March 2, 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: ANNUAL ASSESSMENT LETTER - WATTS BAR NUCLEAR PLANT,
INSPECTION REPORT 05000390/2005001, 05000391/2005001

Dear Mr. Singer:

On February 10, 2005, the NRC staff completed its end-of-cycle plant performance assessment
of the Watts Bar Nuclear Plant. The end-of-cycle review for Watts Bar involved the participation
of the reactor technical divisions in evaluating performance indicators (PIs) for the most recent
quarter and inspection results for the period from January 1 through December 31, 2004. 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 will allow you an opportunity to
prepare for these inspections and to inform us of any planned inspections that may conflict with
your plant activities. This performance review and the enclosed inspection plan do not include
physical protection information. A separate end-of-cycle performance review 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 the most recent quarter, as well as for the first
three quarters of the assessment cycle, was within the Licensee Response Column of the
NRC’s Action Matrix, based on all inspection findings being classified as having very low safety
significance (Green) and all PIs indicating performance at a level requiring no additional NRC
oversight (Green). Therefore, we plan to conduct only reactor oversight process (ROP)
baseline inspections at your facility through September 30, 2006. We also plan to conduct non-
ROP inspections of the lay-up and preservation of Unit 2 and your preparations for steam
generator replacement.

The enclosed inspection plan details the inspections, less those related to physical protection,
scheduled through September 30, 2006. The inspection plan is provided to minimize the
resource impact on your staff and to allow for scheduling conflicts and personnel availability to
be resolved in advance of inspector arrival onsite. Routine resident inspections are not listed
due to their ongoing and continuous nature. The inspections in the last nine months of the
inspection plan are tentative and may be revised at the mid-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).

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

Sincerely,

/RA by S. Shaeffer for/

Stephen J. Cahill, Chief
Reactor Projects Branch 6
Division of Reactor Projects

Docket Nos. 50-390, 50-391
License No. NPF-90 and and Construction
Permit No. CPPR-92

Enclosure: Watts Bar Inspection/Activity Plan

cc w/encl: (See page 3)
cc w/encl:
Ashok S. Bhatnagar
Senior Vice President
Nuclear Operations
Tennessee Valley Authority
Electronic Mail Distribution

Michael J. Lorek, General Manager
Engineering and Technical Services
Tennessee Valley Authority
Electronic Mail Distribution

William R. Lagergren
Site Vice President
Watts Bar Nuclear Plant
Tennessee Valley Authority
Electronic Mail Distribution

General Counsel
Tennessee Valley Authority
Electronic Mail Distribution

John C. Fornicola, Manager
Nuclear Assurance and Licensing
Tennessee Valley Authority
Electronic Mail Distribution

Fredrick C. Mashburn
Sr. Program Manager
Nuclear Licensing
Tennessee Valley Authority
Electronic Mail Distribution

Paul L. Pace, Manager
Licensing and Industry Affairs
Watts Bar Nuclear Plant
Tennessee Valley Authority
Electronic Mail Distribution

Gary J. Laughlin, Plant Manager
Watts Bar Nuclear Plant
Tennessee Valley Authority
Electronic Mail Distribution

County Executive
Rhea County Courthouse
375 Church Street, Suite 215
Dayton, TN  37321-1300

County Mayor
P. O. Box 156
Decatur, TN  37322

Lawrence E. Nanney, Director
TN Dept. of Environment & Conservation
Division of Radiological Health
Electronic Mail Distribution

Ann Harris
341 Swing Loop
Rockwood, TN  37854

James H. Bassham, Director
Tennessee Emergency Management Agency
Electronic Mail Distribution

