Docket Nos. 50-259 50-260 and 50-296

Mr. Hugh G. Parris Manager of Power Tennessee Valley Authority 500A Chestnut Street, Tower II Chattanooga, Tennessee 37401



Dear Mr. Parris:

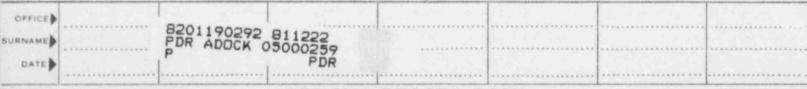
Subject: NUREG-0737, Items II.E.4.1.2, II.F.1.1 and II.F.1.2

On September 30, 1981 we met with representatives of your staff to discuss overall scheduling of all modifications requested by the NRC for the Browns Ferry Nuclear Plant, including specifically those modifications required by NUREG-0737 ("Clarification of TMI Action Plan Requirements"), various Bulletins and Orders, multi-plant action items resulting from the resolution of generic issues and plant-specific modifications. The schedular and other information presented at the meeting was formalized in your letter of October 28, 1981. At the meeting and in your letter of October 28, 1981 and November 3, 1981 you informed us that certain of the NUREG-0737 items could not be completed within the time frame we requested (due to manpower, material delivery and other reasons) and proposed an alternate schedule. The Commission is reviewing all requests for delayed implementation of NUREG-0737 items by you and other licensees. We will inform you as soon as we can of their decisions on schedule revisions.

On three of the NUREG-0737 items, we wish to confirm that deviation from our stated positions is solely schedular and that there is no proposed technical deviation.

# Items II.F.1.1 and II.F.1.2 - Effluent Monitors

In your initial response of December 23, 1980 on NUREG-0737, and supplemented by your letters of June 1, 1981, July 2, 1981 and August 10, 1981, you advised us that with respect to items II.F.1.1 and II.F.1.2 you were "having difficulty in procurement of equipment to adequately implement this item" and "that there is no instrumentation currently available that will fully meet the NRC requirements for sampling and analysis of plant effluents." You did not propose alternate technical requirements to those in NUREG-0737 and we did not interpret your letters as requesting technical deviations. If this understanding is not correct, we request formal notification of such within 30 days of the date of this letter.



As stated in NUREG-0737, changes to the Browns Ferry Technical Specifications (TS) were envisioned as an integral part of the implementation of these two modifications. Sample Standard TS pages are provided as Enclosure 1 for your assistance. The schedule for requesting such TS changes will be determined following our receipt of the OMB clearance of all NUREG-0737 items currently under review pursuant to the Paperwork Reduction Act of 1980."

With respect to Item II.E.4.1 on dedicated hydrogen pentrations, in your letter of December 23, 1980 and supplemented by your letter of July 16, 1981, you advised us that the purge system at Browns Ferry essentially meets the requirements in NUREG-0737 but that "some modifications will be required to bring the vent side of the system into strict conformance with single failure criteria." You have also advised us that manpower and equipment procurement preclude completion on the schedule we requested. We interpreted these letters as requesting approval for a deviation in the schedule for completion of the modifications but that you were not proposing any deviation in the technical requirements. Again, if our understanding is not correct, we request formal notification of such within 30 days of the date of this letter.

We appreciate your cooperation in developing an overall schedule on all NRC requested modifications. It was beneficial and informative to meet with you on September 30, 1981 to discuss the problems of implementing these modifications on a schedule consistent with plant outages, the availablity of craft labor and the practical constraints in implementing the modifications.

Sincerely,

Uriginal Signed by

Thomas A. Ippolito, Chief Operating Reactors Branch #2 Division of Licensing

cc: See next page

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DATE From serviceusers

cc:

H. S. Sanger, Jr., Esquire General Counsel Tennessee Valley Authority 400 Commerce Avenue E 11B 33 C Knoxville, Tennessee 37902

Mr. Ron Rogers Tennessee Valley Authority 400 Chestnut Street, Tower II Chattanooga, Tennessee 37401

Mr. H. N. Culver 249A HBD 400 Commerce Avenue Tennessee Valley Authority Knoxville, Tennessee 37902

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Mr. John F. Cox Tennessee Valley Authority W9-D 207C 400 Commerce Avenue Knoxville, Tennessee 37902

Mr. Herbert Abercrombie Tennessee Valley Authority P. O. Box 2000 Decatur, Alabama 35602

# INSTRUMENTATION

# ACCIDENT MONITORING INSTRUMENTATION

# LIMITING CONDITION FOR OPERATION

3.3.7.5 The accident monitoring instrumentation channels shown in Table 3.3.7.5-1 shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1 and 2.

