Official Copy

APR 24 1992

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

Tennessee Valley Authority
ATTN: Dr. Mark O. Medford, Vice President
Nuclear Assurance,
Licensing & Fuels
38B Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Gentlemen:

SUBJECT: EMPLOYEE CONCERN SPECIAL PROGRAM

Since 1986, copies of the original employee concern files compiled by the Quality Technology Company (QTC) have been reviewed on a random basis by the resident inspectors as reference documents relative to problems at Watts Bar. The files are located at the Watts Bar resident inspector's office. During these random reviews, it became apparent that some specific hardware-related information was generalized prior to release to TVA for resolution as a means of protecting the confidentiality of the employee bringing the concern. The staff became concerned about whether TVA's corrective action for the generalized concern would resolve the specific hardware problems identified in the employee concern files. The NRC issued Revision 1 to Temporary Instruction (TI) 2512/15, Inspection of Watts Bar Nuclear Plant Employee Concerns Program, on October 10, 1991, which included an inspection requirement to review the QTC files that were identified as having information withheld to protect confidentiality and were related to hardware. The inspection requirement was intended to identify the specific hardware information so that an assessment could be made of whether additional corrective action is needed to resolve the employee concern.

The employee concern file review described in TI 2512/15 is being conducted by Mr. J. B. Brady of my staff and has been on-going since January 1992. The support of your staff in providing computer searches of your Employee Concerns Special Program (ECSP) data base to identify employee concerns within the scope of the TI has been of significant help to Mr. Brady.

In the initial phase of Mr. Brady's review, a search was conducted to identify those concerns most likely to have had information withheld which were also associated with hardware. The search identified 399 concerns which QTC identified to TVA as having had information withheld due to confidentiality considerations and which were most likely hardware-related. This initial group was considered to include a high percentage of those concerns fitting the TI description, so the decision was made to review this group first. The second phase included a review of the remaining concerns identified as having information withheld to protect confidentiality with the exception of those in the Industrial Safety Category and Management and Personnel Category. Those categories do not contain safety-related concerns.

MAY

IE01

Your staff provided Mr. Brady access to the information TVA received from QTC and NRC for each concern (expurgated files). The information in the resident's employee concern files for the identified concerns was compared to the concern description (K-Form), and then to the expurgated file, to determine if specific hardware deficiencies were adequately identified to TVA. For the concerns where additional information was available which would better identify the specific hardware deficiency, my staff reviewed your ECSP Subcategory Reports to determine whether the ECSP investigation had found the specific hardware deficiencies. Those specific deficiencies which were not found in the subcategory reports are identified in Enclosure 1 to this letter. In addition, a hardware deficiency was found which could not be provided to you in the same form as those in Enclosure 1 due to continuing concerns about confidentiality. That concern is provided in Enclosure 2 in a different format.

The NRC has maintained a high level of sensitivity for the confidentiality of the concerned employees. We believe that by providing the information in the enclosures you will be better able to ensure that all hardware deficiencies at Watts Bar are investigated and corrected prior to your application for an operating licensee for Unit 1.

The issues identified in the enclosures need to be addressed by TVA. Please provide a response to this letter within 30 days of receipt of this letter which identifies what programs the enclosed information will be addressed in and how these programs will ensure adequate resolution of the issues. Although, the review described above is complete, we plan to sample those QTC files which were not identified as having information withheld, to provide assurance that all hardware issues have been identified.

Should you have questions concerning this letter, please contact us.

Sincerely,
(Original signed by S. Ebneter)

Stewart D. Ebneter
Regional Administrator

Enclosures:
1. ECSP Concern Review Matrix
2. Additional Concerns

cc w/encls: (See page 3)

cc w/encls:
Mr. J. B. Waters, Director
Tennessee Valley Authority
ET 12A
400 West Summit Hill Drive
Knoxville, Tennessee 37902

Mr. D. E. Nunn, Vice President
3B Lookout Place
1101 Market Street
Chattanooga, Tennessee 37402-2801

Mr. John H. Garrity, Vice President
Watts Bar Nuclear Plant
Tennessee Valley Authority
P. O. Box 800
Spring City, Tennessee 37381

Mark J. Burzynski, Manager
Nuclear Licensing and
Regulatory Affairs
Tennessee Valley Authority
5B Lookout Place
Chattanooga, Tennessee 37402-2801

