2 Final Copies

October 20, 1994

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 - WATTS BAR UNITS 1 AND 2

Gentlemen:

This letter refers to the meeting conducted at the Watts Bar site on October 13, 1994. The meeting was at our request to discuss problems identified during the 75% inspection of the Instrument Lines and Vendor Information Correction Action Programs. Enclosure 1 is a list of individuals who attended the meeting and Enclosure 2 and 3 is the TVA handout for the meeting. It is our opinion that this meeting was beneficial and provided a better understanding of TVA's activities.

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

Sincerely,

Original Signed By:
J. P. Jaudon

Johns P. Jaudon, Acting Deputy Director
Division of Reactor Projects

Docket Nos. 50-390 and 50-391
License Nos. CPPR-91 and CPPR-92

Enclosures: 1. List of Attendees
2. TVA Handout, Instrument Line CAP
3. TVA Handout, Vendor Information CAP

cc w/encls: (See page 2)

IE01

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(Yes) No	COPY?	(Yes) No	Yes (No)	Yes No	Yes No	Yes No

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Instrument Line (IL) Corrective Action Program (CAP)

Issue Item No. **NOV 390/94-24-01 Example 1**

Summary of Finding/Issue

- Ten examples of slope deficiencies were identified (WBPER940204)
  - NRC inspected 62 lines for slope, ~1,900 linear feet of pipe
  - Identified 5 hard pipe slope deficiencies
  - Identified 5 flex hose slope deficiencies
  - Total discrepant footage was ~30 linear feet

Summary of Causes

- Deficiencies were attributable to construction activities in the vicinity of the lines.
  - No installation deficiencies were noted.
- Stress analysis mandates long flexible spans, in the interface region, to ensure structural piping design requirements are met.

Extent of Condition

- 380 sense lines have slope requirements.

Corrective Actions

- NE revised N3E-934 to clarify slope measuring techniques near fittings and valves. This allows for minor discontinuities near these components.
- WBN issued a Site Bulletin to alert personnel to the ease at which sense lines are damaged.

Corrective Actions (cont'd)

- WBN will perform an evaluation of sense lines susceptible to damage to determine the extent of condition and to determine the required corrective actions.

  Evaluation criteria:

  - Evaluations and corrective actions will be accomplished on an area basis as construction work diminishes.
  - Sense line flex hoses will be evaluated (104 applications).
  - Sense lines which have previously experienced slope deficiencies.
  - Sense lines installed with minimum slope values (eg AFW lines) and located in areas subject to modifications/maintenance activities.

- Corrective action will be:

  - Rerouting or re-working sense lines
  - Installing barriers
  - Criteria and drawing changes

- Issuing Plant Instruction to perform periodic inspection of flex hoses for slope

  - Ensuring long-term flex hose slope configuration control is maintained.

Issue Item No. **NOV 390/94-24-01 Example 2**

Summary of Finding/Issue

- One separation interaction was identified between Trained instruments. (WBPER940254)

Summary of Causes

- Failure of personnel to follow procedures:
  - Criteria required 18" separation.
  - Procedures requires if 18" separation cannot be achieved, NE is to perform an evaluation and issue a documented exception.

Extent of Condition

- 380 lines have separation requirements.
- One separation interaction was identified on 78 lines inspected.
  - 1 linear foot of sense line was within 15" of opposite train instrument sense line, ~1,900 linear feet of sense line was inspected.

Corrective Actions

- Sense line was reworked by Work Order (WO) 94-12327-00.
- 78 sense lines were re-inspected, no additional deficiencies.
- Determined to be an isolated occurrence.

Issue Item No. **NOV 390/94-24-02 Example 3**
NOV 390/94-24-03 Example 5

Summary of Finding/Issue

- Deficiencies were noted with support installations (WBPER940271)
- NRC inspected 173 supports, on 552 linear feet of lines, 5 deficiencies were noted:
  - One case in which the drawing required a 3-way clamp, but a 2-way clamp was installed.
  - Two cases in which the calculation required a 2-way clamp, but the drawing was issued specifying a 3-way clamp, and a 3-way clamp was installed in field.
  - Two cases in which the calculation and drawing required a 2-way clamp, but a 3-way clamp was installed in the field.

Summary of Causes

- Inattention to detail
- Lack of self-checking

Extent of Condition

- Supports within the analyzed interface region and thermally analyzed lines.
  - Stress analysis termination point defines the interface region.

Corrective Action

- Analysis was performed to justify accept-as-is dispositioning for these deficiencies.
- WBN will implement a random sample of interface supports to determine the extent of condition and to provide a statistically valid analytical basis for determining that WBN's instrument support design requirements are being met.

Issue Item No. **Quality Assurance Oversight Review**

Summary of Finding/Issue

- WBN did not identify an adverse trend with instrument sense line slope and with support installation discrepancies.
  - No original installation deficiencies were noted for lines which have slope requirements.

Summary of Causes

- Early assessments inadequately documented what was inspected resulting in adverse trends not being recognized.

Corrective Actions

- WBN agrees that performance improvements are needed the area of CAP/SP assessments. The following action has been initiated to improve the assessment process:
  - A multidiscipline team of appropriate specialists has been formed and is now performing field inspections and assessments to provide support for the improvement efforts.

