

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401  
400 Chestnut Street Tower II

April 15, 1983

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Denton:

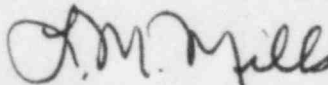
In the Matter of the	)	Docket Nos. 50-259
Tennessee Valley Authority	)	50-260
		50-296

We have reviewed Supplement 1 to NUREG-0737 sent to TVA by generic letter from D. G. Eisenhower dated December 17, 1982 (Generic Letter No. 82-33). Enclosed is our response to the request for information contained in that generic letter for the Browns Ferry Nuclear Plant.

Based on the enclosed information continued operation of Browns Ferry is justified and the licenses for Browns Ferry Nuclear Plant unit 1, 2, and 3 should not be modified, suspended, or revoked.

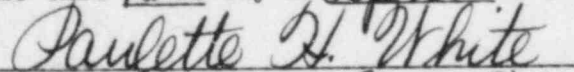
Very truly yours,

TENNESSEE VALLEY AUTHORITY



L. M. Mills, Manager  
Nuclear Licensing

Subscribed and sworn to before  
me this 15th day of April 1983.



Notary Public

My Commission Expires 9-5-84

Enclosure

cc (Enclosure):

U.S. Nuclear Regulatory Commission  
Region II  
ATTN: James P. O'Reilly, Regional Administrator  
101 Marietta Street, Suite 2900  
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Mr. R. J. Clark  
Browns Ferry Project Manager  
U.S. Nuclear Regulatory Commission  
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ENCLOSURE  
RESPONSE TO NUREG-0737 SUPPLEMENT 1  
REQUIREMENTS FOR EMERGENCY RESPONSE CAPABILITY  
BROWNS FERRY NUCLEAR PLANT

The enclosed response consists of parts A through G. This response is made in the following manner.

- A. Safety Parameter Display System,
- B. Detailed Control Room Design Review,
- C. Regulatory Guide 1.97,
- D. Upgraded Emergency Operating Procedures,
- E. Emergency Response Facilities,
- F. Integrated Training Plan,
- G. Integration of Emergency Response Capability Initiatives.

#### A. SAFETY PARAMETER DISPLAY SYSTEM (SPDS)

In June 1981, a conceptual design for a Browns Ferry SPDS was submitted which proposed incorporating the SPDS displays as part of the proposed technical support center computer system and based upon existing plant instrumentation. The schedule for SPDS implementation was factored into the integrated schedule submittal which has been previously submitted. Since that time, TVA has initiated a project to replace the unit process computers for units 1, 2, and 3 with new state of the art process computer systems. This project is currently underway. To facilitate the implementation of an SPDS, TVA intends to implement the SPDS displays in the control room by way of the new process computer display system. Once the process computer changeout is complete, the SPDS displays will be implemented in each of the unit control rooms and will undergo a series of extensive operational tests to verify that the displayed data is correct and as specified. Process computer replacement activities are currently scheduled for refueling outages during 1985 and spring 1986. SPDS implementation will follow completion of these activities consistent with our integrated schedule concept. To support this implementation, a safety analysis of the basic SPDS parameter set will be submitted by June 1984.

C. REGULATORY GUIDE 1.97

In response to the requirements, a submittal will be made for Browns Ferry Nuclear Plant addressing Regulatory Guide 1.97 no later than January 1, 1984. The implementation schedule for any identified instrumentation-related modification will be addressed at that time.

## B. DETAILED CONTROL ROOM DESIGN REVIEW

In response to regulatory requirements for nuclear power plant control design reviews, TVA undertook an evaluation of the Browns Ferry Nuclear Plant units 1, 2, and 3 control rooms using the BWR Owners' Group developed review methodology. This review was performed by operations and engineering personnel from four utilities, two human factors consultants, and a representative from the General Electric Company.

The control room design review included operator interviews, analysis of licensee event reports, control room surveys, and emergency procedure walk throughs. To complete the control room design review effort, we intend to conduct a control room task analysis. We intend to complete this analysis within six months after the validated, symptom-oriented emergency operating procedures are implemented. The EOPs will be implemented before April 1, 1986. We intend to submit our task analysis plan before April 1, 1986.

A summary report of the completed review will be submitted nine months following the completion of the task analysis activity.

