TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
400 Chestnut Street Tower II

February 21, 1984

Director of Nuclear Reactor Regulation
Attention: Ms. E. Adensam, Chief
Licensing Branch No. 4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Ms. Adensam:

In the Matter of the Application of) Docket Nos. 50-390
Tennessee Valley Authority) 50-391

By letter dated January 30, 1984 from T. M. Novak to H. G. Parris, TVA was provided with Supplement 2 to the Safety Evaluation Report (SER) for Watts Bar Nuclear Plant. We have reviewed this information and established a current status list for outstanding and confirmatory items. Enclosure 1 provides an indication of responsibility for each of the subject items with respect to action required for receipt of an operating license. Enclosures 2 and 3 provide detailed information including schedules, if appropriate for each of those items. Twenty were closed in SER Supplement 2.

As the enclosures indicate, it is our understanding that TVA needs to submit information to resolve four outstanding and two confirmatory items. It is also our understanding that 34 of these items are under review by the NRC. In view of the anticipated June 1984 fuel load date, we need to receive the results of the NRC review of each of these 34 items as soon as possible.

If you have any questions concerning this matter, please get in touch with D. P. Ormsby at FTS 858-2682.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

L. M. Mills

L. M. Mills, Manager
Nuclear Licensing

Sworn to and subscribed before me
this 21st day of February 1984

Paulette H. White
Notary Public
My Commission Expires 9-5-84

Enclosures
cc: U.S. Nuclear Regulatory Commission (Enclosures)
Region II
Attn: Mr. James P. O'Reilly Administrator
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30303

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ENCLOSURE 1

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2

RESPONSIBILITY FOR SER ITEMS

A. Outstanding Issues

SER Item Number	TVA Action	Responsibility NRC Reviewing	Closed
1		X	
2		X	
3		X	
4	X	X	
5		X	
6		X	
7		X	
8		X	
9	X		
10			X
11			X
12		X	
13	X		
14		X	
15	X		
16		X	
17			X

B. Confirmatory Items

1		X	
2		X	
3		X	
4		X	
5		X	
6		X	
7			X
8			X
9		X	
10			X
11			X
12			X
13		X	
14		X	
15			X
16			X
17		X	
18	X		
19		X	
20			X
21	X		
22			X
23			X
24		X	

ENCLOSURE 1

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2

RESPONSIBILITY FOR SER ITEMS

B. Confirmatory Items

25	X	
26		X
27		X
28		X
29	X	
30		X
31		X
32	X	
33		X
34		X
35	X	
36	X	
37	X	
38	X	
39	X	
40	X	
41	X	
42	X	

ENCLOSURE 1

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2

RESPONSIBILITY FOR SER ITEMS

B. Confirmatory Items

25	X	
26		X
27		X
28		X
29	X	
30		X
31		X
32	X	
33		X
34		X
35	X	
36	X	
37	X	
38	X	
39	X	
40	X	
41	X	
42	X	

ENCLOSURE 2

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2

TABLE 1
(Sheet 4)

OUTSTANDING ISSUES

SER Item	Issue	Status	Schedule
1.	Potential for liquefaction beneath ERCW pipelines and Class 1E electrical conduit	Report on field remedial action and slope stability provided on 1/12/84.	NRC reviewing
2.	Buckling loads on Class 2 and 3 supports	TVA submittal of 1/29/82. Telephone conference call of 4/1/82 requested clarification. This information provided on 11/10/82 and 11/18/82.	NRC reviewing
3.	Preservice and inservice pump and valve test program	The SER specifies that the NRC is reviewing TVA's submittal of 10/31/81. No TVA action is required.	NRC reviewing
4.	Seismic and environmental qualification of equipment	TVA responses to NRC SQRT audit items was 12/1/82. During a 3/11/83 telephone conference call, the NRC requested additional clarification. This confirmation was submitted on 6/3/83 and 6/10/83.	NRC reviewing
		TVA response on environmental qualification of equipment submitted 11/7/83, 1/17/84 and 1/11/84. NRC audit being conducted 2/13-16/84.	NRC reviewing
		TVA list of mechanical equipment provided on 1/11/84. Additional information to be provided 3/5/84.	3/5/84
5.	Preservice and inservice inspection program	Responses to NRC questions Q121.20 and Q121.22 were provided by letter dated 7/30/82. Responses to NRC questions Q121.21 and Q121.23 were provided by letter dated 9/29/82. TVA commitment to provide a listing of welds included in the response to Q121.23. This information provided 4/18/83. TVA to provide a total list before commerical operation. Information necessary for licensing under NRC review.	NRC reviewing
6.	Pressure-temperature limits for unit 2	The requested pressure-temperature limit curves for unit 2 are included in Amendment 49 of the Final Safety Analysis Report.	NRC reviewing
7.	Model D-3 steam generator preheater tube degradation	Information provided on 5/27/83. Modifications are complete.	NRC reviewing

