



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION II  
SAM NUNN ATLANTA FEDERAL CENTER  
61 FORSYTH STREET, SW, SUITE 23T85  
ATLANTA, GEORGIA 30303-8931

August 30, 2005

Tennessee Valley Authority  
ATTN.: Mr. K. W. Singer  
Chief Nuclear Officer and  
Executive Vice President  
6A Lookout Place  
1101 Market Street  
Chattanooga, TN 37402-2801

SUBJECT: MID-CYCLE PERFORMANCE REVIEW AND INSPECTION PLAN - WATTS  
BAR NUCLEAR PLANT

Dear Mr. Singer:

On August 4, 2005, the NRC staff completed its performance review of the Watts Bar Nuclear Plant for the first half of the calendar year 2005 assessment cycle. Our technical staff reviewed performance indicators (PIs) for the most recent quarter and inspection results over the previous twelve months. The purpose of this letter is to inform you of our assessment of your safety performance during this period and our plans for future inspections at your facility.

This performance review and the enclosed inspection plan do not include physical protection information. A separate letter designated and marked as "Exempt from Public Disclosure in Accordance with 10 CFR 2.390" will include the physical protection review and a resultant inspection plan.

Overall, Watts Bar operated in a manner that preserved public health and safety and fully met all cornerstone objectives. Plant performance for Watts Bar was in the Regulatory Response Column of the NRC Action Matrix for the last three quarters of this 12 month assessment period and in the Licensee Response Column during the first quarter of the period. This was based upon a White inspection finding in the Mitigating Systems Cornerstone regarding corrective actions for raw water cooling silt problems that resulted in the blockage of a charging pump backup cooling line. In an Assessment Follow-up Letter dated May 31, 2005, we informed you that this finding was effective in the fourth quarter of calendar year (CY) 2004. The letter also informed you of our plan to conduct a Supplemental Inspection to better understand the causes of the issue and your planned corrective actions. We completed that inspection (Inspection Report 05000390/2005011), in July 2005 and found your investigation and corrective actions to be thorough and appropriate. Therefore, this finding will only be considered in assessing plant performance for a total of four quarters in accordance with the guidance in IMC 0305, "Operating Reactor Assessment Program."

Because the Supplemental Inspection is complete, we currently plan to conduct only reactor oversight process (ROP) baseline inspections at Watts Bar through March 31, 2007. We also plan on conducting several inspections which, although routine, are not part of the normal baseline inspection program. These inspections include steam generator replacement project inspections and inspections of the lay-up and preservation of Unit 2.

Additionally, the NRC staff has identified a substantive crosscutting issue in the area of Human Performance. Of the nine findings in this assessment period that were identified as having a human performance cross-cutting attribute, six contained human performance aspects specifically related to personnel errors that occurred in the Mitigating Systems and Barrier Integrity cornerstones. These findings exhibited a common performance deficiency of failure to implement procedures. Additionally, five of the six findings were associated with the Operations organization and four of the six were associated with refueling outage preparations or activities. Examples included inadequate oversight during a rod drop event; diesel fans removed from service without implementing an associated Technical Specification surveillance requirement; inadequate post-maintenance testing for a residual heat removal system pump seal; failure to establish a risk contingency plan for an outage electrical maintenance activity; failure to follow work control procedures that resulted in an impact on a pressurizer relief valve operability; and failure to implement solid plant operational procedures that caused pressurizer relief valve actuations. This substantive crosscutting issue regarding human performance is of concern because failures to follow plant procedures resulted in increased challenges to plant equipment from preventable transients and events. Although we are familiar with the actions and recent programs your staff has implemented to address human performance problems, these efforts have not yet had time to demonstrate their effectiveness.

The NRC will focus on TVA's progress in addressing procedure adherence and corrective actions associated with human performance errors during our normal baseline inspection program. Samples selected for focused Problem Identification and Resolution followup will specifically include the review of corrective actions implemented to address human performance issues. The NRC will also review your actions with regard to tracking human performance issues during the semiannual trend review of your corrective action program. The substantive crosscutting issue will be closed when the assessment of performance, as determined by inspection findings, indicates that your actions have been effective in reducing the frequency, number, and impact of human performance issues.

The enclosed inspection plan details the inspections, less those related to physical protection, scheduled through March 31, 2007. The inspection plan is provided to minimize the resource impact on your staff and to allow for the resolution of any scheduling conflicts and personnel availability issues well in advance of inspector arrival onsite. Routine resident inspections are not listed due to their ongoing and continuous nature. The inspections in the last twelve months of the inspection plan are tentative and may be revised at the end-of-cycle review meeting.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

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If circumstances arise which cause us to change the inspection plan, we will contact you to discuss the change as soon as possible. Please contact Stephen Cahill at 404-562-4520 with any questions you may have regarding this letter or our inspection plans.

