

NORTHEAST UTILITIES



THE CONNECTICUT LIGHT AND POWER COMPANY
WESTERN MASSACHUSETTS ELECTRIC COMPANY
HOLYOKE WATER POWER COMPANY
NORTHEAST UTILITIES SERVICE COMPANY
NORTHEAST NUCLEAR ENERGY COMPANY

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July 25, 1985

Docket No. 50-423
B11534

Director of Nuclear Reactor Regulation
Mr. B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Reference: (1) W. G. Counsil letter to B. J. Youngblood, NRC-CMEB Review Meeting (February 16, 1984), dated March 9, 1984.

Dear Mr. Youngblood:

Millstone Nuclear Power Station, Unit No. 3
Fire Protection Features

In Reference (1), Northeast Nuclear Energy Company (NNECO) informed the NRC Staff that a review of information contained in the Fire Protection Evaluation Report (FPER) against the Branch Technical Position (BTP CMEB 9.5-1) and actual plant installation was being performed. It was also noted that because of the complexity of nuclear power plant construction, some instances may arise where either conformance to the BTP guidelines is impractical/unattainable or the BTP guidelines fails to explicitly address a particular concern. These isolated cases will be identified and reviewed on an individual basis and comparable/equivalent fire protection or justification in terms of a deviation to the BTP guidelines will be provided at the earliest possible date.

Representatives from NNECO met with the NRC Staff on June 4, 1985 and July 11, 1985 to discuss certain deviations (see attached Agenda for the meetings) from the provisions of BTP CMEB 9.5-1 guidelines. It was agreed that NNECO would transmit a letter to the NRC providing a written request for each of the deviations. Accordingly, the information concerning six deviations is attached (Attachment I) hereto for Staff review and approval. The remaining deviation requests will be submitted to the NRC at a later date.

We trust that with this information, favorable action can be taken on NNECO's requests for deviations as noted above. We remain available to meet with the Staff to resolve any questions which may arise and provide any information necessary to implement this request promptly.

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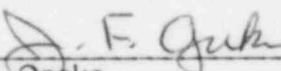
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If you have any questions or concerns regarding this submittal, please feel free to contact our licensing representative directly.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY
et. al.

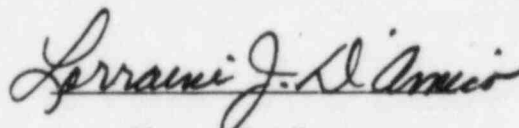
BY NORTHEAST NUCLEAR ENERGY COMPANY
Their Agent



J. F. Opeka
Senior Vice President

STATE OF CONNECTICUT)
) ss. Berlin
COUNTY OF HARTFORD)

Then personally appeared before me J. F. Opeka, who being duly sworn, did state that he is Senior Vice President of Northeast Nuclear Energy Company, an Applicant herein, that he is authorized to execute and file the foregoing information in the name and on behalf of the Applicants herein and that the statements contained in said information are true and correct to the best of his knowledge and belief.



Notary Public

My Commission Expires March 31, 1988

Millstone Unit No. 3

Agenda for the NRC-CMEB (Fire Protection Section)
Fire Protection Meeting

Location: Engineering Planning and Management Inc.
7910 Woodmont Avenue, Suite 1200
Bethesda, Maryland

Date and Time: June 4, 1985, 9:30 a.m. - 3:00 p.m.

1. To discuss deviations from BTP CMEB 9.5-1 of SRP
 1. Penetrations Seals - BTP 9.5-1, Section C.5.a.3
 2. Cable Spreading Room - BTP 9.5-1, Section C.5.b.1.a
 3. Fire Barriers - BTP 9.5-1, Section C.5.a(1)
 4. Control Room Complex - BTP 9.5-1, Section C.7.b
 5. Fire Detection - BTP 9.5-1, Section C.6.a
 6. Fire Doors - BTP 9.5-1, Section C.5.a.5
 7. Water Supply - BTP 9.5-1, Section C.6.b.9
 8. Redundant Trains - BTP 9.5-1, Section C.5.a.11
 9. Drainage - BTP 9.5-1, Section C.5.a.14
2. SER Open Items
 1. Independent Sprinkler and Hose Station Connections
 2. Qualification of Fire Doors
 3. Potential Systems Interaction

Millstone Unit No. 3

Agenda for the NRC-CMEB (Fire Protection Section)
Fire Protection Meeting

Location: Engineering Planning and Management Inc.
7910 Woodmont Avenue, Suite 1200
Bethesda, Maryland

Date and Time: July 11, 1985, 10:00 a.m. - 3:00 p.m.

1. Request for Deviations for BTP 9.5-1
 - a. Fire Proofing of Structural Steel (c.5.a.9)
 - b. Diesel Generator (c.7.i)
 - c. Portable Fire Extinguishers in Containment (c.6.f)
 - d. Auxiliary Building Fire Area AB-1D (c.5.b(2))
 - e. Circulating and Service Water Pumphouse (c.5.b.2)
 - f. Interior Hose Stations (c.6.C.4)
2. SER Open Items
 - a. Control Building Standpipe System
 - b. Independent Sprinkler and Hose Station Connections (14.7)

Attachment I

Requests for Deviations from BTP CMEB 9.5-1

1. Diesel Generator Enclosure, a deviation from Section C.7.i
2. Portable Fire Extinguishers in the Containment, a deviation from Section C.6.f
3. Fire Areas CSW-3 and CSW-4, a deviation from Section C.5.b(2)
4. Fire Water Supply, a deviation from Section C.6.b
5. Electrical Penetration Area, Section C.5.a.3
6. Containment Access Hatch, Section C.5.a.5

EMERGENCY GENERATOR ENCLOSURES

DEVIATION REQUEST

BTP 9.5-1 POSITION C.7.i DIESEL GENERATOR AREAS

"Diesel generators should be separated from each other and from other areas of the plant by fire barriers having a minimum fire resistance rating of three hours.

Automatic fire suppression should be installed to combat any diesel generator or lubricating oil fires; such systems should be designed for operation when the diesel is running without affecting the diesel. Automatic fire detection should be provided to alarm and annunciate in the control room and alarm locally. Hose stations and portable extinguishers should be readily available outside the areas. Drainage for firefighting water and means for local manual venting of smoke should be provided."

DEVIATION REQUEST

NNECO has evaluated the guidelines for protection of the diesel generator areas discussed in the B.T.P. 9.5-1, position C.7.i. This evaluation notes two design features which are not in strict conformance with the position requirements. These items involve manual versus automatic suppression system design and the lack of drainage in a subgrade cable vault located within each diesel enclosure.

The automatic pre-action design for the suppression system has been changed to a manually operated sprinkler system (wet pipe design) within the emergency generator enclosures (EGE's). All water is drained from the closed piping system above the isolation valve leaving the system dry under normal operating conditions.