ENCLOSURE 2

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2

TABLE 1
(Sheet 5)

OUTSTANDING ISSUES

SER Item	Issue	Status	Schedule
8.	BTP-CSB 6-4 and containment isolation dependability	NRC letter of 5/14/82 requested additional information concerning compliance with items 1.b, 1.g, 5.a, and 5.c of BTP CSB 6-4. TVA response submitted 4/26/83. NRC letter of 10/5/82 requested information concerning containment purge and vent valve operability. TVA response submitted 12/23/83.	NRC reviewing
9.	Hydrogen Analysis Review	By letter dated 9/21/82, TVA specified that the revision to FSAR Section 15.4.1 did not effect the response to NRC question Q22.70. By telephone on 10/6/82, TVA was asked to rereview this position. TVA reevaluated the impact on this question and confirmed that the response is not effected. NRC project manager informed 10/29/82 and formal documentation provided 11/9/82. As a result of a telephone conference call on 11/22/83 (TVA-NRC-Westinghouse), Westinghouse and TVA are again reevaluating the need for additional changes.	3/19/84
10.	Safety Valve Sizing Analysis	TVA response concerning applicability of WCAP-7769 submitted 4/18/83. SSER 2 indicates closed.	Closed
11.	Compliance of proposed design change to the offsite power system piping and components	The FSAR was revised by Amendment 48 to reflect the design changes for automatic fast transfer. SSER 2 indicates closed.	Closed
12.	Fire Protection Program	A review of SER Section 9.5.1 indicates that open items consist of emergency lighting, hydrogen line routing, and askarel insulated transformers. These items were addressed in letters dated 7/9/82, 8/28/81, and 6/3/82, respectively. NRC letter of 3/25/83 requested information demonstrating compliance with Appendix R. During a telephone conference call, the NRC requested additional information. This information was submitted on 7/26/83 and 10/12/83.	NRC reviewing

ENCLOSURE 2

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2

TABLE 1
(Sheet 5)

OUTSTANDING ISSUES

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ENCLOSURE 2

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2

TABLE 1
(Sheet 6)

OUTSTANDING ISSUES

SER Item	Issue	Status	Schedule
		All outstanding information to resolve this item has been submitted.	
13.	Quality classification of diesel generator auxiliary system piping and components	TVA's response to the NRC position specified in the SER concerning qualification of diesel generator piping and components was submitted 11/29/82. Additional information requested by NRC letter of 1/12/84.	3/16/84
14.	Diesel generator auxiliary systems design deficiencies	TVA responses to NRC concerns about diesel generator cooling and lube oil systems submitted 12/14/82. Additional information requested by NRC letter of 1/12/84 submitted 1/12/84.	NRC reviewing
15.	Physical Security Plan	TVA submitted a revision to the Physical Security Plan to the NRC on 2/3/83 showing use of the power block concept. TVA responses to NRC questions in preparation.	3/16/84
16.	Boron Dilution Event	TVA's response to NRC concerns about single failure provided by letters dated 9/21/82 and 4/20/83.	NRC reviewing
17.	Q-List	The requested information was provided by letter dated 10/25/82. This is also included in FSAR Amendment 48. SSER 2 indicates closed.	Closed

ENCLOSURE 3

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2

TABLE 2
(Sheet 1)