## ACTION:

- a. With the number of OPERABLE accident monitoring instrumentation channels less than the Required Number of Channels shown in Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within days
- b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within bours

## SURVEILLANCE REQUIREMENTS

4.3.7.5 Each of the above required accident monitoring instrumentation channels shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3.7.5-1.

# TABLE 3.3.7.5-1

# ACCIDENT MONITORING INSTRUMENTATION

THETE	NIMENT.	REQUIRED NUMBER OF CHANNELS	OPERABLE
THOTE	<u>rument</u>	,	1
1.	Reactor Vessel Pressure	2	. 1
2.	Reactor Vessel Water Level	2	1
3.	Suppression Pool Water Level		6, 1/sector
4.	Suppression Pool Water Temperature	6, 1/sector	1
5.	Drywell/Containment Differential Pressure	2	
6.	Drywell Pressure	. 2	
	Drywell and Control Rod Drive Cavity Temperature	2	1
7. 8.	Containment, Hydrogen Concentration Analyzer and Monitor	2	1
9.	Drywell Hydrogen Concentration Analyzer and Monitor	2	
10.	Containment Pressure	2	
11.	Containment Air Temperature	2	1
12.	To all & Walter Toil Ding Prossure Switch	1/valve	1/valve
13.	Containment/Drywell Area Monitors		1 1
14.	Containment Ventilation Monitor	•	1
15.	Off-gas and Radwaste Bldg. Ventilation Monitor		
16.	Westilation Monitor	1	
17.		. 1.	1
18.	Total Custom A & R Exhaust Monitors	1/each	1/each

<sup>#</sup>Each for containment and drywell.

