

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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AUTH. NAME AUTHOR AFFILIATION
 DOMER, J. A. Tennessee Valley Authority
 RECIP. NAME RECIPIENT AFFILIATION
 VASSALLO, D. B. Operating Reactors Branch 2

SUBJECT: Forwards request for exemption from requirements of Section III, G. 2 of App R to 10CFR50. Addl info re util 841031 request for exemption also encl. Review of encl request in conjunction w/841031 submittal requested, per 10CFR50.12.

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	NRR	ORB2 BC 01	3	3				
INTERNAL:	ACRS	11	3	3	ADM/LFMB		1	0
	ELD/HDS4		1	0	IE WHITNEY, L		1	1
	NRR HOLONICH	07	2	2	NRR WAMBACH	06	1	0
	NRR DE/CEB	09	2	2	NRR/DL DIR		1	1
	<u>REG FILE</u>	04	1	1	RGN2		1	1
EXTERNAL:	LPDR	03	1	1	NRC PDR	02	1	1
	NSIC	05	1	1				
NOTES:			2	2				

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TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

April 2, 1985

Director of Nuclear Reactor Regulation
Attention: Mr. Domenic B. Vassallo, Chief
Operating Reactor Branch No. 2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Vassallo:

In the Matter of the) Docket Nos. 50-259
Tennessee Valley Authority) 50-260
50-296

As a result of discussions with members of your staff regarding Browns Ferry Nuclear Plant Appendix R late last year, we were requested to provide supplemental information in support of our proposed schedular exemption to Appendix R to 10 CFR 50. Enclosure 1 provides the results of our review of compensatory measures to be implemented in support of the schedular exemption. These proposed measures are based upon approval of our October 31, 1984 Appendix R submittal. We request your staff review this information expeditiously and approve our schedule exemption.

Enclosure 2 to this letter is an additional exemption request from the requirements of section III.G.2 of Appendix R to 10 CFR 50. In accordance with the requirements of 10 CFR Part 50.12 we request you review this exemption request in conjunction with our October 31, 1984 Appendix R submittal.

If you have any questions, please get in touch with us through the Browns Ferry Project Manager.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. A. Domer
J. A. Domer
Nuclear Engineer

Subscribed and sworn to before
me this 2nd day of April 1985.

Paulette H. White
Notary Public
My Commission Expires 8-24-88

Enclosures
cc: See page 2

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Director of Nuclear Reactor Regulation

April 1, 1985

cc (Enclosures):

U.S. Nuclear Regulatory Commission
Region II
ATTN: Dr. J. Nelson Grace, Regional Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Mr. R. J. Clark
Browns Ferry Project Manager
U.S. Nuclear Regulatory Commission
7920 Norfolk Avenue
Bethesda, Maryland 20814



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ENCLOSURE 1
BROWNS FERRY NUCLEAR PLANT
PROPOSED APPENDIX R COMPENSATORY MEASURES

I. General

A roving fire watch will be posted for the list zones which do not meet the requirements of 10 CFR 50 Appendix R and (1) do not have an exemption request filed for the fire zone or (2) do not have automatic detection and suppression.

The fire watches will begin in unit 2 immediately following the cycle 5 outage for the zones listed in Table A and in units 1 and 3 immediately following the cycle 6 outage for the zones listed in Tables B & C respectively.

The fire watches will remain until the modifications for that zone are complete or until the unit is in a cold shutdown condition. For zones common to all units, all units are required to be in a cold shutdown condition.

The fire watch will be posted so these zones containing cables, equipment, or associated circuits requiring modification to meet Section III.G.2 of Appendix R will be checked by the fire watch approximately every 20 minutes unless the zone is provided with automatic detection and suppression.

Details concerning each fire zone are provided below.