Mr. G. L. Pannell
Site Licensing Manager
Watts Bar Nuclear Plant
Tennessee Valley Authority
P. O. Box 800
Spring City, Tennessee 37381

TVA Representative
Tennessee Valley Authority
11921 Rockville Pike
Suite 402
Rockville, Maryland 20852

Mr. Michael H. Mobley, Director
Division of Radiological Health
T.E.R.R.A. Building, 6th Floor
150 9th Avenue North
Nashville, Tennessee 37219-5404

General Counsel
Tennessee Valley Authority
ET 11H
400 West Summit Hill Drive
Knoxville, Tennessee 37902

The Honorable Robert Aikman
County Judge
Rhea County Courthouse
Dayton, Tennessee 37321

The Honorable Johnny Powell
County Judge
Meigs County Courthouse
Route 2
Decatur, Tennessee 37322

State of Tennessee

bcc w/encls: (See page 4)

bcc w/encls:
S. D. Ebneter, RII
L. A. Reyes, DRP/RII
J. R. Johnson, DRP/RII
C. Evans, ORA/RII
G. Jenkins, ORA/RII
M. P. Siemien, OGC
B. A. Wilson, DRP/RII
K. P. Barr, DRP/RII
B. Bordenick, OGC
M. S. Callahan, GPA/CA
A. R. Long, DRP/RII
P. S. Tam, NRR
J. B. Brady, DRP/RII
R. D. Gibbs, DRP/RII
F. J. Hebdon, NRR
Document Control Desk

NRC Resident Inspector
U.S. Nuclear Regulatory Commission
Route 2, Box 700
Spring City, TN 37381

RII:DRP	RII:DRP	RII:DRP	RII:DRP	RII:ORA	RII:ORA
JBrady:vyg	KBarr	BWilson	LReyes	CEvans	JMilhoan
4/15/92	4/16/92	4/21/92	4/22/92	4/ /92	04/24/92

ENCLOSURE 1

ECSP CONCERN REVIEW MATRIX

CONCERN NUMBER	EMPLOYEE CONCERN DESCRIPTION	HARDWARE DEFICIENCY NOT DESCRIBED TO TVA
WBP-85-017-005 WBP-85-017-006	TVA has not scheduled tests on similar equipment after one component was found to have inadequate wiring (that component has been tested). Equipment is not installed per the drawing.	Test procedure TVA-74E was written to find wiring errors in the number 5 diesel. The other four diesels were not to be tested, yet, TVA personnel suspect wiring errors in the other four diesels.
IN-86-070-004	Security Equipment malfunction creating a breach of security.	755 el card reader between SE office and CR can be banged with hard hat to allow access.
IN-86-070-007	Improper functioning of security equipment.	Security cameras 3,4,5,& 6 have noise on the line such that picture quality could be adversely affected.

CONCERN NUMBER	EMPLOYEE CONCERN DESCRIPTION	HARDWARE DEFICIENCY NOT DESCRIBED TO TVA
IN-85-993-001 through 012	8)Many of the problems that were identified on an NCR were "evaluated away" rather than following preestablished and valid procedural requirements for accepting hardware. The hardware so dispositioned still appears to be nonconforming and will probably be reworked piecemeal via maintenance requests. 9)TVA quality department management goes out of it's way to come up with "tests" to allow accepting nonconforming hardware by evaluating "evaluating" it away rather than seeing to it that procedures are followed correctly in the first place. 10)Quality supervisor was informed of a quality problem, but did not take problem to higher authority to ensure that proper resolution was obtained. 11)Rework of nonconforming condition was determined without appropriate investigation into potential advere effects of theis rework.	A special inspection of the corrective actions on NCR-W-205P was performed. This inspection resulted in the issuance of Discrepancy Report WB-DR-85-75 which identified a significant number of problems with the effective resolution of the NCR deficiencies. The NCR was closed when the problems on the DR were corrected even though the inspection (which resulted in the DR) had only looked at 10% of the corrective actions of the NCR. A number of types of deficiencies related to the NCR which may or may not have been included in the DR are as follows: 1.Lugs crimped with wrong size crimping tool. Then, instead of removing the lug and installing a new one, the existing lugs were re-crimped using the correct size crimping tool. 2.Lugs crimped backwords - wire end of the tool used to crimp the insulation end and vice-versa. 3.Installation/ Inspection electrical drawings related to the NCR were not the latest revision. 4.Quality did not monitor/inspect for cable pull side wall stress-not required by procedure.