VENDOR INFORMATION (VI)
CORRECTIVE ACTION PROGRAM (CAP)

The following NRC open items are associated with the Vendor Information 75% Inspection:

NUMBER	*TYPE*	*DESCRIPTION*
390/93-27-01	NOV	Two examples of failure to follow procedure in implementation of VI program.
390/93-27-02	IFI	Exclusion of Reactor Protection System equipment and relays from CAP scope.
390/93-27-03	IFI	Use of unapproved desk instructions.
390/93-27-04	IFI	Field verification issues.
390/93-27-05	IFI	Conditional use and control of Vendor Manuals.
390/93-53-04	NOV	Example of failure to follow procedure in implementation of VI program.
390/93-53-05	URI	Conflicting information in Test Instruction (computer card).
390/93-53-06	URI	Conflicting information in Test Instruction (polynomial fit).

The NRC considers the following open items closed:

390/93-27-03
390/93-53-04
390/93-53-05

The remaining open items are discussed on the following pages.

Issue Item No. NOV 390/93-27-01

The information summarized below is derived from WBN Corrective Action Documents and licensing submittals.

Summary of Finding/Issue

- Use of vendor information not approved by Nuclear Engineering. (Ref. WBSCA930068)
- Failure to perform and document an equivalency evaluation for a replacement part. (Ref. WBFIR930050)

Summary of Causes

- WBSCA930068:
  - Lack of training; SSP-2.10 was not included on the training matrix for WO planners.
  - Personnel oversight, lack of direction.
- WBFIR930050:
  - Personnel oversight
  - Inattention to detail

Extent of Condition

- WBSCAR930068
  - WBSCA930068 documents four examples of procedural violations relating to VI program implementation.
  - A sample plan was implemented to investigate electrical, mechanical and civil work documents to verify correct utilization of vendor criteria.

Issue Item No. NOV 390/93-27-01 (Cont'd)

- Sample plan determined cited conditions were bounded; no further action required.

- WBFIR930050

  - Interviewed preparer.

  - Performed sample of same preparer packages.

  - Performed sample of packages for other preparers.

  - Samples, preparer interview, and specific circumstances indicated this to be isolated case.

Corrective Actions/Recurrence Controls

- WBSCA930068

  - Addressed specific hardware deficiencies

  - Modifications performed cross discipline sample.

  - NE evaluated sample and accepted all installations identified.

  - Developed a training class which addressed requirements for the use/implementation of vendor supplied criteria.

  - Revised training matrices for field engineering, WO/WP planning groups and respective supervisors.

  - Developed a checklist for usage in WO/WP development which included an attribute for verifying appropriate vendor manual criteria usage.

  - Trained identified groups.

Issue Item No. NOV 390/93-27-01 (Cont'd)

- WBFIR930050

  - Retrained PEG personnel.

  - Revised discrepant PEG package to include equivalency evaluation.

  - Updated vendor manual.

  - Submited approved drawing to DCCM.

Issue Item No. IFI 390/93-27-02

The information summarized below is derived from WBN Corrective Action Program documents and Licensing submittals.

Summary of Finding/Issue

- Exclusion of Reactor Protection System (RPS) equipment and relays from CAP scope.

TVA Response

- Revision 4 to the VI CAP clarified scope of Vendor Information Program which specifically excluded RPS equipment and relays.

- RPS equipment and relays will have VTMs or other design output when required under the Vendor Information Program.

  - The Rev 4 CAP revision eliminated RPS to preclude preparation of VTMs for a system with major future modifications and extensive equipment changeout.

  - Majority of subcomponents are addressed by inclusion in VTM for larger equipment assembly.

Summary of Finding/Issue

- Exclusion of NSSS and EDG contract equipment from Installation Design Requirements (IDR) review scope.

TVA Response

- TVA has expanded the scope of the IDR to include NSSS and EDG equipment.

Issue Item No. IFI 390/93-27-04

The information summarized below is derived from WBN Corrective Action Program documents and Licensing submittals.

Summary of Finding/Issue

- Walkdown attributes appeared generic and not all specific requirements were verified.
- Walkdown personnel exercised judgements that were not reviewed.

TVA Response

- Findings are based on review of 67 components selected to support pre-op testing. This activity was not representative of the fully developed Installation Design Requirements (IDR) review process. Walkdown attributes were based on Vendor manuals. Verifications were performed on components that were available for visual inspection. This approach resulted in attributes that appear generic from component to component.
- Adequacy judgements were limited by specific guidelines; deliberately did not include consideration of administrative controls and operating procedures. Main focus was to evaluate implementation of vendor requirements to the degree that testing could proceed with minimal risk.
- All of the walkdown verification results have been reviewed to assure requirements were adequately captured (March through June, 1993). In each case where an apparent judgement call was made by the reviewer, the results have been reevaluated to determine if the initial conclusion was adequate.
- Overall conclusion is that no discrepancies were found which indicated a previously unidentified programmatic weakness.

Issue Item No. IFI 390/93-27-05

The information summarized below is derived from WBN Corrective Action Program documents and Licensing submittals.

Summary of Finding/Issue

- Lack of timeliness in closure of conditional use documentation
- Availability of uncontrolled VTMs.

TVA Response

- As of July 1994, all conditional use forms were either closed or evaluated for adverse impact. Evaluation results are documented in SSP-2.10, Appendix I.
- SAI-18.02 revised to enhance controls on "Information Only" vendor drawings.
- Added controlled VTM library to work area housing Procurement Engineering Group.
- Presently, no uncontrolled VTM copies are available for general use.

Issue Item No. IFI 390/93-53-06

The information summarized below is derived from WBN Corrective Action Program documents and Licensing submittals.

Summary of Finding/Issue

- Test Instruction specified third order polynomial least squares curve fit; vendor recommended first order polynomial fit, then increasing polynomial if observed error is greater than specified.

TVA Response

- Test Instruction has been revised to include supplemental Vendor Instructions for selecting appropriate curve fit.