TABLE 4.3.7.5-1 ACCIDENT MONITORING INSTRUMENTATION

1. Reactor Vessel Pressure  2. Reactor Vessel Water Level  3. Suppression Pool Water Level  4. Suppression Pool Water Temperature  5. Drywell/Containment Differential Pressure  6. Drywell Pressure  7. Drywell and Control Rod Cavity Temperature  8. Containment Hydrogen Concentration Analyzer and Monitor  9. Drywell Hydrogen Concentration Analyzer and Monitor  10. Containment Pressure  11. Containment Air Temperature  12. Safety/Relief Valve Tail Pipe Pressure Switch Position Indicators  13. Containment Ventilation Monitor  14. Containment Ventilation Monitor  15. Off-gas and Radwaste Bldg. Ventilation Monitor  16. Fuel Handling Area Ventilation Monitor  17. Turbine Bldg. Ventilation Monitor  18. Standby Gas Treatment System A & B Exhaust Monitors  M R		INSTRUMENT	CHECK	CHANNEL CALIBRATION
2. Reactor Vessel Water Level M R 3. Suppression Pool Water Level M R 4. Suppression Pool Water Temperature M R 5. Drywell/Containment Differential Pressure M R 6. Drywell Pressure M R 7. Drywell and Control Rod Cavity Temperature M R 8. Containment Hydrogen Concentration Analyzer and Monitor NA Q* 9. Drywell Hydrogen Concentration Analyzer and Monitor NA R 10. Containment Pressure M R 11. Containment Air Temperature M R 12. Safety/Relief Valve Tail Pipe Pressure Switch Position Indicators M R 13. Containment Ventilation Monitor M R 14. Containment Ventilation Monitor M R 15. Off-gas and Radwaste Bldg. Ventilation Monitor M R 16. Fuel Handling Area Ventilation Monitor M R 17. Turbine Bldg. Ventilation Monitor M R 18. Standby Gas Treatment System A & B M R	1		м	R
3. Suppression PooT Water Level M R  4. Suppression Pool Water Temperature N R  5. Drywell/Containment Differential Pressure M R  6. Drywell Pressure M R  7. Drywell and Control Rod Cavity Temperature M R  8. Containment Hydrogen Concentration NA Q*  9. Drywell Hydrogen Concentration Analyzer and Monitor NA R  10. Containment Pressure M R  11. Containment Air Temperature M R  12. Safety/Relief Valve Tail Pipe Pressure Switch Position Indicators M R  13. Containment/Drywell Area Monitor M R  14. Containment Ventilation Monitor M R  15. Off-gas and Radwaste Bldg. Ventilation Monitor M R  16. Fuel Handling Area Ventilation Monitor M R  17. Turbine Bldg. Ventilation Monitor M R  18. Standby Gas Treatment System A & B M R		A STATE OF	м	R
4. Suppression Pool Water Temperature  5. Drywell/Containment Differential Pressure  6. Drywell Pressure  7. Drywell and Control Rod Cavity Temperature  8. Containment Hydrogen Concentration Analyzer and Monitor  9. Drywell Hydrogen Concentration Analyzer and Monitor  10. Containment Pressure  11. Containment Air Temperature  12. Safety/Relief Valve Tail Pipe Pressure Switch Position Indicators  13. Containment/Drywell Area Monitor  14. Containment Ventilation Monitor  15. Off-gas and Radwaste Bldg. Ventilation Monitor  16. Fuel Handling Area Ventilation Monitor  17. Turbine Bldg. Ventilation Monitor  18. Standby Gas Treatment System A & B			м	· R
5. Drywell/Containment Differential Pressure M R  6. Drywell Pressure M R  7. Drywell and Control Rod Cavity Temperature M R  8. Containment Hydrogen Concentration Analyzer and Monitor NA Q*  9. Drywell Hydrogen Concentration Analyzer and Monitor NA R  10. Containment Pressure M R  11. Containment Air Temperature M R  12. Safety/Relief Valve Tail Pipe Pressure Switch Position Indicators M R  13. Containment/Drywell Area Monitor M R  14. Containment Ventilation Monitor M R  15. Off-gas and Radwaste Bldg. Ventilation Monitor M R  16. Fuel Handling Area Ventilation Monitor M R  17. Turbine Bldg. Ventilation Monitor M R  18. Standby Gas Treatment System A & B M R			H ·	R
7. Drywell Pressure 7. Drywell and Control Rod Cavity Temperature  8. Containment Hydrogen Concentration Analyzer and Monitor  9. Drywell Hydrogen Concentration Analyzer and Monitor  10. Containment Pressure  11. Containment Air Temperature  12. Safety/Relief Valve Tail Pipe Pressure Switch Position Indicators  13. Containment/Drywell Area Monitors  14. Containment Ventilation Monitor  15. Off-gas and Radwaste Bldg. Ventilation Monitor  16. Fuel Handling Area Ventilation Monitor  17. Turbine Bldg. Ventilation Monitor  18. Standby Gas Treatment System A & B		Drywell/Containment Differential	м	R
Cavity Temperature  8. Containment Hydrogen Concentration Analyzer and Monitor  9. Drywell Hydrogen Concentration Analyzer and Monitor  10. Containment Pressure  11. Containment Air Temperature  12. Safety/Relief Valve Tail Pipe Pressure Switch Position Indicators  13. Containment/Drywell Area Monitors  14. Containment Ventilation Monitor  15. Off-gas and Radwaste Bldg. Ventilation Monitor  16. Fuel Handling Area Ventilation Monitor  17. Turbine Bldg. Ventilation Monitor  18. Standby Gas Treatment System A & B  M R	6.	Drywell Pressure	М	R
Analyzer and Monitor  9. Drywell Hydrogen Concentration Analyzer and Monitor  10. Containment Pressure  11. Containment Air Temperature  12. Safety/Relief Valve Tail Pipe Pressure Switch Position Indicators  13. Containment/Drywell Area Monitors  14. Containment Ventilation Monitor  15. Off-gas and Radwaste Bldg. Ventilation Monitor  16. Fuel Handling Area Ventilation Monitor  17. Turbine Bldg. Ventilation Monitor  18. Standby Gas Treatment System A & B	7.	Drywell and Control Rod Cavity Temperature	М	R
and Monitor  10. Containment Pressure  11. Containment Air Temperature  12. Safety/Relief Valve Tail Pipe Pressure Switch Position Indicators  13. Containment/Drywell Area Monitors  14. Containment Ventilation Monitor  15. Off-gas and Radwaste Bldg. Ventilation Monitor  16. Fuel Handling Area Ventilation Monitor  17. Turbine Bldg. Ventilation Monitor  18. Standby Gas Treatment System A & B  M R	8.	Containment Hydrogen Concentration Analyzer and Monitor	NĄ	Q*
10. Containment Pressure  11. Containment Air Temperature  12. Safety/Relief Valve Tail Pipe Pressure Switch Position Indicators  13. Containment/Drywell Area Monitors  14. Containment Ventilation Monitor  15. Off-gas and Radwaste Bldg. Ventilation Monitor  16. Fuel Handling Area Ventilation Monitor  17. Turbine Bldg. Ventilation Monitor  18. Standby Gas Treatment System A & B  M R	9.	Drywell Hydrogen Concentration Analyzer and Monitor	NA	
11. Containment Air Temperature  12. Safety/Relief Valve Tail Pipe Pressure Switch Position Indicators  13. Containment/Drywell Area Monitors  14. Containment Ventilation Monitor  15. Off-gas and Radwaste Bldg. Ventilation Monitor  16. Fuel Handling Area Ventilation Monitor  17. Turbine Bldg. Ventilation Monitor  18. Standby Gas Treatment System A & B  MR	10.	Containment Pressure	М	
Switch Position Indicators  13. Containment/Drywell Area Monitors  14. Containment Ventilation Monitor  15. Off-gas and Radwaste Bldg. Ventilation Monitor  16. Fuel Handling Area Ventilation Monitor  17. Turbine Bldg. Ventilation Monitor  18. Standby Gas Treatment System A & B  MR	11.	Containment Air Temperature	М	R 1
13. Containment/Drywell Area Monitors  14. Containment Ventilation Monitor  15. Off-gas and Radwaste Bldg. Ventilation Monitor  16. Fuel Handling Area Ventilation Monitor M  17. Turbine Bldg. Ventilation Monitor M  18. Standby Gas Treatment System A & B  M  R	12	Safety/Relief Valve Tail Pipe Pressure Switch Position Indicators	м	R
14. Containment Ventilation Monitor M  15. Off-gas and Radwaste Bldg. Ventilation Monitor M  16. Fuel Handling Area Ventilation Monitor M  17. Turbine Bldg. Ventilation Monitor M  18. Standby Gas Treatment System A & B  M  R	13	Containment/Drywell Area Monitors	M	Ri
15. Off-gas and Radwaste Bldg. Ventilation Monitor  16. Fuel Handling Area Ventilation Monitor  17. Turbine Bldg. Ventilation Monitor  18. Standby Gas Treatment System A & B  MR	14	. Containment Ventilation Monitor	М .	R
16. Fuel Handling Area Ventilation Monitor  17. Turbine Bldg. Ventilation Monitor  18. Standby Gas Treatment System A & B  R	15	. Off-gas and Radwaste Bldg. Ventilation	M	R
17. Turbine Bldg. Ventilation Monitor M  13. Standby Gas Treatment System A & B  R	16	. Fuel Handling Area Ventilation Monitor	М	R
13. Standby Gas Treatment System A & B				R
		3. Standby Gas Treatment System A & B	м	R

