.

1. FIRE EXTINGUISHERS

Install additional hand-held portable fire extinguishers in the following rooms:

No. 2 Mechanical Penetration Room (Room 236)

No. 1 Mechanical Penetration Room (Room 208)

~~No. 3 Mechanical Penetration Room (Room 303)~~

No. 4 Mechanical Penetration Room (Room 313)

No. 2 Electrical Penetration Room (Room 427)

Passage (Room 241)

Valve Room (Room 212)

~~Maintenance Room (Room 320)~~

High Voltage Switchgear Room (Room 323)

Fuel Handling Area (Room 300)

Service Water Pump Room (Intake Structure)

Control Room Complex

Maintenance Work Area (Room 109) - Special Class D Dry Power Type Extinguisher Located Near Lathe.

* Some modifications must be accomplished during first refueling outage which is presently scheduled for mid-March thru mid-May 1980.

2. SPRINKLER SYSTEMS

in accordance with the requirements of
NFPA-13

- a) Install wet pipe sprinkler systems ~~equipped with quick response-type sprinklers~~ in the following rooms:

prior to power ascension following the sixth refueling outage except as noted otherwise

No. 4 Mechanical Penetration Room (Room 314)

Passage (Room 227)

Corridor (Room 209)*

Passage and Hatch Area (Rooms 310 & 313)

Corridor (Room 304)*

Radwaste Exhaust Equipment and Main Station Exhaust Fan Room (Room 501)

Component Cooling Water Heat Exchanger and Pump Room (Room 328)

Service Water Pump Room ~~and Valve Room (Intake Structure)~~

Clean Waste Receiver Tank Room (Room 124)

in accordance with the requirements of NFPA-13

- b) Install a wet pipe sprinkler system ~~equipped with thermal actuated type water spray nozzles~~ in the Cable Spreading Room.

Prior to power ascension following the sixth refueling outage.

- c) Convert the existing manual sprinkler system in Diesel Generator Rooms 318 and 319 to an automatic pre-action type sprinkler system.

- d) A moderate energy line crack analysis will be performed on water fire suppression system modifications and the existing auxiliary building water fire suppression system.

3. WATER CURTAINS

Install an automatic water curtain on the following walls designated as fire barriers which are designed to spray water across unprotected feedwater vent openings.

No. 4 Mechanical Penetration Room (Room 314) - Feedwater vent openings located in the east wall of the room.

Boric Acid Evaporator Tank Room (Room 235) East wall - Feedwater vent opening interfacing with clean waste receiver tank room 124.

Boric Acid Evaporator Tank Room (Room 235) - Feedwater vent opening located in the north wall of the room.

NOTE: These wall openings are required to relieve room over-pressurization from a steam or feedwater line rupture.

* Modification to be completed prior to power ascension following the seventh refueling outage.

4. CONCRETE CURBING

- a) Install concrete floor curbs around the pumps in the following rooms:

Component Cooling Water Heat Exchanger and Pump Room (Room 328)

Service Water Pump Room (Intake Structure)

- b) Install a concrete curb under the following doors:

Door 316 located in the north wall of Diesel Generator Room 318.

Door 317 located in the east wall of Diesel Generator Room 318.

Door 218, at the entrance to the service water pump area on the diesel fire pump side.

5. HOSE STATIONS

Install an additional hose station in each of the following areas:

Near Door 322 in the heater bay area on Elevation 585'-0".

Intake Structure

No. 2 Mechanical Penetration Room (Room 236)

No. 1 Mechanical Penetration Room (Room 208)

Diesel Generator Room (Room 319)

Diesel Generator Room (Room 318)

No. 1 Main Steam Line Area (Room 601)

Heater Bay (Room 430) Near Room 427

6. BATTERY ROOM ALARMS

Install loss of air flow indication with annunciation and alarm in the control room for the following rooms:

Battery Room B (Room 428A)

Battery Room A (Room 428B)

7. FIRE RATED DOORS

- a) Install 3 hour fire rated door assemblies in the following openings:

Tube pull openings in the north wall of Component Cooling Water Heat Exchanger and Pump Room (Room 328).