#### D. UPGRADED EMERGENCY OPERATING PROCEDURES

In response to regulatory requirements for symptom-oriented emergency operating procedures (EOPs), TVA participated with the BWR Owners' Group (BWROG) in the development of emergency procedure guidelines (EPGs). Revision 2 of the BWROG emergency procedure guidelines, which were submitted to NRC in June 1982, is the basis for Browns Ferry's upgraded EOPs. The plant-specific EOPs are currently being developed from the BWROG EPGs.

The procedures generation package, which will include a writer's guide, a brief description of the methodology used to generate plant-specific EOPs from generic EPGs, a brief description of the EOP validation program, and a brief description of the training program for the upgraded EOPs, will be submitted at least three months before training on the final version of the new procedures. Formal training on earlier versions of the BWROG EPGs has already begun. Training on the final version of the new emergency operating procedures will begin at the completion of their development presently scheduled for no later than March 1985.

It is anticipated that two weeks of requalification training will be needed for each licensed operator and SRO on the final version of the EOPs. Approximately one year will be required from the date that the EOPs are finalized in order to complete this training. Thus, the EOPs will be implemented before April 1, 1986.

## E. EMERGENCY RESPONSE FACILITIES

### 1. Technical Support Center (TSC)

A description of the TSC has been provided in a previous submittal to NRC in response to generic letter 81-10. The TSC is operational with the exception of the appropriate data systems. This data system schedule will be dependent on the process computer upgrade and the implementation of the safety parameter display system in the control room. Any outage-related modifications necessary will be scheduled in accordance with Browns Ferry's modification integration plan. The TSC will be fully functional at the completion of this data system installation.

### 2. Operations Support Center (OSC)

The OSC is fully functional.

### 3. Emergency Operations Facility (EOF)

We have implemented a centralized emergency management system to satisfy the EOF requirement for all TVA plants. This operation has received previous Commission approval as indicated in the D. G. Eisenhower (NRC) to H. G. Parris letter dated March 19, 1981. This system consists of a central emergency control center (CECC) located in Chattanooga, Tennessee, and two emergency support facilities; the Knoxville Emergency Center (KEC) located in Knoxville, Tennessee and the Muscle Shoals Emergency Center (MSEC) located in Muscle Shoals, Alabama.

To augment these facilities and satisfy the additional elements listed in Mr. Eisenhower's letter to Mr. Parris as well as the requirements of generic letter 82-33, we have established a Local Recovery Center (LRC) at Browns Ferry to accommodate an NRC site team.

TVA's offsite emergency centers have been described in previous submittals to NRC in response to generic letter 81-10 and are applicable to Browns Ferry. In that response, TVA describes a data-link between the CECC central data processor and the TSC and SPDS data base. Meteorological variables are transmitted by an automated data system. TVA provides appropriate plant parameters essential for EOF functions to the EOF by way of facsimile transmission. We believe this system of data transmission is a fully adequate means of supplying the EOF with the essential parameters for EOF functions in a timely manner. With the current data transmission system, the requirements of generic letter 82-33 are met. These facilities are considered fully operational, and we no longer intend to install the data-link as described in our response to generic letter 81-10.

F. INTEGRATED TRAINING PLAN

The integrated program for training the Browns Ferry Nuclear Plant operators on the upgraded emergency operating instructions, the safety parameter display system, and any plant modifications as a result of the control room design review and Regulatory Guide 1.97 will be conducted as follows.

The plant operators will be trained during the regularly scheduled requalification and group training. Special training sessions will be scheduled as necessary. The plant specific simulators will be used extensively in this effort.