CONFIRMATORY ITEMS

SER Item	Issue	Status	Schedule
1.	Design basis groundwater level for the ERCW pipeline	The requested information concerning ground water level was provided to the NRC by letter dated 6/24/82.	NRC reviewing
2.	Material and geometric damping effect on SSI analysis	As a result of a TVA-NRC meeting 9/22-24/82 TVA provided the card deck used for computer runs to determine the 4 time histories for rock motion on 11/30/82.	NRC reviewing
3.	Analysis of sheet-pile walls	NRC letter of 6/1/83 requested additional information concerning sheetpile walls and soil properties for buried pipe. TVA responses submitted 7/21/83.	NRC reviewing
4.	Design differential settlement of piping and electrical components between Class 1E structures	During a TVA-NRC meeting 9/22-24/82 the NRC stated this issue was satisfactorily resolved. TVA's final report submitted by letter dated 9/16/83 from L. M. Mills to J. P. O'Reilly.	NRC reviewing
5.	Upgrading ERCW system to seismic Category I	TVA will complete necessary upgrading for ERCW systems which service air cooling units and chiller packages. Letter from L. M. Mills to J. P. O'Reilly dated 9/28/83.	NRC reviewing
6.	Seismic classification of structures, systems, and components important to safety	TVA is in the process of revising FSAR Table 3.2-2 to properly show seismic classification. This information were included in FSAR Amendment 49.	NRC reviewing
7.	Tornado missile protection of diesel generator exhaust	In an 11/24/82 submittal, TVA agreed to modify the diesel generator exhaust stack to ensure continued d.g. operation following impact of a tornado missile. SSER 2 indicates closed.	Closed
8.	Steel containment building buckling research program	TVA to evaluate the WBN containment based on the results of the Los Alamos studies. TVA does not consider this a fuel load item.	Closed
9.	Pipe support base plate flexibility and its effects on anchor bolt loads	The SER specifies that the NRC is reviewing TVA's response to Bulletin 79-02. No TVA action is necessary.	NRC reviewing

ENCLOSURE 3

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2

TABLE 2
(Sheet 2)

CONFIRMATORY ITEMS

SER Item	Issue	Status	Schedule
10.	Thermal performance analysis	The thermal performance analysis has been performed using PAD-3.3. SSER 2 indicates closed.	Closed
11.	Cladding collapse	Westinghouse calculations for cladding collapse utilized a model consistent with WCAP-8377. SSER 2 indicates closed.	Closed
12.	Fuel rod bow evaluation	TVA's position on margins used to offset reduction in DNBR due to fuel rod bowing were provided to the NRC by letter dated 9/15/82. SSER 2 indicates closed.	Closed
13.	Loose parts monitoring system	TVA addressed specific NRC questions by letter to NRC on 11/10/82. FSAR revisions to Section 7.6.7 were included in Amendment 49.	NRC reviewing
14.	Installation of residual heat removal system flow alarm	An RHR flow alarm will be installed to alert the operator to initiate alternate cooling modes in the event of loss of RHR. This modification has been completed. NRC-OIE verification.	NRC reviewing
15.	Natural circulation test	As specified in startup test SU-3.9 (Table 14.2-2A) a natural circulation test will be conducted for operator training as part of the startup test program.	Closed
		TVA will evaluate the Diablo Canyon tests and assess the applicability to Watts Bar after completion of Diablo Canyon. NRC indicates this item is resolved for startup.	Closed
16.	Dump valve testing	The SER states that TVA is to confirm the feasibility of manual action to correct for single failure. TVA did not commit to verify manual actuation of atmospheric dump valves. TVA's position is included in part 1 of the response to NRC question 212.93 as provided by Amendment 44 of the FSAR. SSER 2 indicates closed. NRC will not require manual dump valve testing.	Closed
17.	Protection against damage to containment from external pressure	TVA submitted information to the NRC on effects of inadvertent containment spray and air return fan actuation on containment pressure by letter dated 6/4/82.	NRC reviewing

ENCLOSURE 3

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2

TABLE 2
(Sheet 2)

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ENCLOSURE 3

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2

TABLE 2
(Sheet 3)

CONFIRMATORY ITEMS

SER Item	Issue	Status	Schedule
18.	Designation of containment isolation valves for main and auxiliary feedwater bypass lines	TVA will install a safety grade isolation valve in the safety grade portion of each chemical feedline for each of four main feedwater, four feedwater bypass, and two auxiliary feedwater lines. Modifications are complete. TVA to revise FSAR table in Amendment 50.	3/15/84
19.	Compliance with GDC 51	TVA had been informally requested to revise its submittal of 12/17/82 concerning GDC-51. TVA submitted requested information 8/22/83 and 1/9/84.	NRC reviewing
20.	Insulation survey	The SER specifies TVA is to provide the results of an insulation survey in the vicinity of the sump before startup following the first refueling outage. This report submitted 11/23/82. SSER 2 indicates this item is closed.	Closed
21.	Safety system setpoint methodology	TVA provided a BOP list of safety related devices and a summary of the data used in the setpoint analysis to assist the NRC in a review of the Technical Specifications. The NRC has requested a similar listing for NSSS. In preparation by W.	4/2/84
22.	Steam generator water level reference leg	As specified by TVA letter dated 6/21/82, it is TVA's intent to insulate the steam generator reference leg to minimize dependence problems. SSER 2 indicates this item is closed.	Closed
23.	Containment sump level measurement	Drawings showing design changes submitted 9/15/83 and 10/18/83. SSER 2 indicates this item is closed.	Closed
24.	IE Bulletin 80-06	Modifications are being made to ensure valves remain in the emergency mode after engineered safety features reset. The FSAR was revised in Amendment 49 to show design changes to valves which ensure emergency mode after ESF reset.	NRC reviewing
25.	Overpressure protection during low temperature	The FSAR was be revised in Amendment 49 to show the switches for manual arming.	NRC reviewing