II. Fire Watches

A. Control Building Fire Area

The Control Building is designated as a single fire area for the purpose of conducting the Appendix R analysis. However, for these compensatory measures, the building is subdivided into numerous fire zones by nonfire-rated walls, floors, and ceilings. Two fire zones within the Control Building contain required cables which do not comply with the separation requirements of Appendix R. Some cables are located in the Control Room which does not have any automatic suppression or detection. No additional fire watches will be posted in the Control Rooms because they are continually manned according to 10 CFR 55, and the continually manned control room personnel will be considered the fire watch. The other cables are located in the Spreading Room which is provided with automatic suppression and detection, and no fire watch will be provided.

B. Reactor Building Fire Area

Although the Reactor Building is designated as one fire area for the purposes of conducting the Appendix R analysis, the building is subdivided into several elevations and rooms (fire zones) by nonfire-rated floors, walls, and ceilings. The fire zones within the Reactor Building which contain required cables and equipment which are not separated in accordance with the requirements of Appendix R are located on elevations 639, 621, 593, 565, and the RHR corner rooms on elevations 541 and 519, and the torus area on elevation 519. Elevations 593, 565, and the RHR corner rooms on elevation 541 and 519 have or will have fixed automatic suppression and detection. A fire watch on approximately 20-minute rounds will be posted on elevations 639 and 621 in accordance with Section I. A fire watch will not be posted in the torus area on elevation 519 since an exemption request has been submitted for the torus area on elevation 519.

C. Shutdown Board Rooms A, B, C, D, E, and F

Each Shutdown Board Room is designated a separate fire area for the purposes of conducting the Appendix R analysis. A roving fire watch on approximately 20-minute rounds will be posted in Shutdown Board Rooms A, B, C, D, E, and F in accordance with Section I.

D. Diesel Generator Building (units 1 and 2) and Diesel Generator Building (unit 3)

Each Diesel Generator Building is designated a separate fire area for the purposes of conducting the Appendix R analysis. A fire in either one of the Diesel Generator Buildings will not impair the capability of providing onsite power necessary to reach safe shutdown. Power will be provided by the units 1 and 2 diesel generators for a Unit 3 Diesel Generator Building fire, and power will be provided by the unit 3 diesel generators for a Units 1 and 2 Diesel Generator Building fire. Therefore, a fire watch will not be posted in the Diesel Generator Buildings.

E. Turbine Building, Intake Pumping Station, and Interconnecting Cable Tunnel

The Turbine Building, Intake Pumping Station, and the interconnecting cable tunnel are designated as one fire area for the purposes of conducting the Appendix R analysis. However, each of these areas is considered a separate fire zone. A roving fire watch on approximately 20-minute rounds will be posted in the Intake Pumping Station (elevation 550) in accordance with Section I.

There are no required cables or equipment which require modification to comply with the separation requirements of Appendix R in the cable tunnel between the Intake Pumping Station and the Turbine Building. Therefore, no fire watch will be posted for this fire zone.

One train of cabling for a required safe shutdown system is located in the cable tunnel interconnecting the Turbine Building and the Intake Pumping Station. The redundant train and associated circuits which could affect the redundant train are embedded in the floor elevation 565 of the Turbine Building. The embedded conduits have some pull boxes that open into the pipe tunnel below the Turbine Building. There are some openings from

the pipe tunnel into the Turbine Building which would not meet the requirements of Section III.G.2 of Appendix R. Because TVA has not met the literal definition of Section III.G.2, an exemption is being requested (attached). Therefore, no fire watch will be stationed in the Turbine Building.

III. Radiological Impacts of the Proposed Action

With the provision of the specified interim compensatory measures, the degree of fire protection provided will be such that there is no significant increase in the risk of fires at Browns Ferry Nuclear Plant. Consequently, the probability of fires has not been increased and the post-fire radiological releases will not be greater than previously determined, nor does the proposed exemption otherwise affect radiological plant effluents. Therefore, there should be no significant radiological impact associated with the proposed exemption.

