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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

In the Matter of TENNESSEE VALLEY AUTHORITY (Sequoyah Nuclear Plant, Unit No. 1)	)	Docket No. 50-327

ORDER FOR MODIFICATION OF LICENSE

I.

The Tennessee Valley Authority (licensee) is the holder of License No. DPR-77, which authorizes the operation of the Sequoyah Nuclear Plant, Unit No. 1 at steady state reactor core power levels not in excess of 3411 megawatts thermal (rated power). The facility consists of a pressurized water reactor located at the licensee's site in Louisa County, Virginia.

II.

On November 4, 1977, the Union of Concerned Scientists (UCS) filed with the Commission a "Petition for Emergency and Remedial Relief." The petition sought action in two areas: fire protection for electrical cables, and environmental qualification of electrical components. By Memorandum and Order dated April 13, 1978 (7 NRC 400), the Commission denied certain aspects of the petition and, with respect to other aspects, ordered the NRC staff to take several related actions. UCS filed a Petition for Reconsideration on May 2, 1978. By Memorandum and Order dated May 23, 1980, the Commission reaffirmed its April 13, 1978 decision regarding the possible shutdown of operating reactors. However, the Commission's May 23, 1980 decision directed licensees and the NRC staff to undertake certain actions.

With respect to environmental qualification of safety-related electrical equipment, the Commission determined that the provisions of the two staff documents - the Division of Operating Reactors "Guidelines for Evaluating Environmental Qualification of Class IE Electrical Equipment in Operating Reactors" (DOR Guidelines) and NUREG-0588, "Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment," December 1979 (copies attached) "form the requirements which licensees and applicants must meet in order to satisfy those aspects of 10 CFR Part 50, Appendix A General Design Criterion (GDC-4), which relate to environmental qualifications of safety-related electrical equipment." The Commission directed, for replacement parts in operating plants, "unless there are sound reasons to the contrary, the 1974 standard in NUREG-0588 will apply." The Commission also directed the staff to complete its review of the information sought from licensees by Bulletin 79-01B[1] and to complete its review of environmental qualification of safety-related electrical equipment in all operating plants, including the publication of Safety Evaluation Reports, by February 1, 1981. The Commission imposed a deadline that, "by no later than June 30, 1982 all safety-related electrical equipment in all operating plants shall be qualified to the DOR Guidelines or NUREG-0588."

[1] Bulletin 79-01B was not sent to licensees for plants under review as part of the staff's Systematic Evaluation Program. The information sought by Bulletin 79-01B was requested from these licensees by a series of letters and meetings during the months of February and March, 1980.

The Commission requested the staff to "keep the Commission and the public apprised of any further findings of incomplete environmental qualification of safety-related electrical equipment, along with corrective actions taken or planned," and requested the staff to provide bi-monthly progress reports to the Commission.

The Commission further directed that, "In order to leave no room for doubt on this issue, the staff is to prepare additional Technical Specifications for all operating plants which codify the documentation requirement paragraph of the Guidelines (paragraph 8.0)." The staff was directed to add these documentation requirements to each license after they were approved by the Commission.

The Commission also pointed out that the various deadlines imposed in its Order, "do not excuse a licensee from the obligation to modify or replace inadequate equipment promptly."

III.

The Commission has approved the provisions of the license condition set forth in Section IV below which specify documentation requirements and which specifically impose on the licensee the requirement of the Commission's May 23, 1980 Memorandum and Order that by no later than June 30, 1982 all safety-related electrical equipment shall be qualified to the DOR Guidelines or NUREG-0588.

The information developed during the Commission review of the UCS Petition emphasizes the importance of prompt completion of the upgrading of environ-

mental qualification of safety-related electrical equipment to conform to the DOR Guidelines or NUREG-0588 and of adequate documentation of equipment qualifications. The deadlines set forth in the Commission's Memorandum and Order dated May 23, 1980, assure that such upgrading will be accomplished promptly. In order to assure prompt completion of necessary qualification work or replacement of unqualified components, if necessary, in conformance with the requirements of the Commission's Memorandum and Order dated May 23, 1980, such upgrading work must commence immediately. Therefore, I have concluded that the public health, safety and interest require this Order for Modification of License to be effective immediately.

IV.

Accordingly, pursuant to the Atomic Energy Act of 1954, as amended, and the Commission's Rules and Regulations in 10 CFR Parts 2 and 50, IT IS ORDERED THAT EFFECTIVE IMMEDIATELY Facility Operating License No. DPR-77 is hereby amended to add the following license condition 2.C.( )( ) and Appendix A Technical Specification 6.10.2(o):

License Condition 2.C.(,)(,)

"By no later than June 30, 1982, all safety-related electrical equipment in the facility shall be qualified in accordance with the provisions of: Division of Operating Reactors "Guidelines for Evaluating Environmental Qualification of Class IE Electrical Equipment in Operating Reactors" (DOR Guidelines), or, NUREG-0588, "Interim Staff Position on Environmental

Qualification of Safety-Related Electrical Equipment," December 1979. Copies of these documents are attached to Order for Modification of License No. DPR-77 dated November 6, 1980.

Appendix A Technical Specification 6.10.2(o)

"Records for Environmental Qualification which are covered under the provisions of Paragraph 2.C.(12)(b) of License No. DPR-77."

