



GPU Nuclear Corporation
Post Office Box 480
Route 441 South
Middletown, Pennsylvania 17057-0191
717 944-7621
TELEX 84-2386
Writer's Direct Dial Number:
(717) 948-8005

September 25, 1992
C311-92-2125

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

Dear Sir:

Subject: Three Mile Island Nuclear Station, Unit 1 (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
Response to NRC Bulletin 92-01, Supplement 1: Failure
of Thermo-Lag 330 Fire Barrier System to Perform Its
Specified Fire Endurance Function

The purpose of this letter is to readdress the GPUN position regarding the operability of the Thermo-Lag fire barrier envelopes (FBE) installed at TMI-1 and respond to NRC Bulletin 92-01, Supplement 1 dated August 28, 1992.

In the initial and supplemental responses to NRC Bulletin 92-01 (GPUN Letters C311-92-2102 dated July 28, 1992 and C311-92-2111 dated August 18, 1992), GPUN maintained that the Thermo-Lag FBEs installed at TMI-1 which are within the scope of the bulletin were operable. The need to readdress the position is based on new information provided by the NRC at the NUMARC TMI Thermo-Lag Workshop on August 25 and during the NRC/GPUN teleconference of August 26, 1992. Based on that information, compensatory measures for inoperable Thermo-Lag 330 FBEs within the scope of Bulletin 92-01 were taken. GPUN took actions in accordance with the requirements of the TMI-1 Fire Protection Program license condition which included establishing temporary, once per hour roving firewatches in the affected plant areas until a more detailed assessment could be performed and a long term plan established.

NRC Bulletin 92-01, Supplement 1, expanded the scope to include all one hour and three hour fire rated Thermo-Lag FBE configurations. The impact of the Bulletin's expanded scope was evaluated and resulted in the addition of the fuel handling building Chiller Room (FH-FZ-6) to the listing of plant areas previously identified as having one and three hour fire rated Thermo-Lag 330 FBEs installed.

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A long term firewatch plan was developed in accordance with plant procedures and license to provide appropriate and consistent compensatory measures. The firewatch plan replaced the interim action when GPUN management was assured that the necessary program controls were in place and that appropriate technical evaluations and necessary personnel training were completed. As modified, the program called for firewatch tours to be made once per shift in those areas with installed automatic fire detection to ensure no increased fire risk has been introduced. For areas without automatic fire detection systems, the plan permits tours to be accomplished by either a roving firewatch in the area at least once per hour or observation of a TV monitor at the Health Physics Control Point at the same frequency. Since the nature of the principle combustible material and the layout in CB-FA-1 (Health Physics and Chemistry laboratory areas) are different, tours of this fire zone are to be made hourly despite the installed detection and suppression equipment. This modified firewatch plan went into effect on September 10, 1992. Attachment 1 identifies each plant area with one and three hour fire rated Thermo-Lag installed, the approved compensatory measure for the specific area and the justification of the adequacy of the compensatory measure. The compensatory measures are for existing plant conditions: power operation at mid cycle with only routine maintenance and testing in progress. These measures will be re-evaluated at such time as plant conditions and pre-outage ramp-up activities necessitate.

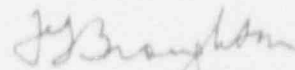
In accordance with Three Mile Island Nuclear Station Unit 1 Administrative Procedure (AP) 1038 "Administrative Controls - Fire Protection Program," the Plant Review Group (PRG) is assigned the responsibility to determine the adequacy of proposed compensatory measures for defective envelope systems based on the loss of protection experienced. The PRG evaluated the logic supporting the TSI FBE compensatory measures. Consideration was given to the potential affect of the degraded Thermo-Lag FBEs on safety and the appropriateness of the proposed compensatory actions. The PRG evaluation concluded that the basis for a roving fire watch, in providing compensation for the degraded Thermo-Lag FBEs, is to ensure that there are no administrative control failures. The relevant administrative controls are those which are in place to ensure that transient combustibles, hot work, or other work activities do not increase the severity of fire risk. These controls are part of the defense-in-depth program that protects against the possibility of fire as well as the severity and consequences of fire. These administrative controls are also the most susceptible to failure (when compared to automatic suppression, detection, or passive design features). Note that none of the compensatory measures described in AP 1038 (or previously in the Technical Specifications) were written with the thought of addressing simultaneous compensatory measures for the entire Thermo-Lag fire barrier system.

The PRG determined that the proposed compensatory measures were appropriate given that the Thermo-Lag fire barrier concerns do not pose an immediate threat to public health and safety and the relative safety significance of the fire barrier concern is low. Considering the defense-in-depth of the fire

protection program and the design of TMI-1, the compensatory measures were found appropriate. The determinations were made in conformance with section 7.3.2 of Exhibit 2, AP 1038, as required by License Condition 2.c.(4).

TMI-1 will continue to evaluate information regarding the Thermo-Lag 330 fire barrier material as it becomes available. GPUN is participating in the industry effort being coordinated by NUMARC/EPRI. The compensatory measures in place at TMI-1 are expected to remain until the fire barrier system can be declared operable or testing demonstrates successful one or three hour barrier performance.

