



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

OCT 28 1991

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Gentlemen:

In the Matter of)Docket Nos.	50-259	50-327
Tennessee Valley Authority)	50-260	50-328
)	50-296	50-390
)		50-391

EMERGENCY RESPONSE DATA SYSTEM (ERDS) - IMPLEMENTATION SCHEDULE

On September 12, 1991, the ERDS Rule 10 CFR 50 Appendix E, Section VI, became effective. As required by the rule, implementation plans and schedules using the guidance of NUREG-1394, Rev. 1, have been developed for TVA's sites and the Central Emergency Control Center (CECC) and are included as Enclosures 1 through 4 for Sequoyah Nuclear Plant, Browns Ferry Nuclear Plant, Watts Bar Nuclear Plant, and the CECC respectively. Enclosure 5 provides the list of commitments contained in this submittal.

Sincerely,

E. G. Wallace
Manager
Nuclear Licensing and Regulatory Affairs

Enclosures
cc: See page 2

9045 / 11

U.S. Nuclear Regulatory Commission

OCT 28 1991

Enclosures

cc (Enclosures):

Mr. B. A. Wilson, Project Chief
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

Mr. D. E. LaBarge, Project Manager
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

NRC Resident Inspector
Sequoyah Nuclear Plant
2600 Igou Ferry Road
Soddy Daisy, Tennessee 37379

Mr. Peter S. Tam, Project Manager
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

Watts Bar Resident Inspector
Watts Bar Nuclear Plant
P.O. Box 700
Spring City, Tennessee 37381

Mr. Thierry M. Ross, Project Manager
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

NRC Resident Inspector
Browns Ferry Nuclear Plant
Route 12, P.O. Box 637
Athens, Alabama 35609-2000

Mr. John R. Jolicoeur
ERDS Project Manager
U.S. Nuclear Regulatory Commission
Mail Stop MNBB 3206
Washington, D.C. 20555

ENCLOSURE 1

TVA will implement Sequoyah Nuclear Plant's (SQN) Emergency Response Data System (ERDS) through the Central Emergency Control Center (CECC) which serves as the Emergency Operations facility for SQN. The specific implementation plan and schedule for the activities identified by NUREG 1394, Rev. 1, for SQN are as follows:

1. TVA will complete the planned CECC computer upgrade by February 3, 1992. The current VAX 11/750 processors will be replaced with redundant VAX 4000 processors with expanded disk and tape storage capacity.
2. The phone line and modem installation is scheduled to be completed by January 31, 1992. This is in accordance with the NRC schedule contained in Generic Letter 91-14. Phone line and modem for ERDS will be installed in the CECC.
3. The Plant Attribute List and the Data Point Library will be submitted to NRC by December 2, 1991.
4. Appropriate administrative control procedures will be revised and/or written and approved by August 7, 1992, to ensure that NRC is notified whenever an ERDS data point is changed. Changes to the Data Point Library will be submitted within 30 days of the change.
5. Preliminary transmission testing of the ERDS CECC to NRC data link will begin on June 1, 1992, with completion expected before June 30, 1992.
6. Preliminary software testing for ERDS data transmission will begin on June 15, 1992, with completion expected before June 30, 1992.
7. Formal software testing with the NRC contractor will begin on July 1, 1992, with completion expected before July 24, 1992.
8. Formal system testing, with NRC will begin on July 27, 1992, with completion expected before August 14, 1992. This schedule is dependent upon NRC scheduling of system tests.
9. SQN ERDS will be declared operational at the completion of the formal system testing scheduled to be completed by August 14, 1992.
10. The appropriate procedures for activation and administration of ERDS will be revised and/or developed and will have an effective date to coincide with the date ERDS is declared operational. These procedures will require activation of ERDS within one hour of the declaration of an alert or higher classification.

ENCLOSURE 2

TVA will implement Browns Ferry Nuclear Plant's (BFN) Emergency Response Data System (ERDS) through the Central Emergency Control Center (CECC) which serves as the Emergency Operations facility for BFN. The specific implementation plan and schedule for the activities identified by NUREG 1394, Rev. 1, for BFN are as follows:

1. TVA will complete the planned CECC computer upgrade by February 3, 1992. The current VAX 11/750 processors will be replaced with redundant VAX 4000 processors with expanded disk and tape storage capacity.
2. The phone line and modem installation is scheduled to be completed by January 31, 1992. This is in accordance with the NRC schedule contained in Generic Letter 91-14. Phone line and modem for ERDS will be installed in the CECC.
3. The Plant Attribute List and the Data Point Library will be submitted to NRC by December 2, 1991.
4. The software for the capture and storage of the BFN data transmitted to the CECC will be developed and tested by March 31, 1992.
5. Appropriate administrative control procedures will be revised and/or written and approved by August 7, 1992, to ensure that NRC is notified whenever an ERDS data point is changed. Changes to the Data Point Library will be submitted within 30 days of the change.
6. Preliminary transmission testing of the ERDS CECC to NRC data link will begin on June 1, 1992, with completion expected before June 30, 1992.
7. Preliminary software testing for ERDS data transmission will begin on June 15, 1992, with completion expected before June 30, 1992.
8. Formal software testing with the NRC contractor will begin on July 1, 1992, with completion expected before July 24, 1992.
9. Formal system testing with NRC will begin on July 27, 1992, with completion expected before August 14, 1992. This schedule is dependent upon NRC scheduling of system tests.
10. The appropriate procedures for activation and administration of ERDS will be revised and/or developed and will have an effective date to coincide with the date ERDS is declared operational. These procedures will require activation of ERDS within one hour of the declaration of an alert or higher classification.
11. BFN Unit 2 ERDS will be operational at the completion of the formal system testing scheduled to be completed by August 14, 1992. BFN ERDS will transmit a limited data set at this time based on data points available on the BFN Unit 2 Interim Safety Parameter Display System. As agreed to by NRC in the letter to BFN dated March 6, 1991, BFN will upgrade SPDS to provide additional available data points to ERDS during Refueling Outage Cycle 7.
12. BFN Units 1 and 3 will be added to ERDS as these units prepare for restart.