Door opening southwest corner of ECCS Pump Room (Room 115).

HVAC openings exceeded 48" x 48" in the 3 hour fire barrier separating the turbine area from the Non-Radwaste Supply Air and Exhaust Equipment Room (Room 516).

- b) Replace the following door assemblies with UL listed fire rated door assemblies rated for 1 1/2 hours:

Door 502 in the Control Room Complex.

~~Door 508 in the Control Room Complex.~~

6

8. FIRE RATED DAMPERS

Install UL listed 3 hour fire rated door type damper in the following floor slab duct penetrations:

18" x 6" supply and 18" x 6" return duct from Electrical Penetration Room 402 to radwaste fuel handling area air supply equipment area, Room 500 at the 623' elevation floor slab.

18" x 12" supply grill at the 623' elevation floor slab, descending from room 501 down into the No. 2 Electrical Penetration Room (Room 427) on Elevation 603'-0".

9. STRUCTURAL STEEL AND CABLE TRAY FIRE PROTECTION

Install sprinkler systems to protect

~~Apply spray on type fire proofing to the following structural steel:~~

Prior to power ascension following the sixth refueling outage

Supports for the four horizontal cable trays penetrating the 3 hour fire barrier at column line ~~A-F~~ on elevation ~~602'-0"~~ ⁹ ₆₀₃.

Supporting structural steel in the mechanical and electrical penetration rooms. (Rooms 208, 236, 303, 314, 402 and 427)

Portions of the structural supporting steel in the turbine building as determined by the turbine building thermal expansion analysis. (Turbine Building Heater Bays (FSA-3501, 4501, 5501, 6501 and 7501) and Turbine Building Basement, Mezzanine and Operating Floor (FSA-4105)).

10. FIRE DETECTION

- a) Install Additional Area Type Fire Detection in the following rooms:

ECCS Pump Room (Room 105)

ECCS Pump Room (Room 115)

Decay Heat Coolers Room (Room 113)

Passage (Room 110)

Clean Waste Receiver Tank Room (Room 124)

Annulus space, in the areas of Electrical Cable Penetrations
Incore Instrumentation Trench Area (Room 220)

7
89

Docket Number 50-346
License Number NPP-3
Serial Number 1788
Attachment 2
Page 9

Letdown Cooler Area (Room 215)
Flooding Tank Area (Room 214)
Hatch Area (Room 317)
Passage (Room 410)
No. 1 Mechanical Penetration Room (Room 208)
No. 2 Mechanical Penetration Room (Room 236)
No. 3 Mechanical Penetration Room (Room 303)
No. 4 Mechanical Penetration Room (Room 314)
No. 1 Electrical Penetration Room (Room 402)
No. 2 Electrical Penetration Room (Room 427)
Auxiliary Feedwater Pump Room (Room 237)
Boric Acid Addition Tank Room (Room 240)
Waste Gas Compressor Room (Room 244)
Waste Gas Compressor Room (Room 243)
Demineralizer Filter Room (Room 230)
Valve Room (Room 242)
Filter Room (Room 231)
Valve Room (Room 232)
~~Demineralizer Room (Room 233)~~
Boric Acid Evaporator Room (Room 234)
Boric Acid Evaporator Room (Room 235)
Passage (Room 227)
Passage (Room 241)
Makeup Pump (Room 225)
Valve Room (Room 212)
Valve Room (Room 211)
Charge Room (Room 321)
Passage (Room 322)
High Voltage Switchgear Room (Room 325)
Component Cooling Water Heat Exchanger & Pump Room (Room 328)
Passage and Hatch Area (Rooms 310 & 313)
Spent Fuel Pool Pump Room (Room 312)
Fuel Handling Area (Room 300) *
Corridor (Room 304)
Passage (Room 400)
Corridor (Room 404)
Battery Room B (Room 428A)
Low Voltage Switchgear Room (F-Bus) (Room 428)
Low Voltage Switchgear Room (E-Bus) (Room 429)
Battery Room A (Room 429B)
Corridor (Room 411)
Access Control Area
Purge Exhaust Equipment Room (Room 515)
Radwaste Exhaust Equipment & Main Station Exhaust Fan Room
(Room 501)
Air Supply Equipment, Radwaste Fuel Handling Areas (Room 500)
Control Room Toilet (Room 513)
Shift Supervisors Officer (Room 512)
Control Room Toilet (Room 506)
Instrument Calibration Room & Storage (Room 503)
A/C Equipment Room (Room 603)

