



Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381

February 19, 2014

10 CFR 30.38  
10 CFR 40.44

Licensing Assistance Team  
Division of Nuclear Materials Safety  
U.S. Nuclear Regulatory Commission, Region I  
2100 Renaissance Boulevard, Suite 100  
King of Prussia, PA 19406-2713

Watts Bar Nuclear Plant, Unit 2  
NRC Docket No. 50-391

**Subject: Application to Amend Watts Bar Nuclear Plant, Unit 2 Materials License**

The purpose of this letter is to request an amendment to Watts Bar Nuclear Plant (WBN), Unit 2 Materials License Number 41-31424-01 to reflect changes in the manufacturer of californium-252 sealed sources and the authorized users of licensed material. The enclosed completed NRC Form 313, "Application for Materials License," provides additional details on the requested amendment.

There are no new commitments associated with this submittal. If you have any questions, please contact Gordon Arent, Director, WBN Licensing, at (423) 365-2004.

Respectfully,

Raymond A. Hruby  
General Manager, Technical Services  
WBN Unit 2

Enclosure: Completed NRC Form 313, Application for Materials License

NM5520

U.S. Nuclear Regulatory Commission  
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cc (Enclosure):

U.S. Nuclear Regulatory Commission  
Document Control Desk  
11555 Rockville Pike, 1 White Flint North  
Washington, D.C. 20555-0001

U. S. Nuclear Regulatory Commission  
Region II  
Marquis One Tower  
245 Peachtree Center Ave., NE Suite 1200  
Atlanta, Georgia 30303-1257

NRC Resident Inspector Unit 2  
Watts Bar Nuclear Plant  
1260 Nuclear Plant Road  
Spring City, Tennessee 37381

**Enclosure 1**

Completed NRC Form 313  
Application for Materials License

NRC FORM 313

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0120

EXPIRES: 05/31/2015

(03-2013)  
10 CFR 30, 32, 33,  
34, 35, 36, 39, and 40APPLICATION FOR MATERIALS  
LICENSE

Estimated burden per response to comply with this mandatory collection request: 4.3 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the Information Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [InfoCollect.Resource@nrc.gov](mailto:InfoCollect.Resource@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0120), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

**INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW. \*AMENDMENTS/RENEWALS THAT INCREASE THE SCOPE OF THE EXISTING LICENSE TO A NEW OR HIGHER FEE CATEGORY WILL REQUIRE A FEE.**

## APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

OFFICE OF FEDERAL & STATE MATERIALS AND  
ENVIRONMENTAL MANAGEMENT PROGRAMS  
DIVISION OF MATERIALS SAFETY AND STATE AGREEMENTS  
U.S. NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555-0001

## ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

## IF YOU ARE LOCATED IN:

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA,  
KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY,  
NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH  
CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA,

## SEND APPLICATIONS TO:

LICENSING ASSISTANCE TEAM  
DIVISION OF NUCLEAR MATERIALS SAFETY  
U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
2100 RENAISSANCE BOULEVARD, SUITE 100  
KING OF PRUSSIA, PA 19406-2713

## IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN.  
SEND APPLICATIONS TO:

MATERIALS LICENSING BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS,  
LOUISIANA, MISSISSIPPI, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH  
DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS,  
UTAH, WASHINGTON, OR WYOMING,

## SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV  
1600 E LAMAR BOULEVARD  
ARLINGTON, TX 76011-4511

**PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.**

## 1. THIS IS AN APPLICATION FOR (Check appropriate item)

A. NEW LICENSE



B. AMENDMENT TO LICENSE NUMBER

41-31424-01

C. RENEWAL OF LICENSE NUMBER

## 2. NAME AND MAILING ADDRESS OF APPLICANT (include ZIP code)

Tennessee Valley Authority  
Chief Nuclear Officer and Executive VP, TVA Nuclear  
3R-C Lookout Place, 1101 Market Street  
Chattanooga, TN 37402

## 3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

Tennessee Valley Authority  
Watts Bar Nuclear Plant  
Spring City TN, 37381

## 4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Gordon Arent

## BUSINESS TELEPHONE NUMBER

(423) 365-2004

## BUSINESS CELLULAR TELEPHONE NUMBER

(865) 567-0133

## BUSINESS EMAIL ADDRESS

garent@tva.gov

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

## 5. RADIOACTIVE MATERIAL

a. Element and mass number, b. chemical and/or physical form, and c. maximum amount  
which will be possessed at any one time.