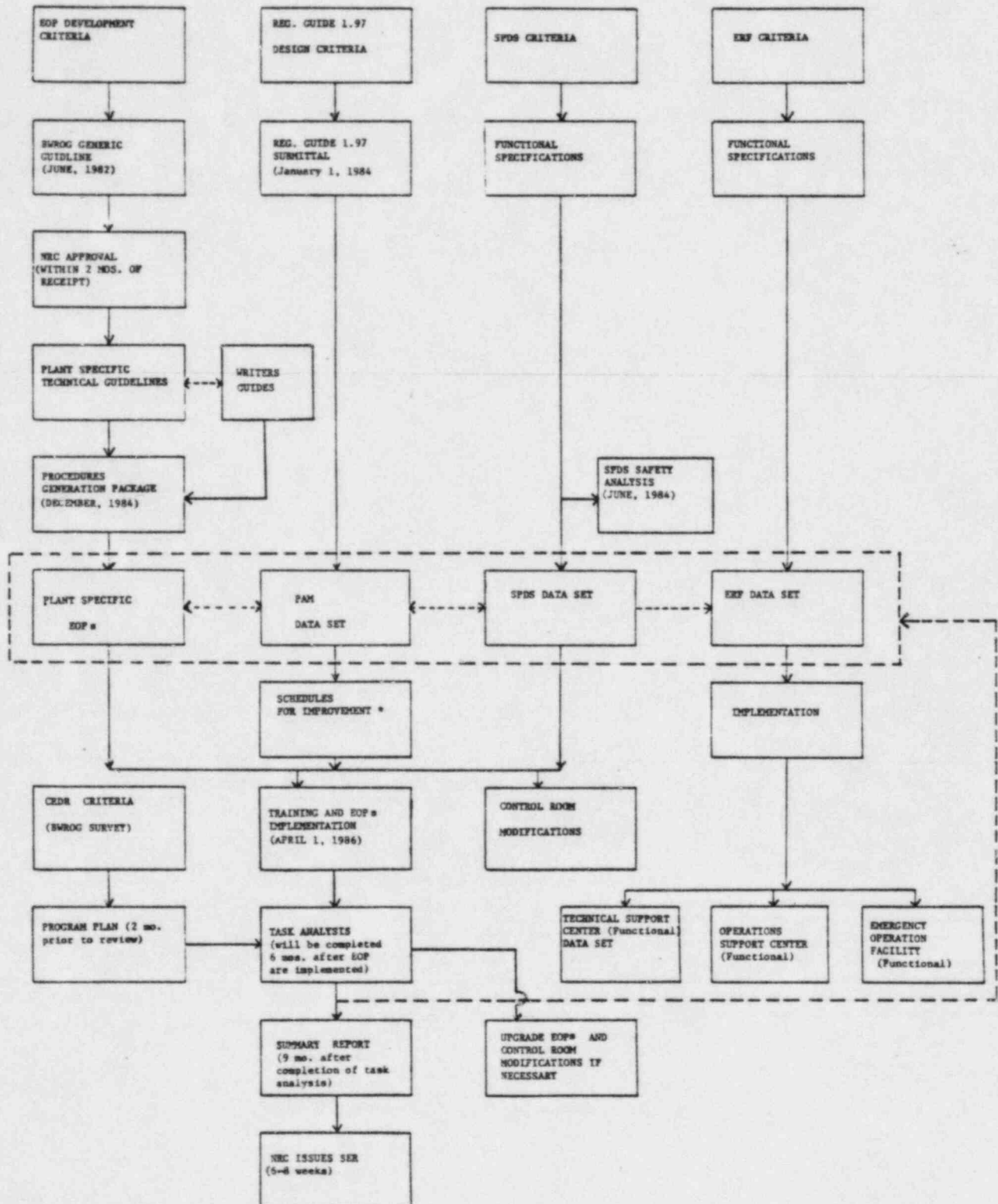
TVA will maintain consistency of control room design with the plant control boards and the plant specific simulators; therefore, all control board modifications will be reflected on the plant specific simulator and all simulator training will be conducted on up-to-date control boards with emphasis on modifications.

## G. INTEGRATION OF EMERGENCY RESPONSE CAPABILITY INITIATIVES

Effective implementation of emergency response capability initiatives requires the integration of these capabilities into an action plan which recognizes their interdependence. TVA intends to accomplish this using an integrated action plan which is graphically illustrated in the attached flow chart. This action plan has been simplified to identify fundamental relationships between the initiatives. As such, it does not show all interactions between them.

It must also be recognized that this is an interactive process. Implementation of various control room modifications will be coordinated and integrated with other plant modifications consistent with our integrated schedule concept. As control room/plant modifications are implemented, procedures will be reviewed and revised as necessary and operators trained on these changes consistent with our established operator training programs. Training will thus be an integral activity in the implementation of these initiatives. Implementation schedules will be discussed in response to each of the individual initiatives.

BROWNS FERRY NUCLEAR PLANT  
INTEGRATED ACTION PLAN



\* Schedules for installation or upgrade will be identified when Reg. Guide 1.97 data set is integrated into CEDR and equipment delivery dates, outage projection, load demand, and manpower requirements are identified.