The manual mode of operation was selected in order to eliminate the possibility of inadvertent operation of the sprinkler systems following a seismic event, and the corresponding potential for impairment of both diesel generator systems from water damage. To further minimize the inadvertent water damage potential, the piping system is drained after use or testing and left dry.

NNECO proposes to operate the sprinkler system in each generator enclosure by having brigade members manually open the riser control valve following an indication of fire from detection systems. Sprinkler water discharge will then occur following the fusing of individual sprinkler heads. Upon actuation of early warning detection systems, control room operators will dispatch fire brigade members from the control room to the respective EGE (a minimum travel distance) to operate the wall control valve located within the entry vestibule on the west wall (north & south corners). Each vestibule is separated from the EGE by a custom-built plate steel door allowing outside access to the control valve during a fire.

NNECO feels that the combination of early warning detection systems and the prompt manual activation of the sprinkler system by the fire brigade will provide an acceptable level of protection for these areas. These active and passive protection features in combination with the 3-hour rated fire separation between units protects against the simultaneous damage or destruction of both redundant generator units and allows for the continued operation of a single emergency generator system following

a postulated fire event. It is NNECO's opinion that the manually operated sprinkler systems are justified and a deviation should be allowed.

Each generator enclosure has a subgrade cable vault which is separated at the floor by a plate steel cover. The vaults are equipped with sprinklers and detection systems. No floor drains are provided. Should water discharge into the vault it would accumulate until manually removed. However, a deviation for lack of floor drains is justified as all cable in the vault is designed to be wetted or submerged without damage occurring.

The following information is provided to assist in the evaluation of this request.

DESIGN FEATURES

A reinforced concrete wall of minimum three (3) hour fire resistance is provided to separate the two generator units. All conduit and cable tray penetrations in this wall are equipped with three (3) hour fire rated seals. There are no ventilation ductwork or door openings within this wall.

Each EGE (north and south) consists of three distinct areas:

- o Diesel Generator Area - 24'-6" & 37'-0" El. - Fire Hazard Analysis Zone A.
- o Cable Vaults 12'-6" El. - Fire Hazard Analysis Zone A.
- o Muffler Enclosure - 51'-0" El. - Fire Hazard Analysis Zone B.

Design features of the individual areas are:

- o Diesel Generator Area:
 - o Area Volume - 44,200 cu. ft.
 - o Ceiling Height - 26 ft.
 - o Ventilation provided by 2-60,000 cfm supply fans with diesels operating and a constant 2000 cfm with the diesels idle.
 - o Drainage by floor drains to outside oil separator system as well to as ground level door openings.
- o Cable Vaults:
 - o Area Volume - 1,410 cu. ft.
 - o Ceiling Height - 11.5 ft.
 - o Ventilation from Diesel Generator Area.
 - o No drainage.
- o Muffler Enclosure:
 - o Area Volume - 25,500 cu. ft.
 - o Ceiling Height - 15 ft.
 - o Ventilation as described in the diesel generator area.
 - o Drainage through a single floor opening to Generator Enclosure below.

MAJOR EQUIPMENT

Diesel Generator(s) with starting air compressors
 Fuel Oil Day Tank(s)
 Motor Control Center-Emergency
 Control Cabinets
 Cable

COMBUSTIBLE LOADING - NORTH ENCLOSURE EG-3

Floor Area Zone A - 1,888 ft²
 Zone B - 1,888 ft²

<u>Combustible Material</u>	<u>Quantity</u>	<u>Heat Potential Btu/ft²</u>
Cable Insulation	4,927 lb	28,708
480 V MCC	5 sec	268
Control Panels	13 ft	468
Diesel Fuel Oil	550 gal	8,267
Diesel Lube Oil	1,400 gal	21,333
Compressor Lube Oil	6 gal	486
Damper Hydraulic Oil	3.5 gal	284
Transient Lube Oil	55 gal (1 Drum)	4,457
Transient Hydraulic Oil	5 gal	405

*- Zone B combustible material negligible.

ASSUMED FIRE DURATION

0 hr 49 min

COMBUSTIBLE LOADING - SOUTH ENCLOSURE EG-4

Floor Area Zone A - 1,888 ft²
 Zone B - 1,888 ft²

<u>Combustible Material</u>	<u>Quantity</u>	<u>Heat Potential Btu/ft²</u>
Cable Insulation	5,409 lb	31,515
480 V MCC	5 sec	268
Control Panels	13 ft	468
Diesel Fuel Oil	550 gal	8,267
Diesel Lube Oil	1,400 gal	21,333
Compressor Lube Oil	6 gal	486
Damper Hydraulic Oil	3.5 gal	284
Transient Lube Oil	55 gal (1 Drum)	4,457
Transient Hydraulic Oil	5 gal	405

*- Zone B combustible material negligible.

ASSUMED FIRE DURATION

0 hr 51 min

EXISTING FIRE PROTECTION FEATURES

Zone A - Diesel Generator and Cable Vault

Suppression - Manually operated, closed head sprinkler system covers all areas. A local waterflow alarm sounds in the West vestibule area. Valve tamper supervision transmits to Zone Panel 5C in the control building (24'-6" el.) and to the Control Room.

- 1- $\frac{1}{2}$ " hose station with 100' of 1- $\frac{1}{2}$ " hose.
- 2- $\frac{1}{2}$ " standpipe outlet with 100' of 1- $\frac{1}{2}$ " hose available in the west entry vestibule.
- Outside hydrants and hose houses for additional hand hose streams.
- Portable fire extinguishers provided in East and West vestibules based on NFPA Standard #10 locations and spacing guidelines.

Detection - U.V. Flame detectors covering the diesel generator.

- Ceiling mounted (EL. 50'-6") 165°F of rate compensated heat detectors covering diesel generator area.
- 165°F rate compensated heat detectors and ionization detectors covering cable vault.
- Detection alarms transmit to Zone Panel 5C in the control building (24'-6" el.) and to the Control Room.

Zone B - Muffler Enclosure

Suppression - 1- $\frac{1}{2}$ " hose station available in Zone A.

- 2- $\frac{1}{2}$ " standpipe outlet with 100' of 1- $\frac{1}{2}$ " hose available in Zone A.
- Outside hydrants and hose houses for additional hand hose streams.
- Portable fire extinguishers provided as noted in Zone A.

