

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 1, 1985

Docket No. 50-423
A04615

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) B. J. Youngblood letter to W. G. Council, Request for
Additional Information, dated January 18, 1985.

Dear Mr. Youngblood:

Millstone Nuclear Power Station, Unit No. 3
Response to NRC Question 410.32
Isolation Transfer Switches and Post Fire Shutdown Capability

Representatives from Northeast Nuclear Energy Company (NNECO) and Stone & Webster met with the NRC Staff - Auxiliary Systems Branch (ASB) on March 26, 1985 to discuss the Millstone Unit No. 3 design for shutdown outside the control room following fires in the cable spreading room, control room or instrument rack room.

NNECO presented a scheme which required control power fuse replacement to ensure operability of hot shutdown equipment which would otherwise be totally isolated from the fire areas and operable from the panels outside the control room.

Representatives from NNECO previously met with the NRC Staff on April 9, 1984 to present design information concerning the fire protection features which assure safe shutdown capability of Millstone Unit No. 3. NNECO indicated that the guidance of Generic Letter 81-12 was used in the Millstone Unit No. 3 alternate shutdown design and the Staff concluded that the approach was acceptable. However, recently we have learned that fuse replacement is considered a repair and since repairs are not allowed in order to achieve and maintain hot standby, the NRC Staff considers the Millstone Unit No. 3 design to be unacceptable. This NRC position was reiterated by ASB representatives at the March 26, 1985 meeting. The NRC Staff also requested that NNECO submit a detailed description of the alternate shutdown design and basic alternate shutdown philosophy.

In light of these recent developments, we are in the process of initiating design modifications to provide redundant parallel control power fusing circuits for essential hot standby equipment previously identified as requiring control power fuse replacement.

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However, prior to implementing these modifications NNECO requests the NRC Staff review and approve our approach used in the Millstone Unit No. 3 alternate shutdown design. The Millstone Unit No. 3 alternate shutdown design and procedures are based on the following assumptions:

1. Local manual operations are acceptable for hot standby equipment provided that the unit operating staff can support those actions in the prescribed time frame. These action times are conservatively estimated. All estimated times are well within the short-term window in which a hot standby condition can be maintained for at least 1 hour without (a) any further operator actions and (b) without any repairs within the first hour. In the short term (≤ 1 hr.) these times are estimated to satisfy the following major objectives:
 - o Establish auxiliary feedwater to a minimum of two steam generators. Estimated time to manually initiate auxiliary feedwater - 10 minutes.
 - o Reenergize one emergency electrical division. Estimated time to manually start the train A emergency diesel and energize essential buses - 20 minutes.
 - o Establish control of reactor coolant pressure boundary and steam generator pressure boundary. Estimated time to isolate pressurizer power operated relief valves, reactor coolant letdown and main steam isolation valves - 15 minutes.
 - o Establish seal water to all reactor coolant pumps. Estimated time to complete required actions - 30 minutes.
2. Local operation of load center breakers is acceptable. This action can be accomplished electrically if control power is available or mechanically if control power is not available.
3. Tripping the local MCC breaker is an acceptable means of isolating a component from fire induced spurious actuation signals. This is employed in the short term for seven motor operated valve circuits.
4. Control power fuse replacement is acceptable for equipment whose operability is not required for at least 1 hour. This is employed for equipment which functions only to support RCS boration and equipment whose operability is required to support cold shutdown.

Please refer to the Millstone Unit No. 3 Fire Protection Evaluation Report for a description of the alternate shutdown system design.

The attached flowchart depicts the sequence of actions required to establish a stable hot standby condition following a fire in the cable spreading room, control room or instrument rack room at Millstone Unit No. 3.

We request that the NRC Staff review the information presented in this letter and respond within two weeks so that we may proceed with planned design modifications. We remain available to meet with the Staff to resolve any

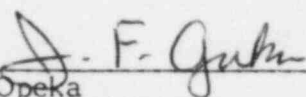
questions which may arise and provide any information necessary to implement this request promptly.

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

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY
et. al.

