TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401

5N 157B Lookout Place

JUL 13 1989

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

Gentlemen:

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

WATTS BAR NUCLEAR PLANT (WBN) UNIT 1 - CORRECTIVE ACTION PROGRAM (CAP) PLAN MATRICES

In our meeting on January 18 and 19, 1989, NRC requested a comprehensive listing of open conditions adverse to quality (CAQs), employee concerns, etc., that would be resolved by each CAP. NRC also requested a listing of previously docketed commitments that were changed by the CAPs. Enclosure 1 provides the source document matrices and commitment revision matrices for each of the 18 CAPs.

The source document matrices list the CAQs, employee concerns, 10 CFR 50.55(e) reports, violation responses, and vertical slice review (VSR) discrepancy reports (DRs) that will be resolved completely or partially through implementation of each CAP. This listing was developed to provide as complete a listing as reasonably possible of the individual problem reports being addressed by or related to each CAP. In some cases the listed documents will not be completely resolved by the CAP implementations since each CAQ, DR, etc., may involve corrective actions and actions to prevent recurrence outside the scope of the CAP. It should be noted that TVA's corrective action program, employee concern program, VSR, and 10 CFR 50.55(e) process require each CAQ, employee concern, DR, or 10 CFR 50.55(e) report to be individually closed out and documented regardless of coverage by CAP implementation.

Each source document matrix was developed during March and April 1989 from information in the WBN Tracking and Reporting of Open Items (TROI) listing and from an assessment of the VSR DRs that were judged to be covered by the scope of each CAP. Therefore, the matrices reflect information as of April 1989. These matrices were developed to facilitate the NRC review process and will not be revised or maintained current. TROI will be used to obtain current status of the individual problem reports.

The matrices should not be viewed by NRC as a commitment list since, as stated above, each matrix includes documents that will only be partially resolved by the CAP, is a snapshot in time, and is based upon the best judgment at the time for inclusion. Additionally, a large number of the problem reports included in the matrices are not significant conditions, and therefore do not require reporting under 10 CFR 50.55(e).

A030
1/1

U.S. Nuclear Regulatory Commission
JUL 13 1989

The commitment revision matrices identify the previously docketed commitments that are being changed as a result of each of the CAPs. This listing of commitment changes is also intended to facilitate the NRC review process. The previously docketed commitments will be revised through resubmittal of the 10 CFR 50.55(e) response, violation response, Final Safety Analysis Report (FSAR) amendment, etc.

Enclosure 2 provides the commitment made in this submittal.

If there are any questions concerning the content of the enclosed matrices, please contact D. E. McCloud, WBN Site Licensing, at (615) 365-8650.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

Manager, Nuclear Licensing
and Regulatory Affairs

Enclosures
cc (Enclosures):
Ms. S. C. Black, Assistant Director
for Projects
TVA Projects Division
U.S. Nuclear Regulatory Commission
One White Flint, North
11555 Rockville Pike
Rockville, Maryland 20852

Mr. B. A. Wilson, Assistant Director
for Inspection Programs
TVA Projects Division
U.S. Nuclear Regulatory Commission
Region II
101 Marietta Street, NW, Suite 2900
Atlanta, Georgia 30323

NRC Resident Inspector
Watts Bar Nuclear Plant
P.O. Box 700
Spring City, Tennessee 37381

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CABLE ISSUES CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
1. Silicone Rubber Insulated Cables		
"During high-potential testing of silicone rubber cable at SQN to resolve the cable support in vertical conduit issue, SQN had several cable failures. Analysis of these cable failures indicated that the failures were not the result of inadequate cable support but possibly caused by "impact-induced damage." Silicone rubber cables manufactured by AIW appeared to be more susceptible to "impact-induced damage" than cable from Rockbestos and Anaconda. AIW silicone rubber insulated cables were removed from 10 CFR 50.49 circuits at SQN. SQN then performed simulated loss of coolant accident (LOCA) tests at Wyle Laboratories on aged cables with reduced insulation thickness to simulate an impact condition. The results were acceptable and provided a limited qualified life of 10 years. To qualify the cable for its full 40-year life, TVA and the NRC agreed to additional testing of Anaconda and Rockbestos cables. These tests will be conducted using previously installed WBN cables. AIW silicone rubber insulated cables have not been used and will not be used in Class 1E circuits at WBN."	CAQR WBP 870902	The CAP describes the corrective action implementation program. Refer to section 4.1.1.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CABLE ISSUES CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
2. Cable Jamming		
"NRC issued a Technical Evaluation Report (TER) (Reference 1) on January 30, 1987. The TER identified the potential for undetected cable damage since TVA-WBN installation documents did not address the cable-jam ratio. Jam ratio is D/d, d is the cable outside diameter and D is the conduit inside diameter. Where three single conductors with a jam ratio of 2.8 to 3.1 are pulled into a conduit, the cables may align in a flat configuration with resultant jamming."	Technical Evaluation Report No. C-5506-649	The CAP describes the corrective action implementation program. Reference to section 4.1.2.
3. Cable Support in Vertical Conduit		
"In the NRC-issued TER for WBN, a concern was expressed that cables in long, vertical conduits were inadequately supported and that "... random failures due to cutting of the insulation and conductor creep may occur during normal service condition, especially silicone rubber cables."	Technical Evaluation Report No. C-5506-649 NCR W-262-P 10 CFR 50.55(e) for NCR W-262-P	The CAP describes the corrective action implementation program. Refer to section 4.1.3.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CABLE ISSUES CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
4. Cable Support in Vertical Tray "This issue has two parts: The first part of this issue is the mechanism to transfer vertical cable loads, both self weight and seismic, to the tray support system."		The first part of this issue will be addressed by the cable tray and cable tray support CAP.
"The second part of this deals with TVA's current constructions specification requirement that cables in vertical trays be supported in accordance with the National Electrical Code (NEC) Article 300-19 (Reference 2) to prevent long-term cable damage. The installation specification states that this support may be provided by tie wraps. TVA currently has no basis to verify that cable ties can provide adequate support."	CAQR WBP 880564 NRC UNRS 390/88-05-03 DR-7	This CAP describes the corrective action implementation program for the second part of this issue. Refer to section 4.1.4.
5. Cable Proximity to Hot Pipes		
"NRC Information Notice 86-49, highlighted the potential for cable damage resulting from close proximity to hot pipes."	Design Study Request No. DSR-011 NRC IFLP 390/86-12-11 PIR WBN EEB 8644 NRC Information IE Notice 86-049	The CAP describes the corrective action implementation program. Refer to section 4.1.5.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CABLE ISSUES CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
6. Cable Pullbys "The NRC-issued TER for WBN (Reference 1) concluded that cable damage resulting in cable failure may have occurred due to pullbys which occur when cables are pulled into occupied conduits. The TER stated a concern that "... the moving pull rope and cable could have sawed through the insulation of the stationary cable..." "The potential for circuit failures occurs if the conduit becomes wet from condensation or when exposed to steam."	Technical Evaluation Report No. C-5506-649	The CAP describes the corrective action implementation program. Refer to section 4.1.6.
7. Cable Bend Radius "TVA has identified through nonconforming condition reports (NCRs) and Nuclear Safety Review Staff (NSRS) reports that the minimum recommended cable bend radius was violated during the installations of some cables."	NCR W-290-P 10 CFR 50.55(e) for NCR 4194 PIR WBN EEB 86107 CAQR WBP 870133 CAQR WBP 870134 CAQR WBP 870136 CAQR WBP 870637 NCR 6295 Nuclear Safety Review Staff Report No. I-86-101-SQN Technical Evaluation Report No. TER-C-5506-649 DR-379, DR-401, DR-402 DR-422, DR-484, DR-550 DR-602, DR-607, DR-598, DR-149	The CAP describes the corrective action implementation program. Refer to section 4.1.7.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CABLE ISSUES CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
8.	Cable Splices		
	"As a result of NRC Information Notice 86-53 TVA's internal review of WBN splicing details and experiences at SQN indicate that the installed splices may not conform with the qualified configuration and materials tested by the vendor (e.g., use of nonqualified materials under the splice, improper selection of Raychem tube, inadequate seal length of the tubing)."	NCR 6224 10 CFR 50.55(e) for NCR 6224 10 CFR 50.55(e) for SCR WBN EQP 8501 PIR WBN EEB 8720 CAQR WBP 871109 SCR WBN EQP 8641 SCR WBN MEB 8652 CAQR WBP 870164 CAQR WBP 880676 NCR W-510-P Employee Concern CATD CATD 30403-NPS-01 CATD 24101-WBN-02 CATD 10900-WBN-06 NCR 6584 PIR WBN EEB 8707 SCR WBN EQP 8617 NCR W-353-P 10 CFR 50.55(e) for NCR W-353-P	The CAP describes the corrective action implementation program. Refer to section 4.1.8.
9.	Cable Sidewall Bearing Pressure		
	"The July 9, 1985 NSRS Report (Reference 3) stated that cable sidewall bearing pressure (SWBP) was not addressed properly during installation. SWBP is the radial force exerted on the insulation of a cable at a bend point when the cable is being pulled."	NCR 6347 NCR 6270 PIR WBN WBP 87139 NRC UNRS 390/86-03-1 CAQR WBP 870135 CATD 10900-NPS-01 CATD 23801-WBN-08 Technical Evaluation Report No. TER-C-5506-649	The CAP describes the corrective action implementation program. Refer to section 4.1.9.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CABLE ISSUES CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
10. Pulling Cable Through 90-Degree Condulet and Flexible Conduit		
"In the TER (Reference 1), concerns were expressed that "...considerable damage is likely to occur if cables are pulled under tension around the inside edge of a 90-degree condulet...," and that flexible conduit severely tears the cable jacket and insulation."	Technical Evaluation Report No. TER-C-5506-649	The CAP describes the corrective action implementation program. Refer to section 4.1.10
11& Computer Cable Routing 12. System Software And Data Base is Not Verified		
(A) "Concerns have been expressed and documented in CAQRs, Employee Concerns, and an NRC inspection Report on SQN about the adequacy of the CCRS." Refer to section 4.2 of the CAP.	SCR WBN ECB 8601 SCR WBN ECB 8602 (Closed) SCR WBN ECB 8603 (Closed) SCR WBN ECB 8604 (Closed) CAQR WBF 870030 (Closed) CAQR WBT 870152 CAQR WBP 880762 CATD 23900-WBN-02 CATD 23900-WBN-03... ...Closed) CATD 23900-WBN-04 CATD 23900-WBN-05 CATD 23900-WBN-06 CATD 23900-WBN-07 CATD 23801-WBN-01 CATD 23801-WBN-02 SCR WBN EQP 8635 (Closed) Discrepancy Report (DR) DR-1 DR-3 DR-213	"The Computer Software has been validated and verified in accordance with TVA QA Procedures" Refer to section 4.2 of the CAP. "To verify the adequacy of the CCRS data base, data from the WBN review of 4,256 EQ cables (10 CFR50.49) and the review of the 339 appendix R-related cables will be used." Refer to section 4.2 of the CAP.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CABLE ISSUES CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
		SCR WBN EQP 8628 and others 10 CFR 50.55(e) SCR WBN EQP 8624 SCR WBN EQP 8625 SCR WBN EQP 8628 SCR WBN EQP 8648	
(B)	"...Lack of adequate procedures to assure a verified data base and the failure to follow procedures that existed when installations were made. The procedures are related to both the engineering/design process and the use of the CCRS software, and its output as used by NC." Refer to section 4.2.4 of the CAP.	SCR WBN EQP 8628 and others 10 CFR 50.55(e) SCR WBN EQP 8625 SCR WBN EQP 8626 SCR WBN EQP 8628 SCR WBN EQP 8648 CATD 23801-WBN-01 CATD 23801-WBN-02 CATD 10900-NPS-05 CATD 23801-WBN-05 CATD 23801-WBN-10 CATD 23900-WBN-01... ...(Closed) CATD 23900-WBN-04 CATD 23900-WBN-05 CATD 23900-WBN-09 CATD 23900-WBN-10 CATD 23900-WBN-06 CATD 24000-WBN-02 CAQR WBP 870174 SCR WBN ECB 8601 SCR WBN ECB 8604 (Closed) NCR W-283-P (Closed Prior to CAP Development) DR-513 DR-603 DR-654	"A construction hold (H-256) was issued to stop installation of safety-related cables until actions can be taken to prevent future recurrence. NE's cable routing procedure has been superseded and replaced with a new procedure that clarifies responsibilities and provides rigorous control of cable design and verification of cable pull data prior to releasing the cable to NC for installation. The construction hold will be maintained until the NC implementing procedures are revised to properly control the use of NE's revised design output. Once these procedure revisions are complete, the construction hold will be released and safety-related cable installation will be resumed.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CABLE ISSUES CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
			For long-term recurrence control, the CCRS software and the CCRS data base will be verified and validated. Also, the NE and NC procedures will be revised to control the verified CCRS." Refer to section 4.2.5 of the CAP for the above resolution discussion
(C)	"Program interfaces include coordination with the WBN Design Baseline and Verification Program (DBVP) CAP, which includes electrical calculations (e.g. voltage drop analysis, cable short circuit, coordination analysis, and cable sizing), EQ program, fire protection-appendix R compliance review, and cable tray and conduit support CAP." Refer to section 5.0 of the CAP.	SCR WBN EQP 8628 and others, 10 CFR 50.55(e) NCRs WBN EEB 8589, and WBN EEB 8590 CAQRs WBP 870632 and WBP 870694 Cable Tray Overfill SCR WBN ECB 8601 10 CFR 50.55(e) revised Final Report SCR WBN EQP 8628 SCR WBN ECB 8601 CATD 23801-WBN-01 CATD 23801-WBN-02 CATD 23900-WBN-04 CATD 24000-WBN-02 CATD 24000-WBN-04 CATD 24000-NPS-01 CATD 23900-WBN-05 CATD 23801-WBN-03 CAQR WBP 880510 CAQR WBT 870152 CAQR WBP 870174 DR-213, DR-543, DR-579 R1 DR-437, DR-438, DR-460, DR-461, DR-462, DR-464, DR-472, DR-473, and DR-486 NCR WBN EEB 8589 (Closed) NCR WBN EEB 8590 (Closed)	"Finalize results of the EQ and the Appendix R reviews in a report. Verify and validate the CCRS software. Verify the CCRS data base Update CCRS data base as defined in Section 4.2. Reevaluate Electric calculations, raceway fill, support loading by using the verified CCRS software and data base. Correct identified hardware problems that are beyond the analytical limits via the CAQ and the reportability process." Refer to section 6.0 of the CAP for the above resolution discussion.

