



Tennessee Valley Authority, Post Office Box 2000, Soddy-Daisy, Tennessee 37379

June 30, 2000

10 CFR 50.90

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

Gentlemen:

In the Matter of) Docket Nos. 50-327
Tennessee Valley Authority) 50-328

**SEQUOYAH NUCLEAR PLANT (SQN) - IN ACCORDANCE WITH 10 CFR
50.90, REVISED REQUEST FOR LICENSE AMENDMENT TO ALLOW RECEIPT
AND STORAGE OF LOW-LEVEL RADIOACTIVE WASTE (LLRW) FROM UNIT 1
OF THE WATTS BAR NUCLEAR PLANT (WBN)**

By letter dated December 17, 1999, TVA submitted a request for a license amendment and exemption from 10 CFR 50.54(ee), "Condition of License," to allow receipt and storage of low-level radioactive waste from Unit 1 of the Watts Bar Nuclear Plant. As the result of a conference call between TVA and NRC on June 27, 2000, and at NRC's request, TVA withdraws its previous request for an exemption from the requirements of 10 CFR 50.54(ee) and submits a revised request for a license amendment to permit SQN to receive and store LLRW generated at WBN Unit 1. Other than certain revisions to clarify and update some of the supporting documentation, the amendment request is unchanged from the original submittal.

Enclosure 1 contains the (revised) proposed license amendment package that would modify license condition statement 2.B.(5) in licenses DPR-77 and -79 for SQN Units 1 and 2, respectively, to remove a potential restriction on receiving low-level radioactive waste generated at WBN Unit 1.

Enclosures 2 and 3 are the same as Enclosures 3 and 4 in the original submittal, with no revisions other than enclosure number. Enclosure 2 contains copies of the appropriate pages from the SQN Units 1 and 2 licenses that have been marked to show the proposed changes. Enclosure 3 forwards the revised pages for SQN Units 1 and 2 licenses that incorporate the proposed changes. The amendment request is submitted in accordance with the provisions of 10 CFR 50.4 and 50.90, for

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changes to the licenses. Pursuant to 10 CFR 50.91 (a)(1) and 10 CFR 50.92 (c), TVA has determined that there are no significant hazards considerations associated with the proposed change. Pursuant to 10 CFR 51.22 (c)(9), TVA has determined that the proposed change does not individually or cumulatively have a significant effect on the human environment, and thus should be categorically excluded from further environmental review.

The SQN Plant Operations Review Committee and the SQN Nuclear Safety Review Board have reviewed this proposed change and determined that operation of SQN in accordance with the proposed change will not endanger the health and safety of the public. Additionally, in accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter to the Tennessee State Department of Public Health.

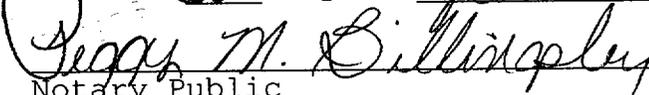
TVA requests that the amended licenses be made effective within 45 days of NRC approval. In the intervening six months since TVA's initial license amendment request, WBN has experienced increasing operational constraints. Accordingly, NRC approval is requested as soon as possible. Please direct questions or comments concerning this issue to me at (423) 843-7170 or C. L. Wilson at (423) 751-6153.

Sincerely,



Pedro Salas
Licensing and Industry Affairs Manager

Subscribed and sworn to before me
on this 30th day of June


Notary Public

My Commission Expires Oct. 9, 2002

Enclosures

cc: See page 3

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cc (Enclosures):

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ENCLOSURE 1

TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT (SQN)
UNITS 1 AND 2
DOCKET NOS. 327 AND 328

PROPOSED LICENSE AMENDMENT NO. TS 99-25
DESCRIPTION AND EVALUATION OF THE PROPOSED CHANGE

I. DESCRIPTION OF THE PROPOSED CHANGE

TVA proposes to amend the SQN Unit 1 and Unit 2 Facility Operating Licenses (DPR-77 and -79) to specifically allow receipt at SQN of low-level radioactive waste (LLRW) from Watts Bar Nuclear Plant (WBN). This is accomplished by modifying license condition statement 2.B.(5) in each license, which currently states:

"Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility."

to read as follows:

"Pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the Sequoyah or Watts Bar Unit 1 Nuclear Plants."