## 6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED

## 8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS

## 9. FACILITIES AND EQUIPMENT

## 10. RADIATION SAFETY PROGRAM

## 11. WASTE MANAGEMENT

12. LICENSE FEES (Fees required only for new applications, with few exceptions\*)  
(See 10 CFR 170 and Section 170.31)

FEE CATEGORY

AMOUNT  
ENCLOSED \$

## 13. CERTIFICATION (Must be completed by applicant) THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39, AND 40 AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

## CERTIFYING OFFICER - TYPED/PRINTED NAME AND TITLE

Raymond A. Hruby-General Manager, Technical Services WBN Unit 2

## SIGNATURE

## DATE

2/19/2014

**Requested Changes to Items 5 through 11 of NRC Form 313,  
Application for Materials License**

TVA requests the following changes to Materials License number 41-31424-01 for WBN Unit 2.

- A. Revision to the manufacturer and model number of californium-252 startup sources (License 41-31424-01, Item 7G):

Item 5, Radioactive Material:

Current Manufacturer and Model: Frontier Technology Corporation, Model FTC Model 100 Series

Requested Amendment to Manufacturer and Model: Babcock and Wilcox (B&W) Nuclear Energy, Model Number BWSR1. B&W Model Number BWSR1 was registered with the Nuclear Regulatory Commission (NRC) on October 7, 2013 under Certificate No. NR-1375-S-101-S.

The maximum amount of activity for the californium-252 startup sources will remain 286 micrograms per source and 572 micrograms total.

- B. Revision to Authorized Users (License 41-31424-01, Item 12):

Item 7 – Individual(s) Responsible for Radiation Safety Program and their Training Experience:

TVA requests to add John W. Wikle as an individual who can use or supervise the use of radioactive material. TVA also requests to remove Steven E. Woods as an individual who can use or supervise the use of radioactive material. TVA has reviewed the training and experience requirements for "Authorized Users" described in Section 8.7.2 of NUREG-1556, Volume 7, and determined that Mr. Wikle meets these requirements.

Mr. Wikle's education includes a Bachelor of Arts in Zoology. His experience and training in the handling and use of radioisotopes is listed below:

<b>John W. Wikle – Relevant Training and Experience</b>		
Type of Training	Where Trained	Training
Bachelor of Arts in Zoology, June 1980.	University of Tennessee, Knoxville	Chemistry, Biochemistry, Physics, Calculus, Biology, Ecology
TVA Health Physics Technician Initial Training	TVA Power Operations Training Center (POTC)	Four Months Classroom Training in Health Physics Theory and Applications and PWR and BWR Plant Systems
TVA Health Physics Technician Initial Training	TVA Sequoyah (SQN) and TVA Watts Bar (WBN)	20 Months On –the-Job Training (OJT)

<b>John W. Wikle – Relevant Training and Experience (continued)</b>		
TVA Health Physics Technician Continuing Training	POTC, SQN, WBN	Periodic continuing training under INPO accredited HP Tech Training program
Health Physics Technician Trainee	SQN, WBN	Aug 1983 to Aug 1985
Health Physics Technician	SQN, WBN, TVA Browns Ferry (BFN), V.C. Summer Nuclear Station	Aug 1985 to Oct 1996
Radiological Control Shift Supervisor	SQN	Oct 1996 to May 2000
Radiological Control Health Physicist	SQN	May 2000 to Jul 2003
Radiological Control Health Physicist - Dosimetry Specialist	SQN	Jul 2003 to May 2013
Radiological Control Health Physicist	WBN	May 2013 to present