Sincerely,

*/RA/*

Charles A. Casto, Director  
Division of Reactor Projects

Docket Nos. 50-390 and 50-391  
License Nos. NPF-90 and CPPR-92

Enclosure: Watts Bar Inspection/Activity Plan

cc w/encl: (See page 4)

cc w/encl:

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**Watts Bar**  
**Inspection / Activity Plan**  
**09/01/2005 - 03/31/2007**

Unit Number	Inspection Activity	Title	No. of Staff on Site	Planned Dates Start	Planned Dates End	Inspection Type
	<b>EB3-MR - MR EFFECTIVENESS</b>		<b>2</b>			
1	IP 711112B	Maintenance Effectiveness		10/23/2005	10/27/2005	Baseline Inspections
	<b>PS2 EP - EMERGENCY EXERCISE</b>		<b>4</b>			
1	IP 7111401	Exercise Evaluation		10/31/2005	11/04/2005	Baseline Inspections
1	IP 7111404	Emergency Action Level and Emergency Plan Changes		10/31/2005	11/04/2005	Baseline Inspections
1	IP 71151	Performance Indicator Verification		10/31/2005	11/04/2005	Baseline Inspections
	<b>PS1-RP - RP PREINSPECTION VISIT PUBLIC</b>		<b>1</b>			
1	IP 7112101	Access Control to Radiologically Significant Areas		03/20/2006	03/22/2006	Baseline Inspections
	<b>PS1-RP - RP BASELINE PUBLIC</b>		<b>3</b>			
1	IP 7112103	Radiation Monitoring Instrumentation and Protective Equipment		05/08/2006	05/12/2006	Baseline Inspections
1	IP 7112201	Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems		05/08/2006	05/12/2006	Baseline Inspections
1	IP 7112203	Radiological Environmental Monitoring Program (REMP) And Radioactive Material Control P		05/08/2006	05/12/2006	Baseline Inspections
1	IP 71151	Performance Indicator Verification		05/08/2006	05/12/2006	Baseline Inspections
	<b>OL PREP - INITIAL EXAM PREP</b>		<b>3</b>			
1	V23241	WATTS BAR/EXAM AT POWER FACILITIES		08/07/2006	08/11/2006	Not Applicable
	<b>OL EXAM - INITIAL EXAM</b>		<b>3</b>			
1	V23241	WATTS BAR/EXAM AT POWER FACILITIES		08/28/2006	09/08/2006	Not Applicable
	<b>PS2-EP - EP INSP</b>		<b>1</b>			
1	IP 7111402	Alert and Notification System Testing		09/04/2006	09/08/2006	Baseline Inspections
1	IP 7111403	Emergency Response Organization Augmentation Testing		09/04/2006	09/08/2006	Baseline Inspections
1	IP 7111404	Emergency Action Level and Emergency Plan Changes		09/04/2006	09/08/2006	Baseline Inspections
1	IP 7111405	Correction of Emergency Preparedness Weaknesses and Deficiencies		09/04/2006	09/09/2006	Baseline Inspections
1	IP 71151	Performance Indicator Verification		09/04/2006	09/09/2006	Baseline Inspections
	<b>EB3-ISI - U1 INSERVICE INSPECTION</b>		<b>1</b>			
1	IP 7111108P	Inservice Inspection Activities - PWR		09/18/2006	09/22/2006	Baseline Inspections
	<b>PS1-RP - RP BASELINE OCCUPATIONAL &amp; S/G REPL-WK1</b>		<b>2</b>			
1	IP 50001	Steam Generator Replacement Inspection		10/02/2006	10/06/2006	Other Routine
1	IP 7112101	Access Control to Radiologically Significant Areas		10/02/2006	10/06/2006	Baseline Inspections
1	IP 7112102	ALARA Planning and Controls		10/02/2006	10/06/2006	Baseline Inspections
1	IP 71151	Performance Indicator Verification		10/02/2006	10/06/2006	Baseline Inspections
	<b>EB3SGRP - SG REPLACEMENT</b>		<b>1</b>			
1	IP 50001	Steam Generator Replacement Inspection		10/02/2006	10/06/2006	Other Routine
1	IP 50001	Steam Generator Replacement Inspection		10/23/2006	10/27/2006	Other Routine
1	IP 50001	Steam Generator Replacement Inspection		11/20/2006	11/24/2006	Other Routine

This report does not include INPO and OUTAGE activities.  
This report shows only on-site and announced inspection procedures.

Enclosure

**Watts Bar**  
**Inspection / Activity Plan**  
**09/01/2005 - 03/31/2007**

Unit Number	Inspection Activity	Title	No. of Staff on Site	Planned Dates Start	Planned Dates End	Inspection Type
	<b>PS1-RP</b>	<b>- RP BASELINE OCCUPATIONAL WK2</b>	<b>1</b>			
1	IP 50001	Steam Generator Replacement Inspection		10/16/2006	10/20/2006	Other Routine
1	IP 7112101	Access Control to Radiologically Significant Areas		10/16/2006	10/20/2006	Baseline Inspections
	<b>OL RQ</b>	<b>- REQUAL INSPECTION</b>	<b>2</b>			
1	IP 7111111B	Licensed Operator Requalification Program		11/13/2006	11/17/2006	Baseline Inspections
	<b>EB1SSDPC</b>	<b>- SSDPC PRE-INSPECTION VISIT</b>	<b>1</b>			
1	IP 7111121	Safety System Design and Performance Capability		01/22/2007	01/26/2007	Baseline Inspections
	<b>EB1SSDPC</b>	<b>- SAFETY SYSTEM DESIGN &amp; PERF. CAPABILITY</b>	<b>6</b>			
1	IP 7111121	Safety System Design and Performance Capability		02/12/2007	02/16/2007	Baseline Inspections
1	IP 7111121	Safety System Design and Performance Capability		02/26/2007	03/02/2007	Baseline Inspections
1	IP 7111121	Safety System Design and Performance Capability		03/12/2007	03/16/2007	Baseline Inspections
	<b>RPB6-PIR</b>	<b>- BIENNIAL PI&amp;R INSPECTION WEEK 1</b>	<b>4</b>			
1	IP 71152B	Identification and Resolution of Problems		03/26/2007	03/30/2007	Baseline Inspections