IDENTIFICATION OF CAP CHANGES TO
COMMITMENTS TO NRC FOR
CABLE ISSUES CAP

CAP COMMITMENT	PREVIOUS COMMITMENT	COMMITMENT SOURCE
"To verify the Adequacy of the CCRS data base, data from the WBN review of 4,256 EQ cables (10CFR50.49) and the review of the 339 appendix R-related cables will be used" (Refer to section 4.2 of the CAP). Therefore, no further review of cables will be performed.	Review all remaining Class IE cables required for Unit 1 operation which are located in nonharsh environments	WBN EQP 8628 (10 CFR 50.55[e])
	Perform Engineering Evaluation for all cables requiring the use of multiple computer records for storing cable data which were installed before April 30, 1987,	WBN EQP 8628 (10 CFR 50.55[e])
WBN will replace all 10 CFR 50.49 harsh environment cable splices, and some mild environment cable splices will be reworked. In mild environmental areas, cable splices will also be reworked where the environmental conditions exceed the parameters of tape. Refer to paragraph 4.1.8.	TVA will review all class 1E equipment requiring Raychem type N materials to determine which devices are improperly terminated. All improperly terminated slices will be reworked.	NCR 6208 and 6224 10 CFR 50.55(e) Final Report

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CABLE TRAY SUPPORT CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
1. Adequate documentation was not maintained for the closure of NCR 5737 R1. Not all cable tray supports were walked down to compare as-built configurations with issued drawings during response to NCR 5737 R1.	CATD 11103-WBN-08 CAQR WBP 870528 (50.55e)	Perform over-inspection (sample reinspection) of 2700 supports originally inspected under NCR 5737. Perform critical case walkthrough of approximately 1000 supports not walked down under NCR 5737. (CAP section 4.1.5)
2. ZNB and ZNK (i.e., fittings and offset type fittings, respectively) have not been qualified for various field configurations.	NRC violation 390, 391/88-01-02 CAQR WBP 880040 (50.55e)	Develop a complete design basis addressing cable tray connectors and fittings. Revise design output to be consistent with design basis. Implement a critical case evaluation of existing installations, where necessary perform modification. (CAP sections 4.1.1, 4.1.2, and 4.1.4)
3. Missing bolts or nuts at cable tray fitting locations and the installed configurations of cable trays do not match design drawings	NRC violation 390, 391/88-01-02 10 CFR 50.55(e) for NCR WBN 6297 as reported by WBRD-50-390/85-51, CAQR WBP 880167 (50.55e)	Perform an engineering walk-through of installed cable trays focusing on attributes essential to cable tray qualification. Identify and evaluate critical cases. Where necessary, perform modifications (CAP section 4.1.4)

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CABLE TRAY SUPPORT CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
4.	No documentation exists to qualify cable tie wraps for horizontal cable trays mounted on their side. No documentation exists to qualify the installation of cable tray covers during a seismic event.	NRC violation 390, 391/ 88-01-02 CAQR WBP 880418	same as 2 above
5.	Cable trays have not been evaluated for differential movement between buildings.	CAQR WBP 870818	Develop a complete design basis. Revise design output to be consistent with revised design basis. Implement a critical case evaluation of existing installations. Where necessary, perform modifi- cations. (CAP section 4.1.1, 4.1.2, and 4.1.4)
6.	Cable tray support design issues identified at SQN. Verify the potential generic condition evaluation performed for WBN.	SCR SQN CEB 8622	Verify condition does not exist at WBN (basis of CAP). (If problem does exist, the discrepant conditions will be factored into the CAP plan.)
7.	No documentation can be found confirming that designers used accurate weights for cable tray support design to include cable, covers, etc.	DR 89	Develop a complete design basis. Revise design output to be consistent with revised design basis. Implement a critical case evaluation of existing installations. Where necessary, perform modifi- cations. (CAP section 4.1.1, 4.1.2, and 4.1.4)

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CABLE TRAY SUPPORT CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
8.	Cable tray not attached to support.	DR 217	Perform an engineering walk-through of installed cable trays focusing on attributes essential to cable tray qualification. Identify and evaluate critical cases. Where necessary, perform modifications (CAP section 4.1.4)
9.	Nuts attaching the tray hold down clip are not fully engaged on bolts.	DR 236 (5A)	Perform an engineering walk-through of installed cable trays focusing on attributes essential to cable tray qualification. Identify and evaluate critical cases. Where necessary, perform modifications (CAP section 4.1.4)
10.	Grout is chipped and/or cracked under baseplates	DR 237 (5B)	Perform over-inspection (sample reinspection) of 2700 supports originally inspected under NCR 5737. Perform critical case walkthrough of approximately 1000 supports not walked down under NCR 5737. (CAP section 4.1.5)

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CABLE TRAY SUPPORT CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
11.	Bolts for hold down clips are loose.	DR 238 (5)	Perform an engineering walk-through of installed cable trays focusing on attributes essential to cable tray qualification. Identify and evaluate critical cases. Where necessary, perform modifications (CAP section 4.1.4)
12.	A flex conduit is attached to a cable tray without design approval.	DR 365 (5A)	Same as 1 and 3 above (to address impact on cable trays and adjacent supports).
13.	A flex conduit is attached to a cable tray without design approval.	DR 376 (5Aii)	Same as 12 above.
14.	A flex conduit is installed on a cable tray without design approval.	DR 377 (5C)	Same as 12 above.
15.	A flex conduit is attached to the cable tray without design approval.	DR 378 (5B)	Same as 12 above.
16.	A flex conduit is attached to the cable tray without design approval.	DR 381 (5A)	Same as 12 above.
17.	A flex conduit is attached to the cable tray without design approval.	DR 382 (5B)	Same as 12 above.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CABLE TRAY SUPPORT CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
18.	G-32 anchor bolt spacing requirements are violated.	DR 437 (5A, 5B)	Perform over-inspection (sample reinspection) of 2700 supports originally inspected under NCR 5737. Perform critical case walkthrough of approximately 1000 supports not walked down under NCR 5737. (CAP section 4.1.5)
19.	Spacer bar connecting tube steel members is missing. An abandoned hole is present in a cable tray hold down clip.	DR 438 (5A, 5C)	Same as 12 above.
20.	Cable tray connections are installed such that the bolts do not have thread engagement.	DR 446 (5B)	Perform an engineering walk-through of installed cable trays focusing on attributes essential to cable tray qualification. Identify and evaluate critical cases. Where necessary, perform modifications (CAP section 4.1.4)
21.	Support is installed in incorrect location and has dimensional discrepancy.	DR 447	Perform over-inspection (sample reinspection) of 2700 supports originally inspected under NCR 5737. Perform critical case walkthrough of approximately 1000 supports not walked down under NCR 5737. (CAP section 4.1.5)

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CABLE TRAY SUPPORT CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
22.	Nut is missing on splice plate and tray covers and not securely attached to tray.	DR 460 (5B, 5C, 5D)	Perform an engineering walk-through of installed cable trays focusing on attributes essential to cable tray qualification. Identify and evaluate critical cases. Where necessary, perform modifications (CAP section 4.1.4)
23.	Nuts are loose and not flush with bolts.	DR 461 (5D, 5E)	Perform an engineering walk-through of installed cable trays focusing on attributes essential to cable tray qualification. Identify and evaluate critical cases. Where necessary, perform modifications (CAP section 4.1.4)
24.	Cable tray support clips have been attached through splice plate connections and configuration of fitting is questionable.	DR 462 (5B, 5C)	Perform an engineering walk-through of installed cable trays focusing on attributes essential to cable tray qualification. Identify and evaluate critical cases. Where necessary, perform modifications (CAP section 4.1.4)

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CABLE TRAY SUPPORT CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
25.	Discrepancies with cable tray connectors and fittings.	DR 464 (5B through 5E)	Develop a complete design basis addressing cable tray connectors and fittings. Revise design output to be consistent with design basis. Implement a critical case evaluation of existing installations, where necessary perform modification. (CAP sections 4.1.1, 4.1.2, and 4.1.4)
26.	Cable tray support is not installed per approved details.	DR 472 (5A, 5B, 5D, 5E)	Perform over-inspection (sample reinspection) of 2700 supports originally inspected under NCR 5737. Perform critical case walkthrough of approximately 1000 supports not walked down under NCR 5737. (CAP section 4.1.5)
27.	Baseplate is different size than specified on drawing. One baseplate has chipped grout in one area.	DR 473 (5A, 5B)	Perform over-inspection (sample reinspection) of 2700 supports originally inspected under NCR 5737. Perform critical case walkthrough of approximately 1000 supports not walked down under NCR 5737. (CAP section 4.1.5)

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CABLE TRAY SUPPORT CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
28.	Common bolts are utilized for cable tray splice plate and support clip. Cable tray cover is attached with wire.	DR 486 (5B, 5C)	Perform an engineering walk-through of installed cable trays focusing on attributes essential to cable tray qualification. Identify and evaluate critical cases. Where necessary, perform modifications (CAP section 4.1.4)
29.	Cable tray splice plate has been notched without NE approval.	DR 520 (5B)	Perform an engineering walk-through of installed cable trays focusing on attributes essential to cable tray qualification. Identify and evaluate critical cases. Where necessary, perform modifications (CAP section 4.1.4)
30.	Common bolts are used to connect cable tray support clips and splice plate to the cable tray.	DR 524 (5B)	Perform an engineering walk-through of installed cable trays focusing on attributes essential to cable tray qualification. Identify and evaluate critical cases. Where necessary, perform modifications (CAP section 4.1.4)

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CABLE TRAY SUPPORT CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
31.	Common bolts are used to connect the cable tray support clip and the splice plate to the cable tray.	DR 465 (5B)	Perform an engineering walk-through of installed cable trays focusing on attributes essential to cable tray qualification. Identify and evaluate critical cases. Where necessary, perform modifications (CAP section 4.1.4)
32.	Cable tray appears to be overfilled (overloaded).	DR 593 (5B)	Perform an engineering walk-through of installed cable trays focusing on attributes essential to cable tray qualification. Identify and evaluate critical cases. Where necessary, perform modifications (CAP section 4.1.4)

IDENTIFICATION OF CAP CHANGES TO
COMMITMENTS TO NRC FOR
CABLE TRAY SUPPORT CAP

	CAP COMMITMENT	PREVIOUS COMMITMENT	COMMITMENT SOURCE
1.	Perform overinspection (sample reinspection) of approximately 2700 supports originally reinspected under NCR 5737. Perform walkthrough of approximately 1000 supports not walked down under NCR 5737. Perform evaluations and document results. Modify supports as required. (See CAP section 4.1.5.)	Perform a 100-percent walkdown on those affected supports not walked down under NCR 5737. Verify documentation exists for those supports previously walked down under NCR 5737.	CATD 11103-WBN-08
2.	Develop an acceptance criteria for fittings and configurations. Perform an engineering walkthrough to identify critical cases. Any installations which cannot be qualified will be modified. (See CAP section 4.1.4.)	Same although steps are in slightly different order (violation response refers to CAP).	Response to Notice of Violation 390, 391/88-01-02
3.	Identify by engineering walkthrough all cable tray/fitting deficiencies such as: missing and loose bolts and loose tray covers. Qualify the tray system by evaluations of critical cases identified. Produce design output consistent with installations. Where necessary perform modifications. (See CAP section 4.1.4.)	Same although steps are in slightly different order (violation response refers to CAP).	CAQR880167 (50.55e) Response to Notice of Violation 10 CFR 50.55(e) for NCR WBN 6297 as reported by WBRD-50-390/85-51

