



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

10 CFR 50.71(e)

**MAY 30 2007**

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D. C. 20555-0001

Gentlemen:

In the Matter of ) Docket No.50-390  
Tennessee Valley Authority )

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 -- UPDATED FINAL SAFETY  
ANALYSIS REPORT (UFSAR) AMENDMENT 6

Pursuant to 10 CFR 50.71(e), the enclosed compact discs (CD-ROM) contain the WBN UFSAR Amendment 6. TVA is submitting this amendment utilizing the guidance in 10 CFR 171.9, *Communications, Appendix A, United States Nuclear Regulatory Commission (NRC) Guidance for Electronic Submission to the Commission*, dated October 10, 2003.

This update reflects changes and analyses made since the issuance of Amendment 5 on September 30, 2005. It also includes editorial corrections and changes in design made pursuant to 10 CFR 50.59, *Changes, Test, and Experiments*. The summaries of evaluations of these changes made under the provisions of 10 CFR 50.59, are being provided to NRC by separate letter.

A total of two CD-ROMs are included in this submittal. Due to the number of files associated with the WBN UFSAR, TVA has included the listing of files and size of each CD-ROM in an Enclosure. The CD-ROMs are labeled "Watts Bar Nuclear Plant Unit 1 Amendment 6, Chapters 1 through 7" and "Watts Bar

A053

U.S. Nuclear Regulatory Commission

Page 2

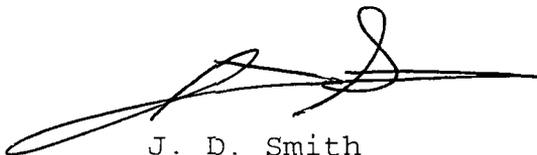
**MAY 30 2007**

Nuclear Plant Unit 1 Amendment 6, Chapters 8 through 17." TVA has also included on each CD-ROM the search engines to facilitate the use of the materials in a stand alone mode.

This letter certifies that the information provided in the enclosed Amendment 6 accurately reflects information and analysis from changes made since the issuance of Amendment 5. If you have any questions concerning this amendment, please contact me at (423) 365-1824, e-mail address: jdsmith@tva.gov.

I declare under penalty of perjury that the foregoing is true and correct. Executed on May 30, 2007.

Sincerely,



J. D. Smith  
Manager, Site Licensing  
and Industry Affairs (Acting)

Enclosure

cc (Enclosures):

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

Mr. Brendan T. Moroney, Project Manager  
U.S. Nuclear Regulatory Commission  
MS 08G9a  
One White Flint North  
11555 Rockville Pike  
Rockville, Maryland 20852-2738

U.S. Nuclear Regulatory Commission  
Region II  
Sam Nunn Atlanta Federal Center  
61 Forsyth St., SW, Suite 23T85  
Atlanta, Georgia 30303

ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 1  
 UPDATED FINAL SAFETY ANALYSIS REPORT AMENDMENT 6  
 LIST OF CD-ROM FILES

WATTS BAR NUCLEAR PLANT AMENDMENT 6 CHAPTERS 1 THROUGH 7 LIST OF FILES ON DISK 1 OF 2 (ALL LISTED FILES PUBLIC ALLY AVAILABLE)	
FILE NAME	FILE SIZE - BYTES
001 EFFECTIVE PAGE LISTING	223,195
002 MAIN TABLE OF CONTENTS	118,320
<b>CHAPTER 1</b>	
003 1.0 INTRODUCTION & GENERAL DESCRIPTION.PDF	3,295,772
<b>CHAPTER 2</b>	
004 2.0 SITE CHARACTERISTICS.PDF	33,686,079
005 2.5 FIGURES 2.5-1 THROUGH 2.5-306.PDF	20,667,495
006 2.5 FIGURES 2.5-307 THROUGH 2.5-343.PDF	38,364,411
007 2.5 FIGURES 2.5-344 THROUGH 2.5-391A.PDF	42,913,220
008 2.5 FIGURES 2.5-392 THROUGH 2.5-459.PDF	43,177,831
009 2.5 FIGURES 2.5-460 THROUGH 2.5-610.PDF	14,050,158
<b>CHAPTER 3</b>	
010 3.0 DESIGN OF STRUCTURES COMPONENTS EQUIP.PDF	26,813,797
011 3.7 SEISMIC DESIGN.PDF	41,874,420
012 3.8 DESIGN OF CATEGORY I STRUCTURES.PDF	18,591,003
013 3.9 MECHANICAL SYSTEMS & COMPONENTS.PDF	1,261,102
014 3.10 SEISMIC DESIGN CAT I INST & ELECT.PDF	1,102,760
015 3.11 EQUIPMENT ENVIRONMENTAL DESIGN.PDF	86,703
<b>CHAPTER 4</b>	
016 4.0 REACTOR.PDF	311,154
017 4.2 MECHANICAL DESIGN.PDF	2,417,177
018 4.3 NUCLEAR DESIGN.PDF	31,571,926
019 4.4 THERMAL & HYDRAULIC DESIGN.PDF	4,115,194
<b>CHAPTER 5</b>	
020 5.0 REACTOR COOLANT SYSTEM.PDF	10,949,714
<b>CHAPTER 6</b>	
021 6.0 ENGINEERED SAFETY FEATURES.PDF	208,999
022 6.2 CONTAINMENT SYSTEMS.PDF	22,818,873
023 6.3 EMERGENCY CORE COOLING SYSTEM.PDF	2,261,465
024 6.4 HABITABILITY SYSTEMS.PDF	164,008
025 6.5 FISSION PRODUCT REMOVAL SYSTEMS.PDF	306,654
026 6.6 ASME ISI CLASS 2 & 3 COMPONENTS.PDF	52,523
027 6.7 ICE CONDENSER SYSTEM.PDF	2,524,499
028 6.8 AIR RETURN FANS.PDF	62,459
029 6.9 MOTOR-OPERATED VALVE PROGRAMS.PDF	65,489
<b>CHAPTER 7</b>	
030 7.0 INSTRUMENTATION & CONTROLS.PDF	3,942,146

ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 1  
UPDATED FINAL SAFETY ANALYSIS REPORT AMENDMENT 6  
LIST OF CD-ROM FILES

WATTS BAR NUCLEAR PLANT AMENDMENT 6 CHAPTERS 1 THROUGH 7 LIST OF FILES ON DISK 1 OF 2 (ALL LISTED FILES PUBLIC ALLY AVAILABLE)	
ADOBE SEARCH ENGINE FILES	
FOLDER OR FILE NAME	SIZE - BYTES
WBN AMEND 6 CHAPTERS 1-7 (FOLDER)	6,549,272
WBN AMEND 6 CHAPTERS 8-17 (FOLDER)	3,474,762
WBN AMEND 6 CHAPTERS 1-7.LOG	31,090
WBN AMEND 6 CHAPTERS 8-17.LOG	29,469
WBN AMEND 6 CHAPTERS 1-7.PDX	846
WBN AMEND 6 CHAPTERS 8-17.PDX	573

ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 1  
 UPDATED FINAL SAFETY ANALYSIS REPORT AMENDMENT 6  
 LIST OF CD-ROM FILES

WATTS BAR NUCLEAR PLANT AMENDMENT 6 CHAPTERS 8 THROUGH 17 LIST OF FILES ON DISK 2 OF 2 (ALL LISTED FILES PUBLIC ALLY AVAILABLE)	
<b>CHAPTER 8</b>	
FILE NAME	FILE SIZE - BYTES
031 8.0 ELECTRIC POWER.PDF	3,135,773
032 8.3 FIGURES - PART 1.pdf	5,767,722
033 8.3 FIGURES - PART 2.pdf	5,485,295
034 8.3 FIGURES - PART 3.pdf	2,914,536
<b>CHAPTER 9</b>	
035 9.0 AUXILIARY SYSTEM.PDF	326,530
036 9.1 FUEL STORAGE & HANDLING.PDF	1,734,876
037 9.2 WATER SYSTEMS.PDF	7,899,081
038 9.3 PROCESS AUXILIARIES.PDF	5,394,601
039 9.4 HVAC SYSTEMS.PDF	6,602,758
040 9.5 OTHER AUXILIARY SYSTEMS.PDF	1,393,524
<b>CHAPTER 10</b>	
041 10.0 MAIN STEAM POWER CONVERSION SYSTEM.PDF	9,069,938
<b>CHAPTER 11</b>	
042 11.0 RADIOACTIVE WASTE MANAGEMENT.PDF	2,658,158
<b>CHAPTER 12</b>	
043 12.0 RADIATION PROTECTION.PDF	3,137,604
<b>CHAPTER 13</b>	
044 13.0 CONDUCT OF OPERATIONS.PDF	1,890,097
<b>CHAPTER 14</b>	
045 14.0 INITIAL TEST PROGRAM.PDF	637,674
<b>CHAPTER 15</b>	
046 15.0 ACCIDENT ANALYSES.PDF	104,068
047 15.1 CONDITION I OPERATIONAL TRANSIENTS.PDF	412,487
048 15.2 CONDITION II MODERATE FREQUENCY.PDF	2,983,887
049 15.2 FIGURES.PDF	15,677,243
050 15.3 CONDITION III INFREQUENT FAULTS.PDF	15,789,459
051 15.4 CONDITION IV LIMITING FAULTS.PDF	8,253,730
052 15.4 FIGURES.PDF	8,088,7371
053 15.5 CONSEQUENCES OF ACCIDENTS.PDF	380,417
054 15.0 APPENDIX .PDF	59,979
<b>CHAPTER 16</b>	
055 16.0 TECHNICAL SPECIFICATIONS.PDF	74,104
<b>CHAPTER 17</b>	
056 17.0 QUALITY ASSURANCE.PDF	190,755

ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 1  
UPDATED FINAL SAFETY ANALYSIS REPORT AMENDMENT 6  
LIST OF CD-ROM FILES

<b>WATTS BAR NUCLEAR PLANT AMENDMENT 6 CHAPTERS 8 THROUGH 17 LIST OF FILES ON DISK 2 OF 2 (ALL LISTED FILES PUBLIC ALLY AVAILABLE)</b>	
<b>ADOBE SEARCH ENGINE FILES</b>	
<b>FOLDER OR FILE NAME</b>	<b>SIZE - BYTES</b>
WBN AMEND 6 CHAPTERS 1-7 (FOLDER)	6,549,272
WBN AMEND 6 CHAPTERS 8-17 (FOLDER)	3,474,762
WBN AMEND 6 CHAPTERS 1-7.LOG	31,090
WBN AMEND 6 CHAPTERS 8-17.LOG	29,469
WBN AMEND 6 CHAPTERS 1-7.PDX	846
WBN AMEND 6 CHAPTERS 8-17.PDX	573
001 EFFECTIVE PAGE LISTING	223,195
002 MAIN TABLE OF CONTENTS	118,320