To effectuate the foregoing, appropriate pages for incorporation into the Technical Specifications are attached to this Order.

V.

The licensee or any person whose interest may be affected by this Order may request a hearing within 20 days of the date of publication of this Order in the Federal Register. Any request for a hearing will not stay the effective date of this Order. Any request for a hearing shall be addressed to the Director, Office of Nuclear Reactor Regulation, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555. A copy of the request should also be sent to the Executive Legal Director, U. S. Nuclear Regulatory Commission, Washington, D. C 20555, and to Herbert S. Sanger, Jr., Esq., General Counsel, Tennessee Valley Authority, 400 Commerce Avenue, E 11B 33, Knoxville, Tennessee 37902, attorney for the licensee.

If a hearing is held concerning this Order, the issue to be considered at the hearing shall be:

whether all safety-related electrical equipment should be qualified as required in Section IV, above, by no later than June 30, 1982.

Operation of the facility on terms consistent with this Order is not stayed by the pendency of any proceedings on the Order.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by
Darrell G. Eisenhut

Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation

Effective Date: November 6, 1980
Bethesda, Maryland

Attachments:
1. License and Technical Specification Pages for this Order
2. Guidelines for Evaluating Environmental Qualification of Class IE Electrical Equipment in Operating Reactors
3. NUREG-0588, Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment.

J. Scinto

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(9) Steam Generator Inspection (Section 5.3.1)

(a) Prior to March 1, 1981, TVA shall provide to the NRC the results of its tests to determine the feasibility of using a steam generator camera device;

(b) Prior to start-up after the first refueling, TVA must install inspection ports in each steam generator if the results of the camera device inspection are not satisfactory to the NRC;

(c) Prior to start-up after the first refueling, TVA will plug Row 1 of the steam generator tubes, if required by NRC.

(10) Water Chemistry Control Program (Section 5.3.2)

Prior to exceeding five percent power, TVA shall incorporate the following provisions into the secondary water chemistry control program

1. The Hotwell pump discharge sample point along with continuous cation conductivity monitoring will be used as the control point for confirming a condenser leak and for initiating corrective action to locate and repair the leak.

2. Impurity-time operating limits for feedwater should be incorporated into the water chemistry program. The limits use feedwater pH and cation conductivity impurity-time limit values the same as used for steam generator blowdown limits.

(11) Negative Pressure in the Auxiliary Building Secondary Containment Enclosure (ABSCE) (Section 6.2.3)

After the final ABSCE configuration is determined, TVA must demonstrate to the satisfaction of the NRC that a negative pressure of 0.25 inches of water gauge can be maintained in the spent fuel storage area and in the ESF pump room.

(12) Environmental Qualification (Section 7.2.2)

(a) No later than November 1, 1980, TVA shall submit information to show compliance with the requirements of NUREG-0588, "Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment," for safety-related equipment exposed to a harsh environment. Implementation shall be in accordance with NUREG-0588 by June 30, 1982.

(b) By no later than December 1, 1980, complete and auditable records must be available and maintained at a central location which describe the environmental qualification method used for all safety-related electrical equipment in sufficient detail to document the degree of compliance with the DOR Guidelines or NUREG-0588. Thereafter, such records should be updated and maintained current as equipment is replaced, further tested, or otherwise further qualified to document complete compliance by June 30, 1982.

(c) By no later than June 30, 1982, all safety-related electrical equipment in the facility shall be qualified in accordance with the provisions of: Division of Operating Reactors "Guidelines for Evaluating Environmental Qualification of Class IE Electrical Equipment in Operating Reactors" (DOR Guidelines); or, NUREG-0588, "Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment," December 1979. Copies of these documents are attached to the Order for Modification of License DPR-77 dated November 6, 1980.

(13) Loss of Non-Class IE Instrumentation and Control Room System Bus During Operation (Section 7.10)

Prior to exceeding five percent power, TVA must complete revisions to plant emergency procedures to the satisfaction of the NRC.

(14) Engineering Safety Feature (ESF) Reset Controls (Section 7.11)

In conformance with IE Bulletin 80-06, TVA shall test the system to identify any further areas of concern, and TVA shall review the control schemes to determine that they are the best in terms of equipment control and plant safety. The results of these test and review efforts shall be provided to the NRC in accordance with the bulletin.

(15) Diesel Generator Reliability (Section 8.3.1)

Prior to operation following the first refueling, TVA shall implement the following design and procedure modifications as outlined in Section 8.3.1 of SER Supplement No. 2. These include: (a) Moisture in Air Starting System; (b) Turbocharger Gear Drive Problem; and, (c) Personnel Training.

(16) Fire Protection System (Section 9.5)

TVA, to the satisfaction of the NRC, shall:

(a) Prior to June 1981, submit the following 3 items which deal with the Essential Raw Cooling Water (ERCW) supply: (a) enclose the necessary exposed conduit with 1 1/2-hour fire barrier; (b) reroute train B ERCW pump cables and ERCW transformer power cables to obtain a minimum 20-foot separation from train A; and, (c) enclose the ERCW junction box with 1-1/2-hour fire barrier;

(b) Prior to November 1, 1980, (1) install five fire dampers; and, (2) replace and relocate sprinkler heads in the auxiliary building.