* To be installed prior to power ascension following the
seventh refueling outage.

- b) Install Fire Detection in the Auxiliary Shutdown Panel (C-3630).
- c) Relocate one of the fire detectors in the High Voltage Switchgear Room 323 to obtain maximum coverage of the room.
- ~~d) Install in tray, linear type, thermal sensing fire detectors inside all cable trays inside the Cable Spreading Room (Room 422A).~~
- d) Modify the fire alarm system to include rezoning, adding detectors, alarming each zone in the control room, adding line supervision to the output circuitry of the fire detection and fire protection panels, adding line supervision to the flow and pressure switches associated with the fire protection system, and incorporating the fire alarm system into the data processing and management section of the plant security.

11. COMMUNICATION

Make portable radio communication equipment available to the fire brigade for emergency fire fighting operations in the following rooms or operations:

ECCS Pump Room (Room 105)
ECCS Pump Room (Room 115)
No. 1 Mechanical Penetration Room (Room 208)
No. 3 Mechanical Penetration Room (Room 203)
No. 4 Mechanical Penetration Room (Room 314)
No. 2 Electrical Penetration Room (Room 427)
No. 1 Electrical Penetration Room (Room 402)
No. 1 Main Steam Line Area (Room 601)
No. 2 Main Steam Line Area (Room 602)
Purge Inlet Equipment Room (Room 600)
Auxiliary Feed Pump Unit Room (Room 237)
Auxiliary Feed Pump Unit Room (Room 238)
Passage (Room 227)
Boric Acid Evaporator Room (Room 234)
Passage (Room 241)
Pump Room (Room 225)
Corridor (Room 209)
Diesel Generator Room (Room 319)
Maintenance Room (Room 320)
Passage (Room 322)
High Voltage Switchgear Room (Room 323)
Auxiliary Shutdown Panel and Transfer Switch Room (Room 324)
High Voltage Switchgear Room (Room 325)
Component Cooling Water Heat Exchanger & Pump Room (Room 328)
Passage & Hatch Area (Rooms 310 & 313)
Fuel Handling Area (Room 300)
Corridor (Room 304)
Corridor (Room 404)
Low Voltage Switchgear Room (Room 429)
Corridor (Room 411)
Non-Radwaste Supply Air & Exhaust Equipment Room (Room 516)
Radwaste Exhaust Equipment & Main Station Exhaust Fan Room (Room 501)
Radwaste Fuel Handling Areas Air Supply Equipment Area (Room 500)

12. EMERGENCY LIGHTING

Install 8-hour emergency battery pack lights in the following rooms:

