

June 29, 2000

Mr. J. A. Scalice
Chief Nuclear Officer
and Executive Vice President
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

SUBJECT: SEQUOYAH NUCLEAR PLANT UNITS 1 AND 2 - ENVIRONMENTAL
ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT RELATED TO THE
ISSUANCE OF LICENSE AMENDMENTS (TAC NOS. MA8169 AND MA8170)

Dear Mr. Scalice:

Enclosed is a copy of the Environmental Assessment and Finding of No Significant Impact related to your application to amend Facility Operating Licenses DPR-77 and DPR-79, dated December 17, 1999, for the Sequoyah Nuclear Plant, Units 1 and 2, respectively. The proposed amendments would allow the Tennessee Valley Authority to store low-level radioactive waste that is generated by operation of the Watts Bar Nuclear Plant in a specially designed facility at the Sequoyah Nuclear Plant site.

The assessment is being forwarded to the Office of the Federal Register for publication.

Sincerely,

/RA/

Ronald W. Hernan, Senior Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-327 and 50-328

Enclosure: Environmental Assessment

cc w/encl: See next page

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NAME	RHernan	BClayton	EFox*	CCarpenter*	RCorreia	SUttal
DATE	6/27/00	6/27/00	5/8/00	5/8/00	6/27/00	6/27/00

Official Record Copy

UNITED STATES NUCLEAR REGULATORY COMMISSION
TENNESSEE VALLEY AUTHORITY
DOCKET NOS. 50-327 AND 50-328
SEQUOYAH NUCLEAR PLANT, UNITS 1 AND 2
ENVIRONMENTAL ASSESSMENT AND FINDING OF
NO SIGNIFICANT IMPACT

INTRODUCTION

The U.S. Nuclear Regulatory Commission (NRC) is considering issuance of an amendment to Facility Operating Licenses Nos. DPR-77 and DPR-79, issued to the Tennessee Valley Authority (TVA, the licensee) for operation of the Sequoyah Nuclear Plant (SQN) Units 1 and 2, respectively. The facility is located in Hamilton County, Tennessee.

ENVIRONMENTAL ASSESSMENT

Identification of the Proposed Action:

The proposed action would revise License Condition 2.B.(5) in each of the licenses, which authorizes possession of byproduct and special nuclear materials (SNM). The License Condition 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.

These proposed amendments change the words “as may be produced by the operation of the facility” to “as may be produced by the operation of the Sequoyah or Watts Bar Unit 1 Nuclear Plants.” Upon NRC approval of the requested license amendments, TVA plans to

transport low-level radioactive waste (LLRW) from Watts Bar Nuclear Plant (WBN), Unit 1, to the SQN site for storage in a facility designed for that purpose.

The proposed action is in accordance with TVA's application for license amendments dated December 17, 1999.

The Need for the Proposed Action:

Byproduct material and small amounts of SNM are present as the radioactive contaminants in certain LLRW that has, in the past, been shipped to the Chem-Nuclear facility near Barnwell, South Carolina, for permanent deep-trench disposal. The LLRW being considered for storage at the SQN site includes ion-exchange resins, pressurized water reactor filters, tank solids, irradiated metal reactor components, and dry active waste.

TVA believes that License Condition 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 by-product and SNM produced by operation of another facility. Nonetheless, TVA is requesting that License Condition 2.B.(5) be modified as stated above to remove any question of interpretation with respect to receipt of LLRW generated at Watts Bar Unit 1 at the SQN site.

TVA has, until now, made regular shipments of Class B and Class C LLRW (as defined in 10 CFR Part 61) to the South Carolina Barnwell permanent disposal facility. Class A dry active waste (the lowest radioactivity level) is routinely shipped to the Envirocare facility in Utah, which is licensed to receive Class A dry active waste, but not other types of Class A, Class B, or Class C wastes. Recent escalating LLRW access and disposal fees at Barnwell, and the prospect of sudden closure of the facility, with no alternative disposal facility for LLRW (other than Class A dry active waste) becoming available in the foreseeable future, have led TVA to develop an alternative solution until such time as a practical off-site repository option again

becomes available. The cost to TVA of sending LLRW to Barnwell for disposal has increased 800% over the past 10 years. Furthermore, South Carolina has recently passed legislation to enter into a LLRW disposal pact with the States of Connecticut and New Jersey (known as the Atlantic Compact) and has announced that, ultimately, only those states will be allowed to ship LLRW to Barnwell. TVA has a very large interim storage facility at the SQN site with ample storage space for LLRW from operation of both SQN units and the single WBN unit. The LLRW storage modules were constructed at SQN in the early 1980s but have never been utilized.

The proposed License Condition revision is needed to allow the Watts Bar Nuclear Plant the option to ship LLRW to the SQN site, thereby permitting continued operations of the WBN plant. TVA has stated its intention to ship any stored waste (predominantly Class B and C) to the Envirocare of Utah facility (or any other facility) at such time as that facility is licensed to receive and dispose of such wastes.

Environmental Impacts of the Proposed Action:

The NRC has completed its evaluation of the proposed action and concludes that, with regard to radiological impacts to the general public, the proposed action involves activities located entirely within the restricted area as defined in 10 CFR Part 20. The proposed action will not significantly increase the probability or consequences of accidents, no changes are being made in the types of any effluents that may be released off site, and there is no significant increase in occupational or public radiation exposure.

The NRC granted Materials License No. 41-08165-14 (Docket No. 30-19101) on September 17, 1982, for use of the LLRW storage facility at SQN for a period of 5 years. At the same time, the NRC issued a Safety Evaluation Report and Environmental Impact Appraisal to support operation of the storage facility using assumptions consistent with the 40-year plant operating license. However, consistent with the NRC's policy of utilizing permanent off-site

disposal of LLRW whenever possible, LLRW shipments were continued to the Barnwell facility. Consequently, no radioactive waste has ever been stored in the SQN LLRW storage facility. The Materials License was renewed once prior to expiration, but TVA requested its termination on April 25, 1990, since there were no plans for use of the storage facility 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."