CONCERN NUMBER	EMPLOYEE CONCERN DESCRIPTION	HARDWARE DEFICIENCY NOT DESCRIBED TO TVA
IN-85-993-001 through 012 (continued)		5.Quality does not do a final review of work packages before they go into permanent storage. CI knows that some records went to the vault with errors in them. 6.Engineering resolution to the deficiencies used previously unapproved methods to accept installation (Example: concerning lug installation, a go-no-go 1/8" piece of plexiglass was used to accept insulation cut back). Acceptance criteria were changed after deficiencies were reported in order to accept deficiencies. 7.Labeling was signed off as completed, but it was not done or was done incorrectly. 8.The inspection criteria for inspecting lug installation installed by a maintenance instruction were different than when inspecting a lug installed to a modifications and additions instruction.

CONCERN NUMBER	EMPLOYEE CONCERN DESCRIPTION	HARDWARE DEFICIENCY NOT DESCRIBED TO TVA
WI-85-064-001 WI-85-064-X04 WI-85-064-002 WI-85-064-005 WI-85-064-003	1)Weld cards have been incorrectly completed. 2)Trusses under the S/G may have been improperly welded. 3)Welds have been improperly finished throughout the plant. X4)Weld cards have been falsified. 5)Fire protection system piping has been improperly welded.	6"& 8"lines in annulus, ERCW, Unit 2 near some sheet metal ducts. Engineers changed the documents in the vault concerning specifications and grade of material (ex 316 or 316L, 304 type). Wrong weld rod used on S/G trusses under generator. Fire Protection Piping butt welded without bevel. Weld washing (cosmetically smoothing a SMAW weld by use of a tungsten arc without filler metal) common all over site.
IN-86-003-001	CI has the concern that the weld specified for a hanger is undersized and will not support component.	Hanger # 2-01A-344
IN-85-050-002	No fillet weld gauges available to craft (known) to gauge welds made. This condition existed in Unit 2 reactor building from January 1985 to May 1985.	System 63

CONCERN NUMBER	EMPLOYEE CONCERN DESCRIPTION	HARDWARE DEFICIENCY NOT DESCRIBED TO TVA
OW-85-004-001 OW-85-004-N02	1)CI expressed that interpretations of inspection criteria by inspection personnel were not consistent. N02)No reinspection of hangers initiated after clarification of inspection criteria	QCP 4.23 required: "Hangers on piping 3 inches in diameter or less will be 12 inches from the joint". CI stated that this requirement was misinterpreted by several different inspectors because they didn't know where to measure from in cases where there were elbows or tees involved. The QCP was revised to clarify this area, but no additional inspection of hanger placement was performed.
IN-85-529-002	Foundation of tank is unsafe. Insufficient information for ECTG to evaluate concern.	Air line leak caused erosion underneath a large (75 x 35-40 ft dia) orange storage tank and foundation located on east/southeast side of main building. Erosion went back under foundation as far as you could see. No effort was made to back fill under foundation, just covered back up.
IN-85-089-003	Boiler blowdown lines and reheat lines were welded by unqualified welders	Unit 1 SG 2&3 blowdown lines from SG to south valve room.
IN-85-299-003	3) SS welds seem to have excess metal removed at butt weld joints, also the welds exhibit excessive shrinkage at joints.	Unit 1 RHR Pumps, pipe chase EL 692 ; Unit 2 Tunnel going east outside AB building, 10" dia SS line on south side of wall had excessive shrinkage.

