

PRIORITY 1
(ACCELERATED RIDS PROCESSING)

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9412010369 DOC. DATE: 94/11/09 NOTARIZED: YES DOCKET #
FACIL: 50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397
AUTH. NAME AUTHOR AFFILIATION
PARRISH, J.V. Washington Public Power Supply System
RECIP. NAME RECIPIENT AFFILIATION
Document Control Branch (Document Control Desk)

SUBJECT: Forwards response to NRC follow-up RAI re GL 92-08, "Thermo-
Lag 330-1 Fire Barriers," as detailed in NRC 940811 ltr.

DISTRIBUTION CODE: A029D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 20
TITLE: Generic Letter 92-008 Thermal-Log 330 Fire Barrier

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
	PD4-2 LA	1 0	PD4-2 PD	1 1
	CLIFFORD, J	1 1		
INTERNAL:	FILE CENTER 02	1 1	NRR/DE/EELB	1 1
	NRR/DRPW/PD3-1	1 1	NRR/DSSA/SPLB	2 2
	RGN4 FILE	1 1		
EXTERNAL:	NOAC	1 1	NRC PDR	1 1

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL
DESK, ROOM P1-37 (EXT. 504-2083) TO ELIMINATE YOUR NAME FROM
DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTTR 11 ENCL 10

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

P.O. Box 968 • 3000 George Washington Way • Richland, Washington 99352-0968 • (509) 372-5000

November 9, 1994
G02-94-254

Docket No. 50-397

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

Gentlemen:

Subject: **WNP-2, OPERATING LICENSE NPF-21
10 CFR 50.54(f) RESPONSE TO FOLLOW-UP REQUEST FOR
ADDITIONAL INFORMATION REGARDING GENERIC LETTER 92-08
"THERMO-LAG 330-1 FIRE BARRIERS"**

- References:
- 1) Letter GI2-93-299, dated December 21, 1993, LF Callan (NRC) to JV Parrish (SS), "Request For Additional Information Regarding Generic Letter 92-08, Thermo-Lag 330-1 Fire Barriers, Pursuant to 10 CFR 50.54(f) - WNP-2"
 - 2) Letter GI2-94-243, dated August 11, 1994, RP Zimmerman (NRC) to JV Parrish (SS), "Follow-up To Request For Additional Information Regarding Generic Letter 92-08, Thermo-Lag 330-1 Fire Barriers, Pursuant to 10 CFR 50.54(f) on February 11, 1994 - Washington Nuclear Project No. 2 (WNP-2) (TAC No. M85624)"
 - 3) Letter G02-94-038, dated February 11, 1994, JV Parrish (SS) to NRC, "WNP-2 Operating License NPF-21, 10 CFR 50.54(f), Response To Request For Additional Information Regarding Generic Letter 92-08, Thermo-Lag 330-1 Fire Barriers"
 - 4) Document dated July 18, 1994, "NEI Application Guide For Evaluation of Thermo-Lag 330-1 Fire Barrier Systems", Nuclear Energy Institute, 1994

010043

9412010369 941109
PDR ADOCK 05000397
P PDR

AD29

Page 2


**10 CFR 50.54(f) RESPONSE TO FOLLOW-UP REQUEST FOR ADDITIONAL
INFORMATION REGARDING GENERIC LETTER 92-08 "THERMO-LAG 330-1
FIRE BARRIERS"**

This letter responds to the NRC follow-up request for additional information regarding Thermo-Lag fire barriers, as detailed in Reference (2). Specifically, this letter provides data which was incomplete in early 1994 or which depended on receipt of the since-completed Nuclear Energy Institute (NEI) Thermo-Lag Application Guide. Certain actions identified in this submittal are in the planning stage or still incomplete. Such actions will be completed in accordance with the attached schedule. It should be noted that the scope of this response does not address unresolved technical issues, such as cable ampacity derating; WNP-2 concurs with the NRC staff position cited in Reference (2) that such issues can be resolved independent of fire endurance issues.

