

January 13, 1997

Tennessee Valley Authority
ATTN: Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: MEETING SUMMARY - SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE
(SALP) WATTS BAR - DOCKET 50-390

Dear Mr. Kingsley:

On January 7, 1997, the NRC staff met at the Watts Bar Nuclear Facility, with representatives of the Tennessee Valley Authority's Watts Bar Facility staff. The purpose of this meeting was to discuss the results of the SALP Report. Enclosure 1 is a list of the individuals who attended the meeting and Enclosure 2 contains a copy of the material supplied by the NRC at the meeting.

In accordance with Section 2.790 of the NRC's "Rules of Practice" Part 2, Title 10 Code of Federal Regulations, a copy of this letter and its enclosures will be placed in the Public Document Room.

Should you have any questions concerning this letter, please contact me.

Sincerely,

**Original Signed by
M. S. Lesser**

Mark S. Lesser, Chief
Reactor Project Branch 6
Division Reactor Projects

Docket No. 50-390
License No. NPF-90

Enclosures: 1. List of Attendees
2. Presentation Summary

cc w/encls: (See page 2)

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cc w/encls:

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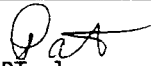
County Executive
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Distribution w/encls: (See page 3)

Distribution w/encls:

- L. A. Reyes, ORA/RII
- J. R. Johnson, DRP/RII
- M. S. Lesser, DRP/RII
- F. J. Hebdon, NRR
- A. P. Hodgdon, OGC
- B. K. Keeling, GPA/CA
Regional Coordinator, OEDO
- R. E. Martin, NRR
- P. A. Taylor, RII
- H. L. Whitener
- C. F. Smith, RII
- E. D. Testa, RII
- D. H. Thompson, RII
- J. H. Moorman, RII
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U.S. Nuclear Regulatory Commission
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 Spring City, TN 37381

SIGNATURE										
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LIST OF ATTENDEES

<u>Name</u>	<u>Title</u>
<u>NRC Staff</u>	
L. Reyes	Regional Administrator, Region II (RII)
E. Merschoff	Acting Deputy Regional Administrator, RII
F. Hebdon	Director, Project Directorate II-3, Office of Nuclear Reactor Regulation (NRR)
R. Martin	Project Manager, Project Directorate II-3, NRR
M. Lesser	Chief, Reactor Project Branch 6, Division of Reactor Projects (DRP), RII
P. Vandoorn	Senior Resident Inspector, Branch 6, Watts Bar, DRP, RII

TVA Staff

J. Scalice	Vice President, Watts Bar Site
R. Purcell	Plant Manager
R. Barron	General Manager, Nuclear Assurance and Licensing
P. Pace	Acting Manager, Site Licensing
D. Kehoe	Manager, Nuclear Assurance and Licensing
R. Beecken	Manager, Maintenance and Modifications
J. Maddox	Manager, Site Engineering
M. Bajestani	Assistant Plant Manager
N. Nelson	Manager, Business & Work Performance
J. Cox	Manager, Radcon/Chemistry
R. Barron	General Manager, Nuclear Assurance and Licensing
D. Kulisek	Site Manager, Engineering/Technical Support

Others

Included members of TVA staff and state representatives.