Because of the licensee's ALARA [As Low As Reasonably Achievable] program and significant reductions in generation of LLRW (including coolant chemistry and reactor fuel quality improvements), the amount of LLRW expected to be generated and stored in the SQN LLRW storage facility for two SQN units and one WBN unit is significantly less in volume and radioactivity than the assumptions used in the Environmental Impact Appraisal that supported the Materials License granted by the NRC in 1982 for operation of two SQN units for the life of the plant. Specifically, there would be no incremental increase in occupational radiation exposure over that assumed in previous NRC actions related to operation of this storage facility. Therefore, there are no significant radiological environmental impacts associated with the proposed action.

With regard to potential nonradiological impacts, the proposed action does not involve any historic sites. It does not affect nonradiological plant effluents and has no other environmental impact. Therefore, there are no significant nonradiological environmental impacts associated with the proposed action.

As stated by the NRC in its Environmental Impact Appraisal for Materials License No. 41-08165-14 for the SQN LLRW on-site storage facility, the quality of the human environment will not be significantly affected and there will be no significant environmental impact from the

operation of the existing SQN LLRW interim storage facility. The added LLRW stored as a result of WBN's single-unit operations will remain well within the original design and proposed capacity limitations considered in the above-mentioned Environmental Impact Appraisal.

Accordingly, the NRC concludes that there are no significant environmental impacts associated with the proposed action.

Alternative to the Proposed Action:

As an alternative to the proposed action, the staff considered denial of the proposed action (i.e., the "no action" alternative). Denial of the exemption would result in no change in environmental impacts already analyzed by the NRC and TVA. The environmental impacts of the proposed action and the alternative action are similar.

Alternative Use of Resources:

This action does not involve the use of any resources not previously considered in the Environmental Impact Appraisal for Materials License No. 41-08165-14, dated September 17, 1982, supporting the materials license for the SQN LLRW storage facility.

Agencies and Persons Consulted:

In accordance with its stated policy, the NRC staff consulted with an official of the State of Tennessee, Ms. Joelle Key, on May 4, 2000, regarding the environmental impact of the proposed action. Ms. Key had a question regarding the quality of packaging for LLRW material to be stored at this facility. She was advised that the material will be packaged in 300-year high-integrity containers and will not need repackaging prior to shipment to a permanent disposal facility. Ms. Key indicated the State was in general agreement with TVA's request.

FINDING OF NO SIGNIFICANT IMPACT

On the basis of the environmental assessment, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly,

the NRC has determined not to prepare an environmental impact statement for the proposed action.

For further details with respect to this action, see the licensee's letter dated December 17, 1999, which is available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street NW., Washington, DC. Publically available records are also accessible electronically from the ADAMS Public Library component on the NRC Web site, <http://www.nrc.gov> (the Electronic Reading Room) and from the Agencywide Documents Access and Management System.

Dated at Rockville, Maryland, this 29th day of June 2000.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Ronald W. Hernan, Senior Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Mr. J. A. Scalice
Tennessee Valley Authority

**SEQUOYAH NUCLEAR PLANT
WATTS BAR NUCLEAR PLANT**

cc:

Mr. Karl W. Singer, Senior Vice President
Nuclear Operations
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. Pedro Salas, Manager
Licensing and Industry Affairs
Sequoyah Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Soddy Daisy, TN 37379

Mr. Jack A. Bailey, Vice President
Engineering & Technical Services
Tennessee Valley Authority
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. D. L. Koehl, Plant Manager
Sequoyah Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Soddy Daisy, TN 37379

Mr. Richard T. Purcell, Site Vice President
Watts Bar Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Spring City, TN 37381

Senior Resident Inspector
Sequoyah Nuclear Plant
U.S. Nuclear Regulatory Commission
2600 Igou Ferry Road
Soddy Daisy, TN 37379

Mr. Masoud Bajestani
Site Vice President
Sequoyah Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Soddy Daisy, TN 37379

County Executive
Hamilton County Courthouse
Chattanooga, TN 37402-2801

General Counsel
Tennessee Valley Authority
ET 10H
400 West Summit Hill Drive
Knoxville, TN 37902

Mr. Paul L. Pace, Manager
Licensing and Industry Affairs
Watts Bar Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Spring City, TN 37381

Mr. N. C. Kazanas, General Manager
Nuclear Assurance
Tennessee Valley Authority
5M Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Mr. William R. Lagergren, Plant Manager
Watts Bar Nuclear Plant
Tennessee Valley Authority
P.O. Box 2000
Spring City, TN 37381

Mr. Mark J. Burzynski, Manager
Nuclear Licensing
Tennessee Valley Authority
4X Blue Ridge
1101 Market Street
Chattanooga, TN 37402-2801

Senior Resident Inspector
Watts Bar Nuclear Plant
U.S. Nuclear Regulatory Commission
1260 Nuclear Plant Road
Spring City, TN 37381

Rhea County Executive
375 Church Street
Suite 215
Dayton, TN 37321

(Continued)

County Executive
Meigs County Courthouse
Decatur, TN 37322

Mr. Lawrence E. Nanney, Director
Division of Radiological Health
Dept. of Environment & Conservation
Third Floor, L and C Annex
401 Church Street
Nashville, TN 37243-1532

Ms. Ann Harris
305 Pickel Road
Ten Mile, TN 37880

Heinz Mueller [5]
Environmental Review Coordinator
US EPA Region 4
61 Forsyth Street, SW.
Atlanta, Georgia 30303-3104