The actions outlined in this submittal are based on the fire protection licensing basis applicable to WNP-2. Specifically, Appendix R does not apply directly to WNP-2 nor are sections III G, J, and O directly backfitted under 10 CFR 50.48. Accordingly, the fire protection program at WNP-2 is based on Operating License Condition 2.C (14), as delineated in Attachment 2 to this letter.

Should you have any questions or desire additional information regarding this matter, please call me or D.A. Swank at (509) 377-4563.

Sincerely,



J. V. Parrish (Mail Drop 1023)
Assistant Managing Director, Operations

CJF/ml

Attachments


cc: LJ Callan - NRC RIV
KE Perkins, Jr. - NRC RIV, Walnut Creek Field Office
NS Reynolds - Winston & Strawn
JW Clifford - NRC
DL Williams - BPA/399
NRC Sr. Resident Inspector - 927N

STATE OF WASHINGTON)
COUNTY OF BENTON)

Subject: Response to GI2-94-243
10CFR50.54(f) Response

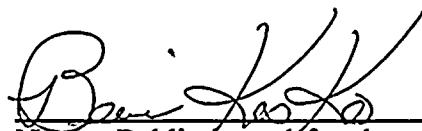
I, R.L. Webring, being duly sworn, subscribe to and say that I am the Manager of Support Services for the WASHINGTON PUBLIC POWER SUPPLY SYSTEM, the applicant herein, and that I have full authority to execute this oath. I have reviewed the foregoing, and to the best of my knowledge, information, and belief the statements made in it are true.

DATE 11/9/, 1994


R.L. Webring,
Manager, Support Services

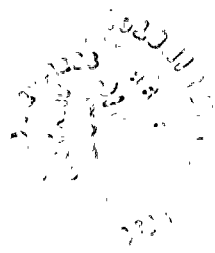
On this day personally appeared before me R.L. Webring, to me known to be the individual who executed the foregoing instrument and acknowledged that he signed the same as his free act and deed for the uses and purposes herein mentioned.

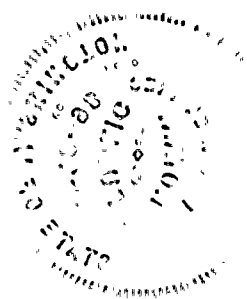
GIVE under my hand and seal this 9 day of November, 1994


Notary Public in and for the
STATE OF WASHINGTON

Residing at Kennecook, WA

My Commission expires 2/28/98





ATTACHMENT 1

RESPONSE TO RAI SECTION II.B "IMPORTANT BARRIER PARAMETERS"

This section revises Reference (3), our February response to RAI Section II.B, pursuant to Reference (2) which requested the following:

- "1. State whether or not you have obtained and verified each of the aforementioned parameters for each Thermo-Lag barrier installed in the plant. If not, discuss the parameters you have not obtained or verified. Retain detailed information on site for NRC audit where the aforementioned parameters are known.*
- 2. For any parameter that is not known or has not been verified, describe how you will evaluate the in-plant barrier for acceptability.*
- 3. To evaluate NUMARC's application guidance, an understanding of the types and extent of the unknown parameters is needed. Describe the type and extent of the unknown parameters at your plant in this context."*

Revised Response

II.B.1 and II.B.2 - Availability of Fire Barrier Parameters

The parameters outlined in Section II of the enclosure to Reference (1) have been obtained and verified for Thermo-Lag barriers used to protect WNP-2 safe shutdown capability to the extent detailed in the attached parameter table. Incomplete items are also identified and addressed in the table.

It should be noted that the Reference (1) grouping of parameters is different from the current grouping in Reference (4), the NEI Guide. WNP-2 is in the process of entering Thermo-Lag parameters for various raceway assemblies into an electronic database following the NEI Guide approach. Information in this database will be used to evaluate the fire barriers to which Thermo-Lag has been applied. This database is available on-site for review. However, the attached parameter table follows the listing in Reference (1) to maintain consistency with the NRC request.