Institute of Nuclear Power Operations
700 Galleria Parkway
Atlanta, GA 30339-5943
<table>
<thead>
<tr>
<th>Unit Number</th>
<th>Inspection Activity</th>
<th>Title</th>
<th>No. of Staff on Site</th>
<th>Planned Dates Start</th>
<th>Planned Dates End</th>
<th>Inspection Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>PI&amp;R</td>
<td>- PROBLEM IDENTIFICATION AND RESOLUTION</td>
<td>Identification and Resolution of Problems</td>
<td>6</td>
<td>02/28/2005</td>
<td>03/04/2005</td>
<td>Baseline Inspections</td>
</tr>
<tr>
<td>MTN-ISI</td>
<td>- INSERVICE INSPECTION</td>
<td>Inservice Inspection Activities - PWR</td>
<td>1</td>
<td>02/28/2005</td>
<td>03/04/2005</td>
<td>Baseline Inspections</td>
</tr>
<tr>
<td>PSB1 RP</td>
<td>- INSPECTION WEEK 1</td>
<td>Access Control to Radiologically Significant Areas</td>
<td>2</td>
<td>02/28/2005</td>
<td>03/04/2005</td>
<td>Baseline Inspections</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ALARA Planning and Controls</td>
<td></td>
<td>02/28/2005</td>
<td>03/04/2005</td>
<td>Baseline Inspections</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Radioactive Material Processing and Transportation</td>
<td></td>
<td>02/28/2005</td>
<td>03/04/2005</td>
<td>Baseline Inspections</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Performance Indicator Verification</td>
<td></td>
<td>02/28/2005</td>
<td>03/04/2005</td>
<td>Baseline Inspections</td>
</tr>
<tr>
<td>MTNSGISI</td>
<td>- STEAM GENERATOR ISI</td>
<td>Inservice Inspection Activities - PWR</td>
<td>2</td>
<td>03/08/2005</td>
<td>03/11/2005</td>
<td>Baseline Inspections</td>
</tr>
<tr>
<td>PSB1 RP</td>
<td>- INSPECTION WEEK 2</td>
<td>Access Control to Radiologically Significant Areas</td>
<td>3</td>
<td>03/14/2005</td>
<td>03/18/2005</td>
<td>Baseline Inspections</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ALARA Planning and Controls</td>
<td></td>
<td>03/14/2005</td>
<td>03/18/2005</td>
<td>Baseline Inspections</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Radioactive Material Processing and Transportation</td>
<td></td>
<td>03/14/2005</td>
<td>03/18/2005</td>
<td>Baseline Inspections</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Performance Indicator Verification</td>
<td></td>
<td>03/14/2005</td>
<td>03/18/2005</td>
<td>Baseline Inspections</td>
</tr>
<tr>
<td>EB1-MODS</td>
<td>- MODIFICATIONS/10CFR50.59</td>
<td>Evaluation of Changes, Tests, or Experiments</td>
<td>4</td>
<td>05/09/2005</td>
<td>05/13/2005</td>
<td>Baseline Inspections</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Permanent Plant Modifications</td>
<td></td>
<td>05/09/2005</td>
<td>05/13/2005</td>
<td>Baseline Inspections</td>
</tr>
<tr>
<td>EB1SSDPC</td>
<td>- SSDPC PRE-INSPECTION VISIT</td>
<td>Safety System Design and Performance Capability</td>
<td>1</td>
<td>06/13/2005</td>
<td>06/17/2005</td>
<td>Baseline Inspections</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Performance Indicator Verification</td>
<td></td>
<td>10/31/2005</td>
<td>11/04/2005</td>
<td>Baseline Inspections</td>
</tr>
<tr>
<td>PS1-RP</td>
<td>- RP BASELINE PUBLIC</td>
<td>Radiation Monitoring Instrumentation and Protective Equipment</td>
<td>3</td>
<td>05/01/2006</td>
<td>05/05/2006</td>
<td>Baseline Inspections</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems</td>
<td></td>
<td>05/01/2006</td>
<td>05/05/2006</td>
<td>Baseline Inspections</td>
</tr>
</tbody>
</table>

This report does not include INPO and OUTAGE activities. This report shows only on-site and announced inspection procedures.
<table>
<thead>
<tr>
<th>Unit Number</th>
<th>Inspection Activity</th>
<th>Title</th>
<th>No. of Staff on Site</th>
<th>Planned Dates</th>
<th>Inspection Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PS1-RP</td>
<td>RP BASELINE PUBLIC</td>
<td>3</td>
<td>05/01/2006 - 05/05/2006</td>
<td>Baseline Inspections</td>
</tr>
<tr>
<td>1</td>
<td>IP 7112203</td>
<td>Radiological Environmental Monitoring Program</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>IP 71151</td>
<td>Performance Indicator Verification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>OL PREP</td>
<td>INITIAL EXAM PREP</td>
<td></td>
<td></td>
<td>Baseline Inspections</td>
</tr>
<tr>
<td>1</td>
<td>V23241</td>
<td>WATTS BAR/EXAM AT POWER FACILITIES</td>
<td></td>
<td>08/07/2006 - 08/11/2006</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>1</td>
<td>PS2-EP</td>
<td>EP INSP</td>
<td>1</td>
<td>08/28/2006 - 09/02/2006</td>
<td>Baseline Inspections</td>
</tr>
<tr>
<td>1</td>
<td>IP 7111402</td>
<td>Alert and Notification System Testing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>IP 7111403</td>
<td>Emergency Response Organization Augmentation Testing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>IP 7111404</td>
<td>Emergency Action Level and Emergency Plan Changes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>IP 7111405</td>
<td>Correction of Emergency Preparedness Weaknesses and Deficiencies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>IP 71151</td>
<td>Performance Indicator Verification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>OL EXAM</td>
<td>INITIAL EXAM</td>
<td></td>
<td></td>
<td>Not Applicable</td>
</tr>
<tr>
<td>1</td>
<td>V23241</td>
<td>WATTS BAR/EXAM AT POWER FACILITIES</td>
<td></td>
<td>08/28/2006 - 09/08/2006</td>
<td></td>
</tr>
</tbody>
</table>

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