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CONDUIT AND CONDUIT SUPPORT CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
1.	Discrepancies involving supports documented without proper change documentation, supports documented to incorrect typical support types, and supports with miscellaneous installation problems.	SCR 6463-S WBRD-50-390/86-14 DR 383, 393, 394, 395, 418, 463 DR 466-5a DR 414-5a DR 469-5cii DR 500-5b & c DR 516-5c & d DR 518-5c, f, h, &i DR 525-5c	CAP, section 4.1.4 - A critical case evaluation will be performed qualifying "as-installed configurations." A walk-through will review the installed conduit and conduit supports.
2.	Conduits installed with cantilever lengths in violation with 47A056-89 drawing.	SCR 6794-S DR 495-5b	CAP, section 4.1.4 - A critical case evaluation will be performed qualifying "as-installed configurations." A walk-through will review the installed conduit and conduit supports.
3.	Conduits installed with cantilever lengths in violation with 47A056-102 drawing.	SCR 6867-S	CAP, section 4.1.4 - A critical case evaluation will be performed qualifying "as-installed configurations." A walk-through will review the installed conduit and conduit supports.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CONDUIT AND CONDUIT SUPPORT CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
4.	Typical conduit designs found not to envelope worst case design parameters. Some question on design criteria applicability to various conduit configurations.	SCR WBN CEB 8675 R1 WBRD-50-390/86-14 CATD 22800-WBN-05 DR 313-5c, d, e, f, i, & j DR 315-5a, b, d e, f, g & h DR 316-5a, c, d e, f, g, h & i DR 326-5ai, b, c & d DR 469-5ci DR 500-5a	CAP, section 4.1.1 - The conduit and conduit support design criteria will be reviewed for technical adequacy. The design criteria will be revised as required to establish a complete and technically adequate design basis. CAP, section 4.1.2 - The existing typical support designs will be reviewed and revised as required to be in compliance with the revised design criteria. CAP, section 4.1.4 - Critical case evaluation will be performed qualifying installed configurations based on revised design output.
5.	Typical drawing 47A056-107 is unclear on support requirements.	SCR WBN CEB 8683	CAP, section 4.1.2 - Existing typical support designs will be reviewed and revised as required to be in compliance with the revised design criteria. CAP, section 4.1.4 - Critical case evaluation will be performed qualifying installed configuration based on revised design output.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CONDUIT AND CONDUIT SUPPORT CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
6.	Contrary to design criteria some support typical drawings allowed attachment to duct without consideration of duct movement.	PIR WBN CEB 8708	CAP, section 4.1.2 - Existing typical support designs will be reviewed and revised as required to be in compliance with the revised design criteria. CAP, section 4.1.4 - Critical case evaluation will be performed qualifying installed configuration based on revised design output.
7.	Inconsistencies exist between P2558 series clamp test data used to generate load tables.	CAQR WBF 870033	CAP, section 4.1.2 - Existing typical support designs will be reviewed and revised as required to be in compliance with the revised design criteria. CAP, section 4.1.4 - Critical case evaluation will be performed qualifying installed configuration based on revised design output.
8.	Clamp deflections have not been considered in design calculations.	CAQR WBF 870034	CAP, section 4.1.2 - Existing typical support designs will be reviewed and revised as required to be in compliance with the revised design criteria. CAP, section 4.1.4 - Critical case evaluation will be performed qualifying installed configuration based on revised design output.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CONDUIT AND CONDUIT SUPPORT CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
9.	Discrepancies exist between FSAR 3.10.3 and design criteria. Design criteria does not address OBE load conditions.	CAQR WBF 870087 CATD 22403-WBN-01 DR 313-5a, b & g DR 315-5c	CAP, section 4.1.1 - The existing design criteria will be reviewed for Technical adequacy and agreement with the FSAR and other licensing commitments. The design criteria and FSAR will be revised as required to establish a complete and technically adequate design basis. CAP, section 4.1.2 - existing typicals will be reviewed and revised as required to be in compliance with the revised criteria. CAP, section 4.1.4 - Critical case evaluation will be performed qualifying installed configuration based on revised design output.
10.	Slot head screws were used in electrical hanger clips instead of ASTM A 307 bolts.	CAQR WBP 870367	CAP, section 4.1.4 - A critical case evaluation will be performed qualifying "as installed configurations." A walk-through will review the installed conduit and conduit support focusing on those attributes essential to conduit and conduit support qualification.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CONDUIT AND CONDUIT SUPPORT CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
11.	Contrary to the requirements inspections have not been performed on concrete expansion anchors used on typical supports 47A056-101 and 114.	CAQR WBP 870407 CATD 80209-WBN-05	CAP, section 4.1.4 - The critical case evaluation includes having Nuclear Construction or Nuclear Quality Assurance obtain information that cannot be obtained by engineering personnel during the walk-through.
12.	Conduits have not been evaluated for differential seismic movement between buildings.	CAQR WBP 870818	CAP, section 4.1.1 - The existing design criteria will be reviewed and revised as required for technical adequacy and agreement with the FSAR and other licensing commitments. CAP, section 4.1.2 - Existing typicals will be reviewed and revised as required to be in compliance with the revised criteria. CAP, section 4.1.4 - Critical case evaluation will be performed qualifying installed configuration based on revised design output.
13.	Conduits, 0-4MC-292-635A, 1-3 PM-292-7215-E and 1-2 PM-292-7353-A have been installed without an axial restraint on axial runs longer than 30 ft.	CAQR WBP 871061 WBRD-50-390/86-14	CAP Section 4.1.4 - A critical case evaluation will be performed qualifying "as installed configurations." A walk-through will review the installed conduit and conduit supports focusing on those attributes essential to conduit and conduit supports qualifications.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CONDUIT AND CONDUIT SUPPORT CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
14.	Several issues affecting the design of conduits and conduit supports were not considered (i.e., thermal due to post accident, mill tolerance on conduit wts, conduit qualified and insulation weights unconservative).	CAQR WBP 871145	CAP, section 4.1.1 - The existing design criteria will be reviewed and revised as required for technical adequacy and agreement with the FSAR and other licensing commitments. CAP, section 4.1.2 - Existing typicals will be reviewed and revised as required to be in compliance with the revised criteria. CAP, section 4.1.4 - Critical case evaluation will be performed qualifying installed configuration based on revised design output.
15.	Conduits, 1-PLC-1918B, 1VC 1247B, and 1VC 2584A were installed with unsupported spans exceeding the allowed spans per typical drawing 47A056-1D.	NCR W-333-P WBRD-50-390/86-14	CAP, section 4.1.4 - A critical case evaluation will be performed qualifying "as installed configurations." A walk-through will review the installed conduit and conduit supports focusing on those attributes essential to conduit and conduit supports qualifications.
16.	B-Line system clamps and channel have been used without evaluation by NE.	NCR W-387-P	CAP, section 4.1.4 - A critical case evaluation will be performed qualifying "as installed configurations." A walk-through will review the installed conduit and conduit supports focusing on those attributes essential to conduit and conduit supports qualifications.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CONDUIT AND CONDUIT SUPPORT CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
17.	Conduits installed with condulets on the free end in violation with the intent of typical drawing 47A056-102.	NCR W-389-P WBRD-50-390/86-14	CAP, section 4.1.4 - A critical case evaluation will be performed qualifying "as installed configurations." A walk-through will review the installed conduit and conduit supports focusing on those attributes essential to conduit and conduit supports qualifications.
18.	Insulation or other attachments may have been installed after conduit supports had been finalized.	NCR W-403-P CATD 10400-WBN-03	CAP, section 4.1.4 - A critical case evaluation will be performed qualifying "as installed configurations." A walk-through will review the installed conduit and conduit supports focusing on those attributes essential to conduit and conduit supports qualifications.
19.	Conduits 1-FCV-61-97-B and 1-FCV-61-122-B installed in violation with typical drawings 47 A056-89 and -102. NE failed to provide requirements for supporting oversized bodies.	NCR-W-420-P	CAP, section 4.1.1 - The existing design criteria will be reviewed and revised as required for technical adequacy and and agreement with FSAR and other licensing commitments. CAP, section 4.1.2 - Existing typicals will be reviewed and revised as required to be in compliance with the revised design criteria CAP, section 4.1.4 - A critical case evaluation will be performed qualifying "as-installed configurations." A walk-through will review the installed conduit and conduit supports.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CONDUIT AND CONDUIT SUPPORT CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
20.	Discrepancies involving supports documented without proper change documentation, supports documented to incorrect typical support and support with miscellaneous-installation problems.	NCR-W-539-P DR 416-5a	CAP, section 4.1.4 - A critical case evaluation will be performed qualifying "as-installed configurations." A walk-through will review the installed conduit and conduit supports.
21.	Conduit supports installed without clamp spring nuts in the proper position.	WBP 880573 DR 414-5b DR 436-5d DR 466-5b DR 496-5c DR 518-5g	CAP, section 4.1.4 - A critical case evaluation will be performed qualifying "as-installed configurations." A walk-through will review the installed conduit and conduit supports focusing on those attributes essential to conduit and conduit supports qualification.
22.	Flexible conduit attached with unapproved supports.	WBP 880670 DR 365-5a DR 376-5aii DR 377-5c DR 378-5b DR 381-5a DR 382-5b	CAP, section 4.1.2 - Existing typical support designs will be reviewed and revised as required to be in compliance with the revised design criteria. CAP, section 4.1.4 - Critical case evaluation will be performed qualifying installed configuration based on revised design output.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CONDUIT AND CONDUIT SUPPORT CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
23.	Conduit supports installed in violation of typical drawing 47A056-55.	WBP 880687	CAP, section 4.1.4 - A critical case evaluation will be performed qualifying "as-installed configurations." A walk-through will review the the installed conduit and conduit supports focusing on those attributes essential to conduit and conduit supports qualification.
24.	Conduit insulation weights used in the design criteria are unconservative.	WBP 880767	CAP, section 4.1.1 - The conduit and conduit support design criteria will be reviewed for technical adequacy. The design criteria will be revised as required to establish a complete and technically adequate design basis. CAP, section 4.1.2 - The existing typical support designs will be reviewed and revised as required to be in compliance with the revised design criteria. CAP, section 4.1.4 - Critical case evaluation will be performed qualifying installed configurations based on revised design output.
25.	Conduit supports installed in violation of typical drawings.	WBP 880200	CAP, section 4.1.4 - A critical case evaluation will be performed qualifying "as-installed configurations." A walk-through will review the the installed conduit and conduit supports focusing on those attributes essential to conduit and conduit supports qualification.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
CONDUIT AND CONDUIT SUPPORT CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
26.	Miscellaneous isolated conduit and conduit support problems.		These specific problems will be resolved by implementation of CAQ corrective action. The programmatic issues associated with these types of problems will be resolved under the CAP, section 4.1.4 (critical case evaluation). Loose hardware will be corrected as indicated in part III section 1.0 of Volume IV of the Nuclear Performance Plan.
	-JB support not installed per drawing	WBP 880741	
	-Conduit has overspan violation and G-32 violation	WBP 880283	
	-Two conduit supports have rod removed	WBP 870474	
	-Conduit has overspan violation	WBP 870590	
	-Conduit has loose fitting and overspan	WBP 870527	
27.	CAQs with partial coverage in CAP		The structural adequacy of the conduits and conduit supports involved in this CAQR is within the scope of this CAP critical case evaluation (Section 4.4). The condition initiating the CAQR is not within the scope of the CAP.
	-DNE output drawings do not address the seismic mounting requirements for conduits mounted in the Refueling Water Storage Tank area.	WBP 871298	

IDENTIFICATION OF CAP CHANGES TO
COMMITMENTS TO NRC FOR
CONDUIT AND CONDUIT SUPPORT CAP

CAP COMMITMENT	PREVIOUS COMMITMENT	COMMITMENT SOURCE
Implement a critical case evaluation. (Walk-through and review installed conduit and conduit supports required for unit 1 operation. Evaluate critical cases and implement modifications as required.)	In lieu of a walkdown as specified in the sixth interim report dated September 30, 1987, TVA is developing a sample program covering all installed conduit and conduit supports required for unit 1 operation.	Letter to NRC (5/18/88) Reassessment of Commitment Schedules. 10 CFR 50.55(e) WBRD-50-390/86-14

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
DESIGN BASELINE VERIFICATION PROGRAM CAP

SOURCE ISSUE	SOURCE DOCUMENT*	RESOLUTION OF ISSUE
1. FSAR not current with respect to plant design	Violation 390/86-18-06 Violation 390/87-20-01 Violation 390/87-05-01 CAQR WBT 870165 WBP 870772 WBP 880787 NCR W-314-P NCR W-385-P OE Audit 86-18-01 INPO DC 5.1 Employee Concern 10200-WBN-09 DR 45 DR 46 DR 70 DR 84 DR 120 DR 170 DR 189 DR 191 DR 206 DR 215 DR 257 DR 293 DR 297 DR 303 DR 461 DR 621	The licensing verification area of DBVP identifies design commitments from the FSAR and verifies them to their upper tier controlling documents. If discrepancies are identified, open item reports are generated to track the discrepancy to resolution. This program creates a baseline with which to compare any future FSAR changes. (Reference: CAP, section 4.1)
2. Design input information insufficient	CAQR WBP 870443 WBP 890163 WBF 890178901 WBP 870715 WBP 870760 WBP 871206 WBP 871212 WBP 890162 WBP 870759 WBP 870348 Employee Concern 20106-WBN-01 20103-WBN-01 30711-WBN-01 DR 85 DR 597 DR 617 SCR WBN MEB 8632	The design basis area of DBVP identifies design basis commitments and requirements and incorporates them into a Design Basis Document made up of System Descriptions and Design Criteria. (Reference: CAP, section 4.2)