Detection - None

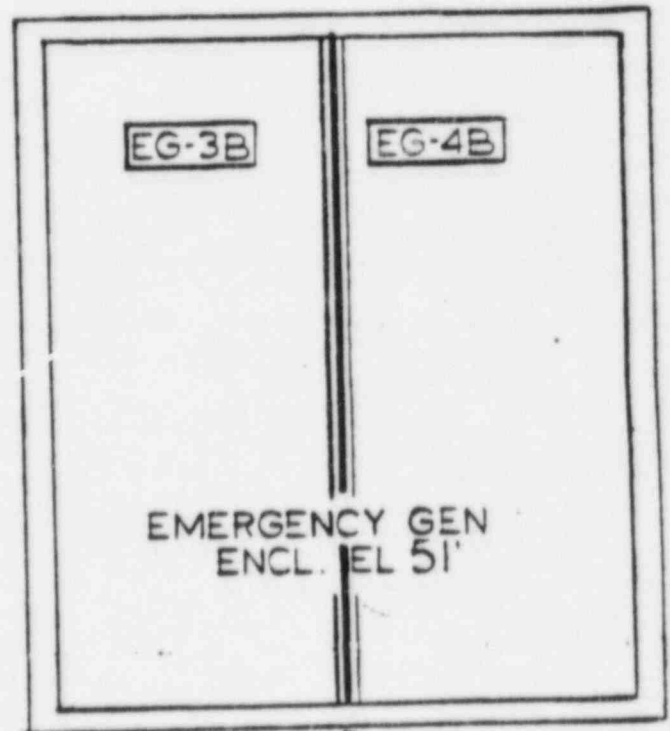
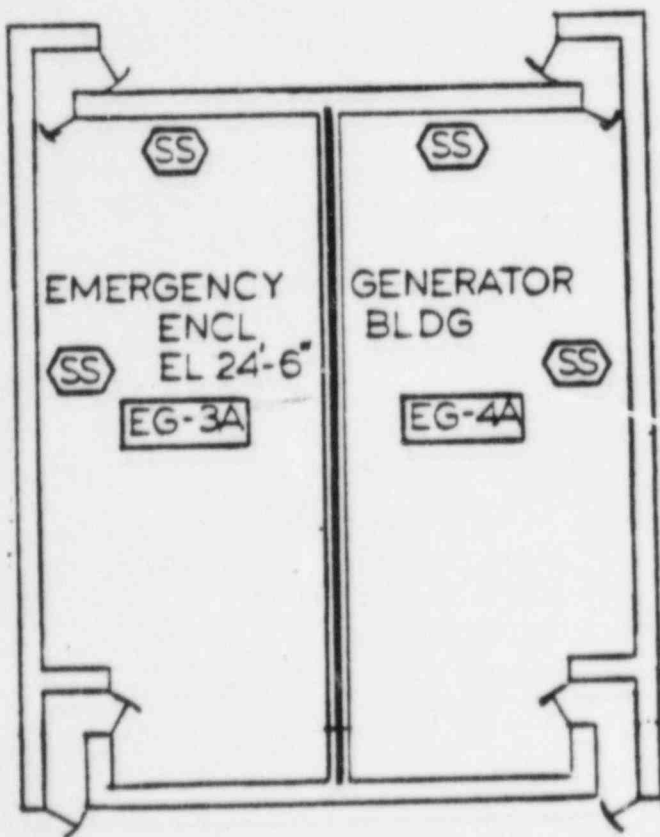
Manual smoke removal can be provided for all areas by smoke ejectors to be operated by Fire Brigade personnel at the ground level door openings.

MILLSTONE UNIT NO. 3
BRANCH TECHNICAL POSITION 9.5-1 ANALYSIS
DEVIATION REQUEST

FIRE AREAS EG-3/EG-4

EMERGENCY GENERATOR ENCLOSURES (EGE)

NORTH & SOUTH ENCLOSURES



MILLSTONE UNIT NO. 3

PORTABLE FIRE EXTINGUISHERS IN CONTAINMENT

DEVIATION REQUEST

BTP 9.5-1, SECTION C.6.f STATES:

"Fire extinguishers should be provided in areas that contain, or could present a fire exposure hazard to, safety-related equipment in accordance with guidelines of NFPA-10, "Portable Fire Extinguishers, Installation, Maintenance and Use". Dry chemical extinguishers should be installed with due consideration given to possible adverse effects on safety-related equipment installed in the area".

NNECO RESPONSE

NNECO has evaluated BTP 9.5-1, Section C.6.f, with respect to the guidelines for providing portable fire extinguishers in areas that contain, or could present a fire exposure hazard to, safety-related equipment.

As a result of this evaluation, NNECO agrees to fully comply to this BTP requirement in all effected areas with the exception of the Containment Structure. For the Containment Structure, NNECO requests deviation from Section C.6.f of BTP 9.5-1.

It is NNECO's position that the Containment Structure should be provided with portable fire extinguishers, in accordance with the guidelines of NFPA-10, only during refueling outages or when containment is otherwise accessible. During the normal operating period, portable fire extinguishers for this area will be readily available/accessible at the personnel access hatch located at El. 24'-6" of the Auxiliary Building (refer to attached sketch).

NNECO's position is based on the following active and passive features:

- o The area is normally inaccessible/unoccupied.
- o Hose stations are readily available at all elevations of containment.
- o Automatic Fire Suppression is provided for the Electrical Penetration Area.