II.B.3 - Identification of Unknown Fire Barrier Parameters

Based on review of the NEI Guide, certain new parameters, previously unknown, are being used at WNP-2 as follows. These parameters are being added to the database discussed above.

1. New parameters consist of details of:

- joints between Thermo-Lag barriers and concrete structures,
- joints between conduits and cable trays, conduits and air drops, etc.,
- fire stops in non-dedicated intervening conduits,
- interfaces between Thermo-Lag and 3-M materials,
- Thermo-Lag application variations (e.g. extrusion, direct spray, etc.),
- designs involving multiple layers of prefabricated Thermo-Lag panels, and
- boxed raceway barrier systems attached to concrete walls and ceilings (Reference (3) previously listed this item).

2. Some Thermo-Lag barriers at WNP-2 were constructed from panel material procured directly from Thermal Sciences Incorporated (TSI). Other barriers, however, were constructed from panels fabricated on-site using TSI stress skin and trowel or spray grade Thermo-Lag. A technical analysis must be made to verify the equivalency of barriers fabricated on-site, inasmuch as the NEI Application Guide information is based on tests of barrier assemblies composed of panel material procured directly from TSI. While the result of this analysis is not a parameter, it may affect the acceptability of a class of barriers. Should the evaluation indicate that such panels do not provide equivalency to TSI fabricated panels, this type of barrier would be added to those listed in the response to III.B.1.

RESPONSE TO RAI SECTION III.B, "THERMO-LAG FIRE BARRIERS OUTSIDE THE SCOPE OF THE NEI PROGRAM"

This section revises Reference (3), our February response to RAI Section III.B, pursuant to Reference (2) which requested the following:

- "1. Describe the barriers discussed under Item I.B.1 that you have determined will not be bounded by the NUMARC test program.
2. Describe the plant-specific corrective action program or plan you expect to use to evaluate the fire barrier configurations particular to the plant. This description should include a discussion of the evaluations and tests being considered to resolve the fire barrier issues identified in GL 92-08 and to demonstrate the adequacy of existing in-plant barriers.
3. If a plant-specific fire endurance test program is anticipated, describe the following:
 - a. Anticipated test specimens.
 - b. Test methodology and acceptance criteria including cable functionality."

Revised Response

III.B.1 - Request For Identification of Barriers Not Bounded By NEI Test Program

The following types of barriers are not bounded by the NEI test program as described in the NEI Application Guide For Evaluation of Thermo-Lag 330-1 Fire Barrier Systems (Reference 4):

- A. Three-hour rated Thermo-Lag barriers.
- B. Thermo-Lag applied by spray or extrusion methods to cable trays, conduits, or components.
- C. Installations with physical configurations substantially different from the test configurations identified in Reference (4), or other approved tests as may be identified at a later date.

Our response provides information as to type of unbounded barrier but not dimensional details. Such dimensional information is not currently available, as may be seen from the schedule presented in Attachment (3) to this letter. However, the type and dimensional information requested will be documented in the analyses performed under our corrective action plan as outlined below.

III.B.2. - Request For Description of WNP-2 Corrective Action Plan

The WNP-2 corrective action plan will consist of various elements outlined below, which will be implemented in parallel to the extent feasible, using approved procedures and processes. The elements of this plan and their interrelationships are outlined in the schedule provided in this letter.

- A. The physical characteristics of Thermo-Lagged raceways and other configurations containing safe shutdown circuits are being compiled to support evaluation of the adequacy of as-installed raceway protection.
- B. Thermo-Lag installation details are being evaluated, using the NEI Application Guide for criteria. This will result in classification of WNP-2 details used in construction of WNP-2 fire barriers as being qualified, qualifiable, and unqualifiable in terms of the NEI Guide.