TVA will implement Watts Bar Nuclear Plant's (WBN) Emergency Response Data System (ERDS) through the Central Emergency Control Center which serves as the Emergency Operations facility for WBN. WBN will complete implementation of ERDS for Units 1 and 2 prior to these units receiving their operating license.

Data provided by WBN's ERDS will be derived from the Safety Parameter Display System (SPDS) through WBN's Emergency Response Facility Data System (ERFDS). WBN's implementation plan for SPDS is described in TVA's letter to NRC (Generic Letter 89-06) dated November 11, 1989. As noted in that letter, the Unit 1 SPDS will be installed and "functional" before fuel load. A functional SPDS will support implementation of ERDS. A fully "operational" SPDS requires several validation activities including "live" testing, resolution of operator comments, and verification of display data and will be declared operational following the WBN Unit 1 first refueling outage.

TVA will implement the Browns Ferry (BFN), Sequoyah (SQN), and Watts Bar (WBN) Nuclear Plants' Emergency Response Data System (ERDS) through the Central Emergency Control Center (CECC) which serves as the Emergency Operations facility for TVA nuclear sites. This facility, located in TVA's office complex in Chattanooga is manned 24 hours a day.

TVA is currently replacing the existing VAX 11/750 processors with redundant VAX 4000 processors. Only 1 processor is required to implement the functions required for the CECC including the ERDS function. The redundant processor is maintained in an "operational standby" mode. The CECC currently has high speed data links to the SQN Technical Support Center Data System, the BFN Unit 2 Interim Safety Parameter Display System, and the Watts Bar Emergency Response Facility Data System simulator system. The CECC also has a data link to the Environmental Data Station computer systems at BFN, SQN, and WBN. The high speed links that connect the CECC computer system to the plant data systems are over TVA owned and operated links. These links will be monitored 24 hours a day to ensure high reliability. This arrangement has distinct advantages over systems located at the sites. These advantages are:

1. Redundant processors
2. 24-hour coverage
3. Multiple modems to NRC
4. Multiple transmission lines to NRC
5. Single source of data collection e.g., SPDS data and meteorological data
6. One single point to activate ERDS and
7. Shorter lead time to implement
8. Less software to be developed and maintained
9. Additional operating units will be added with no additional ERDS interfaces required
10. Currently, the plant simulators are configured to execute exercise and drill scenario data through the CECC computer and not the site computers. This data will be transmitted to ERDS to allow more realistic data for NRC participation in drills.

The specific implementation schedule for the activities identified by NUREG 1394, Rev 1, are as follows:

1. TVA will complete the CECC computer upgrade by February 3, 1992. The current VAX 11/750 processors will be replaced with redundant VAX 4000 processors with expanded disk and tape storage capacity.
2. The phone line and modem installation is scheduled to be completed by January 31, 1992. This is in accordance with the NRC schedule contained in Generic Letter 91-14. TVA will install four phone lines and modems.
3. The software for the transmission of the CECC data to the NRC ERDS will be developed and tested by June 1, 1992.
4. Preliminary transmission testing of the ERDS CECC to NRC data link will begin on June 1, 1992, with completion expected before June 30, 1992.
5. Preliminary software testing for ERDS data transmission will begin on June 15, 1992, with completion expected before June 30, 1992.

ENCLOSURE 4

6. Formal software testing with the NRC contractor will begin on July 1, 1992, with completion expected before July 24, 1992.
7. The ERDS hardware and software will be controlled by the CECC software Quality Assurance Plan. Appropriate administrative control procedures will be revised and/or written and approved by August 7, 1992, to require:
 - a. proposed system modifications which could affect data communication protocol will be submitted for NRC review in advance to ensure changes are compatible with ERDS, and
 - b. changes to the Data Point Library be submitted to NRC within 30 days of the change.
8. The appropriate procedures for activation and administration of ERDS will be revised and/or developed and will have an effective date to coincide with the date ERDS is declared operational. These procedures will require activation of ERDS within one hour of the declaration of an alert or higher classification.
9. Appropriate personnel will be trained in the operation of the ERDS interface by July 30, 1992.
10. Formal system testing with NRC will begin on July 27, 1992, with completion expected before August 14, 1992. This schedule is dependent upon NRC scheduling of system tests.

ENCLOSURE 5

1. BFN Unit 1 will have an operational ERDS at the time of restart.
2. BFN Unit 2 will have an operational ERDS with a limited data set by August 14, 1992.
3. BFN Unit 2 will upgrade ERDS to provide additional available data points by Cycle 7 refueling outage.
4. BFN Unit 3 will have an operational ERDS at the time of restart.
5. SQN, Units 1 and 2, will have an operational ERDS by August 14, 1992.
6. WBN Units 1 and 2 will have an operational ERDS at the time of licensing.
7. CECC will have an operational ERDS by August 14, 1992.
8. The data links from the CECC to the site operating units (SQN and BFN) will be made redundant by May 1, 1992.