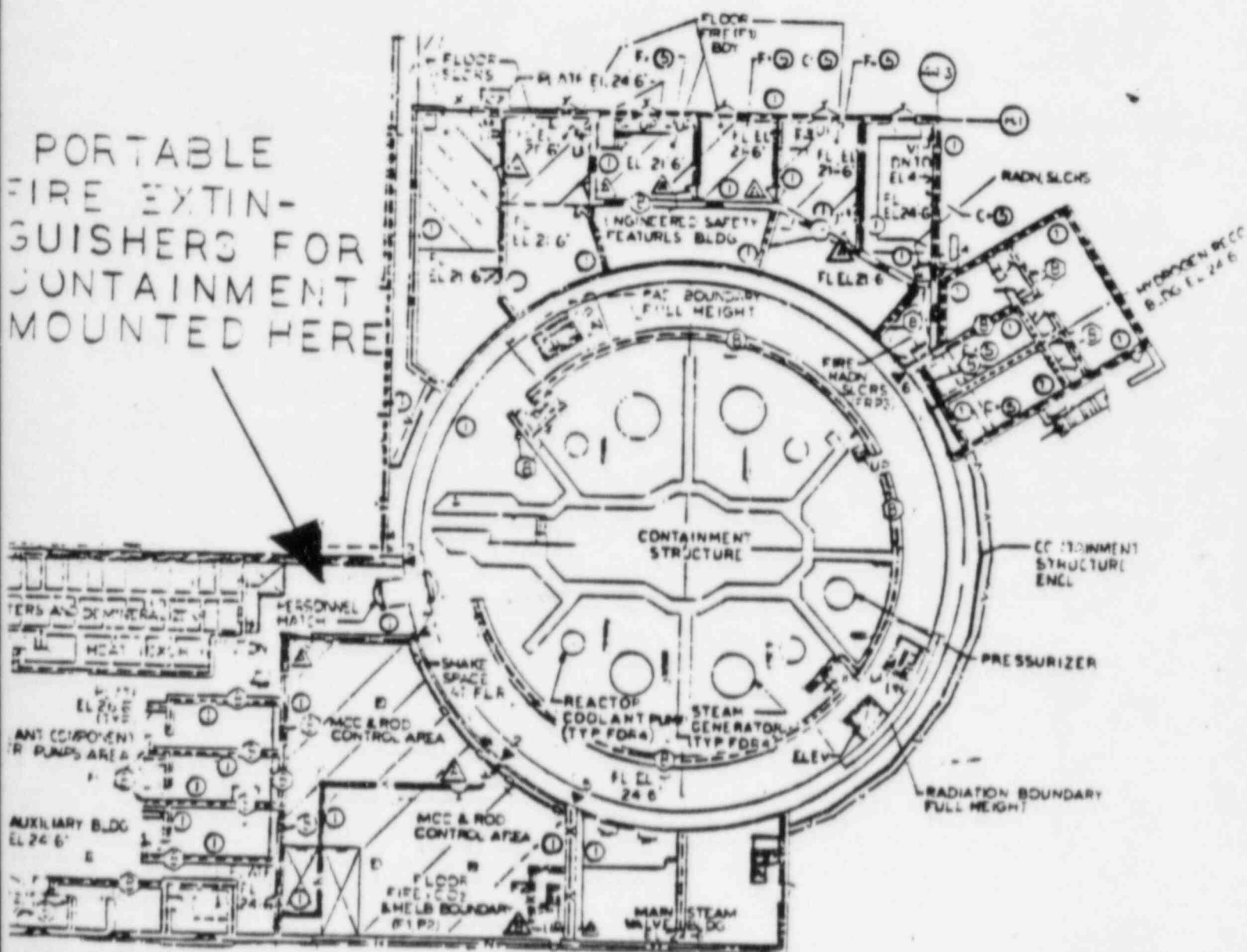
- o Smoke detection is provided for early warning of any fire conditions.
- o Additional portable fire extinguishers (other than those located at personnel access hatch) and hose stations are available in the Auxiliary Building.
- o Single entrance point (access hatch).

In addition, fire extinguishers permanently mounted in the Containment Structure could not ordinarily be inspected/maintained on a regular basis as required by the applicable guidelines of NFPA-10. These NFPA guidelines require fire extinguishers to be inspected at least monthly and maintenance performed not more than one year apart, or when specifically indicated by an inspection. Because of the general inaccessibility of containment during normal plant operation, the inspection and maintenance requirements of NFPA-10 could not be achieved.

NNECO concludes that with the implementation of the above, an adequate level of portable fire suppression capability will be provided within the Containment Structure. Therefore, this position will satisfy BTP 9.5-1, Section C.6.f guidelines.

CONTAINMENT
STRUCTURE

EL 24'-6"



MILLSTONE UNIT NO. 3
CIRCULATING AND SERVICE WATER PUMPHOUSE (CSW-3 and CSW-4)
DEVIATION REQUEST

Branch Technical Position Guidelines

Branch Technical Position CMEB 9.5-1, Section C.5.b(2) requires:

"Separation of cables and equipment and associated circuits of redundant trains by a fire barrier having a 3 hour rating."

Discussion

The NRC Staff interprets this section as requiring safe shutdown components to be encompassed by 3 hour enclosures. Although the service water pumps and their associated cables/components are separated from each other by a bona fide 3 hour barrier, these areas are not in conformance with the Staff's strict interpretation of C.5.b(2). An unrated pipe penetration passes from each service water pump enclosure to a common area (Fire Area CSW-1A). See Sketch #1.

The 1-½" drainlines pass through the 24" fire barriers approximately 20' from the floor or approximately 5' from the ceiling. Spatial separation of approximately 40' exists between these penetrations in Fire Area CSW-1A (see Sketch #2). Fire loading associated with Fire Area CSW-1A is limited, with a calculated fire duration of 31 minutes. It should be noted that the majority of the fire loading consists of cable insulation (IEEE-383) which is routed away from these two penetrations. The area is relatively free from combustibles.

The drain line pipes are constructed of a chemical composition of fiberglass and thermoset resin. When fire tested in accordance with ASTM E-84 Test Criteria, the flame spread rating was 40, which is an acceptable level per BTP guidelines regarding flame spread ratings.

It is NNECO's opinion that although the two areas (CSW-3 and 4) do not meet the NRC's strict interpretation of C.5.b(2), they do provide adequate separation of redundant safe shutdown components. In addition to separation by a 3 hour barrier, the following active and passive fire protection features provide assurance that one division of service water pumps are available for safe shutdown following a fire.