NOTE: No reference to equipment qualification is intended by use of the words qualified, qualifiable, etc.



1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

11
12

- C. One-hour fire barrier installations composed entirely of qualified and/or qualifiable details will be identified. Installations containing qualifiable details or mixtures of qualified/qualifiable details will be analyzed as outlined below.
- D. Fire barrier installations determined to include qualifiable details will be analyzed to assess the adequacy of protection afforded, taking into account physical configuration, actual compartment fire loadings, available fire suppression, and specific location of safe shutdown circuits. Each analysis will be performed and documented by a qualified fire protection engineer to justify decisions as to installation acceptability. Acceptance will be based on GL 86-10 criteria of:
- maintenance of barrier thickness and continuity,
 - capability of the configuration to provide an equivalent level of protection hazard, and
 - degree of similarity of barrier configuration and support assemblies to tested configurations.
- E. Unacceptable installations, consisting of those composed of unqualified details and those that could not be accepted per D above, will be resolved by one or more of the following methods:
- reduction of requirements for safe shutdown circuit protection by re-analysis,
 - adoption of new operator actions as an alternative to protecting safe shutdown electrical functions,
 - changes to pertinent fire barrier commitments in the FSAR per 10 CFR 50.59,
 - re-routing/relocation of selected safe shutdown circuits,
 - replacement of Thermo-Lag with qualified alternative materials,
 - upgrading of existing Thermo-Lag fire barriers as needed to protect safe shutdown circuits. Upgrading may involve adding Thermo-Lag and/or qualified alternative materials, installation of fire suppression, and use of actual compartment fire loadings as one of the design criteria.

Safety, present/future cost, and overall effectiveness will be used as principal criteria in selection of the specific resolution to be implemented. Resolution of unacceptable installations that involve changes to the facility or procedures as described in the FSAR will be documented and evaluated per 10 CFR 50.59 to assure that pertinent technical and safety issues have been considered prior to implementation.

III.B.3 - Request For Description of Planned Fire Endurance Tests

WNP-2 does not currently plan to initiate independent fire tests of Thermo-Lag or alternative barrier materials. We will use test data developed jointly by industry, other licensees, or regulatory agencies.

RESPONSE TO RAI SECTION V, "ALTERNATIVES"

This section revises Reference (3) our February response to RAI section VB, pursuant to Reference (2) which requested the following:

"Describe the specific alternatives available to you for achieving compliance with NRC fire protection requirements in plant areas that contain Thermo-Lag fire barriers. Examples of possible alternatives to Thermo-Lag-based upgrades include the following:

- 1. Upgrade existing in-plant barriers using other materials.*
- 2. Replace Thermo-Lag barriers with other fire barrier materials or systems.*
- 3. Reroute cables or relocate other protected components.*
- 4. Qualify 3-hour barriers as 1-hour barriers and install detection and suppression systems to satisfy NRC fire protection requirements."*

Revised Response

WNP-2 is not an Appendix R plant, and II.G, J, and O have not been backfitted by 10 CFR 50.48. WNP-2 is subject to the general requirements of GDC 3 and parts of 10 CFR 50.48 and the restriction of Operating License Condition 2.C(14). Please refer to Attachment 2 for a summary of the Licensing Basis for WNP-2 as applied to fire protection.

The alternatives for resolving questions concerning fire protection commitments pertaining to protection of safe shutdown capability are included generally in the corrective action plan outlined above. In summary, these alternatives are:

- acceptance of Thermo-Lag installations by qualification using the NEI Guide,
- justification of deviations from tested configurations per guidance of Generic Letter 86-10,
- re-analysis to identify alternative safe shutdown paths and/or to reduce the scope of safe shutdown circuits,
- rerouting of safe shutdown circuits,
- revision of fire area boundaries,
- adoption of new operator actions,

- supplementing existing fire barriers with fire suppression,
- upgrading existing Thermo-Lag barriers using Thermo-Lag and/or qualified alternative materials,
- replacement of Thermo-Lag materials with qualified alternative materials, and
- changing pertinent fire barrier commitments in the FSAR per 10 CFR 50.59.