ENCLOSURE 3

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2

TABLE 2
(Sheet 4)

CONFIRMATORY ITEMS

SER Item	Issue	Status	Schedule
26.	Availability of offsite circuits	The FSAR was revised in Amendment 48 to describe the Watts Bar Hydro Plant switchyard. NRC SSER 2 indicates closed.	Closed
27.	Nonsafety loads powered from the Class 1E ac distribution system	The FSAR was revised in Amendment 48 to describe the design for each of the preferred offsite circuits. NRC SSER 2 indicates closed.	Closed
28.	Low and/or degraded grid voltage condition	The analysis will be verified before full power operation. NRC SSER 2 indicates closed.	Closed
29.	Diesel generator reliability qualification testing	Copies of the Sequoyah diesel generator test results were provided to the NRC during a Watts Bar site visit on 7/26/82.	NRC reviewing
30.	Diesel generator battery system	The FSAR was revised in Amendment 48 to show compliance of the 125V battery system. NRC SSER 2 indicates closed.	Closed
31.	Thermal overload protective bypass	NRC verification of the design of bypass of thermal-overload protection devices for motors and valves was conducted during the Watts Bar site visit on 7/26/82. NRC SSER 2 indicates closed.	Closed
32.	Sharing of dc and ac distribution systems and power supplied between units 1 and 2	The FSAR was revised in Amendment 48 to reflect requirements of the shared safety system. NRC SSER 2 indicates additional information needed in FSAR. This information provided 1/17/84.	NRC reviewing
33.	Sharing of raceways between units	Confirmation of shared raceway design conformance with GDC 5 was conducted during the Watts Bar site visit on 7/26/82. NRC SSER 2 indicates closed.	Closed
34.	Testing Class 1E power systems	The FSAR was revised in Amendment 48 to describe testing of one of two class 1E power systems versus one of four systems. NRC SSER 2 indicates closed.	Closed
35.	Evaluation of penetrations capability to withstand	Information concerning the capability of penetrations to withstand the total range of	NRC reviewing

ENCLOSURE 3

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2

TABLE 2
(Sheet 4)

CONFIRMATORY ITEMS

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ENCLOSURE 3

WATTS BAR NUCLEAR PLANT UNITS 1 AND 2

TABLE 2
(Sheet 5)

CONFIRMATORY ITEMS

SER Item	Issue	Status	Schedule
	failure of overcurrent protection device	of time current characteristics was submitted on 6/9/83 and 6/10/83. NRC SSER 2 indicates still open. Additional information provided 1/17/84.	
36.	Missile protection for diesel generator vent line	TVA will provide missile protection for the diesel generator vents. These modifications are complete. NRC-OIE verification.	NRC reviewing
37.	Component booster pump relocation	TVA has completed relocating the component booster pumps above the maximum probable flood level. NRC-OIE verification.	NRC reviewing
38.	Electrical penetrations documentation	SER pages 9-34 specifies that the NRC is comparing the TVA test methods for electrical fire barrier penetrations against ASTM E-119. No TVA action is required.	NRC reviewing
39.	Compliance with NUREG-0660	TVA will install a heavy duty turbo charger gear assembly to ensure operability under no-load or light-load conditions and full rated speed. These modifications are complete. NRC-OIE verification.	NRC reviewing
40.	No-load, low-load testing operations for diesel generators	The operating procedures provide for minimizing no-load and light-load operation.	NRC reviewing
41.	Initial test program	A revised FSAR Table 14.2-1 on preoperational testing was included in Amendment 48. Information on test procedure availability provided in Amendment 49.	NRC reviewing
42.	Submergence of electrical equipment as a result of a LOCA (SSER)	TVA committed to relocate equipment below water level or quality. NRC-OIE verification.	NRC reviewing