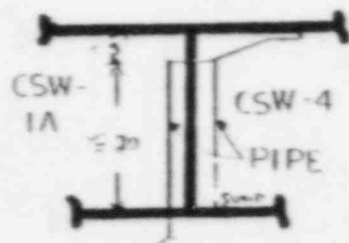
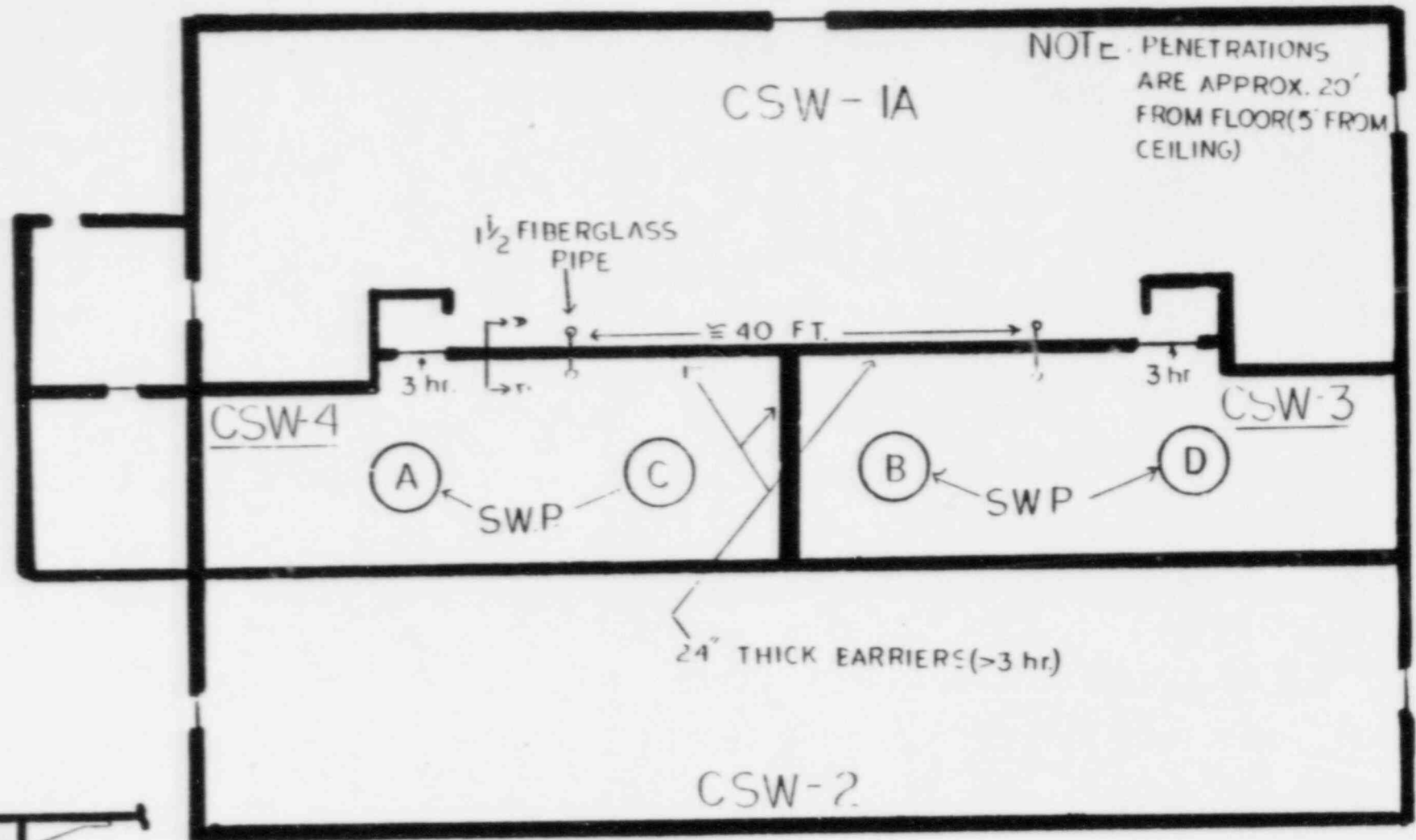
- 1) Smoke detection provides early warning.
- 2) CSW-3 and CSW-4 are separated from each other and adjacent areas by 24" fire barriers. (The two 1½" penetrations are insignificant.)
- 3) Low combustible loading in CSW-1A.
- 4) Special separation of 40' between these penetrations assures that a single fire would not affect both penetrations.
- 5) Stratified hot gases will not affect both fiberglass pipes since pipes are located approximately 5' from ceiling.

- 6) Fiberglass pipe used, meets Branch Technical Position 9.5-1 guidelines regarding flame spread ratings.
- 7) Service water pumps and cables are not smoke sensitive. Any smoke which passes through the 1½" open penetration will not effect pumps which are located approximately 10' below.

Based on the above, it can be concluded that the configuration described provides equivalent protection to that which is required in Section C.5.b(2) of CMEB BTP 9.5-1. Therefore a deviation is justified.

The attached information is provided to assist in the evaluation of this request.