II. REASON FOR THE PROPOSED CHANGE

TVA believes that license condition statement 2.B.(5) was intended, consistent with nonproliferation objectives, to restrict licensees from separating nuclides generated in the course of operation of the licensed facility; it was not intended to restrict licensees from possessing low-level byproduct and special nuclear materials produced by operation of another facility. Nonetheless, TVA is requesting that license condition statement 2.B.(5) be modified as stated above to remove any question regarding its interpretation with respect to receipt at Sequoyah of LLRW generated at Watts Bar Unit 1.

Over the past several years, TVA has experienced, firsthand, the rapidly increasing, unpredictable, and highly expensive access and disposal fees associated with the Barnwell, South Carolina, LLRW disposal facility. For the past couple of

become well known that the State of South Carolina has been moving to significantly restrict and eventually terminate LLRW disposal access to generators outside of the state. In fact, the State of South Carolina has recently announced a significant reduction in the amount of LLRW that will be accepted at Barnwell, leading to the complete phase-out of Barnwell repository access to all LLRW generators outside of the three Mid-Atlantic LLRW Compact member states by the year 2008. Faced with unpredictable and extremely expensive access and disposal fees, and the knowledge that South Carolina was moving to restrict and eventually terminate access to Barnwell, TVA evaluated its onsite storage capabilities, including the refurbishment of existing on-site LLRW Storage Facility modules constructed at SQN in the early 1980s. TVA had envisioned the possibility of off-site disposal restrictions at that time and designed the LLRW Storage Facility to have sufficient capacity to permit power operations to continue for the design life of the plant. The counterpart facility at WBN was never completed. However, reductions in radioactive waste volumes due to continuing process improvements at both SQN and WBN Unit 1 have resulted in the SQN facility having sufficient capacity to accept LLRW from both SQN and WBN Unit 1 for the life of all three units. Therefore, construction of a separate LLRW Storage Facility at WBN would be an unnecessary expense and burden to ratepayers.

TVA halted the shipment of all classes of LLRW (A, B, and C) to the Barnwell facility after access and disposal fees escalated to economically prohibitive levels. These fees have now stabilized at unreasonably high levels, and the site operator (Chem-Nuclear Systems, LLC) now requires the payment of past (unused and unpaid) site access fees prior to resumption of further shipments. Furthermore, as stated above, the State of South Carolina has announced the reduction of future amounts of LLRW to be accepted at Barnwell, with access to the facility gradually being entirely phased out between now and calendar year 2008.

Consistent with the NRC policy of utilizing permanent off-site disposal whenever feasible, TVA is currently shipping and plans to continue shipment of Class A dry-active waste to the Envirocare facility in Utah because it is much less expensive than shipment to Barnwell. If Envirocare is successful in its current efforts to become licensed to receive Classes B and C LLRW, TVA will consider the economic viability of shipping those classes of LLRW to the Envirocare facility.

TVA has and will continue to take steps to ensure that adequate funds are provided to account for the costs associated with disposal of the LLRW generated in the course of SQN and WBN operations. The availability of such funds will in no way compromise the funds required for SQN or WBN decommissioning activities, consistent with the decommissioning funding requirements and limitations contained in 10 CFR 50.75 and 10 CFR 50.82.

III. Safety Analysis

TVA constructed at Sequoyah in the early 1980s an On-site Storage Facility (OSF) for LLRW which was never utilized for that purpose. TVA had envisioned the possibility of off-site disposal restrictions at that time and had designed the OSF to have sufficient capacity to permit power operations to continue for the life of the plant.

The NRC granted Materials License No. 41-08165-14 on September 17, 1982 (Reference 3), for use of the OSF at SQN for a period of five years. Consistent with the NRC policy of utilizing permanent off-site disposal whenever possible, however, LLRW continued to be shipped by TVA to Barnwell, South Carolina, since that repository continued to be available, and no radwaste was stored in the SQN facility. The Materials License was renewed once prior to expiration, but on April 25, 1990, TVA requested its termination (Reference 4) since there were no plans for its use in the foreseeable future. The termination request noted that if use of the facility became necessary, TVA would not need to renew the Materials License but would instead perform a 10 CFR 50.59 evaluation as allowed in Generic Letter 81-38, "Storage of Low-Level Radioactive Wastes at Power Reactor Sites."