RESPONSE TO RAI SECTION VI, "SCHEDULES"

This section revises Reference (3), our February response to RAI Section VI, pursuant to Reference (2) which requested the following:

"Submit an integrated schedule that addresses the overall corrective action schedule for the plant. At a minimum, the schedule should address the following aspects for the plant:

1. *implementation and completion of corrective actions and fire barrier upgrades for fire barrier configurations within the scope of the NUMARC program,*
2. *implementation and completion of plant-specific analyses, testing, or alternative actions for fire barriers outside the scope of the NUMARC program."*

Revised Response

The current overall schedule for corrective action is attached as requested. Detailed schedule information will become available as specific corrective actions are identified. It should be noted that submittal of this schedule satisfies the commitment cited in Reference (2); submitting the schedule as part of this letter was agreed during discussions between the Supply System and members of the NRC staff.

RESPONSE TO RAI SECTION VII, "SOURCES AND CORRECTNESS OF INFORMATION"

This section revises Reference (3), our February response to RAI Section VII, pursuant to Reference (2) which requested the following:

"Describe the sources of the information provided in response to this request for information (for example, from plant drawings, quality assurance documentation, walkdowns or inspections) and how the accuracy and validity of the information was verified."

Revised Response

The sources for the information contained in this response include: plant drawings, correspondence, interviews with plant personnel familiar with installation procedures used during construction and with modifications made during operations, walkdowns of abandoned and credited installations, and reviews of design changes, fire test reports, calculations, procurement and receiving inspection records, construction specifications, and installation procedures. Sources of information for specific parameters are referenced in the attached parameter table.

A walkdown to obtain details of the configuration of Thermo-Lag fire barrier installations used to protect safe shutdown circuits was performed in 1994 to verify and augment information obtained from the sources indicated above. The walkdown was performed according to a procedure prepared by a contractor who also prepared much of the NEI Guide under contract to NEI; the walkdown procedure required one-over-one verification of the information gathered. This same contractor provided trained personnel as needed to implement the procedure.

As indicated on the attached schedule, this walkdown will be supplemented by planned destructive examinations of selected Thermo-Lag barriers as needed to verify that interior details conform to specification requirements.

PARAMETER TABLE

PARAMETER	PARAMETER TYPE	PARAMETERS OBTAINED AND VERIFIED?	NOTES AND COMMENTS
Raceway orientation (horizontal, vertical, radial bends)	Raceway	Yes	Cable orientation information is available on plant drawings, and was field verified by walkdowns performed during 1994. Tray size is available from an electronic database (CARPS).
Conduit	Raceway	Yes	Reviews of the CARPS database and walkdowns performed earlier in 1994 obtained necessary orientation and size information for safe shutdown circuits.
Junction boxes and lateral bends	Raceway	Yes	Junction/tray extension boxes & lateral bends for cable trays information is available on plant drawings. Walkdowns performed earlier in 1994 obtained the necessary details for conduit junction boxes & lateral bends.
Ladder-back cable tray with single cable fill	Raceway	Yes	Ladder-back cable tray information is available on plant drawings, supplemented by CARPS. WNP-2 practice is to use 4-inch deep ladder-back trays for power cables, and 6-inch deep solid bottom trays for instrumentation and control circuits. See cable parameter 'cable fill' for information about single-fill installations.
Cable tray with T-section	Raceway	Yes	T-sections are shown on plant drawings and were confirmed during 1994 walkdowns.