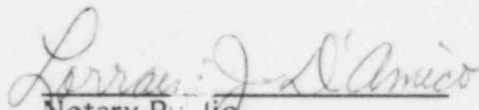
BY NORTHEAST NUCLEAR ENERGY COMPANY
Their Agent



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

ACTIONS REQUIRED TO ACHIEVE STABLE HOT STANDBY
CONDITION, AT (10) REACTOR TRIP MANUALLY FROM CR-
-CR EVACUATION-RECOVERY FROM STATION BLACK OUT-
FROM OUTSIDE CONTROL ROOM.

* C.P. - CONTROL POWER

LOCATION

FIRE TRANSFER
SWITCH PANEL

TRANSFER CONTROL
SWP*MOV102A OR C, HVR*FN14A
HVP*FN1A, HVR*ACU1A
SWP*MOV54A AND C, HVY*FN2A
SWP*MOV71A, HVP*FN1A

TRANSFER ALTERNATE
INSTRUMENTATION IND
TO AUX SHUTDOWN
PANEL

CLOSE
SWP*MOV54A AND C
SWP*MOV102A OR C
SWP*MOV71A
START HVY*FN2A

OPEN
SWP*MOV102A OR C
HVR*MOD45C1
HVR*MOD50A
START HVR*FN14A, HVRACU1A

START

HVP*FN1A

ORANGE TRANSFER
SWITCH PANEL
(ORANGE SWITCHGEAR)

TRANSFER CONTROL ALL
ORANGE, (A TRAIN)
EQUIPMENT

ENGINEERED
SAFETY FEATURES
BUILDING

MANUALLY
THROTTLE
AUX FEED FLOW

AUXILIARY
BUILDING

TRANSFER TO PARALLEL C.P.* FUSE
AT MCC: SWP*MOV71A, HVR*ACU1A
HVR*FN14A, CCE*P1A, CHS*LCV112B
CHS*MOV8438A, C CHS*LCV112D

TRIP MCC BREAKERS
AND LOCALLY OPEN
CHS*MN8109A-D
SWP*MV130A
CHS*MV8511A, 8512B

OPEN A.B. NORTH
DOORS FOR VENT
EXHAUST PATH IF
REQUIRED

OPEN
CHS*V272

(30 MIN
ESTABLISH RCP
SEAL WATER)

AUXILIARY SHUTDOWN
PANEL

MAN
ASP

OBSERVE
RCS/SG/
PARAMETERS

VERIFY-ESTABLISH RCS, S.G.
PRESSURE BOUNDARY
INTEGRITY

(15 MIN)

OPEN MSS*AOV31A, B, D

(10 MIN AUX FEED
INITIATED)

CROSS CONNECT
SWP WITH HVK-
-START HVC*ACU
3A, 4A.

START
CCE*P1A

CHECK/OPEN
CHS*MOV8438A, C
CHS*LCV112D
CLOSE CHS*LCV112B

ORANGE SWITCHGEAR
ROOM

SHIFT ALL 4160V
MOTOR CONTROLS TO
LOCAL AND TRIP
BREAKERS

CHECK CLOSED OR
CLOSE UNIT SUBSTATION
BREAKERS

CHECK/OPEN
RSS AND SST
TIE BREAKERS

LOCALLY CLOSE
D.G. BREAKER
IF REQUIRED

(20 MIN
ENERGIZE
EMERGENCY
4160V BUS)

START SWP*P1A OR P1C
ALIGN HVP DAMPERS
(OPEN BREAKER
ON SCV*PNLR10)

START
CHS*P3A

DIESEL GENERATOR
A. ENCLOSURE

ISOLATE AND OPEN
SWP*AOV39A
(MANUAL 3-WAY VALVE)
RESET EMERGENCY STOP
IF REQUIRED

MAN LOCAL PANEL
SHIFT TO LOCAL CONTROL
START DIESEL
CLOSE DG BKR IF C.P. IS
AVAILABLE

MAIN STEAM
VALVE HOUSE

CLOSE MSS*MOV18A-D
OPEN MSS*MOV74A-D
IF REQUIRED