Pursuant to 10 CFR 50.59, TVA has completed a safety analysis which addresses utilizing the existing LLRW OSF to accept radioactive wastes previously sent to the Barnwell, South Carolina facility. The safety analysis evaluated extended storage of LLRW resins in de-watered form and other radwaste material inside high integrity containers (HICs). The safety analysis justifies 88,500 Curies as the total approved accumulated activity limit for on-site storage of radioactive waste within the OSF structure. The total yearly generated activity stored in the facility shall not exceed 17,744 Curies. These Curie limitations, which are based on limiting the yearly cumulative exposure received by personnel handling LLRW, are stated in the original TVA application for a

materials license (Reference 1) to store LLRW under 10 CFR Part 30. The safety analysis reviewed applicable design program requirements having the potential to affect nuclear safety as a result of the proposed change. It was concluded that nuclear safety would not be reduced by the proposed change.

The types of LLRW generated at WBN Unit 1 are very similar to those generated at SQN. Also, the total projected quantities (both in terms of volume and activity) for the SQN and WBN lifetimes are well within the storage capabilities of the SQN OSF facility. Therefore, receipt and storage of WBN LLRW at the SQN OSF is supported by the above safety analysis.

IV. NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

TVA has concluded that use of the SQN OSF for receipt and storage of radwaste from WBN, in accordance with the proposed change to the operating licenses, does not involve a significant hazards consideration. TVA's conclusion is based on its evaluation, in accordance with 10 CFR 90.91 (a) (1), of the three standards set forth in 10 CFR 50.92 (c).

A. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The probability of occurrence or the consequences for an accident or malfunction is not increased. Design basis accidents were previously analyzed by TVA and reviewed by NRC as part of the materials license process for the OSF. The intended future usage of the OSF is bounded by those analyses, with the sole exception of transport from WBN to SQN. Transport from WBN to SQN involves a distance of only 35 miles, which is very likely a small increment of the distance to any final off-site repository. For example, the 35 mile transit from WBN to SQN is much less than the 370 mile distance from WBN to Barnwell, South Carolina, which was reviewed as part of the WBN operating license request. As with any shipment of LLRW, DOT requirements will be met.

B. The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

A possibility for an accident or malfunction of a different type than any evaluated previously in SQN's Final Safety Analysis Report is not created by the proposed change; nor is the possibility for an accident or malfunction of a different type. Potential accidents were previously analyzed by TVA and reviewed by NRC as part of

the materials license process for the OSF. The intended future usage of the OSF is bounded by those analyses, with the sole exception of transport from WBN to SQN. Radwaste shipments from WBN to SQN will be no different than any other radwaste shipment except that the distance is only 35 miles. This transportation route does not present any significant potential negative impacts on the public health and safety. As with any shipment of LLRW, DOT requirements will be met.

C. The proposed amendment does not involve a significant reduction in a margin of safety.

The proposed amendment will not involve a significant reduction in the margin of safety. The margin of safety was previously analyzed by TVA and reviewed by NRC as part of the materials license process for the OSF. The intended future usage of the OSF is bounded by those analyses, with the sole exception of transport from WBN to SQN. The transport route from WBN to SQN, which involves a distance of only 35 miles, does not present any significant potential negative impacts on the public health and safety is very likely a small increment of the distance to any final off-site repository. For example, this is much less than the distance to Barnwell, South Carolina, which was reviewed as part of the WBN operating license request. As with any shipment of LLRW, DOT requirements will be met.

V. ENVIRONMENTAL IMPACT CONSIDERATION

The proposed change does not involve a significant hazards consideration, a significant change in the types of or significant increase in the amounts of any effluents that may be released offsite, or a significant increase in individual or cumulative occupational radiation exposure. Potential environmental impacts were reviewed by NRC prior to issuance of Materials License No. 41-08165-14 for the SQN OSF. The types of LLRW generated at WBN Unit 1 are very similar to those generated at SQN. Also, the total projected quantities (both in terms of volume and activity) for the SQN and WBN Unit 1 lifetimes are well within the original design storage capabilities of the SQN OSF facility. Therefore, the proposed change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental assessment of the proposed change is not required.

REFERENCES

1. Letter, L. M. Mills, Tennessee Valley Authority (TVA), to H. R. Denton, NRC, November 24, 1980. Re: Request for Amendment to Facility Operating License No. DPR-77.
2. Letter, L. M. Mills, TVA to L. C. Rouse, NRC, March 18, 1982. Re: Updated Amendment to TVA's November 24, 1980 application.
3. Materials License No. 41-08165-14, Docket No. 30-19101, granted to Tennessee Valley Authority on September 17, 1982, for its LLRW Storage Facility at SQN, as an Amendment to Facility Operating License No. DPR-77.
4. Letter, E. G. Wallace, Tennessee Valley Authority, to NRC, April 25, 1980. Re: Request for termination of Materials License No. 41-08165-14.

