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September 25, 1992  
C321-92-2263

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

Gentlemen:

- Subject: Oyster Creek Nuclear Generating Station  
Docket No. 50-219  
Response to NRC Bulletin 92-01, Supplement 1
- Ref: (1) NRC Bulletin 92-01, Supplement 1, "Failure of Thermo-Lag 330 Fire Barrier System to Perform Its Specified Fire Endurance Function", dated August 28, 1992.
- (2) NRC letter from A.W. Dromerick to J.J. Barton, dated August 25, 1992.
- (3) GPUN letter C321-92-2209 from J.J. Barton to NRC Document Control Desk, dated July 24, 1992.

In accordance with the requested actions of NRC Bulletin 92-01, Supplement 1, (Ref. 1) this letter identifies (1) the areas of the plant which have Thermo-Lag 330 fire barrier material installed for the protection and separation of the safe shutdown capability, (2) compensatory measures implemented in response to the bulletin supplement, and (3) measures being taken to ensure or restore fire barrier operability. The requested actions are essentially the same as those listed in Bulletin 92-01, but the scope has been expanded to include all sizes of conduits and trays, and to include walls, ceilings, and equipment enclosures. This letter also replies to NRC letter dated August 25, 1992 (Ref. 2) which addressed our response to Bulletin 92-01 (Ref. 3).

Thermo-Lag 330 fire barriers have been installed at Oyster Creek to protect conduit, drywell penetrations, and an HVAC duct, and also to form a 1 hour fire rated stairwell enclosure; no cable trays were protected. There are 15 locations within the reactor building, turbine building and office building where Thermo-Lag is installed. These 15 locations are within 7 fire zones identified as TB-FZ-11C, TB-FZ-11D, RB-FZ-1F2, RB-FZ-1D, RB-FZ-1E, OB-FZ-6A, and OB-FZ-6B. Specific equipment protected in each fire zone is identified in Attachment 1. This is the same listing previously provided in our response to Bulletin 92-01.

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Immediately upon receiving the bulletin supplement, we evaluated the information provided. In accordance with the requested actions of the bulletin supplement, the hourly fire watch patrols, which were already patrolling locations where Thermo-Lag is installed to protect conduit, were expanded to include coverage of the drywell penetrations, HVAC duct, and the stairwell enclosure.

In our response to Bulletin 92-01, we stated an hourly fire watch patrol is the compensatory measure required by plant technical specification 3.12.E for a non-functional fire barrier (assuming the fire detectors on at least one side of the non-functional barrier are operable). This point requires some clarification. Technical specification 3.12.E applies only to fire barriers in walls, ceilings and floors that separate fire areas, and does not apply to Thermo-Lag envelope systems protecting conduit. However, the standard fire protection license condition in section 2.C(3) of the license requires implementation of the Oyster Creek Fire Protection Program which includes Station Procedure 101.2, "Fire Protection Program", and Procedure 101.2 requires an hourly fire watch patrol as a compensatory measure for non-functional "fire rated assemblies". All Thermo-Lag envelope systems are considered fire rated assemblies. Therefore, although different documents govern the compensatory measures to be taken depending on the specific Thermo-Lag application, the required compensatory measures are currently the same. GPUN submitted a technical specification change request (TSCR No. 193) on April 20, 1992 to delete the fire protection requirements in the technical specifications which were incorporated into Procedure 101.2 in accordance with Generic Letter 88-12, "Removal of Fire Protection Requirements from Technical Specifications". These requirements will be greatly simplified when TSCR 193 is approved by the NRC.

In a telephone conversation on August 24, 1992, and by letter dated August 25, 1992 (Ref.2), the NRC stated the barriers should be considered inoperable unless there is plant specific test data, other than the data identified in Information Notice 92-46 (i.e., performed by Industrial Testing Laboratories, Inc.), that confirms the 1 or 3 hour fire endurance rating. The letter states, "The specified function of a fire barrier system is to endure a fire exposure with severity of either 1- or 3-hours, and properly protect the shutdown function on the unexposed side of the fire barrier".

In spite of the actions taken, GPUN believes the function of a fire barrier system is to ensure the cable or component being protected will remain functional in the event of a fire. We believe it is incorrect to assert that the *function* of a fire barrier is to *comply* with the 1 or 3 hour fire endurance rating specified in 10 CFR 50, Appendix R, Section III.G. With sufficient engineering justification, licensees should have the latitude to declare the fire barriers operable (capable of performing their intended function). We believe this approach is consistent with the guidance provided in Generic Letter 91-18, "Resolution of Degraded and Nonconforming Conditions and Operability Determinations".

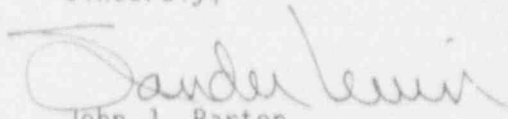
At this time, we are complying with the NRC position stated above. Accordingly, compensatory measures for inoperable fire barriers are in place. These compensatory measures are expected to remain in place until the fire barriers can be declared operable or testing demonstrates successful 1 or 3 hour barrier performance.