PARAMETER	PARAMETER TYPE	PARAMETERS OBTAINED AND VERIFIED?	NOTES AND COMMENTS
Raceway material (aluminum, steel)	Raceway	Yes	Raceways for safe shutdown circuits are constructed from steel. Raceway materials are controlled by Design Specifications.
Support protection, thermal shorts (penetrating elements)	Raceway	Yes	WNP-2 provides "thermal short" protection by encasing supports with Thermo-Lag: 9 linear inches beyond the raceway Thermo-Lag surface in one-hour fire areas, and 18 linear inches in 3-hour fire areas. Gravity supports are protected to the point of attachment in 3-hour areas.
Air drops	Raceway	Partial Information Available	Construction specifications and installation procedures specify construction details for Thermo-Lagging of air drops. Destructive examination of selected air drops will be performed to confirm that construction was performed as specified.
Baseline fire barrier panel thickness	Fire barrier	Partial Information Available	Thicknesses of panels procured from TSI and those fabricated on site from trowel-grade materials are available from design specifications. Destructive examinations to be performed will include verification of selected panel thicknesses.
Preformed conduit sections and panels	Fire barrier	Partial Information Available	Details on preformed conduit sections and panels are available from WNP-2 installation procedures. Confirmation will be by selected destructive examination.

PARAMETER	PARAMETER TYPE	PARAMETERS OBTAINED AND VERIFIED?	NOTES AND COMMENTS
Panel rib orientation (parallel or perpendicular to raceway)	Fire barrier	Partial Information Available	Rib orientations were identified, where visible, during walkdowns performed in 1994. Rib orientation requirements are covered in construction specifications. Confirmation will be by selected destructive examination.
Unsupported spans	Fire barrier	Yes	Maximum unsupported span of Thermo-Lag panels is available from width of cable trays, as shown in CARPS.
Stress skin orientation (inside or outside)	Fire barrier	Yes	Construction specifications specify that stress skin is to be inside for 1-hour barriers and both inside and outside for 3-hour barriers.
Stress skin over joints or no stress skin over joints	Fire barrier	Yes	Construction specifications and installation procedures specified butt joints with no stress skin reinforcement for panels fabricated from panel stock acquired from TSI. The 1994 walkdown included inspection for joint reinforcement and noted it when found.
Stress skin ties or no stress skin ties	Fire barrier	Partial Information Available	Construction specifications specified requirements for stress skin ties. Confirmation will be made by selected destructive examinations.
Dry-fit, post-buttered or prebuttered joints	Fire barrier	Partial Information Available	Walkdowns performed in 1994 inspected joints for fill materials and found no gaps. Interviews with installers indicate joints were prebuttered. Confirmation will be made by selected destructive examinations.

PARAMETER	PARAMETER TYPE	PARAMETERS OBTAINED AND VERIFIED?	NOTES AND COMMENTS
Joint gap width	Fire barrier	Partial Information Available	Walkdowns performed in 1994 inspected joints for fill materials and found no gaps. Interviews with installers indicate joints were prebuttered. Confirmation will be made by selected destructive examinations.
Butt joints or grooved and scored joints	Fire barrier	Yes	Construction specifications prescribe butt joints for prefabricated panels and allowed grooved and scored joints around trays. Cable tray radial bends covered by separate mitered pieces were identified during the 1994 walkdowns.
Band/wire spacing	Fire barrier	Partial Information Available	Walkdowns performed in 1994 verified that wires were most frequently not visible. Spacing will be checked by selected destructive examinations.
Band/wire distance to joints	Fire barrier	Yes	Measurements were made where possible during 1994 walkdowns to document the wire-to-joint spacings.
No internal bands in trays	Fire barrier	Partial Information Available	Construction specifications do not provide for internal banding. Selected destructive examinations are planned to determine to what extent internal bands are used in cable tray Thermo-Lag installations because such internal details are not otherwise visible.