ENCLOSURE 2
TENNESSEE VALLEY AUTHORITY
SEQUOYAH PLANT (SQN)
UNITS 1 AND 2

PROPOSED LICENSE AMENDMENT NO. TS-99-25
MARKED PAGES

I. AFFECTED PAGE LIST

Unit 1, DPR-77, page 3

Unit 2, DPR-79, page 3

II. MARKED PAGES

See attached.

- (4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the Sequoyah or Watts Bar Unit 1 Nuclear Plants .

C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The Tennessee Valley Authority is authorized to operate the facility at reactor core power levels not in excess of 3411 megawatts thermal.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 248 are hereby incorporated into the license. The licensee shall operate the facility in accordance with the Technical Specifications. R252

(3) Initial Test Program

The Tennessee Valley Authority shall conduct the post-fuel-loading initial test program (set forth in Section 14 of Tennessee Valley Authority's Final Safety Analysis Report, as amended), without making any major modifications of this program unless modifications have been identified and have received prior NRC approval. Major modifications are defined as:

- a. Elimination of any test identified in Section 14 of TVA's Final Safety Analysis Report as amended as being essential;
- b. Modification of test objectives, methods or acceptance criteria for any test identified in Section 14 of TVA's Final Safety Analysis Report as amended as being essential;
- c. Performance of any test at a power level different from there described; and

- (4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the Sequoyah or Watts Bar Unit 1 Nuclear Plants .

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(1) Maximum Power Level

The Tennessee Valley Authority is authorized to operate the facility at reactor core power levels not in excess of 3411 megawatts thermal.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 239 are hereby incorporated into the license. The licensee shall operate the facility in accordance with the Technical Specifications. | R239

(3) Initial Test Program

The Tennessee Valley Authority shall conduct the post-fuel-loading initial test program (set forth in Section 14 of Tennessee Valley Authority's Final Safety Analysis Report, as amended), without making any major modifications of this program unless modifications have been identified and have received prior NRC approval. Major modifications are defined as:

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- c. Performance of any test at a power level different from there described; and

ENCLOSURE 3
TENNESSEE VALLEY AUTHORITY
SEQUOYAH PLANT (SQN)
UNITS 1 AND 2

PROPOSED LICENSE AMENDMENT NO. TS-99-25
REVISED PAGES

I. AFFECTED PAGE LIST

Unit 1, DPR-77, page 3

Unit 2, DPR-79, page 3

II. REVISED PAGES

See attached.

- (4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
 - (5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the Sequoyah or Watts Bar Unit 1 Nuclear Plants.
- C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
- (1) Maximum Power Level

The Tennessee Valley Authority is authorized to operate the facility at reactor core power levels not in excess of 3411 megawatts thermal.
 - (2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 248 are hereby incorporated into the license. The licensee shall operate the facility in accordance with the Technical Specifications.
 - (3) Initial Test Program

The Tennessee Valley Authority shall conduct the post-fuel-loading initial test program (set forth in Section 14 of Tennessee Valley Authority's Final Safety Analysis Report, as amended), without making any major modifications of this program unless modifications have been identified and have received prior NRC approval. Major modifications are defined as:

 - a. Elimination of any test identified in Section 14 of TVA's Final Safety Analysis Report as amended as being essential;
 - b. Modification of test objectives, methods or acceptance criteria for any test identified in Section 14 of TVA's Final Safety Analysis Report as amended as being essential;
 - c. Performance of any test at a power level different from there described; and

- (4) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (5) Pursuant to the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the Sequoyah or Watts Bar Unit 1 Nuclear Plants.

C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

The Tennessee Valley Authority is authorized to operate the facility at reactor core power levels not in excess of 3411 megawatts thermal.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 239 are hereby incorporated into the license. The licensee shall operate the facility in accordance with the Technical Specifications. | R239

(3) Initial Test Program

The Tennessee Valley Authority shall conduct the post-fuel-loading initial test program (set forth in Section 14 of Tennessee Valley Authority's Final Safety Analysis Report, as amended), without making any major modifications of this program unless modifications have been identified and have received prior NRC approval. Major modifications are defined as:

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- b. Modification of test objectives, methods or acceptance criteria for any test identified in Section 14 of TVA's Final Safety Analysis Report as amended as being essential;
- c. Performance of any test at a power level different from there described; and