Sincerely,



T. G. Broughton
Vice President & Director, TMI-1

WGH

Attachment


cc: Administrator, Region I
TMI Senior Resident Inspector
TMI-1 Senior Project Manager

METROPOLITAN EDISON COMPANY
JERSEY CENTRAL POWER AND LIGHT COMPANY
PENNSYLVANIA ELECTRIC COMPANY
GENERAL PUBLIC UTILITIES NUCLEAR CORPORATION

Three Mile Island Nuclear Station, Unit 1 (TMI-1)
Operating License No. DPR-50
Docket No. 50-289


Reference to NRC Bulletin No. 92-01, Supplement 1:
"Failure of Thermo-Lag 330 Fire Barrier System
to Perform Its Specified Fire Endurance Function"

This letter is submitted to provide a written response describing our actions taken associated with NRC Bulletin No. 92-01, Supplement 1: "Failure of Thermo-Lag 330 Fire Barrier System to Perform Its Specified Fire Endurance Function." All statements contained in this response have been reviewed, and all such statements made and matter set forth therein are true and correct to the best of my knowledge.



T. G. Broughton
Vice President and Director, TMI-1

Signed and sworn before me this
25th day of September, 1992.



Notary Public

Notarial Seal
Erin M. Flowers, Notary Public
Londonderry Twp., Dauphin County
My Commission Expires Sept. 11, 1993

Member, Pennsylvania Association of Notaries

ATTACHMENT 1

FIRE AREA	PRG APPROVED COMPENSATORY MEASURES	JUSTIFICATION FOR FIREWATCH INTERVAL
AB-FZ-3 Auxiliary Building Makeup Valve Gallery	Roving firewatch in area at least once per shift.	Area Detection, Transient Combustible Controls, Low Fire Loading, low fire spread potential
AB-FZ-4 Auxiliary Building Reactor Building Pipe Penetration Area	Roving firewatch in area at least once per shift.	Area Detection, Transient Combustible Controls, Low Fire Loading Automatic Suppression.
AB-FZ-5 Auxiliary Building General Area - Elevation 281-0'	Roving firewatch in area at least once per shift.	Partial Detection (in area of barriers), Transient Combustible Controls, Low Fire Loading.
AB-FZ-7 Auxiliary Building DHR & NSCCC Pump Area	Roving firewatch in area at least once per shift.	Area Detection, Transient Combustible Controls, Low Fire Loading Partial Automatic Suppression.
CB-FA-1 Control Building Control Building Health Physics and Lab Area	Roving firewatch in area at least once per hour.	Detection above ceiling, suppression below.
CB-FA-2B Control Building IS Switch gear Room	Roving firewatch in area at least once per shift.	HVAC Duct Detector, Transient Combustible Controls, Low Fire Loading.
CB-FA-2C Control Building TSC Area	Roving firewatch in area at least once per shift.	HVAC Duct Detector, Transient Combustible Controls, Low Fire Loading.
CB-FA-2D Control Building East Inverter Room	Roving firewatch in area at least once per shift.	HVAC Duct Detector, Transient Combustible Controls, Low Fire Loading.
CB-FA-2E Control Building West Inverter Room	Roving firewatch in area at least once per shift	HVAC Duct Detector, Transient Combustible Controls, Low Fire Loading.

FIRE AREA	PRG APPROVED COMPENSATORY MEASURES	JUSTIFICATION FOR FIREWATCH INTERVAL
CB-FA-2F Control Building East Battery Room	Roving firewatch in area at least once per shift.	HVAC Duct Detector, Transient Combustible Controls, Low Fire Loading.
CB-FA-2G Control Building West Battery Room	Roving firewatch in area at least once per shift.	HVAC Duct Detector, Transient Combustible Controls, Low Fire Loading.
CB-FA-3A Control Building 4160V Switchgear 1D Area	Roving firewatch in area at least once per shift.	HVAC Duct Detector, Transient Combustible Controls, Low Fire Loading.
CB-FA-3B Control Building 4160V Switchgear 1E Area	Roving firewatch in area at least once per shift.	HVAC Duct Detector, Transient Combustible Controls, Low Fire Loading.
FH-FZ-1 Fuel Handling Building Basement Area	Roving firewatch in area at least once per shift.	Area Detection, Transient Combustible Controls, Low Fire Loading, Automatic Suppression.
FH-FZ-2 Fuel Handling Building Elevation 305' & 306'	Roving firewatch in area at least once per hour or once per hour by TV monitor at 306' CB HP Control Point.	N/A
FH-FZ-5/322' Fuel Handling Building Control Building Patio Area	Roving firewatch in area at least once per hour or once per hour by TV Monitor at 306' CB HP Control Point.	N/A
ISPH-FZ-1 Intake Screen Pump House 1R Switchgear Area	Roving firewatch in area at least once per shift.	Area Detection, Transient Combustible Controls, Low Fire Loading, Automatic Suppression.
ISPH-FZ-2 Intake Screen Pump House 1T Switchgear Area	Roving firewatch in area at least once per shift.	Area Detection, Transient Combustible Controls, Low Fire Loading, Automatic Suppression.
FH-FZ-6 Control Building Chiller Room	Roving firewatch in area at least once per shift.	Area Detection, Transient Combustible Controls, Low Fire Loading.