*Some source documents contain both conditions covered under the DBVP program and other concerns.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
DESIGN BASELINE VERIFICATION PROGRAM CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
3. Missing, incomplete and out-of-date design calculations		The calculations program will generate, revise or review calculations, as appropriate, in order to assure the existence and retrievability of safety-related calculations that are technically adequate and consistent with the plant design. The program will also establish a process for statusing essential calculations that will maintain them current with plant design changes. (Reference: CAP, section 4.3)
a. General calculations	DR 650 DR 651 DR 652 Employee Concern 20106-WBN-01, formerly 201.6(A) 20501-WBN-02 CAQR WBO 890035	
b. Civil calculations	CAQR WBP 880786** OE Audit 87-12-02 OE Audit 87-12-04 Employee Concern 21506-WBN-01, formerly 215.6(A) DR 36 DR 38 DR 51 DR 54 DR 56 DR 104 DR 105 DR 186 DR 187 DR 210 DR 244 DR 245 DR 254 DR 258 DR 263 DR 266 DR 268 DR 292 DR 299 DR 300	
c. Electrical calculations	SCR WBN EEB 8630 WBN EEB 8631 WBN EEB 8538 WBN EEB 8539 WBN EEB 8571** CAQR WBE 870775724 WBP 871085 WBP 870274	

**Generic Concern CAQ

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
DESIGN BASELINE VERIFICATION PROGRAM CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
	CAQR WBP 880505 WBP 880754 INPO DC 5-3 DR 13 DR 20 DR 73 DR 75 DR 76 DR 77 DR 81 DR 140 DR 166 DR 223 DR 253 DR 255 DR 269 DR 273 DR 397 DR 629 PIR WBN EEB 8659 WBN EEB 8662 WBN WBP 87131 WBN WBP 87179 WBN WBP 87180 WBN WBP 8732 WBN WBP 8733 WBN EEB 8539 WBN EEB 8571 Employee Concern 10900-NPS-04 20501-WBN-02 20501-NPS-04 22901-WBN-01 23702-WBN-02 23702-WBN-03 23702-WBN-04 23702-WBN-05 30202-WBN-01 30202-WBN-02 30202-WBN-03 INPO DC 1-1 INPO DC 3-1	
d. Mechanical calculations	PIR WBN WBP 8674 PIR WBN WBP 88014 PIR WBN WBP 88020 PIR WBN MEB8701 PIR WBN MEB 8702	

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
DESIGN BASELINE VERIFICATION PROGRAM CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
	CAQR WBP 871337**	
	WBP 870442	
	WBP 890102	
	WBP 890173	
	OE Audit 87-12-02	
	OE Audit 87-12-04	
	Employee Concern 20501-WBN-01, formerly 205.1(A)	
	DR 41	
	DR 45	
	DR 46	
	DR 62	
	DR 64	
	DR 85	
	DR 93	
	DR 132	
	DR 142	
	DR 185	
	DR 201	
	DR 208	
	DR 231	
	DR 232	
	DR 233	
	DR 272	
	DR 302	
	DR 314	
	DR 322	
	DR 324	
	DR 332	
	DR 579	
	DR 593	
	DR 594	
	DR 595	
	DR 596	
	DR 604	
	DR 621	
	DR 622	
e. Nuclear calculations	SCR WBN EQP 8621	
	CAQR WBE 870775724	
	WBF 880062	
	WBF 870099	
	WBP 870284	
	WBP 871052	
	WBP 871053	
	WBP 880787	

**Generic Concern CAQ

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
DESIGN BASELINE VERIFICATION PROGRAM CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
		INPO DC 1.1 DC 3.1 Employee Concern 20501-WBN-02 DR 203	
4.	Lack of adequate design change control process	Employee Concerns 20406-WBN-02 20601-WBN-02 20601-WBN-03 DR 634	An improved change control process is being developed. (Reference: CAP, section 4.4)
5.	Drawings do not match plant configuration	Employee Concerns 20601-WBN-01 30713-WBN-02 SCR 6297-S DR 291	The improved change control process will utilize a one drawing system. Design changes will be more effectively documented by posting against and incorporating into (when appropriate) the single drawing. (Reference: CAP, section 4.4)

IDENTIFICATION OF CAP CHANGES TO
COMMITMENTS TO NRC FOR
DESIGN BASELINE VERIFICATION PROGRAM CAP

CAP COMMITMENT	PREVIOUS COMMITMENT	COMMITMENT SOURCE
N/A	N/A	N/A

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
ELECTRICAL ISSUES CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
1.	Flexible conduit installation deficiencies "Significant Condition Reports (SCR), a Condition Adverse to Quality Report (CAQR), and maintenance requests have identified problems associated with the installation of flexible conduit at WBN. The identified problems are listed below: ° Inadequate length to account for seismic/ thermal movement. ° Lack of compliance with the minimum bend radius requirements ° Loose fittings" Reference section 4.1.1	SCR 6529 R1 SCR W-577-PS R0 CAQR WBP 870226 DR 361, DR 364, DR 376, DR 382, DR 419, DR 425, DR 450, DR 599, DR 524, NRC Report number 390/85-57-05	The CAP describes the implementation program. Refer to section 4.1.1.
2.	Separation Between Redundant Divisions of CLass 1E Raceways "CAQs and an employee concern have identified isolated cases of redundant enclosed raceways with less than the minimum required 1-inch separation." Reference section 4.1.2.1	CAQR WBP 870435 CATD 24200-WBN-04 NCR W-31-P NCR WBN 6606 NCR WBP 6507	The CAP describes the implementation program. Refer to section 4.1.2.1.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
ELECTRICAL ISSUES CAP

	Source Issue	Source Document	Resolution of Issue
3.	Internal Panel Separation Between Redundant Divisions of Class 1E Cables "A CAQ and an employee concern have identified that inside the main control room panel non-Class 1E cables were routed with one train of cables and subsequently routed with the redundant train of cables. Also, inside the auxiliary instrument room panels, several conditions have been identified where redundant cables have not been separated by a barrier or 6-inches of free air space." Reference section 4.1.2.2	CAQR WBP 870927 CAQR WBP 880483 CAQR WBP 880725 CATD 24200-WBN-01 DR 014 DR 298	The CAP describes the implementation program. Refer to section 4.1.2.2.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
ELECTRICAL ISSUES CAP

	Source Issue	Source Document	Resolution of Issue
4.	Coil-to-Contact and Contact-to-Contact Isolation Between Class 1E and Non-Class 1E Circuits "A CAQ has identified that contact-to-contact isolation between Class 1E and non-Class 1E wiring was not specified in design input documents as an acceptable means of isolation and that no analysis has been performed to demonstrate the acceptability of this isolation method. In addition, the corrective action to this CAQ stated that Class 1E relays used as isolators should be reviewed to determine whether they have been qualified by the vendor for their as-designed coil-to-contact and contact-to-contact applications." Reference section 4.1.2.3.	PIR WBN WBP 87120 R0	The CAP describes the implementation program. Refer to section 4.1.2.3.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
ELECTRICAL ISSUES CAP

Source Issue	Source Document	Resolution of Issue
5. Contact and Coil Rating of Electrical Devices "Problem Identification Reports (PIR) have been issued at WBN for deficiencies where the design and procurement of inductive devices contained in circuits did not consider the inductive load rating of contacts or the maximum credible voltage available at the device terminals." Reference section 4.1.3	PIR WBN EEB 8610 R0 PIR WBN WBP 87131 R0	The CAP describes the implementation program. Refer to section 4.1.3
6. Torque Switch and Overload Relay Bypass Capability for Active Safety-Related Valves "In order to meet the intent of Regulatory Guide 1.106 (reference 8) certain active safety-related valves required to operate during a design basis event must have the thermal overload relays and the torque switches bypassed to ensure operability. It has been identified through employee concerns and CAQs that NE did not provide torque switch and thermal overload relay bypass capability for certain active safety-related valves." Reference section 4.1.4	NCR W-367-P R1 SCR WBN NEB 8630 R0 CATD 23701-WBN-01 CATD 23701-WBN-02 CATD 23701-WBN-03 CATD 23701-WBN-04 DR 182 DR 183	The CAP describes the implementation program. Refer to section 4.1.4.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
ELECTRICAL ISSUES CAP

Source Issue	Source Document	Resolution of Issue
7. Adhesive-Backed Cable Support Mounts (ABCSM)	CAQR WBP 870481 DR 559	The CAP describes the implementation program. Refer to section 4.1.5.

"A CAQ has been initiated to document that vendors and TVA have used ABCSM inside equipment to support and restrain wires and field cables in a neat and orderly fashion. The ABCSMs sometimes separate from the inside of the equipment, and as a result, may not properly secure the wire or cable."

Reference section 4.1.5

All source documents will be resolved for the issues under which they are listed when the CAP is completed. All issues will be resolved for the items required for unit 1 operation.

IDENTIFICATION OF CAP CHANGES TO
COMMITMENTS TO NRC FOR
ELECTRICAL ISSUES CAP

	CAP COMMITMENT	PREVIOUS COMMITMENT	COMMITMENT SOURCE
1.	Nuclear Construction (NC) will initiate a workplan and walkdown all Class 1E flexible conduit and rework those flexible conduit found to be damaged or in noncompliance with the design output documents. Any flexible conduit that cannot be repaired or replaced to meet design requirements will be referred to NE for evaluation. Difference: CAP includes all Class 1E flexible conduit. Damaged flexible conduit or loose flexible conduit will be repaired or replaced.	Each flexible conduit attached to a Class 1E pipe mounted device will be inspected to ensure the required thermal/seismic movement for each device can be obtained. Those found to be in non-compliance will be reworked or referred to NE for evaluation.	10 CFR 50.55(e) for SCR WBN 6529-S R1

IDENTIFICATION OF CAP CHANGES TO
COMMITMENTS TO NRC FOR
ELECTRICAL ISSUES CAP

	CAP COMMITMENT	PREVIOUS COMMITMENT	COMMITMENT SOURCE
2.	NE will provide a list of flexible conduit attached to Class 1E pipe mounted devices to identify those flexible conduits which will experience both seismic and thermal movement. Difference: Previous commitment noted that the list will be documented by a calculation and that the combined thermal/seismic movement for each device shown on the list will be provided. This issue will be resolved by revising design output documents and conforming the field installation to the revised output documents.	NE has provided to TVA's Division of Nuclear Construction and WBN Operations a list for units 1 and 2 of the flexible conduits to Class 1E pipe-mounted devices which must be inspected to assure these installations adequately compensate for combined thermal/seismic movements. These lists will be documented by design calculations. The combined thermal/ seismic movement for each device shown on the list will be provided.	10 CFR 50.55(e) for SCR WBN 6529-S R1

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
EQUIPMENT SEISMIC QUALIFICATION CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
1. Documentation retrievability	VSR DRs #31, #190, #192, #160, #163 CAQR WBP 890124	Retrieve, compile and index equipment design, procurement and seismic documents into ESQ list and complete entries into RIMS. (Reference: CAP, sections 4.1.2, 4.1.3, and 4.1.5)
2. Interface control among engineering disciplines and between engineering and other organizations	PIR WBN NEB 8678 PIR WBN MEB 8688 NCR W-416-P NCR WBN EEB 8522 PIR WBN EEB 8665 VSR DRs, #91, #32 SCR WBN EEB 8663 PIR WBN NEB 8645 NCR W-550-P CAQR WBP 890124 CAQR WBP 871113 CAQR WBP 870216 CAQR WBP 880415 CAQR WBP 880823 CAQR WBP 890185 NRC violation 390/88-04-03/ D3.1-1 & D3.2-2 CAQR WBP 880559 PIR WBN CEB 8637 SCR WBN CEB 8684 CAQR WBP 870709 PIR WBN CEB 8551 CAQR WBP 880557 CAQR WBP 870917 CAQR WBP 880377 CAQR WBP 880785	Review WBNP procedures, design output and perform engineering field walkthroughs, as necessary to resolve interface discrepancies. Interface review requirements will be strengthened by revision of procedures CAP, sections 4.1.4 and 4.2.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
EQUIPMENT SEISMIC QUALIFICATION CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
3. Discrepancies between design documents and installed conditions	CAQR WBP 880406 WBN NCR 6775 WBN NCR W-476-P WBN SCR 6298-S VSR DRs #95, #35 #430, #96 #204, #503b, #569a, #616 WBN SCR W-487-PS WBN MEB 8715 WBN NEB 8643 NCR W-415-P NCR W-405-P NRC violation 390/86-02-01 NRC violation 390/86-18-03 NRC violation 390/86-21-02 NRC violation 390/86-18-05 NRC violation 390/86-18-01 CAQR WBP 890159 CAQR WBP 880690 CAQR WBP 880763 NCR WBN 6297 CAQR WBP 870531 CAQR WBP 880655 CAQR WBP 880547 WBN NCR 6397 CAQR WBP 880636	Engineering investigation and evaluation (includes field walkthroughs) will determine the extent of problem and identify obvious outliers and provide resolution. Documents will be revised. Rework/ modification/ inspections, as defined by engineering evaluation. (Reference: CAP, sections 4.1.4 and 6.0)
4. Discrepancies between inspection documents and installed conditions	WBN SCR W-556-PS WBN NCR W-411-P WBN SCR W-559-PS VSR DR #169, #224	Engineering investigation and evaluation (may include field walkthroughs) will define the essential inspection requirements for rework/reinspection and identify obvious outliers. Applicable procedures and documents will be revised to specify the changes. (Reference: CAP, sections 4.1.4 and 4.2)

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
EQUIPMENT SEISMIC QUALIFICATION CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
5.	Damaged Brackets for Instruments	CAQR WBP 880699 WBN NCR 6296 NRC violation 390/86-21	CAP, section 4.1.4
6.	Adequacy of Documentation	VSR DR #318, #107 CAQR WBP 880728 CAQR WBP 880788	CAP, section 4.1.4
7.	Lack of I(L) Equipment Inspection Documents	VSR DRs #009, 019	CAP, section 4.1.6
8.	Compatibility of ESQ design criteria and licensing commitments in the FSAR	VSR DRs #43, #50	Revise FSAR and design criteria as needed to resolve open items. (Reference: CAP, section 4.1.1)
9.	NRC SQRT audit open items	SER Supplements 1 through 4 and NRC letter to TVA dated 09/23/82 or references g through k of CAP attachment 1.	Responses to open items have been provided to NRC. CAP paragraph 1.0. Additional action, if any, awaiting NRC response.
10.	DBVP identified open items of ESQ design criteria	WB-DC-40-31.2 WB-DC-40-31.6 WB-DC-40-31.12	Perform calculations to support DBVP review of ESQ Design Criteria. (Reference: CAP, section 4.1.1.)