PARAMETER	PARAMETER TYPE	PARAMETERS OBTAINED AND VERIFIED?	NOTES AND COMMENTS
No additional trowel material over sections & joints, or additional trowel material applied	Fire barrier	Partial Information Available	Walkdowns performed in 1994 indicate that sufficient trowel materials were applied to joints. Confirmation will be made by selected destructive examinations.
No edge guards or edge guards	Fire barrier	Yes	Edge guards were not used at WNP-2, per installation procedures.
Cable size & type	Cable	Yes	Cable size and types are available in a computerized database.
Cable jacket type	Cable	Yes	Cable jacket types are specified in procurement specifications for each type of cable.
Cable conductor insulation type	Cable	Yes	Cable insulation types are specified in procurement specifications for each type of cable.
Cable fill and distribution of cables within protected conduit or cable tray	Cable	Partial Information Available	Cable tray fill information is available in a computerized database. Actual wire and cable lay details within trays and conduits is not documented. Installation procedures specify that cables in vertical trays should be fastened to the tray structure.
Proximity of cables to inside surfaces of fire barrier	Cable	No	Details of cable arrangement inside of Thermo-Lagged cable trays can only be obtained by destructive examination. However, this is not a parameter in the NEI Guide.

PARAMETER	PARAMETER TYPE	PARAMETERS OBTAINED AND VERIFIED?	NOTES AND COMMENTS
Presence of materials between cables and inside surfaces of fire barrier	Cable	Yes	Thermo-Lag construction specifications do not specify use of extraneous materials. Air drops have a layer of ceramic fiber to prevent direct contact between cables and stress skin.
Cable operating temperatures	Cable	Yes	Procurement specification requirements for cable insulation are (a) able to operate continuously at temperatures up to 90 °C (194 °F), (b) able to operate at emergency overload conditions for 100 hours in a 12-month period at 130 °C (266 °F), and able to operate under short circuit conditions at 250 °C (482 °F). Power and control cables are environmentally qualified to operate at 150 °F for 40 years including the effects of radiation; higher temperatures can be justified for shorter periods by engineering evaluation if required.
Temperatures at which cables can no longer perform the intended function when energized	Cable	Yes	See above.
Chemical composition of Thermo-Lag materials	Fire barrier	No	TSI tests documented that the infrared signature of Thermo-Lag materials procured at various times by WNP-2 has not changed.

ATTACHMENT 2

The WNP-2 Fire Protection Program is governed by Operating License Condition 2.C (14), as amended by NRC in a letter entitled "Issuance of Amendment No. 67 to Facility Operating License No. NPF-21 - WPPSS Nuclear Project No. 2 (TAC No. 64655)" dated May 25, 1989. The revised wording is as follows:

"(14) Fire Protection Program (Generic Letter 86-10)