GPUN will continue to evaluate information regarding the Thermo-Lag 330 fire barrier material as it becomes available. Actions to restore (or confirm) fire barrier operability are being developed through an industry program being coordinated by NUMARC. We will apply the results of the NUMARC program, as appropriate, to the Thermo-Lag fire barriers installed at Oyster Creek.

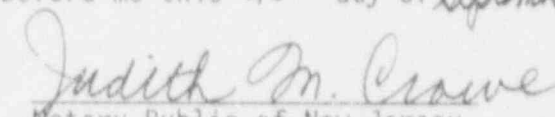
As requested, Attachment 2 provides an estimate of the time and costs incurred by Oyster Creek in complying with the requested actions of Bulletin 92-01 and the supplement.

If there are any questions regarding this matter, please call Mr. Michael Heller, Licensing Engineer, at (609) 971-4680.

Sincerely,

  
for John J. Barton  
Vice President and Director  
Oyster Creek

Sworn and Subscribed to before me this 25<sup>th</sup> day of September 1992.

  
Notary Public of New Jersey

JUDITH M. CROWE  
Notary Public of New Jersey  
Commission Expires 1/25/95

Attachments

cc: Administrator, NRC Region 1  
NRC Resident Inspector  
Oyster Creek NRC Project Manager

Attachment 1  
Oyster Creek Thermo-Lag 330 Fire Barrier Installations

FIRE ZONE/LOCATION	CONDUIT OR PENETRATION #	SIZE	T-LAG RATING	CIRCUIT #	DESCRIPTION
TB-FZ-11C 4160V Switchgear Rm Turbine Bldg Elev 23'-6"	86-71	4"	3 Hr	86-71	Power Feed Circuit to Switchgear 1G
TB-FZ-11D Turbine Bldg Basement Elev 3'-6"	86-71	4"	1 Hr	86-71	Power Feed Circuit to Switchgear 1D
	CGCTB071	1"	1 Hr	86-66	EDG 2 Differential Prot Ckt
	CGCTB017	1"	1 Hr	86-GC0016	EDG 2 Differential Prot Ckt
	CGCTB030	1½"	1 Hr	62-93	125V DC Dist Ctr "B" to 460V USS1B3
	CGCTB029	1"	1 Hr	62-100	125V DC Dist Ctr "B" to 460V Swgr 1D
	CGCTB020	1½"	1 Hr	62-93 62-100	125V DC Dist Ctr "B" to 460V USS1B 125V DC Dist Ctr "B" to 460V Swgr 1D3
	14-25	3½"	1 Hr	14-25	Power Feed Circuit to USS1B2
	14-28	2½"	1 Hr	14-28	Power Feed Circuit to USS1B3
RB-FZ-1F2 Reactor Bldg SW Corner Room Elev (-)19'	CGPA2002	1½"	1 Hr	62GP0228 62GP0229	125V DC Dist Ctr "B" to 460V USS1B 125V DC Dist Ctr "B" to 460V Swgr 1D3
RB-FZ-1D Reactor Bldg Elev 51'	CGXA3028	1"	1 Hr	82GX0849	Indicator Ckt (LT/IG06B)
	CGCA10z7	2"	1 Hr	22GC1259 22GC1258 21GC2671	Position Indicator (V-14-32) Control Ckt (V-14-37) Valve Power/Control Ckt (V-11-34)
	62-153	2"	1 Hr	62-153	125V DC Dist Ctr "C" to MCC-DC2

FIRE ZONE/LOCATION	CONDUIT OR PENETRATION #	SIZE	T-LAG RATING	CIRCUIT #	DESCRIPTION
RB-FZ-1D (Cont) Reactor Bldg Elev 51'	CRCA1026	2"	1 Hr	63RC0712 63RC0713 63RC0710 63RC0711	Control and Ind Ckt (V-14-35) Control and Ind Ckt (V-14-35) Control and Ind Ckt (V-14-33) Control and Ind Ckt (V-14-33)
	CGPA3026	2"	1 Hr	12GP0816 12GP0817	Power Ckt (V-14-37) Power Ckt (V-14-32)
	CGCR3021	1"	1 Hr	22GC1258	Control Ckt (V-14-37)
	CGCR2086	1"	1 Hr	22GC1298	Valve Ckt (V-16-1)
RB-FZ-1E Reactor Bldg Elev 23'	CRCA1026	2"	1 Hr	63RC0710 63RC0711 63RC0712 63RC0713	Control & Ind Ckt (V-14-33) Control & Ind Ckt (V-14-33) Control & Ind Ckt (V-14-35) Control & Ind Ckt (V-14-35)
	62-153	2"	1 Hr	62-153	125V DC Dist Ctr "C" to MCC-DC2
	CGCA2010	1½"	1 Hr	63GP0749 63GC0751 63GP0744	Control Ckt (V-16-12) Control Ckt (V-16-14) Control Ckt for PS-215-1044
	CGPA2008	3"	1 Hr	62GP0225 62GP0226	Power Feed Ckt (V-16-2) Power Feed Ckt (V-16-14)
	Penetration 8, 9, 18 & 19	NA	1 Hr	NA	Electrical penetration boxes enclosed by Thermo-Lag. Mounted on drywell wall.
	CGCR3021	1"	1 Hr	22GC1258	Control Ckt (V-14-37)
	CGPR3019	1"	1 Hr	12-GP0816	Valve Power Feed Ckt (V-14-37)
	CRXR2050	1"	1 Hr	82-598	TE-58 Channel "B" Circuit