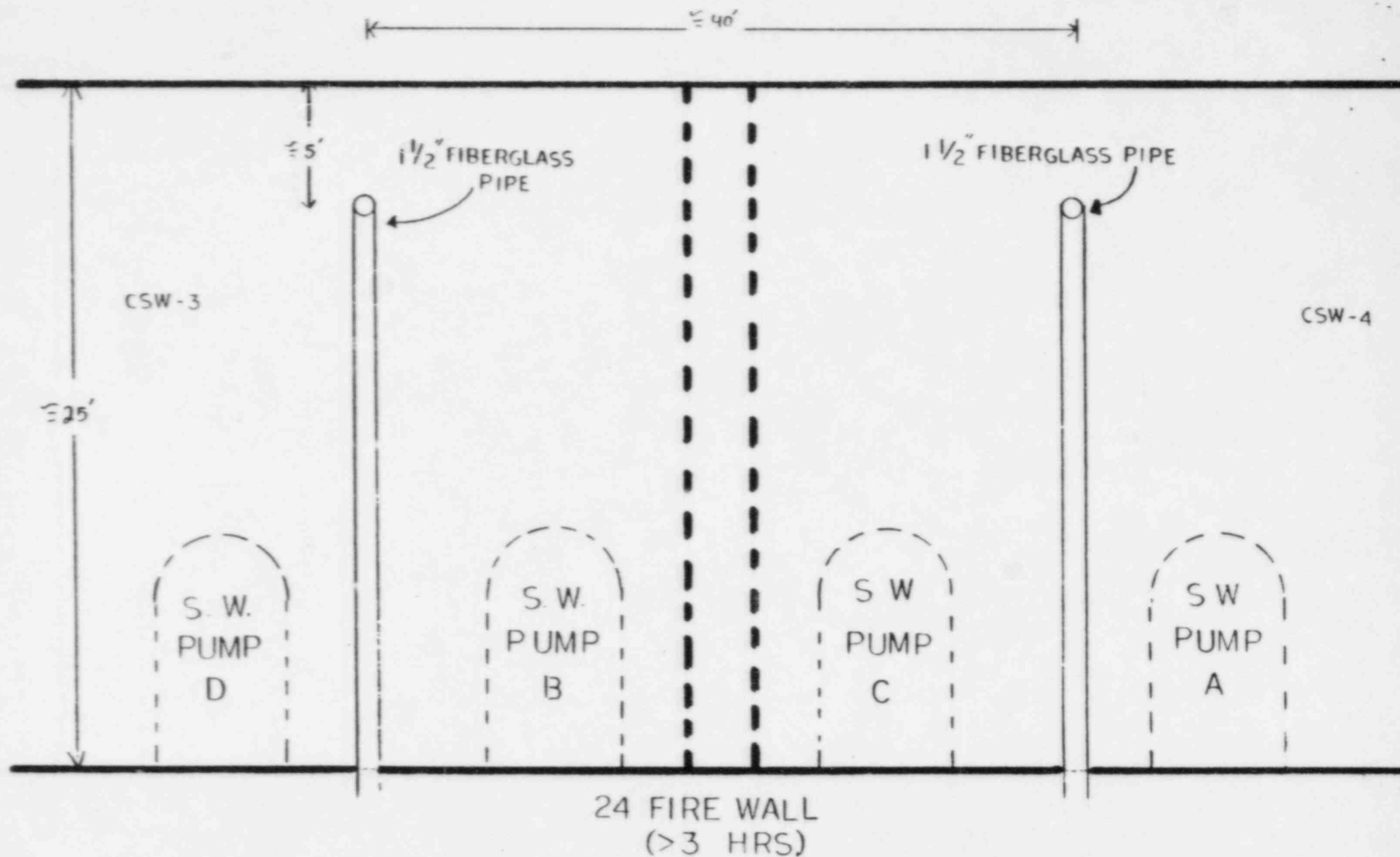
SKETCH # 1



SECTION A-A

CIRC & SERVICE WATER PUMPHOUSE

NOT TO SCALE



FIRE AREA CSW-IA

MILLSTONE UNIT NO. 3

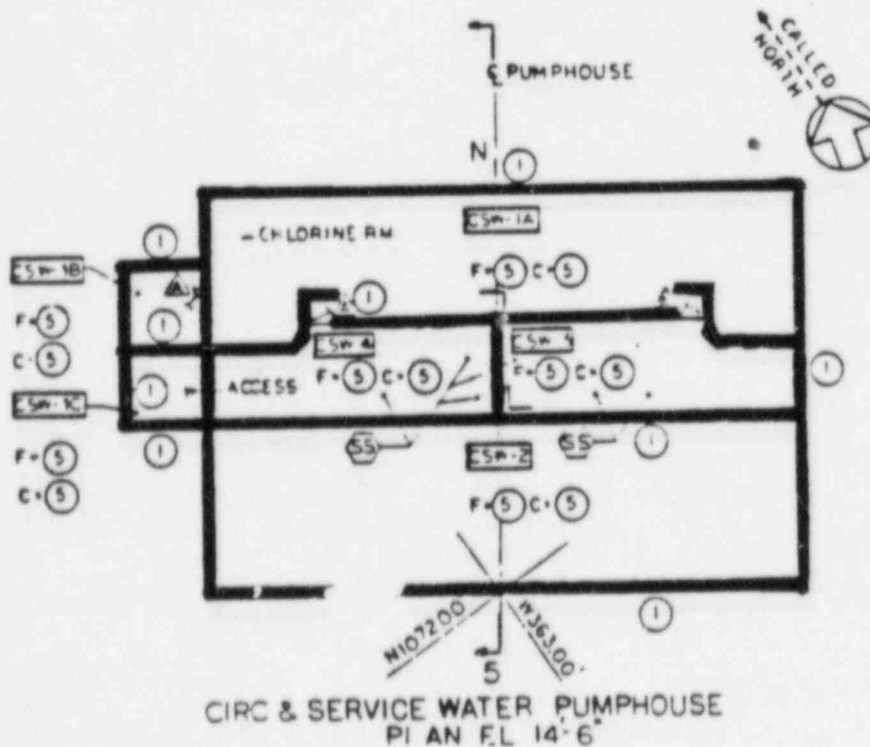
SAFE SHUTDOWN FIRE ZONE ANALYSIS

Circulating and Service Water Pumphouse El. 14'6"

Fire Areas CSW-1A
CSW-3
CSW-4

Safe Shutdown Equipment

- | | |
|--------|--|
| CSW-1A | None |
| CSW-3 | Service Water Pumps B & D (orange)
Associated MCC and cables. |
| CSW-4 | Service Water Pumps A & C (purple)
Associated MCC and cables. |



Design Features

Interior walls are 24" reinforced concrete.

The floors and ceilings are 6" reinforced concrete or greater.

Doors leading to Fire Areas CSW-3 and CSW-4 are 3-hour fire rated.

Ceiling height of the area is approximately 25'.

Room volumes are:

- o CSW-1A - 38,160 cu.ft.
- o CSW-3 - 22,263 cu.ft.
- o CSW-4 - 22,263 cu.ft.

Combustible Materials

<u>Area</u>	<u>Combustible Material</u>	<u>Quantity</u>	<u>Btu/ft²</u>
CSW-1A	Cable Insulation	12,191 lbs.	41,646
	Fire Duration - 31 minutes		
CSW-3	Cable Insulation in Trays	4,556 lbs.	54,280
	Cable Insulation in Motor Control Centers	11 sect.	1,208
	Fire Duration - 42 minutes		
CSW-4	Cable Insulation in Trays	4,818 lbs.	57,421
	Cable Insulation in Motor Control Centers	11 sect.	1,208
	Fire Duration - 44 minutes		

Existing Fire Protection

Early warning ionization smoke detection.

Portable fire extinguishers in accordance with NFPA-10.

Hydrant house available outside pumphouse.

Millstone Unit No. 3

DEVIATION REQUEST

BTP 9.5-1 Section C.6.b.

Branch Technical Position Guidelines

BTP 9.5-1 Section C.6.b. which addresses, fire water supply, partially states in Item (9): "Two separate reliable freshwater supplies should be provided... If tanks are used, two 100 percent (minimum 300,000 gallons each) system capacity tanks should be installed."

NNECO's RESPONSE

The fire water supply for Millstone Unit 3 is provided by the existing water supply from the Unit 1 and 2 sites. This supply consists of two 245,000 gallon storage tanks interconnected to supply three 2,000 gpm rated fire pumps. (Two electric and one diesel).

Each storage tank is automatically filled through a 6" connection of a 12" city water (domestic) line. Capacity of this fill line is sufficient to refill the tanks within 8 hours. Tank storage levels are electronically monitored which will transmit an alarm to the appropriate control room should the water drop below an acceptable level.

Considering the largest site sprinkler system operating, the Unit 3 water supply does not strictly meet the guidelines of B.T.P. Section C.6.b. The tanks are not sized to provide the 100 percent capacity for the largest fire sprinkler system design demand plus simultaneous 500 gpm for manual hose application at Millstone III. The largest water flow demand at Millstone III is the Turbine Building sprinkler system design which requires 2,862 gpm (.2 gpm/sq.ft. over 10,000 sq.ft operating area) plus 500 gpm for manual hoses which equals 3,362 gpm. Based on this demand flow, the 2-hour flow duration requires 403,440 gallon supply volume for the 100 percent supply capacity. Each of the Unit 1 and 2 tanks individually provides less than the required 100 percent capacity. However, it should be noted that the Turbine Building sprinkler system is not protecting a safety related area/operation.

With regards to sprinkler systems provided for protection of safety related areas/operation, NNECO has determined that this area is the charcoal filter spray systems which require 450 gpm. Adding the 500 gpm for manual hose coverage, the 100 percent demand flow equals 950 gpm. The 2-hour flow duration for the safety related system requires 114,000 gallon supply volume. Considering the safety related sprinkler systems only, the water supply volume is adequate for the 2-hour duration and only the 300,000 gallon minimum tank size guideline is not met.