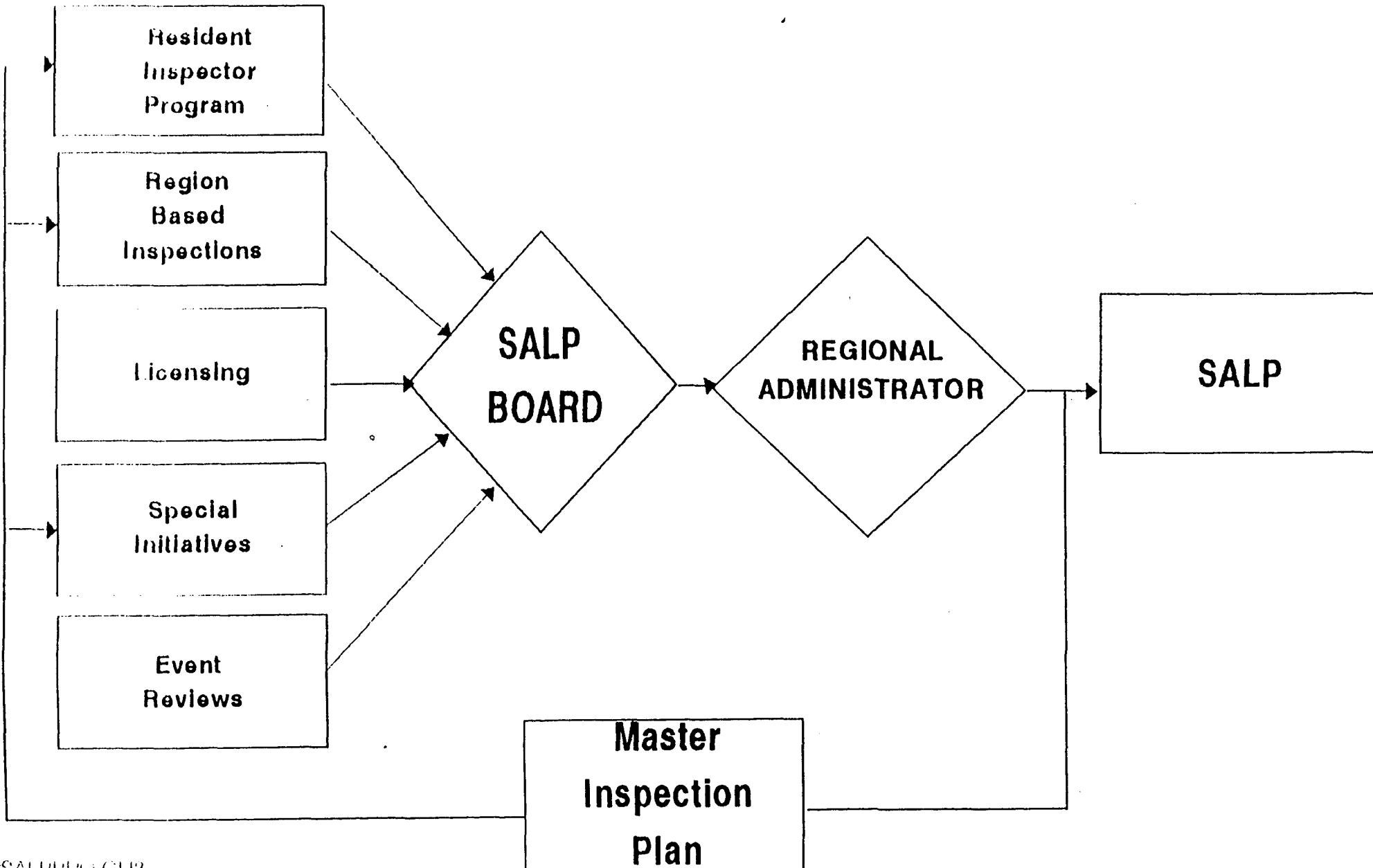
**SYSTEMATIC ASSESSMENT OF
LICENSEE PERFORMANCE
(SALP)**

WATTS BAR NUCLEAR PLANT

**APPRAISAL PERIOD: NOVEMBER 12, 1995 THROUGH
NOVEMBER 9, 1996**

**MEETING
JANUARY 7, 1997**

SALP PROCESS



Watts Bar Nuclear Plant

SALP BOARD MEMBERS

- Ellis Merschhoff Director
Division of Reactor Projects
Region II
- Albert Gibson Director
Division of Reactor Safety
Region II
- Frederick Hebdon Director
Project Directorate II-3
Division of Reactor Projects I/II
Office of Nuclear Reactor Regulation