ECCS Pump Room (Room 105)
ECCS Pump Room (Room 115)
Decay Heat Cooler Room (Room 113)
Passage (Room 110)
Pipe Tunnel (Room 101)
No. 1 Mechanical Penetration Room (Room 208)
No. 2 Mechanical Penetration Room (Room 236)
No. 3 Mechanical Penetration Room (Room 303)
No. 4 Mechanical Penetration Room (Room 314)
No. 2 Electrical Penetration Room (Room 427)
No. 1 Electrical Penetration Room (Room 402)
No. 1 Main Steam Line Area (Room 601)
No. 2 Main Steam Line Area (Room 602)
Purge Inlet Equipment Room (Room 600)
Auxiliary Feed Pump Unit Room (Room 237)
Auxiliary Feed Pump Unit Room (Room 238)
Boric Acid Addition Tank Room (Room 240)
Passage (Room 227)
Boric Acid Evaporator Room (Room 234)
Boric Acid Evaporator Room (Room 235)
Passage (Room 241) *
Waste Gas Compressor Room (Room 244)
Waste Gas Compressor Room (Room 243)
Demineralizer Filter Room (Room 230)
Valve Room (Room 242)
Demineralizer Room (Room 223)
Pump Room (Room ~~225~~) ** 226A
Corridor (Room 209)
Monitor Tank Transfer Pump Room (Room 203)
Filter Room (Room 204)
Clean Liquid Waste Monitor Tank Room (Room 201)
Clean Liquid Waste Monitor Tank Room (Room 202)
Valve Room (Room 212)
Valve Room (Room 211)
Maintenance Room (Room 320)
Passage (Room 322)
Component Cooling Water Heat Exchangers & Pump Room (Room 328)
Passage and Hatch Area (Rooms 310 & 313)
Spent Fuel Pool Pump Room (Room 312)
Fuel Handling Exhaust Unit Room (Room 401)
Fuel Handling Area (Room 300)
Corridor (Room 304)
Corridor (Room 404)
Storage (Room 405)
Hot Instrument Shop (Room 406)
Battery Room B (Room 428A)
Low Voltage Switchgear Room (Room 428)
Low Voltage Switchgear Room (Room 429)

* Battery pack in Passage (Room) 227, associated with lighting unit in Room 241.

** Battery pack in Vestibule (Room 226A) with illumination for access and egress to Room 225.

13

14

13

14

Battery Room A (Room 429B)

No. 1 Electrical Isolation Room (Room 428A)

No. 2 Electrical Isolation Room (Room 429A)

Corridor (Room 411)

Purge Exhaust Equipment Room (Room 515)

Radwaste Exhaust Equipment & Main Station Exhaust Fan Room (Room 501)

Air Supply Equipment, Radwaste Fuel Handling Areas (Room 500)

Lube Oil Storage Tank Room (Room 249)

Turbine Lube Oil Tank Room (Room 432)

13. CONDUIT PROTECTION

a 1-hour fire barrier

Install ~~required Kaowool~~ around conduits, ~~in the following rooms to protect equipment required for cold shutdown:~~ ~~Associated with control for the component cooling water pumps in the Component Cooling Water Pump and Heat Exchanger Room.~~

~~Passage 227 (A 1/2 hour fire rated barrier will be provided around the entire length of the conduits associated with the auxiliary feedwater pump suction valve, train No. 1, and the interlock to service water valve 1382.)~~

~~Passage 209 (A 1/2 hour fire rated barrier will be provided around the entire length of the conduits associated with the BWST level instrumentation, makeup pump No. 2, and Channel 2 BWST outlet valve.)~~

~~Passage and Hatch Area 310 and 313 (A 1/2 hour fire rated barrier will be provided around the entire length of the conduits associated with both trains of CGW valves, the CGW crossover header and CGW return header from containment.)~~

~~Service Water Pump Room (A 1/2 hour fire rated barrier will be provided around the conduits associated with power and control for the service water pumps and power and control for the service water valves on the return line to the forebay and the cooling tower makeup. The service water valve motors will also be enclosed with a 1/2 hour fire rated barrier.~~

~~Valve Room Intake Structure (A 1/2 hour fire rated barrier will be provided around the conduits associated with power and control for the service water valves located in the service water discharge header.)~~

~~Component Cooling Water Pump and Heat Exchanger Room (A 1/2 hour fire rated barrier will be provided around the conduits associated with control for the component cooling water pumps and power and control for the CGW crossover valves. The underside of the valve motors will also be protected with a 1/2 hour fire rated barrier.~~

14. ADMINISTRATIVE CONTROLS

The administrative controls and training procedures will be revised to follow supplemental staff guidelines contained in "Nuclear Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance," dated June 14, 1977, and will be implemented prior to start up following the first refueling outage.

15. MISCELLANEOUS

The hydrogen line routed through the component cooling water heat exchanger and pump room will be relocated to an area not containing safety related equipment.