IDENTIFICATION OF CAP CHANGES TO
COMMITMENTS TO NRC FOR
EQUIPMENT SEISMIC QUALIFICATION CAP

CAP COMMITMENT	PREVIOUS COMMITMENT	COMMITMENT SOURCE
CAP submittal to NRC replaces previous commitment	1. In response to violation No. 390/86-21-02, TVA committed to define corrective actions and implementation plan by September 1, 1987.	TVA Letter to NRC (L44870316805)
	2. In response to violation No. 390/86-18-01, TVA committed to provide an assessment and corrective action program, by SWEC, to replace the commitment item (1) above.	TVA Letter to NRC (L44870629808)

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
FIRE PROTECTION CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
1.	Separation of redundant safe shutdown equipment and cables compromised by fire barrier penetrations without fire rated dampers.	CAQR WBP 870978 R0	Perform Appendix R type analysis to determine what plant modifications may be required to achieve compliance with Appendix R, Section III.G. (Reference: CAP, section 4.1.2)
2.	Various issues raised at SQN by former TVA contract employee may be applicable to WBN due to similarity of design.	NRC Inspection Reports 50-327/88-24 50-328/88-24 50-327/88-37 50-328/88-37	Perform a review of the issues raised at SQN for applicability to WBN with a determination of corrective actions. CAQRs in accordance with NEP 9.1 may be required. (Reference: (CAP, section 4.1.3)

IDENTIFICATION OF CAP CHANGES TO
COMMITMENTS TO NRC FOR
FIRE PROTECTION CAP

CAP COMMITMENT	PREVIOUS COMMITMENT	COMMITMENT SOURCE
N/A	N/A	N/A

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
HANGER AND ANALYSIS UPDATE PROGRAM CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
1.	As-Built (Walkdown) data	Industry Practice	Piping and the associated supports will be walked down (WP-32) for piping systems to be rigorously analyzed. (CAP, section 4.1.1) (31.7, section 4.2).
2.	Combination of Response Spectra Analysis Results	PIR WBN CEB 8542	Seismic response due to simultaneous applications of two horizontal and one vertical response spectra will be combined by SRSS. (31.7, sections 3.4.3 and 3.4.4).
3.	Effects of Environmental Temperature on Piping	CATD 21801-WBN-01	Normal environmental temperatures will be considered in both the pipe stress and support design loads. Emergency/faulted environmental temperature will be considered to calculate support design loads. (31.7, section 3.2.4.1).
4.	Effects of Environmental Temperature on Pipe Supports	CATD 22011-WBN-01 PIR WBN CEB 8536	Thermal expansion due to any environmental condition will be considered for support members that frame directly between structures or rigid structural elements (i.e., wall, floors, slabs). 31.9, section 3.9).
5.	Effects of Friction on Pipe Supports	IFLP 390/88-04-03, item D3.3-1	Normal loads will be used in calculating the friction force in the design of category I and I(L) pressure boundary retention piping supports. (31.9, section 3.5).

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
HANGER AND ANALYSIS UPDATE PROGRAM CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
6.	Effects of Support Mass on Piping Analysis	CATD 21806-WBN-01	Significant support masses will be considered in the piping analysis. (31.7, section 3.1.2.3).
7.	Effects of Support Mass on Support Design	CAQR WBP 880628P	When significant, support mass effect will be included in the design of pipe supports. (31.9, section 3.3).
8.	Equipment Flexibility	CAQR WBP 870542 INPS 390/86-22 sample 25	Flexibility of the equipment (natural frequency less than 33 hz) will be considered in the piping analysis. (31.7, section 3.1.6).
9.	Evaluation of Fluid Transients	CATD 21804-WBN-01	All piping system will be reviewed for significant fluid transient events and will be considered in the piping analysis. (31.7, section 3.2.8) (5.49, attachment B).
10.	Evaluation of Operating Modes	CATD 21801-WBN-01 CAQR WBP 880401 NCR WBN CEB 8215 PIR WBN CEB 8704 PIR WBN MEB 8625	Thermal operating modes will be reviewed and considered in the piping analysis. (31.7, section 3.2.4) (5.49, attachment B).
11.	Identification and Documentation of Design Inputs	CAQR WBP 871048 NCR WBN CEB 8215	The design input for piping analysis will be documented and will be reconciled with the piping analysis. (5.49) (5.38, section 2.12).

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
HANGER AND ANALYSIS UPDATE PROGRAM CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
12.	IE Bulletin 79-02	CATD 11300-WBN-04 IFLP 390/88-04-03, item 04.3-8	Compliance to IE Bulletin 79-02 requirements will be met during the evaluation of category I engineered supports. (CAP, section 1.0) (31.9, sections 3.21.2 and 3.24.1).
13.	Integral Welds	CAQR WBA 871200802 IFLP 390/86-25-08 NCR W-518-P PIR WBN CEB 8625 PIR WBN CEB 8659 PIR WBN CEB 8663 SCR WBN CEB 8692	Welded attachments will be walked down (per WB-32) for all piping which is to be rigorously analyzed. The attachments will be evaluated appropriately for any violations. (31.7, section 4.1.3) (31.9, sections 3.16.1.2.3 and 3.16.1.2.4c).
14.	Localized Pipe Stress due to Support Components	PIR WBN CEP 8657 NRC IE Information Notice No. 83-80	Stiff clamps will be investigated for significant localized pipe stresses. (31.9, section 3.19.3.1b).
15.	Piping Analysis Model Termination	CAQR WBP 870455 NCR WBN CEB 8221 CATD 21807-WBN-01 PIR WBN CEB 8682 ECP-86-KX-165-01	The boundaries of all rigorously analyzed piping will be reviewed for proper model termination per piping analysis design criteria. (31.7, section 3.1.1) (5.38, section 4.3.4a).
16.	Piping System Functionality	Industry Practice	The functionally of piping systems that are required to be operational during or after an emergency/faulted event in GE document NEDO 21985. (31.7, section 4.1.10).

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
HANGER AND ANALYSIS UPDATE PROGRAM CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
17.	Pipe and Pipe Support Welds	CAQR WBP 871223 PIR WBN WBP 8760 CATD 22207-WBN-01 PIR WBN WBP 8782	Piping welds were addressed by the Watts Bar Welding Program Task Group. Any piping weld which cannot cannot be repaired and was accepted "as-is" will be identified as discrepant weld (per WBEP 5.49, attachment B) and evaluated. The piping support weld will be walked down for all supports associated with the piping to be rigorously analyzed and evaluated for the new loads. (WP-32, sections 5.3.19 and 5.3.20) (31.9, sections 3.16.1.2.3b and 3.16.1.2.4f).
18.	Pipe Support Component Substitution	PIR WBN WBP 8758 CATD 22204-WBN-01 CATD 11102-WBN-02 SCR WBN CEB 8654 NCR W-462-P	Sampling program will be conducted to verify the design adequacy of the components. (CAP, section 4.1.6).
19.	Rigid Range Effects on Dynamic Analysis	CATD 21803-WBN-01 CATD 21806-WBN-01 SCR WBN CEB 8553	The contribution of dynamic response due to higher modes will be included in the piping analysis. 31.7, section 3.4.5).
20.	Substitution of Piping Components	Industry Practice	The piping components will be identified during the walkdown of the piping systems. Where the piping component substitutions are identified, the piping analysis will be updated. (WP-32).

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
HANGER AND ANALYSIS UPDATE PROGRAM CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
21.	Support Flexibility	ECP-86-KX-165-01	The support will generally be modeled as rigid in the piping analysis. The deflection of pipe support will be limited to 0.0625 inch based on dynamic/ seismic component of upset or faulted load and 0.125 based on the total design load. (31.7, section 3.1.2.2) (31.9, section 3.7.1a).
22.	Surface Plate Welded to Embedded Plated	Industry Practice	Surface mounted baseplates with mixed bolt and weld attachments will be identified during the walkdown (per WP-32) and qualified such that the entire shear load is taken by the weld. (31.9, section 3.21.3).
23.	Temperature Cutoff for Piping Analysis	CATD 21801-WBN-01	For piping to be rigorously analyzed all operating modes will be considered. For alternately analyzed piping, thermal expansion will not be considered if the piping is subjected to temperatures ranging from 20°F to 130°F; however, the piping configuration is reviewed for adequate flexibility. (31.7, section 3.2.4.1).

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
HANGER AND ANALYSIS UPDATE PROGRAM CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
24.	Tolerances	CAQR WBP 870727	As specified in TVA construction specification G-43 and N3C=912, tolerances are adequate and comparable to industry accepted values. As-built conditions will be reconciled with the rigorous piping analysis. Tolerances for pipe supports shall be considered when as-built dimensions are not known. (31.7, section 4.2) (31.9, section 3.13).
25.	Uplift on Rod Supports	Industry Practice	Rigid rod supports will be checked to assure that they are subjected to tensile loading only in any loading condition. (31.9, section 3.19.4).
26.	Use of Vendor Load Rating for Standard Component Support	Industry Practice	Service level loading conditions (instead of "normalized loads") will be considered in the selection or reconciliation of standard support components. (31.9, section 3.8 and Appendix B).

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
HANGER AND ANALYSIS UPDATE PROGRAM CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
27.	Variable Damped Spectra Used with Multiple Group Support Motion	DR-193 PIR WBN CEB 8552	ASME Code Case N-411 damping values will be used only with the single zone (enveloped response spectra) method for seismic analysis. For Design Basis Accident (DBA), the steel containment vessel will be considered as one zone and the spectra for all attachments to SCV will be enveloped (other structures do not respond to DBA and, therefore, acceleration levels will be considered insignificant). (31.7, section 3.4.2).
28.	Missing Pipe Support Calculations	CATD 21201-WBN-01 CATD 22001-WBN-01 CATD 80201-WBN-02 SCR WBN CEB 8531 DR-25	TVA will ensure all existing pipe support calculations for unit 1 are complete and stored in RIMS. TVA will prepare and issue calcs for all missing or incomplete calculations to provide assurance that they meet the applicable design criteria.
29.	Use of Epoxy Grouted Anchors	NCR 3567 SCR WBN CEB 8570	Construction Specification G-32 was revised on August 25, 1982, to preclude the use of epoxy grouted anchors (NCR 3567); all safety-related support designs will be reviewed under HAAUP for adequacy (SCR WBN CEB 8570).

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
HANGER AND ANALYSIS UPDATE PROGRAM CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
30.	Inadequate Support Shown on Valves	SCR WBN CEB 8684	Typical valve support drawings (47A054-41 and -42) will be revised and new supports to existing valve installations will be added per revised drawings. (U1 ECN 6659).
31.	Oversize Relief Valve	SCR WBN MEB 8616	The existing valve will be replaced by the appropriate size and affected piping will be evaluated. (U1 ECN 6184).
32.	Upgrade Containment Cooling Piping Class	SCR WBN NEB 8663	Piping will be evaluated to upgraded class. (Work package YCY000).
33.	NRC Inspection Report	390/86-22	
	Pipe Whip Design as a result of generic exception to Reg Guide 1.46.	Sample 6	Pipe rupture criteria (WB-DC-40-31.50 R4) was revised to address this issue of pipe break locations on reanalyzed piping. FSAR section 3.6A.2.1.2 will be revised.
	Compliance with licensing and schedule completion of rigorously analyzed piping. Review of all other piping analysis problems that utilized simplified analysis approach using TPIPE version 4.6D and special postprocessor version 6.0C.	Sample 12	Rigorously analyzed piping will be reanalyzed using corrected version of TPIPE computer program and new class 2 postprocessor. Simplified piping analysis will be reviewed for deficiencies identified with TPIPE version 4.6D and special postprocessor version 6.0C. All work will be completed before fuel load date.
	Provisions were not made to incorporate pump dynamic characteristics in the piping analysis.	Sample 25	Piping analysis will incorporate pump dynamic characteristics. (See issue No. 8).

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
HANGER AND ANALYSIS UPDATE PROGRAM CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
34.	NRC Inspector Follow-up Item	390/88-04-03 (SQN 50-327/86-27)	
	Seismic qualification documentation that ensures "New valve stem extensions do not invalidate the existing seismic qualifications for the valve, piping or associated components." was not available.	a. Item D3.2-2 PIR WBN CEB 8637	Remote valve extension operator will be identified and seismic qualification assured.
	Design information specified in 47B001- series drawings is not always compatible with requirements found in CEB reports 75-18 and 77-42.	b. Item D3.2-4 PIR WBN CEB 8693	Evaluate CEB report 75-18 and revise drawing 47B001-10 if necessary.
	Pipe support friction design	c. Item D3.3-1	Friction in support design (see issue No. 5).
	Baseplate design criteria	d. Item 04.3-8	Resolve 79-02 commitments for unit 1 as part of HAAUP.