Watts Bar Nuclear Plant

SALP RATING SUMMARY

FUNCTIONAL AREA	RATING THIS PERIOD	*RATING LAST PERIOD
PLANT OPERATIONS	2	NA
MAINTENANCE	1	NA
ENGINEERING	1	NA
PLANT SUPPORT	2	NA

**Postponed until after licensing.*

Region II Ltr. 6/12/95

PLANT OPERATIONS

CATEGORY 2

OVERALL PERFORMANCE IN THIS AREA WAS GOOD

STRENGTHS:

- MANAGEMENT INVOLVEMENT
- CONSERVATIVE DECISION MAKING
- OPERATOR PERFORMANCE

CHALLENGES:

- CONFIGURATION CONTROL
- ADMINISTRATIVE PROCESSES
- PROCEDURAL ADEQUACY
- OPERATOR ATTENTION TO DETAIL

MAINTENANCE

CATEGORY 1

OVERALL PERFORMANCE IN THIS AREA WAS SUPERIOR

STRENGTHS:

- MANAGEMENT INVOLVEMENT
- EQUIPMENT PERFORMANCE
- PERSONNEL PERFORMANCE

CHALLENGES:

- CALIBRATION/SETPOINT CONTROL
- ATTENTION TO DETAIL

ENGINEERING

CATEGORY 1

OVERALL PERFORMANCE IN THIS AREA WAS SUPERIOR

STRENGTHS:

- MANAGEMENT INVOLVEMENT
- ENGINEERING SUPPORT TO OPERATIONS
- SYSTEM ENGINEERS
- PLANT PERFORMANCE
- LICENSING ACTIVITIES

CHALLENGES:

- ROOT CAUSE ANALYSIS

PLANT SUPPORT

CATEGORY 2

OVERALL PERFORMANCE IN THIS AREA WAS GOOD

STRENGTHS:

- RADIOLOGICAL CONTROLS
 - EXPOSURE CONTROL
 - EFFLUENT CONTROL
 - ENVIRONMENTAL MONITORING
- EMERGENCY PREPAREDNESS
- FIRE PROTECTION

CHALLENGES:

- PROCEDURAL ADEQUACY AND COMPLIANCE
- SECURITY
 - MANAGEMENT INVOLVEMENT
 - CORRECTIVE ACTIONS
 - SELF ASSESSMENT

December 19, 1996

Tennessee Valley Authority
ATTN: Mr. Oliver D. Kingsley, Jr.
President, TVA Nuclear and
Chief Nuclear Officer
6A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE (SALP) WATTS BAR
NUCLEAR PLANT - REPORT NO. 50-390/96-99

Dear Mr. Kingsley:

The NRC Systematic Assessment of Licensee Performance (SALP) has been completed for your Watts Bar facility. The facility was evaluated for the period of November 12, 1995, through November 9, 1996. The results of the evaluation are documented in the enclosed SALP report. This report will be discussed with you at a public meeting to be held at the Watts Bar site on January 7, 1997, at 1:00 p.m.

Watts Bar Nuclear Plant (WBN) performance was assessed in four functional areas: Engineering and Maintenance were determined to be superior, Operations and Plant Support were considered to be good.

Operations performance was characterized by good management involvement, control room professionalism and excellent response to plant transients. An effective transition was made from the construction phase to full unit operation. Weaknesses were identified with configuration controls, attention to detail and procedure inadequacies.

Maintenance was effectively planned and implemented with strong management involvement and has been characterized by strong safety system performance and availability, with the exception of the area of calibration and setpoint control. The power ascension test program was carefully planned, coordinated and demonstrated that equipment would perform as designed.

Engineering was characterized by superior performance in aggressively pursuing resolution to design problems that occurred during the power ascension test program. The mid-cycle outage accomplished several modifications to correct design problems and improved equipment reliability.