CONCERN NUMBER	EMPLOYEE CONCERN DESCRIPTION	HARDWARE DEFICIENCY NOT DESCRIBED TO TVA
IN-85-085-001	Poor quality of welds on hanger installed 2 week prior to hot functional test in U1 reactor building, south valve room. Welds on this hanger had many unacceptable weld profiles which require repair.	Largest hanger in Unit 1 south valve vault room, under main header, under floor grating.
IN-85-682-001	Hanger may have been improperly inspected because of inaccessable welds.	Pipe Support NO 63-2SIS-R89 for Safety Injection System
PH-85-027-006	A weld which had been improperly made, was accepted in a questionable manner.	U1, South valve vault room
IN-85-593-001	#2 pipe tunnel, aux building between 676'and 713' elev., management directed a weld be repaired in violation of procedure, then denied directing craft to do this violation. The subject weld may have been corrected, but this management person ordered many violations to procedures and employees are too afraid to refuse.	3/4 inch ERCW socket weld
IN-86-076-001 IN-86-076-X02	1. Programmatic breakdown relative to verification/ signoff of startup test prerequisites. U1. 2. The document verifying that the installation is correct on a specific item was falsified in 1985.	1. Fire damper mark numbers don't match drawings. NCRs W-293,294,300,301,302,303,304,306,307,313,323, 326 -P. NCRs don't get to root cause. 2. Acceptance document for fire damper 30-FD-058.

CONCERN NUMBER	EMPLOYEE CONCERN DESCRIPTION	HARDWARE DEFICIENCY NOT DESCRIBED TO TVA
PH-85-001-010	Inspection results were tampered with by management to reflect a less serious condition.	In the summer of 1983 there was an inspection performed of bolt tightness on unistrut hangers. The report of the results of this inspection was watered down to the extent that the problem identified never got correctly resolved. Several problems identified: 1.The tightening of fasteners hand tight and then rotating them 1 1/2 turns does not result in the required 4 ft-lbs of torque. 2.Hundreds of bolts were observed that had passed inspection and the pipe in the hanger was free to slide freely inside the hanger. 3.The inspection (in 1983) determined that a high percentage (31 of 81 instrument hangers and 10 of 62 electrical hangers) failed to meet the 4 ft-lb torque requirement, and, yet, no additional inspection of hangers or corrective action concerning this dificiency was initiated.
IN-86-314-005	Cable splicing in many cases has been improper and not documented correctly. (e.g. a conductor had a hole in the outer insulation, a supervisor was called to look at it and he said "tape it over and pull it in", 1983)	Workplan 2447, Cable 0-4PL-233-4402, one conductor had a small hole in outer insulation, 8-15-83

CONCERN NUMBER	EMPLOYEE CONCERN DESCRIPTION	HARDWARE DEFICIENCY NOT DESCRIBED TO TVA
IN-86-029-001	Items not supported in accordance with specifications.	Unit 1 instrument air lines downstream of reg valve solenoid not supported iaw system 32 control air drawings in some places.
IN-85-947-003	CI knows of a construction practice that rendered hardware quality questionable.	Four 3/8" anchors for 10-12" pipe below the ice deck. Pipe has a flapper door on the end of it. Practice involved "slugging" of redheads that would not hold.
IN-86-219-001	A craftsman was directed to grind down redhead anchors and weld nuts to the back side of support plates.	Small circle placed on bolt head to identify those that had nuts welded on the back of the support plate. El 737
EX-85-034-001	Mechanical discrepancies on motor operated valves.	MOV 2-FCV-62-133-B and 2-FCV-62-90-A handwheels continued to turn when electrical tests performed.
WBP-85-016-003	480 volt shutdown panels(U 1,2,0) have a potential nonconformance which has not been documented for resolution.	Westinghouse "DS" type breakers are configured such as to allow installation of an improper type breaker. Breakers are similar and have same type of plug-in, but different auxilliary contact arrangements.
IN-86-229-003	Safety-related systems have been changed from original drawings but never documented.	Security system hardware on doors. Fire Protection - Power Titronics.

CONCERN NUMBER	EMPLOYEE CONCERN DESCRIPTION	HARDWARE DEFICIENCY NOT DESCRIBED TO TVA
HI-85-103-001	Individual reported a quality concern and received an adverse action.	Bellows in the annulus area behind the north fire room was uncrated and vendors retaining bolts loosened prior to installation. Excess gap existed at fitup and an undersized "chill ring".
HI-85-001-001	Employee reported to management a safety-related concern and was subsequently rotated to night shift which creates a physical hardship.	Conduit 1VC2925-B may have cables damaged due to exceeding pull tension and pullbys.

ENCLOSURE 2

ADDITIONAL CONCERN

- The work performed on MR A526823 for the Centrifugal Charging Pump may not have been properly accomplished.