There are several points to consider in justifying the lower water supply capacity of the existing tanks:

1. The combined two-tank capacity is sufficient to meet the two-hour duration. This supply is considered reliable as:
 - o Tanks are dedicated for fire system use.
 - o Tanks are automatically filled and monitored by level switches with signals transmitted to the Unit 1 control room.
 - o Plant operators check the tank levels daily by reading level gauges in the fire pump house.
2. The turbine hall is separated from all SS/SR areas by 3-hour rated fire walls.
3. The 100 percent supply volume of 403,440 gallons is conservative as:
 - o Manual hoses will not be used for the first 15 to 20 minutes.
 - o The 10,000 sq. ft. operating area will not be flowing immediately. As the postulated fire is developing in size, additional heads will begin to operate and the flow will increase up to the 10,000 sq. ft. operating area demand. Therefore, the existing supply duration will be extended.
4. A backup city water supply is available to supplement the fire flow of 3,362 gpm and thereby extend the single tank duration.
5. If necessary, the public fire department can draft sea water from Long Island Sound at various points on the site to provide or supplement the required fire flows.

Deviation Request

NNECO requests a deviation be granted for the individual tank size for the following reasons:

- 1) The existing actual supply does provide the required 2-hour flow duration for the largest safety related sprinkler system.
- 2) Since the reliability of the two-tank arrangement is good, the total stored volume of both tanks should be considered. The two-tank volume is sufficient to meet the 2-hour duration for the nonsafety related system in the turbine building.
- 3) There are two independent backup means of supplying water to fire suppression systems to supplement or replace the tank supplies.

For these reasons, NNECO feels that an equivalent level of protection is provided.

MILLSTONE UNIT NO. 3

DEVIATION REQUEST

BTP 9-5.1 Sec. 5.a.3
ELECTRICAL PENETRATIONS IN CONTAINMENT

BTP Requirement

BTP 9-5.1 Sec. 5.a.3 partially states;

Openings through fire barriers for pipe, conduit, and cable trays which separate fire areas should be sealed or closed to provide a resistance rating at least equal to that required of the barrier itself.

Penetrations for electrical conductors through the containment walls have not been tested as a rated fire penetration assembly in accordance with BTP guidelines.

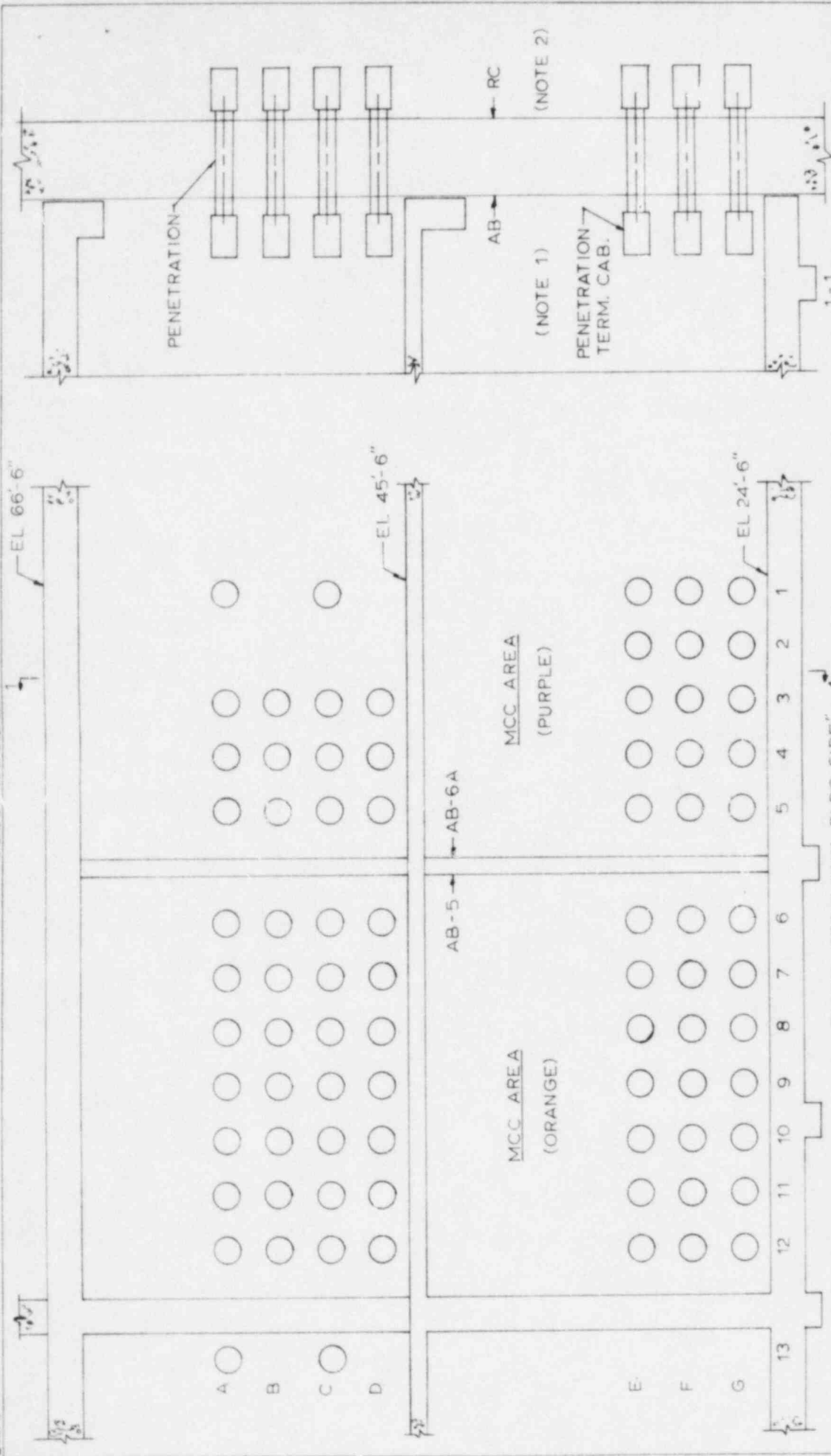
NNECO Response

NNECO has evaluated the above referenced BTP guideline and is requesting a deviation for installing rated fire seals at the Containment Electrical Penetration Area. This request for deviation is based upon the following justification;

- o Penetration assemblies are designed for containment of the atmosphere inside the Containment Building following a Design Basis Accident inside this building, therefore, forming a tight fit seal within the penetration sleeve itself. Penetration assemblies provide a means for continuity of power, control, and signal circuits through the containment structure pressure barrier while maintaining the integrity of the pressure barrier.
- o Both areas (Containment & Auxiliary Building) are provided with smoke detection systems. Should a fire occur on either side of the electrical penetration area these systems will detect a fire in its incipient stages, thus allowing fire brigade response.
- o Each side of the electrical penetration area is protected by an automatic fire suppression system. The MCC Rod Control area of the Auxiliary Building is provided with total flooding CO2 capabilities, while the electrical penetration area incorporates a wet pipe sprinkler system. (Ref. attached sketch). Both systems have been installed in accordance with applicable NFPA guidelines.
- o Manual fire suppression capabilities (hose stations and portable fire extinguishers) are readily available.