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In the area of Plant Support, overall performance for radiological controls and emergency preparedness activities was very strong. However, improvement is needed in security equipment availability, contingency planning, security personnel performance, and the quality of security self-assessments.

Nuclear quality assurance has effectively provided oversight review of plant activities. Self-assessments in most areas were thorough and critical.

In accordance with Section 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Document Room.

I look forward to discussing this assessment with you.

Sincerely,

(Original signed by L. A. Reyes)

Stewart D. Ebnetter
Regional Administrator

Docket No. 50-390
License No. NPF-90

Enclosure: SALP Watts Bar Report

cc w/encl: (See page 3)

cc w/encl:

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Distribution w/encl: (See page 4)

SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE REPORT

WATTS BAR NUCLEAR PLANT

50-390/96-99

I. BACKGROUND

The SALP Board convened on November 21, 1996, to assess the Nuclear Safety Performance of the Watts Bar Nuclear Plant for the period November 12, 1995, through November 9, 1996. The Board was conducted in accordance with Management Directive 8.6, "Systematic Assessment of Licensee Performance." Board members were E. W. Merschoff (Board Chairperson), Director, Division of Reactor Projects, A. F. Gibson, Director, Division of Reactor Safety, and F. J. Hebdon, Director, Project Directorate II-3, Office of Nuclear Reactor Regulation. This assessment was reviewed and approved by the Regional Administrator.

II. PLANT OPERATIONS

This functional area addresses the control and execution of activities directly related to operating the facility. It includes activities such as startup, power operation, plant shutdown, and response to transients. It also includes initial and requalification training programs for licensed operators.

Overall performance in plant operations was good throughout this assessment period. Management support and oversight of day-to-day operations have been excellent. Management awareness of plant status and evaluation of emerging plant problems were routinely effective. The management review committee (MRC) provided effective oversight to assure quality resolution to plant problems within the structure of the plant corrective action program. However some challenges were identified that indicate that improvement could be made in applying the lessons learned from industry operating experience to operations at Watts Bar. These involved procedure weakness, administrative processes and configuration control issues.

Operator knowledge and performance during plant events were excellent throughout the period. This was demonstrated by the deliberate and conservative handling of reactor trips, off-normal conditions and those transient type tests conducted during the power ascension test program. Particularly noteworthy was the excellent overall performance and the coordinated effort demonstrated by the operating staff with all other departments during the power ascension test program. Plant problems and design issues were effectively identified, resolved and allowed for a smooth transition of Unit 1 to full power operation.

Enclosure

Control room conduct and professionalism was good. Operators effectively performed startup and shutdown evolutions with good procedural adherence. Shift turnovers and communications improved throughout the period. Several examples of inattention to detail were indicative of an inexperienced operating staff. Weaknesses were also noted in alarm response.

Deficiencies were identified with the quality of some plant procedures indicating a need for a more thorough review and increased attention during preparation. Several examples were identified due to good questioning attitudes by operators. Additionally, several configuration control deficiencies were noted throughout the period.

Self-assessments were noted to be diverse and self-critical with an increased emphasis on lowering the threshold for issuing problem event reports.

The Plant Operations area is rated Category 2.

III. MAINTENANCE

This functional area addresses activities associated with diagnostic, predictive, preventive, and corrective maintenance of structures, systems, and components. It also includes all surveillance testing, in-service inspection and other tests associated with equipment and system operability.

Strong management involvement and support were evident in the area of maintenance. This involvement included the development of an effective organization transition plan from the construction phase to an operations phase. Additionally, the mid-cycle outage was effectively planned and completed. During the outage, operator workarounds were reduced, a control room black board was achieved and automatic control was returned to the main turbine. Risk management was excellent as noted in the way offsite power was protected during the outage.

Maintenance activities were well controlled and the effective use of the maintenance organization was demonstrated. Maintenance backlogs were relatively small and met the licensee's goals. The Fix-it-Now (FIN) process helped maintain the plant by addressing minor maintenance in a timely manner. Material condition of the plant was good and this was demonstrated by the safety system availability and low backlogs. The plant has had challenges with minor equipment problems such as system leaks but appears to be addressing the issue.