LEGEND

CAP	Hanger and Analysis Update Program Corrective Action Plan
CAQR	Condition Adverse to Quality Report
CATD	Corrective Action Tracking Document (Employee Concern Program)
DR	Discrepancy report identified during Vertical Slice Review (VSR)
IFLP	NRC Inspector Follow-up Item
INPS	NRC Inspection Report
WP-32	WBEP-WP-32, "Walkdown of As-Built Piping System Under Scope of HAAUP"
31.7	WB-DC-40-31.7, "Design Criteria for Analysis of Category I and I(L) Piping Systems"
31.9	WB-DC-40-31.9, "Criteria for Design of Piping Supports and Supplemental Steel in Cat. I Structures"

OTHER OPEN ITEMS

The following open items are related to minor deficiencies identified in piping analysis, support design, and pipe rupture areas. The HAAUP program will address and provide resolutions to these open items before fuel load. The completion of the work will be tracked using TVA's TROI system.

CAQR WBF 870034
CAQR WBF 870241
CAQR WBP 870189
CAQR WBP 870219
CAQR WBP 870221
CAQR WBP 870247
CAQR WBP 870260
CAQR WBP 870268
CAQR WBP 870355
CAQR WBP 870425
CAQR WBP 870487
CAQR WBP 870490
CAQR WBP 870517
CAQR WBP 870620
CAQR WBP 870621
CAQR WBP 870627
CAQR WBP 870647
CAQR WBP 870703
CAQR WBP 870713
CAQR WBP 870720
CAQR WBP 870722
CAQR WBP 870724
CAQR WBP 870725
CAQR WBP 870750
CAQR WBP 870772
CAQR WBP 871013
CAQR WBP 871015
CAQR WBP 871044
CAQR WBP 871045
CAQR WBP 871234
CAQR WBP 871267
CAQR WBP 871299
CAQR WBP 871332
CAQR WBP 880044
CAQR WBP 880173
CAQR WBP 880225
CAQR WBP 880231
CAQR WBP 880279
CAQR WBP 880394
CAQR WBP 880430

CAQR WBP 880540P
CAQR WBP 880608
CAQR WBP 880615
CAQR WBP 880707
CAQR WBP 880734
CAQR WBP 880785
CAQR WBP 890057P
CAQR WBP 890177
CAQR WBP 890181
CAQR WBP 890189
CAQR WBT 870330
CAQR WBT 870582
CAQR WBT 871139
CAQR WBT 880429

CATD 21202-WBN-01
CATD 21801-WBN-02
CATD 21811-WBN-01

PIR WBN CEB 8518
PIR WBN CEB 8547
PIR WBN CEB 8550
PIR WBN CEB 8551
PIR WBN CEB 8603
PIR WBN CEB 8608
PIR WBN CEB 8626
PIR WBN CEB 8639
PIR WBN CEB 8640
PIR WBN CEB 8645
PIR WBN CEB 8646
PIR WBN CEB 8664
PIR WBN CEB 8666
PIR WBN CEB 8674
PIR WBN CEB 8685
PIR WBN CEB 8686
PIR WBN CEB 8688
PIR WBN CEB 8697
PIR WBN CEB 86100
PIR WBN CEB 86101
PIR WBN CEB 8701

PIR WBN CEB 8706
PIR WBN MEB 8664
PIR WBN MEB 8671
PIR WBN MEB 86122
PIR WBN MEB 86125
PIR WBN MEB 86128
PIR WBN MEB 8709
PIR WBN WBP 8744
PIR WBN WBP 8764
PIR WBN WBP 8788
PIR WBN WBP 87102
PIR WBN WBP 87157

NCR W-411-P
NCR-6592
NCR-6597
NCR-6599
NCR-6910
NCR WBN 4068
NCR WBN 6297
NCR WBN CEB 8223
NCR WBN CEB 8515
NCR WBN SWP 8247

SCR W-518-PS
SCR WBN 6592-S
SCR WBN 6599-S
SCR WBN 6910-S
SCR WBN CEB 8576
SCR WBN CEB 8604
SCR WBN CEB 8677
SCR WBN CEB 8680
SCR WBN CEB 86102
SCR WBN MEB 8604

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
HANGER AND ANALYSIS UPDATE PROGRAM CAP

The following deficiencies were identified by the vertical slice review. The HAAUP program will address and provide resolution. The completion of the work will be tracked using TVA's TROI system.

DR-12	DR-248
DR-26	DR-251
DR-30	DR-254
DR-42	DR-263
DR-52	DR-325
DR-63	DR-328
DR-71	DR-331
DR-95	DR-392
DR-111	DR-411
DR-113	DR-430
DR-114	DR-441
DR-115	DR-457
DR-116	DR-488
DR-118	DR-489
DR-151	DR-491
DR-153	DR-494
DR-156	DR-523
DR-157	DR-561
DR-159	DR-587
DR-194	DR-615
DR-195	DR-635
DR-201	DR-636
DR-244	DR-641
DR-245	DR-650
DR-247	DR 651

IDENTIFICATION OF CAP CHANGES TO
COMMITMENTS TO NRC FOR
HANGER AND ANALYSIS UPDATE PROGRAM CAP

	CAP COMMITMENT	PREVIOUS COMMITMENT	COMMITMENT SOURCE
1.	Seismic Damping (CAP, section 4.1.1.2)		
	ASME Code Case N-411 meeting the requirements specified in Regulatory Guide 1.84 will be used for single zone.	N-411 with 2-D earthquake and multiple zones will be used.	FSAR Table 3.7.2
	Regulatory Guide 1.61 will be used for multiple zones.	Criteria A (.5%, 1%) or Criteria B (1%, 2%; 2%, 3%) will be used.	FSAR Table 3.7.2

* As part of the Hanger and Analysis Update Program (HAAUP), the design criteria for piping analysis and support design were updated (CAP, sections 2.0 and 4.2.2) to incorporate the resolution of several technical and/or procedural issues. This revised design methodology will be used to evaluate the safety-related piping and associated support design. In several cases, the revised design methodology is different from FSAR. FSAR will be revised to reflect this updated design methodology.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
HEAT CODE TRACEABILITY CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
1.	Some Class 3 materials may have been installed in Class 2 systems without adequate documentation.	CAQR WBP 880431 R0 CATD 40700-WBN-05 CATD 40700-WBN-06 CATD 40700-WBN-07 CATD 40700-WBN-08 CATD 40700-WBN-09 CATD 40700-WBN-10 CATD 40700-WBN-11 CATD 40700-WBN-14 CATD 40700-WBN-17	Certain product forms, e.g., seam welded piping without filler metal, are required by either the Material Specification (ASME Code Section II) or ASME Code Section III to have NDE performed for use in ASME Class 2 and Class 3 applications. ASTM, ASME Section II, and ASME Section III materials which have been upgraded to ASME Section III Class 2 and Class 3 will be reverified as meeting all other requirements of the ASME Code (Section III) on a statistical sampling basis. If a particular technical attribute of a sampled item is found to be discrepant, that particular attribute will be isolated and verified for the entire population. (Reference CAP, section 4.1.2)
2.	Some material may have been installed in ASME Code Class 1 systems without meeting Class 1 material requirement.	CAQR WBP 880432 R0 CATD 40700-WBN-02 CATD 40700-WBN-03 CATD 40700-WBN-04 CATD 40700-WBN-05 CATD 40700-WBN-06 CATD 40700-WBN-07 CATD 40700-WBN-08 CATD 40700-WBN-09 CATD 40700-WBN-10 CATD 40700-WBN-11 CATD 40700-WBN-14 CATD 40700-WBN-17	Class 1 piping material is required to have 100 percent surface nondestructive examination (NDE) performed. To satisfy Class 1 NDE requirements, liquid penetrant examinations have been or will be performed for all such material installed in Class 1 applications. (Reference: CAP, section 4.1.1)

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
HEAT CODE TRACEABILITY CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
3.	ASTM material have been reclassified and installed in ASME Code Systems without verifying that the manufacturers of the material had an acceptable ASME QA program in place at the time of manufacturing.	CAQR WBP 880433 R0 CATD 40700-WBN-05 CATD 40700-WBN-06 CATD 40700-WBN-07 CATD 40700-WBN-08 CATD 40700-WBN-09 CATD 40700-WBN-10 CATD 40700-WBN-11 CATD 40700-WBN-14 CATD 40700-WBN-17 CATD 80104-WBN-01	The acceptability of ASTM material will be determined by verifying the material has an equivalent ASME specification, was supplied with an acceptable Quality Assurance program, and had the necessary NDE performed as applicable for the particular ASME applications. (Reference: CAP, section 4.1.3)
4.	ASTM plate material may have been improperly used as integral attachment material to ASME piping.	CAQR WBP 880437 R0 CATD 40700-WBN-06 CATD 40700-WBN-08 CATD 40700-WBN-11 CATD 80104-WBN-01	The acceptability of ASTM material will be determined by verifying the material has an equivalent ASME specification, was supplied with an acceptable Quality Assurance program, and had the necessary NDE performed as applicable for the particular ASME applications. (Reference: CAP, section 4.1.3)
5.	Sections of the FSAR applicable to material traceability do not clearly indicate WBN's Code of Record.	CATD 40700-WBN-12 CATD 40700-WBN-13	Sections of the FSAR applicable to material traceability will be revised as necessary to clearly indicate WBN's Code of Record. Technically justified FSAR revisions will be submitted to the NRC, if required, to incorporate any exceptions to the ASME Code. (Reference: CAP, section 4.3)

IDENTIFICATION OF CAP CHANGES TO
COMMITMENTS TO NRC FOR
HEAT CODE TRACEABILITY CAP

CAP COMMITMENT	PREVIOUS COMMITMENT	COMMITMENT SOURCE
N/A	N/A	N/A

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
HEATING, VENTILATING, AND
AIR CONDITIONING (HVAC) CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
1. Design criteria has incomplete requirements in several areas.	CAQR WBP 871029 (50.55[e]) WBRD-50-390/87-21 WBRD-50-391/87-25 Vertical Slice Review (VSR) Discrepancy Report (DR) 4(c), DR 4(f), DR 4(d), DR 4(l), DR 4(ki) DR 167(a), DR 4(kii) DR 167(i), DR 167 (f)	CAP section 4.1.1 - "The design criteria and FSAR will be revised as required to establish a complete and technically adequate design basis."
2. Design criteria lacks adequate justification or documentation in certain areas including discrepancies between test data and design criteria requirements.	SCR WBN CEB 8559 (50.55[e]) WBRD-50-390/86-54 WBRD-50-391/86-52 DR 4(a), DR 4(b), DR 4(m), DR 4(n), CAQR WBP 880543, DR 167(b), DR 167(c)	CAP section 4.1.1 - "Calculations have been identified which are required to support the above design criteria. The calculations are identified in section 5 of reference 1." (Reference 1 is WB-DC-40-31.8) These and other calculations will be prepared as part of the HVAC CAP.
3. Design criteria was used in design of heavy gauge duct but criteria did not cover this type of duct construction.	SCR WBN MEB 8631	Criteria has been revised, modifications identified, and design changes made. Modifications will be tracked through normal CAQ process.
4. Typical pipe/conduit support drawings allow their attachment to duct flanges without considerations of duct movement.	PIR WBN CEB 8708	The issue becomes a critical case attribute which will be evaluated in accordance with section 4.1.4 of the CAP.
5. Duct support typical 47A055-35 static deflection exceeds design criteria allowable.	CAQR WBP 880038	CAP section 4.1.2 - "Existing HVAC duct support designs will be reviewed for correctness and revised as necessary to bring them into compliance with the design criteria."