Based upon the existing design, negligible combustible material within the penetration sleeve itself, as well as the automatic detection/suppression features provided, it is NNECO's position that the probability of a fire penetrating this barrier and spreading to adjacent areas is very remote. Therefore, NNECO believes that an adequate level of fire protection has been provided for this area and that a deviation to the above referenced guideline should be granted.

STONE & WATSON ENGINEERING CORPORATION



NOTES:
1. CO2 PROTECTED
2. WATER SPRAY PROTECTED

"VIEW FROM AUX BLDG SIDE"
"LOOKING TOWARDS CONT"

CHECKED	CORRECT	APPROVED	REVISIONS

TITLE
ELECTRICAL PENETRATIONS

SCALE: NONE
DATE:
SKETCH NUMBER

MILLSTONE UNIT NO. 3

DEVIATION REQUEST

BTP 9.5.1 Sec. C.5.a.5

CONTAINMENT ACCESS HATCH

BTP Requirement

BTP 9.5.1 section C.5.a.5 partially states;

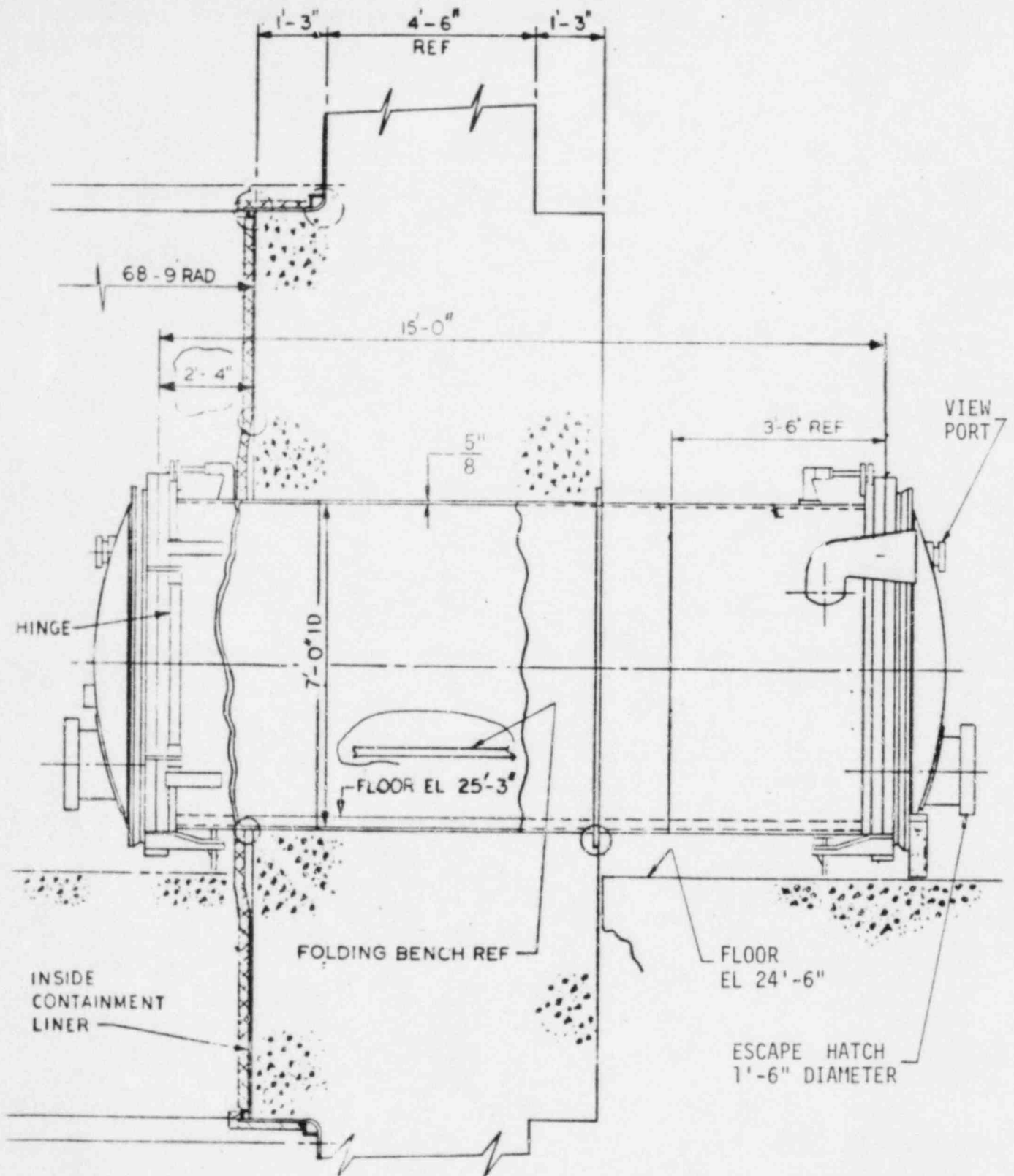
Door openings in fire barriers should be protected with equivalently rated doors, frames, and hardware that have been tested and approved by a nationally recognized laboratory.

NNECO Response

NNECO has evaluated the guidelines of the above referenced BTP requirement and is requesting deviation for the Containment personnel access hatch at Millstone Unit No. 3. This deviation request is based upon the following justification;

- o The primary design function of the airlock assembly is to minimize the leakage of containment atmosphere.
- o The construction of the personnel access hatch is substantial with two steel doors on either end of the airlock assembly. These doors are separated by a distance of approximately 15 feet with no intervening combustibles.
- o There is minimal combustible loading in the immediate area of the personnel access hatch on the Auxiliary Building side. The closest significant combustible loading to the access hatch within the Containment Structure is the electrical penetration area, which is provided with automatic wet pipe sprinkler protection.
- o Smoke detection is available on both sides in the vicinity of the Containment Access hatch.
- o Manual fire suppression capabilities (hose stations, and portable fire extinguishers) are readily available in the immediate area of the access hatch.

It is NNECO's position that with the above referenced airlock design and construction, as well as automatic/manual fire suppression and detection capabilities, an acceptable fire barrier is maintained. Therefore, this deviation request should be granted.



		TITLE CONTAINMENT STRUCTURE PERSONNEL ACCESS LOCK	SCALE: NONE	
CHECKED			DATE:	
CORRECT			SKETCH NUMBER	
APPROVED				
REVISIONS	②	③	④	⑤