FIRE ZONE/LOCATION	CONDUIT OR PENETRATION #	SIZE	T-LAG RATING	CIRCUIT #	DESCRIPTION
RB-FZ-1E (Cont) Reactor Bldg Elev 23'	NA	NA	1 Hr	NA	Thermo-Lag on steel enclosure over stairwell to Northeast Corner Room.
	Penetration 44 & 54	NA	1 Hr	NA	Electrical penetration boxes enclosed by Thermo-Lag. Mounted on drywell wall.
OB-FZ-6A 480V Switchgear Rm Office Bldg Elev 23'-6"	CNXA 1125	2"	1 Hr	822X0830 822X0831 822X0829 832X0403 832X0404 822X0835 822X0836 822X0834	Process Inst Ckt (DPT-622-1008) Process Inst Ckt (DPT-622-1009) Process Inst Ckt (PT-622-1018) Process Inst Ckt (TE-622-1020) Process Inst Ckt (TE-622-1021) Process Inst Ckt (DPT-622-1010) Process Inst Ckt (DPT-622-1011) Process Inst Ckt (PT-622-1019)
OB-FZ-6B 480V Switchgear Rm Office Bldg Elev 23'-6"	CNPA1042	1"	1 Hr	12NP0826 12NP0825	Power Feed (FN-56-004) Power Feed (FN-56-007)
	CNCA1043	3"	1 Hr	22NC1241	Control Ckt (FN-56-004/007)
	CNCA1041	3"	1 Hr	22NC1241	Control Ckt (FN-56-004/007)
	CNCA1040	2"	1 Hr	212C2674 212C2681 222C1243 21NC2678 71NC0802 71NC0809	Control Ckt for DM56-015 Control Ckt for Damper DM56-017 Control Ckt for Alt Fan FN56-008 Control Feed from LSP-1A2 Alarm Ckt for RSP Alarm Ckt for LSP-1A2
	62-173	2"	1 Hr	62-173	Conduit is within Thermo-Lag enclosure of adjacent conduit. Protection not required for this circuit.
	12-604	2"	1 Hr	12-604	"C" Battery Room Ventilation

FIRE ZONE/LOCATION	CONDUIT OR PENETRATION #	SIZE	T-LAG RATING	CIRCUIT #	DESCRIPTION
08-FZ-6B (Cont) 480V Switchgear Rm Office Bldg Elev 23'-6"	62-161	2"	1 Hr	62-161	125V DC Dist Ctr "C" to Panel DC-F
	62-158	2"	1 Hr	62-158	125V DC Dist Ctr "C" to USS1A2
	12-603	2"	1 Hr	12-603	Mtr Fdr Ckt "C" Battery Room Vent Fan II
	12-602	2"	1 Hr	12-602	Mtr Fdr Ckt "C" Battery Room Vent
	12-601	2"	1 Hr	12-601	460V Power Feed to "C2" Battery Room
	12-600	2"	1 Hr	12-600	460V Power Feed to "C1" Battery Charger
	22-1126	3"	1 Hr	22-1120 22-1119 11-861	Fan 2 Control "C" Battery Room Fan 1 Control "C" Battery Room Fan Control Power "C" Battery Room
	CGPA-1044	1"	1 Hr	112P1406	Halon Power Feed from In. c Panel 4C
	NA	NA	1 Hr	NA	HVAC Duct with Thermo-Lag

Attachment 2  
Bulletin 92-01 Compliance Cost Estimate for Oyster Creek  
(As of September 25, 1992)

Provided below is an estimate of the time and costs incurred by Oyster Creek in complying with Bulletin 92-01 and the supplement as of September 25, 1992. The 4 categories addressed below are as specified in the bulletin.

- (1) The licensee staff's time and costs to perform requested inspections, corrective actions, and associated testing:

To date, approximately 28 person-hours and \$956.

- (2) The licensee staff's time and costs to prepare the requested reports and documentation:

To date, approximately 574 person-hours and \$18,235.

- (3) The additional short-term costs incurred to address the inspection findings such as the costs of the corrective actions or the costs of down time:

To date, approximately 2200 person-hours and \$22,000. This is the cost for implementing the hourly fire watch patrols as a compensatory measure. Currently, 4 temporary personnel are performing this duty on a rotating basis.

- (4) An estimate of the additional long-term costs that will be incurred as a result of implementing commitments such as the estimated costs of conducting future inspections or increased maintenance:

Until a permanent resolution to the Thermo-lag issue is implemented, it is likely the hourly fire watch patrols will continue at a cost of \$240 per day. Assuming a permanent fix is implemented in the cycle 15 refueling outage, the cost for the fire watch patrols alone will total approximately \$175,200. The cost of the actual repair/replacement, if required, is unknown.