Support for the power ascension test program was a strength. The program was carefully planned, coordinated and followed. It demonstrated that the equipment would perform as designed.

Several surveillance tests were missed or not performed in a timely manner due to personnel error or procedure misinterpretation.

Improvement has been noted in areas such as work coordination and limiting condition for operation time management. However, calibration and setpoint control is an area that would benefit from continued attention.

The Maintenance area is rated Category 1.

IV. ENGINEERING

This functional area addresses activities associated with the design of plant modifications, engineering support for operations, maintenance, surveillance, and licensing activities.

Overall performance in this functional area was superior. The early part of this period included successful completion of the initial plant startup and power ascension testing. The engineering organization transitioned well from the completion of construction to support of operations.

Management oversight and involvement were evident by a strong corrective action program. The licensee has aggressively resolved plant design issues, and has maintained a small engineering backlog. The engineering organization has been a strength. The licensee has been particularly effective at maintaining operations expertise in the engineering organization.

Early in the SALP period, the licensee experienced some difficulties in identifying the root cause of a number of transients. As a result, repetitive failures and transients occurred. The licensee implemented changes to strengthen the root cause analysis program; however, continued improvement is still needed.

System Engineers are very knowledgeable about their systems and have benefitted from an extensive involvement in the startup test program. They have been very supportive of operations when problems have arisen in the plant.

Throughout the SALP period the licensee has identified a number of setpoint control issues. The licensee must continue to be aggressive at finding and correcting setpoint problems.

During the latter part of the period, the licensee shut down the unit for a mid-cycle outage. The outage activities were implemented well. A strength was noted in the number of modifications completed during this outage. Equipment performance has been superior, as the plant has operated reliably following the completion of power ascension, with relatively few transients.

The licensee submitted several applications for amendment of the license and made several submittals on other licensing issues. The license amendment applications were technically comprehensive and enabled the NRC to complete the review in a timely manner. The licensee's communications with the NRC staff have been strong, particularly during the latter portion of the period.

The Engineering area is rated Category 1.

V. PLANT SUPPORT

This functional area assesses activities related to the plant support function, including radiological controls, radioactive effluents and waste, plant chemistry, emergency preparedness, security, fire protection and housekeeping.

The radiological control program performed well in protecting the health and safety of the plant workers and members of the public. Internal and external radiation exposures were maintained well below regulatory limits. The effluent control program was also effective in limiting exposure to members of the public by maintaining radionuclide concentrations in liquid and gaseous effluents, and the radiation doses from those releases, at a small percentage of their regulatory limits. The environmental monitoring program confirmed plant effluents were low. The chemistry control program also functioned very well in maintaining high quality primary and secondary water. The few shipments of radioactive materials which were made during the assessment period involved small quantities and were properly prepared for transport.

Several procedural problems were detected in the radiation protection and chemistry area during the assessment period indicating the need for more accurate procedures, better procedural compliance, and better awareness of plant conditions.

In the Emergency Preparedness area, good performance was observed during several drills and exercises. Drill scenarios were challenging. A personnel accountability drill was completed within the necessary time frame. Facilities and equipment were well maintained.

The security program has been adequate. Security management and supervisors were not pro-active during plant licensing in determining whether security plans and procedures would be effective for an operating nuclear plant. This resulted in the security section failing to meet regulatory requirements during emergency contingencies, barrier degradations and normal day-to-day security personnel performance.

Also, after equipment failures, security management was not sensitive to the need to analyze events to determine the root cause and to implement long-term corrective actions. Training and documentation of training continues to be a strength along with tracking and trending and logging of safeguards events.

The fire protection program remained strong with no significant maintenance backlog on the fire protection systems and a relatively low number of problem event reports issued on the program.

The Plant Support area is rated Category 2.