TABLE A

Fire Area	Fire Zone	(Approx.) Fire Watch Frequency of Rounds	Automatic Detection and Suppression Provided in the Fire Zone?
Reactor Building Unit 2	Elevation 639	20 minutes	No
	Elevation 621.25	20 minutes	No
	Elevation 593	None	Yes
	Elevation 565	None	Yes
	RHR Corner Rooms (Elevations 541 & 519)	None	Yes
Intake Pumping Station - Common (Excluding the cable tunnel to the Turbine Building)	Elevation 550	20 minutes	Partial
Control Building Unit 2	Elevation 606 (Units 1 & 2 cable spreading room)	None	Yes
	Elevations 593 (Unit 2 Battery Board Room complex)	None	Yes
Shutdown Board Rooms C and D (Elevation 621.25) (Elevation 593.0)	Same	20 minutes	No



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TABLE B

Fire Area	Fire Zone	(Approx.) Fire Watch Frequency of Rounds	Automatic Detection and Suppression Provided in the Fire Zone?
Reactor Building Unit 1	Elevation 639	20 minutes	No
	Elevation 621.25	20 minutes	No
	Elevation 593	None	Yes
	Elevation 565	None	Yes
	RHR Corner Rooms (Elevations 541 & 549)	None	Yes
Control Building Unit 1	Elevation 606 (Units 1 & 2 cable spreading room)	None	Yes
	Elevations 593 (Unit 1 Battery Board Room complex)	None	Yes
Shutdown Board Rooms A and B (Elevation 621.25) (Elevation 593.0)	Same	20 minutes	No

TABLE C

Fire Area	Fire Zone	(Approx.) Fire Watch Frequency of Rounds	Automatic Detection and Suppression Provided in the Fire Zone?
Reactor Building Unit 3	Elevation 639	20 minutes	No
	Elevation 621.25.	20 minutes	No
	Elevation 593	None	Yes
	Elevation 565	None	Yes
	RHR Corner Rooms (Elevations 541 & 519)	None	Yes
Control Building Unit 3	Elevation 606 (Units 3 cable spreading room)	None	Yes
	Elevation 593 (Unit 3 Battery Board Room complex)	None	Yes
Shutdown Board Rooms E and F (Elevation 621.25) (Elevation 593.0)	Same	20 minutes	No



ENCLOSURE 2
BROWNS FERRY NUCLEAR PLANT
APPENDIX R EXEMPTION REQUEST

EXCEPTION -

Section III.G.2 requires that redundant safe shutdown circuits be separated by 3-hour fire rated barriers or by more than 20 feet of horizontal space and fire detection and automatic suppression installed in the area. Contrary to this requirement safe shutdown circuits located in the cable tunnel between the Turbine Building and the Intake Pumping Station are not separated from the redundant circuits located in the pipe tunnel in literal compliance with Section III.G.2.

JUSTIFICATION -

One division of redundant safe shutdown circuits for the EECW and RHRSW systems are routed in embedded conduit through the Turbine Building until they enter the cable tray tunnel located under elevation 565 of the Turbine Building. The circuits are routed in cable trays from there to the Intake Pumping Station. The redundant division of EECW and RHRSW circuits are routed in embedded conduits in the ceiling of the pipe chase to the Intake Pumping Station. There are two recessed cable pull areas in the pipe chase at column lines T8 and T15 which have a metal cover plate over the opening. The access to the cable pull areas is from inside the pipe chase.

The cable tray tunnel and pipe chase are of reinforced concrete construction equivalent to 3-hour fire rated barriers. Access to the cable tray tunnel from the Turbine Building is by an opening from elevation 565 near column lines T12/K. The opening is at elevation 572.5'. Accesses to the pipe chase are from the Backwash Receiving Rooms T-1 and T-3 located on elevation 533 of the Turbine Building near column lines T6/h and T12/g, respectively.

The Turbine Building is not provided with area-wide fire detectors and automatic suppression systems; however, it is TVA's position that adequate separation is provided for the EECW and RHRSW circuits. This is based on the long, circuitous path between the redundant circuits. The shortest path between the redundant circuits is approximately 380 feet horizontally and 32 feet vertically, which also includes the elevation 565 floor slab. Therefore, TVA requests an exemption to the literal compliance to the separation requirements for the redundant safe shutdown circuits located in the cable tray tunnel and pipe chase in the Turbine Building.



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