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
HEATING, VENTILATING, AND
AIR CONDITIONING (HVAC) CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
6. HVAC ducts have not been evaluated for differential movement between buildings.	CAQR WBP 870818	Section 4.1.1 of CAP requires that the HVAC criteria be complete. Section 4.1.2 of the CAP requires updating of the duct design. Section 4.1.4 of CAP requires critical case evaluation.
7. Supports not installed per design output and/or inspection documentation.	SCR W-580-P-S CAQR WBN 870308 CAQR WBN 870316 DR 151, DR 171(a), DR 179, DR 180, DR 304(b), DR 305, DR 172(a), DR 173, DR 174, DR 176(b), DR 178, DR 317, DR 387(a), DR 499(a) (b) and (e), DR 171(b), DR 304(d), DR 306, DR 354, DR 387(b), DR 172(b), DR 176(a) NRC Violation 390/87-07-01	Section 4.1.4 of CAP outlines critical case evaluation of existing installations. Configuration discrepancies are an attribute in the walk-through.
8. Design output drawings are not in agreement with the design input.	CAQR WBP 880104 DR 167(k)	CAP section 4.1.2 - "Existing HVAC duct support designs will be reviewed for correctness and revised as necessary to bring them into compliance with the design criteria." Critical case evaluation of installed duct and duct supports is required by section 4.1.4 of CAP.
9. Contrary to design criteria, some typical supports are not designed to transfer reaction loads primarily by shear into member webs.	CAQR WBP 880544 DR 4(i)	CAP section 4.1.2 - "Existing HVAC duct support designs will be reviewed for correctness and revised as necessary to bring them into compliance with the design criteria." Critical case evaluation of installed duct and duct supports is required by section 4.1.4 of CAP.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
HEATING, VENTILATING, AND
AIR CONDITIONING (HVAC) CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
10.	Lack of a QA materials handling program for ducts resulting in unknown strength properties of installed duct.	PIR WBN WBP 88015 DR 68	CAP section 4.1.1 requires criteria updating. Section 4.1.2 requires preparation of specifications to define structural requirements for HVAC ductwork.
11.	Interaction of local stress with total stress in ductwork not considered.	DR 4(e)	See items 1, 4, and 5.
12.	Failure to consider support and duct span tolerance in the design.	DR 4(g), DR 167(d)	See items 1, 4, and 5.
13.	No design calculations for qualification of all joints and seams of ductwork under all loads.	DR 4(h)	See items 1, 4, and 5.
14.	No calculations to support assumption that sealant in a penetration provides support.	DR 4(j)	See item 2.
15.	Change in duct frequency due to presence of accessories was not considered.	DR 4(kv)	See items 1, 4, and 5.
16.	Installation details for grilles, dampers, etc., are guides and allow field modification.	DR 4(o)	CAP section 4.1.2 requires review and updating of design output documents to bring them into compliance with the design criteria.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
HEATING, VENTILATING, AND
AIR CONDITIONING (HVAC) CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
17.	Support typicals based on spans shorter than criteria allowed. Thus, support loads may be under estimated.	DR 167(e)	CAP section 4.1.2 requires review of existing duct support typicals to bring them into compliance with the design criteria.
18.	All loads on HVAC duct and supports were not considered.	DR 167(g), DR 167(l)	See items 1, 4, and 5.
19.	Calculations for axial supports at 90° bends cannot be found. Axial support calculations do not compare duct length and loads with maximum criteria spacing nor axial loads on 47A055 typicals.	DR 167(h)	See item 8.
20.	Connection of duct to support has not been designed.	DR 167(m)	See items 1, 4, and 5.
21.	Support design did not consider shear/torsion interaction for bolt anchors.	DR 167(o)	See items 1, 4, and 5.
22.	Supports and/or ducts exhibit physical damage.	DR 171(c), DR 304(c) CAQR WBP 890111 DR 4Kiii CAQR WBP 880001	See item 4.
23.	No calculation exist to verify the adequacy of the tornado damper ductwork.	PRD WBP 880574P	See items 1 and 4.

IDENTIFICATION OF CAP CHANGES TO
COMMITMENTS TO NRC FOR
HEATING, VENTILATING, AND
AIR CONDITIONING (HVAC) CAP

CAP COMMITMENT	PREVIOUS COMMITMENT	COMMITMENT SOURCE
Develop and implement a critical case evaluation of installed safety-related HVAC duct and duct supports (section 4.1.4 of HVAC CAP). "since there have been several CAQs identifying discrepancies between installed configurations and the SVS documentation, the accuracy of such documentation must be verified. Therefore, an engineering walk-through to address those issues, as well as the other identified deficiencies will be implemented." The above quote from the CAP could be interpreted to imply that the verification of the documentation discrepancies will result in configuration reconciliation. The intent is to verify structural adequacy but not to revise the drawings in all cases to match the as built configuration. This is a deviation from the previous commitment.	Review HVAC hanger location drawings for agreement with inspection documentation with regard to typical support numbers. Document and resolve discrepancies. Reinstall missing support 1030-DW920-02H-0109 (if required).	CATD 11103-WBN-06 (T41 870216 891)

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
INSTRUMENT LINE CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
1.	Instrument Sense Line Slope - A number of sense lines were found that did not conform to the minimum slope requirements specified on design output drawings. (Reference: section 4.1.2.1)	NCR 6172 R1; 50.55(e), WBRD-50-390/85-50 CATD 17300-WBN-01, -02, -03; NCR W-417-P; Notice of Violation IR 50-390/86-25-01; Vertical Slice Review (VSR) Discrepancy Report (DR) 147 R1, item 1C; 392 R0; 411 R0; 441 R0, item 5a; 457 R0; 489 R0; 491 R0; 523 R1, item 5a; 615 R0; 92 R0; 199, item 1	The CAP describes an existing corrective action implementation program. (Reference: section 4.1.4.1)
2.	Thermal Effects on Instrument Lines - It was determined that instrument lines and associated supports were not designed to consider the effects of thermal expansion. (Reference: section 4.1.2.2)	SCR WBNEEB8572 R1; 50.55(e), WBRD-50-390/86-13; CATD 17300-WBN-15 DR 392 R0; 411 R0; 457 R0; 489 R0; 491 R0; 523 R1, item 5a; 615 R0	The CAP describes an existing corrective action implementation program. Refer to section 4.1.4.2. The CAP makes a commitment to perform a reconciliation between the existing analysis and the updated HAAUP design criteria.
3.	Compression Fittings - It was determined that various compression fitting installations were not in accordance with the fitting manufacturer's installation requirements. (Reference: section 4.1.2.4)	SCR 6278-S; 50.55(e), WBRD-50-390/85-43; CATD 17300-WBN-08	The CAP describes the corrective action program. Reference: section 4.1.4.4. The CAP makes a commitment to pressure test instrument lines designated as seismic category I and I(L).

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
INSTRUMENT LINE CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
4.	Installation Discrepancies - NCR W-334-P documents a condition in which some instrument line support documentation was determined to be lost or incorrect. (Reference: section 4.1.2.5)	NCR W-334-P; 50.55(e), WBRD-50-390/86-29; CATD 17300-WBN-14; CATD 22301-WBN-01; DR 392 R0; 411 R0; 441 R0, item 5a; 457 R0; 489 R0; 491 R0; 523 R1, item 5a; 615 R0	The CAP describes an existing corrective action implementation program which is documented on NCR W-334-P. Refer to section 4.1.4.5. The CAP makes a commitment to review existing NE calculations SD3-017 and SD3-023 with updated design input and design criteria requirements.

IDENTIFICATION OF CAP CHANGES TO
COMMITMENTS TO NRC FOR
INSTRUMENT LINE CAP

CAP COMMITMENT	PREVIOUS COMMITMENT	COMMITMENT SOURCE
Instrument lines designated as seismic category I or I(L) will be pressure tested in accordance with appropriate piping code requirements as specified in site-implementing procedures. Reference: NCO880294010	For unit 1 safety-related instrument panels not having been pressure tested TVA plans to inspect the panels for leaking compression fittings during initial heatup. Reference: NCO850474008	TVA letter to NRC dated July 30, 1986, 10 CFR 50.55(e) (L44 860730 816)

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
PRESTART TESTING CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
N/A	N/A	N/A

IDENTIFICATION OF CAP CHANGES TO
COMMITMENTS TO NRC FOR
PRESTART TESTING CAP

CAP COMMITMENT	PREVIOUS COMMITMENT	COMMITMENT SOURCE
N/A	N/A	N/A

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
QA RECORDS CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
1. Deficiency in the Site Records Vault	CAQR WBA 870026 D01 CATD 80517-WBN-02 NCR W-203-P	1. Vault modifications will be made. Records will be placed in qualified storage (vault or microfilm) (Reference: CAP, section 4.1)
2. Slow or Difficult Records Retrieval	SCR WBN 7215-S CAQR WBP 870036 CAQR WBP 870307 CAQR WBP 871000 CAQR WBP 871129 CAQR WBP 880188 CAQR WBQ 880546 CAQR WBQ 871002 CATD 717-NPS-14 CATD 11200-NPS-02 CATD 30201-WBN-01 CATD 80409-WBN-01	2. A Records Retrieval Guide will be developed. Records index will be enhanced. A study will be conducted to determine the effectiveness of retrievability system enhancements (Reference: CAP, section 4.2)
3. QA Records Quality (e.g. incomplete, technically and/or administratively deficient records)	CAQR WBA 870876729 CAQR WBP 880428 CAQR WBA 890013907 CAQR WBP 870036 CAQR WBP 870059 CAQR WBP 870191 CAQR WBP 870216 CAQR WBP 870304 CAQR WBP 870528 CAQR WBP 870551 CAQR WBP 870736 CAQR WBP 870985 CAQR WBP 871123 CAQR WBP 880153 CAQR WBP 880175 CAQR WBP 880188	3. Open CAQs will be screened to consolidate resolution of all identified records quality issues. Identified issues will be resolved on a case-by-case basis. Results will be subjected to a trend analysis to identify need for additional recurrence control actions. (Reference: CAP, section 4.3)

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
QA RECORDS CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
	CAQR WBP 880450	
	CAQR WBP 880475	
	CAQR WBP 880542	
	CAQR WBP 880670	
	CAQR WBP 880676	
	CAQR WBP 880702	
	CAQR WBQ 870698	
	CAQR WBQ 870712	
	CAQR WBQ 870852	
	CAQR WBQ 871002	
	CAQR WBQ 871147	
	CATD 10200-WBN-02	
	CATD 11103-WBN-03	
	CATD 11103-WBN-08	
	CATD 11300-WBN-01	
	CATD 17300-WBN-14	
	CATD 22301-WBN-01	
	CATD 80209-WBN-03	
	CATD 80213-WBN-01	
	CATD 80214-WBN-02	
	CATD 80516-WBN-02	
	CATD 85-373-NPS-02-10	
	CATD SWEC-WBN-67-001	
	NCR W-334-P	
	NCR W-510-P	
	NCR WBN 6433	
	NCR WBN 6463	
	NCR WBN 6722	
	PRD WBP 880774P	
	WBA 860017D03	
	SCR W-476-P-S	
	SCR W-559-P-S	
	SCR W-576-P-S	
	SCR WBN 6433-S	
	SCR WBN 6722-S	

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
QA RECORDS CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
	SCR WBN 6723-S	
	SCR WBN EQP 8626	
	SCR WBN EQP 8628	
	URI 390/86-24-03	
	Violation 390/87-18-03	
	DR 18	
	DR 23	
	DR 24	
	DR 53	
	DR 106	
	DR 138	
	DR 188	
	DR 222	
	DR 344	
	DR 345	
	DR 346	
	DR 347	
	DR 357	
	DR 358	
	DR 374	
	DR 399	
	DR 400	
	DR 404	
	DR 405	
	DR 408	
	DR 409	
	DR 412	
	DR 433	
	DR 434	
	DR 439	
	DR 440	
	DR 442	
	DR 448	
	DR 451	
	DR 452	
	DR 453	
	DR 454	
	DR 455	
	DR 456	
	DR 490	
	DR 507	
	DR 510	
	DR 511	
	DR 512	
	DR 514	
	DR 521	
	DR 526	
	DR 527	
	DR 528	

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
QA RECORDS CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
	DR 529	
	DR 530	
	DR 531	
	DR 532	
	DR 533	
	DR 534	
	DR 535	
	DR 536	
	DR 537	
	DR 538	
	DR 539	
	DR 540	
	DR 541	
	DR 543	
	DR 544	
	DR 545	
	DR 546	
	DR 562	
	DR 563	
	DR 580	
	DR 581	
	DR 582	
	DR 585	
	DR 589	
	DR 590	
	DR 591	
	DR 608	
	DR 609	
	DR 618	
	DR 619	
	DR 620	

IDENTIFICATION OF CAP CHANGES TO
COMMITMENTS TO NRC FOR
QA RECORDS CAP

CAP COMMITMENT	PREVIOUS COMMITMENT	COMMITMENT SOURCE
N/A	N/A	N/A

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
Q-LIST CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
1.	Q-List does not differentiate between safety-related and special feature.	Revised final report 10 CFR 50.55(e) NCR W-269-P R1	New Q-List format to clearly indicate safety-related and special features (draft ONP STD 9.1.14).
2.	Various 1E valves are listed in the Q-List in columns not considered safety related.	Revised final report 10 CFR 50.55(e) NCR W-269-P R1	Revised existing notes to clarify and new Q-List format will clearly indicate class 1E (draft ONP STD 9.1.14).
3.	The general notes to the WBN Q-List are not consistent with NP's approach to the 10 CFR 50 Appendix B QA program.	Revised final report 10 CFR 50.55(e) NCR W-269-P R1	General notes to the existing Q-List and AI-7.6 were revised (Reference: CAP, section 4.0)
4.	No motors are listed on the CSSC Q-List.	Revised final report 10 CFR 50.55(e) NCR W-269-P R1	The new Q-List will list motors separately. A calculation has been issued to identify 1E motors and the CSSC Q-List has been deleted (DNES STD 8.41 R1). (Reference: CAP, section 4.0)
5.	The Q-List notes are too general.	Revised final report 10 CFR 50.55(e) NCR W-269-P R1	Existing Q-List notes were revised to add clarity. (Reference: CAP, section 4.0)
6.	The CSSC Q-List is not accurate and complete.	EC 20901-WBN, WB-CAR-85-45 WBP 870639 WBP 880095 WBP 880814	Deleted CSSC Q-List and will issue new Q-List. (Reference: CAP, section 4.0).
7.	Q-List contains incorrect component identification.	EC 20901-WBN, NCR WBN 6326, W-269-P R1, PIR WBNMEB8653	Issue new Q-List based on documented selection criteria. (Reference: CAP, section 4.1.3)

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
Q-LIST CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
8.	Q-List list different from CSSC Q-List.	Quality Evaluation Report QE-85-09, W-269-P R1, EC 20901-WBN	Delete CSSC Q-List (CAP section 4.0). Use a single Q-List. (Reference: CAP, section 4.4)
9.	The Q-List is not as detailed as needed by WBN organizations.	CAQR WBP 870751 NMRG Audit Finding R-86-02-NPS-E-1 and R-82-02-NPS-G-5	Develop new Q-List identifiers from design output drawings in accordance with approved procedures. (Reference: CAP, section 4.1.2)