\*Using sample gas containing:

a. One volume percent hydrogen, remainder nitrogen.b. Four volume percent hydrogen, remainder nitrogen.

#### 3/4.3.7.5 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess important variables following an accident. (This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," December 1975 and NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations").

#### 3/4.3.7.6 SOURCE RANGE MONITORS

The source range monitors provide the operator with information of the status of the neutron level in the core at very low power levels during startup and shutdown. At these power levels, reactivity additions should not be made without this flux level information available to the operator. When the intermediate range monitors are on scale adequate information is available without the SRMs and they can be retracted.

### 3/4.3.7.7 TRAVERSING IN-CORE PROBE SYSTEM

The OPERABILITY of the traversing in-core probe system with the specified minimum complement of equipment ensures that the measurements obtained from use of this equipment accurately represent the spatial neutron flux distribution of the reactor core.

### 3/4.3.7.8 CHLORINE (AND AMMONIA) DETECTION SYSTEM (Optional)

The OPERABILITY of the chlorine (and ammonia) detection system ensures that an accidental chlorine (and/or ammonia) release will be detected promptly and the necessary protective actions will be automatically initiated to provide protection for control room personnel. Upon detection of a high concentration of chlorine (and/or ammonia), the control room emergency ventilation system will automatically be placed in the (isolation) mode of operation to provide the required protection. (The detection systems required by this specification are consistent with the recommendations of Regulatory Guide 1.95 "Protection of Nuclear Power Plant Control Room Operators against an Accidental Chlorine Release", February 1975.)