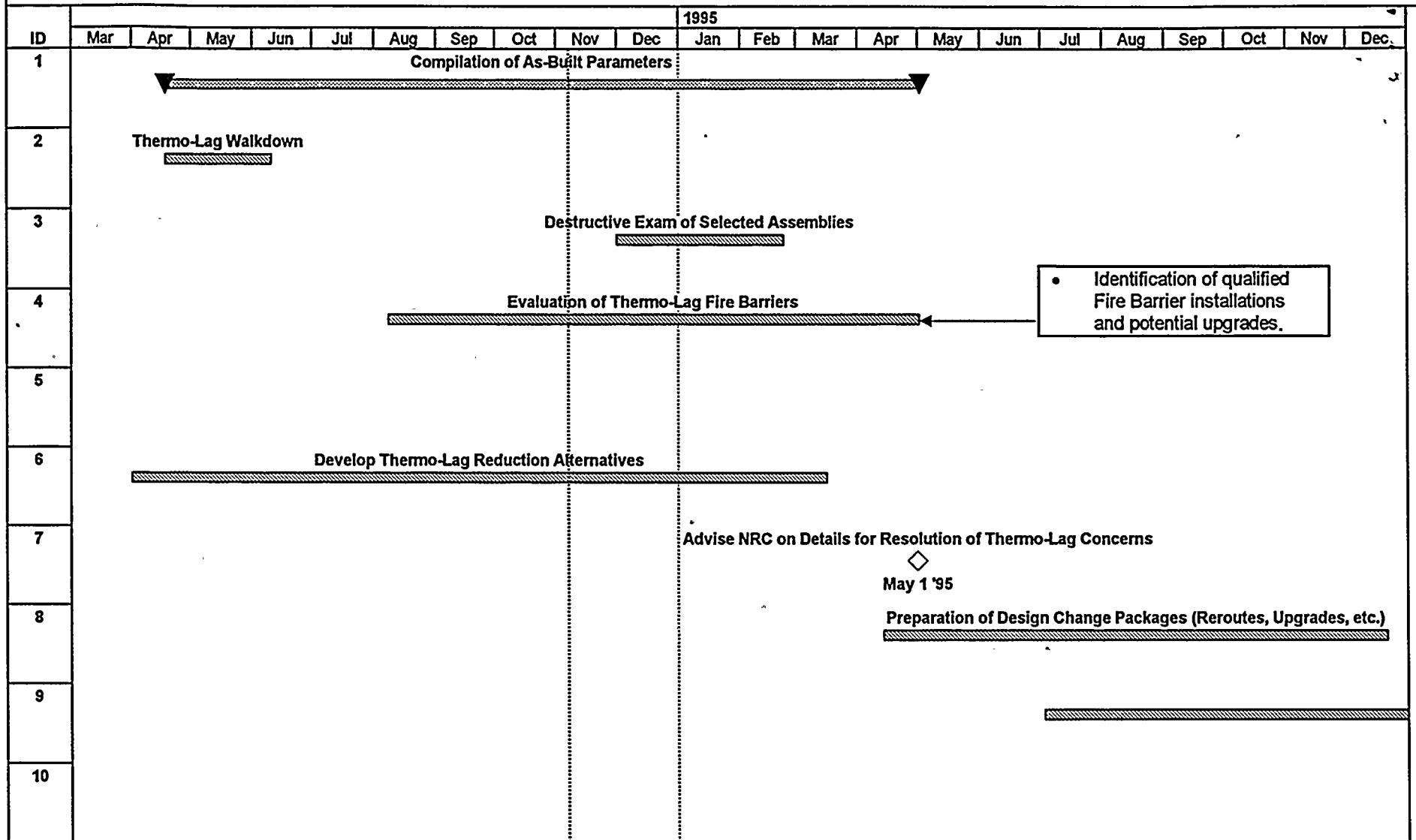
The licensee shall implement and maintain in effect all provisions of the approved fire protection program as described in Section 9.5.1 and Appendix F of the Final Safety Analysis Report (FSAR) for the facility thru Amendment #39 and as described in subsequent letters to the staff through November 30, 1988, referenced in the May 22, 1989 safety evaluation and in other pertinent sections of the FSAR referenced in either Section 9.5.1 or Appendix F and as approved in the Safety Evaluation Report issued in March 1982 (NUREG 0892) and in Supplements 3, issued in May 1983, and 4, issued in December 1983, and in safety evaluations issued with letters dated November 11, 1987 and May 22, 1989 subject to the following provision:

The licensee may make changes to the approved fire protection program without prior approval of the Commission only if those changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire."

ATTACHMENT 3

WNP-2 SCHEDULE FOR RESOLUTION OF GENERIC LETTER 92-08 CONCERNS

WNP-2



Project: App R Thermo-Lag Fire Barrier Resolution
Date: Mon 11/7/94

Task

Milestone



Summary

Milestone Reached



WNP-2

1996												1997										
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov

Field Work

NRC Commitment Date for Completion

Dec 31 '96

Project: App R Thermo-Lag Fire Barrier Resolution
Date: Mon 11/7/94

Task

Milestone



Summary

Milestone Reached