IDENTIFICATION OF CAP CHANGES TO
COMMITMENTS TO NRC FOR
Q-LIST CAP

	CAP COMMITMENT	PREVIOUS COMMITMENT	COMMITMENT SOURCE
1.	The scope of the Q-List includes quality-related plant civil/ structural, mechanical and electrical systems required for unit 1 operations. The Q-List will include those Class 1E motors necessary to support the needs of WBN Q-List User Organizations.	Revise the Q-List to identify all motors (except valve operators) and their functional requirements.	Revised final report for NCR-W-269-P R1, WBRD-50-390/85-56, WBRD-50-391/85-32
2.	The review as specified in the 50.55(e) report is being implemented by the development of a new Q-List. This approach was taken to alleviate difficulties ...in interpreting the data fields. ("SPEC REQ" data field to be eliminated.)	In the long term, revise the Q-List to consistently identify class 1E valves, i.e., enter a 4 under "SPEC REQ")...do a complete review of the Q-List.	Revised final report for NCR-W-269-P R1, WBRD-50-390/85-56, WBRD-50-391/85-32

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
REPLACEMENT ITEMS PROGRAM CAP

	SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
1.	WBN lacked a program for engineering evaluation of purchases and dedication of commercial upgrade items for use as basic components.	CAQR WBP 871258 CAQR WBP 880668 CAQR WBP 890132 CAQR WBP 871098	An engineering group and associated procedures has been established for providing appropriate requirements, including dedication, for current and future replacement part procurements. Refer to CAP plan section 4.1.1. Also an engineering review is being performed on inventory and installed parts under Site Director Procedure AI-5.19. (Reference: CAP, sections 4.1.2, 4.1.3, and 4.1.4)
2.	Replacement parts were procured by construction without evaluation of technical and quality assurance requirements.	CAQR WBP 870981 CAQR WBF 870069 URI 391/86-21-04	An engineering review will be performed to determine the adequacy of installed construction procurements. (Reference: CAP, section 4.1.4.) New procurements are being reviewed as described under Issue 1.
3.	WBN has not implemented a process to identify and verify critical characteristics for commercial-grade items for use as basic components for new procurements or items issued from inventory.	CAQR WBE 880302801	The identification and verification of critical characteristics for commercial-grade items is now being performed for current and future procurements. Reference: CAP, sections 4.1.1 and 4.1.2)

IDENTIFICATION OF CAP CHANGES TO
COMMITMENTS TO NRC FOR
REPLACEMENT ITEMS PROGRAM CAP

CAP COMMITMENT	PREVIOUS COMMITMENT	COMMITMENT SOURCE
N/A	N/A	N/A

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
SEISMIC ANALYSIS CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
Concern with integration time step used to perform the time-history analysis. The time step used may be too large to calculate high frequency response adequately.	EPC-87-KX-009-01 (L77 870608 804) DR-270-5A	Perform study to determine effects. Preliminary results show original seismic responses are adequate. Any new analysis will use a time step to calculate the high frequency response adequately as documented in the CAP.
Concern with soil structure interaction (SSI) analysis for the design of the pile foundation for Condensate Demineralizer Waste Evaporator Building. analysis may not reflect the maximum loading condition for the piles and the soil spring constants used in analysis may not be realistic.	CAQR WBF 870038R1 (B05 870706 300)	Perform study to more accurately consider the piles. Preliminary results indicate the design of the structure The and piles is adequate.
Concern with SSI analysis for the design of pile foundation for the Additional Diesel Generator Building. The concern is similar to that of Condensate Demineralizer Waste Evaporator Building analysis.	CAQR WBF 870039R1 (B05 870729 306) DR-320-5A, 5B, 5C, 5E	Perform reanalyses using the Set B and Set C criteria as defined in the CAP. The envelop of Set B and Set C results will be used to evaluate the CAQR and for new designs or modifications.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
SEISMIC ANALYSIS CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
Concern regarding the soil modulus for crushed stone for Diesel Generator Building and Waste Packaging Area.	CAQR WBP 870369R0 (T42 870528 975)	Perform study of the waste packaging area considering the appropriate modulus. Preliminary results indicate the design of the structure is adequate. For the Diesel Generator Building, perform reanalyses using Set B and Set C criteria as defined in the CAP. The Set B results will be used to evaluate the CAQR. The envelop of Set B and Set C will be used for new designs or modifications.
Concern about the mechanics of how TVA originally modeled structures with eccentric masses and the methodology used in calculating torsion constants for open cross sections.	PIR WBN CEB 8801R0 DR-271-5A	Perform reanalyses of the ICS, and ACB taking into account eccentric mass modeling and revised torsion constants as described in the CAP.
Modify requirements for response spectra generation.	DR-270-5B	This reanalysis of vertical Category I structures defined in the CAP and the revised design criteria WB-DC-20-24 will resolve this Vertical Slice Review (VSR) item.
Confirm overturning/ stability using seismic responses from the seismic CAP reanalysis.	DR-270-5C	This reanalysis of Category I structures in the CAP will resolve this VSR item.
Confirm ICS north-south basemat reaction.	DR-270-5D	The reanalysis of Category I structures defined in the CAP will resolve this VSR item.

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
SEISMIC ANALYSIS CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
Review seismic analysis calculations of all buildings for modal mass contribution from rigid modes.	DR-270-5E	The reanalysis of Category I structures defined in the CAP will resolve this VSR item.
Revise dynamic analysis for ICS, ACB, and NSVR for modulus of elasticity and shear modulus consistent with those used in design.	DR-271-5B	The reanalysis of the Category I structures defined in the CAP will resolve this VSR item.
Calculations to show proper section properties in model of ICS.	DR-271-5C	The reanalysis of the ICS as defined in the CAP will resolve this VSR item.
Address vertical floor flexibility issues.	DR-271-5D	Perform a study to address the floor flexibility as noted in the Table 2 of the CAP.
Perform ICS analysis using coupled ICS and NSSS model. Spectra and ZPA comparisons will be made to confirm the mass lumping approach used in the analysis of record.	DR-271-5E	The analysis of the ICS as defined in the CAP will resolve this VSR item.

IDENTIFICATION OF CAP CHANGES TO
COMMITMENTS TO NRC FOR
SEISMIC ANALYSIS CAP

CAP COMMITMENT	PREVIOUS COMMITMENT	COMMITMENT SOURCE
N/A	N/A	N/A

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
VENDOR INFORMATION CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
Inadequate Control of Vendor Information	NRC Violation 390/87-05-01 NRC Violation 390/86-18-01 NCR W-415-P, SCR WBN MEB 8715 NRC Violation 390/85-53-03 CAQR WBF 870063 WBP 870148 WBP 870083 WBP 870701 WBP 870724 WBP 880153 WBP 880405 SCR WBN EQP 8610 50.55(e), 390/81-66 SCR WBN MEB 8660 SCR WBN EEB 8724, R1 NCR W-476-P EC 30804 WBN 01 EC 20404 WBN 01 Audit QWB-A-87-0015-D06 Audit QWB-A-87-0015-D07 CAQR WBP 871126 DR 201 DR 230 DR 375 DR 385 DR 650 DR 651	The vendor manual update program will establish a clear, well-defined and proceduralized mechanism to address the vendor information concerns indicated in NRC GL 83-28 and the source documents listed. The program will provide adequate assurance that safety-related vendor documents are current, complete, configuration controlled, and that engineering requirements in these safety-related vendor documents are issued in design input or as design output for implementation in plant instructions and procedures.

IDENTIFICATION OF CAP CHANGES TO
COMMITMENTS TO NRC FOR
VENDOR INFORMATION CAP

CAP COMMITMENT	PREVIOUS COMMITMENT	COMMITMENT SOURCE
N/A	N/A	N/A

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
WELDING CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
Several hundred Employee Concerns were reviewed to evaluate their applicability to welding problems and to establish groupings. These are found in the Weld Evaluation Project Aggregate Results of Weld Assessment Report, DOE/IE-10175-8, and Weld Evaluation Project Formation of Homogeneous Groupings of Welds, DOE/IE-10175-2.	Master list of Quality Indicators DOE/ID-10175-2 DOE/ID-10175-8	Section 4.2 of CAP Phase II Report ECSP subcategory report 50400
Approximately 8,000 quality documents such as NCRs and 10 CFR 50.55(e) reports were reviewed to determine possible problem areas. The types of documents reviewed are discussed in Weld Evaluation Project Formation of Homogeneous Groupings of Welds DOE/lD-10175-2. The individual listing of each document is in the master list of Quality Indicators reviewed by DOE/WEP in January 1987. This is available to NRC upon request.		

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
WELDING CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
Discrepancies in Radiographs for ASME Welds	SCR WBN NEB 8651 WBP 870552 L44 880707 808 390/86-17-02 390/86-09-01 390/86-17-04 390/87-19-02 390/87-09	Attachment 4, item 2; Attachment 5, item 6 of CAP; Phase II Report, item 7.3
Shear lugs did not have complete penetration as required by drawings	SCR W-518-P L44 890515 800 390/86-25-08	Attachment 4, item 3 of CAP; Phase II Report, item 7.4
Safety-related duct work was installed without specific welding requirements	SCR WBN MEB 8714 SCR WBN MEB 8721 L44 880421 806 390/86-24-01 390/86-24-02 VSR-004-P	Attachment 4, item 5 of CAP; Phase II Report, item 7.6
Welds on wall-mounted Instr. Panels do not meet drawings.	SCR W-559-PS L44 880921 806 390/86-18-04	Attachment 4, item 4 of CAP; Phase II Report, item 7.5
Welds on Structural Platform elev. 741.0 did not meet design	SCR WBN CEB 8689 L44 870811 800 390/86-17-07 390/86-17-13	Attachment 4, item 1 of CAP; Phase II Report, item 7.2
Documentation missing for NDE of Thermocouple removal areas	WI-85-053-003 NCR-W-599-P	Attachment 4, item 7 of CAP; Phase II Report, item 7.8
Vendor Welds	WBP 880075 WBP 890099 WBP 880096 WBP 880750 WBP 880190 390/86-17-10	Attachment 5, item 5
Linear Indication found during PT.	WBP 880117	Phase II report, section 5.6.3

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
WELDING CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
Ground Areas Violate Min. Wall	WBP 880430	Attachment 4, item 7 of CAP; Phase II Report, item 7.8
Deviations or apparent deviations identified out-of-scope of the DOE/WEP assessment plans (IDRs). The individual deviations are described in each CAQ.	WBP 871295 WBP 871315 WBP 880025 WBP 880085 WBP 880086 WBP 880331 WBP 880440 WBP 880001 WBP 880446 NCR WBN 6463-S WBP 880104 WBP 871061 WBP 880038 W-518P WBP 880540P WBP 871270 WBP 871223 WBP 870668 NCR-W-580-P WBP 880450 NCR-W-334-P WBP 880214 DCN-P00541A ECN 6685 DCN-P-00479-A WBP 880197 WBP 880188 WBP 870036 SCR WBN NEB 8651 WBN 870316 WBP 880592 PIR WBN CEB 8641 WBP 871269 MR-A-605820 WBP 871296	Attachment 4, item 10 of CAP; Phase II Report, items 5.6.8 and 7.13

IDENTIFICATION OF SOURCE DOCUMENTS
CONSTITUTING BASIS FOR
WELDING CAP

SOURCE ISSUE	SOURCE DOCUMENT	RESOLUTION OF ISSUE
ASME Section III Weld Evaluations	PIR WBM MEB 8669	Phase II Report, item 5.6.3
Code applicability for work performed after completion of N-5 data reports	390/86-14-07 L44 881013 808	Attachment 5, item 3 of CAP
Code of record - use of later editions	L44 890306 802	Attachment 5, item 4 of CAP
Fillet weld adequacy	390/86-21-05	Attachment 5, item 7 of CAP

IDENTIFICATION OF CAP CHANGES TO
COMMITMENTS TO NRC FOR
WELDING CAP

	CAP COMMITMENT	PREVIOUS COMMITMENT	COMMITMENT SOURCE
1.	R.T. of ASME Welds ---- two welds do not meet ASME Section III	FSAR Section 3.8.2.2.1 ---- Containment Penetrations ... providing Pressure boundary ... ASME Section III class 2.	FSAR
2.	Piping shear lugs for ASME class 2&3 will be reanalyzed using code case N-318.	FSAR did not allow use of this code case.	FSAR
3.	HVAC duct work discussion refers to 10 CFR 50.55(e) reports which commit to revise FSAR to clarify commitment to ANSI-N509.	FSAR originally referenced SMACNA as modified by ORNL-NSIC-65. it also referenced ANSI-N509 but was not specific for welding requirements.	FSAR
4.	Wall mounted panels As a result of the disposition of SCR W-559-PS a revision to FSAR was necessary to allow qualification by testing.	FSAR Para 3.10.1 stated .... "This Panel is qualified to the same criteria as the local panels by analysis.	FSAR
5.	Classification of containment liner welds. In the process of dispositioning CAQRs 870561, 870562, 870563 it was noted that code case 1768 needed to be added to FSAR Para 3.8.2.2.1.	FSAR did not reference the code case.	FSAR

ENCLOSURE 2

LIST OF COMMITMENTS

The previously docketedcommitments will be revised through resubmittal of the 10 CFR 50.55(e) response, violation response, Final Safety Analysis Report (FSAR) amendment, etc.