TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401
5N 157B Lookout Place

February 6, 1986

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Denton:

Your letter to W. F. Willis dated September 26, 1985 requested copies of investigation reports and related documents dealing with potentially safety-related employee concerns on TVA's nuclear plants. Copies of the requested information as outlined in TVA's October 7, 1985 letter are enclosed and cover the period of January 31, 1986 through February 5, 1986. TVA has previously submitted copies of the requested information through January 30, 1986. We are also enclosing computer summaries of the information which we have transmitted to date.

If you have questions concerning the material transmitted, please telephone R. F. Campbell at FTS 858-4892.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

R. L. Gridley
Manager of Licensing

Enclosures
cc (Enclosures):
Mr. James M. Taylor, Director
Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dr. J. Nelson Grace
Regional Administrator
U.S. Nuclear Regulatory Commission, Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30323

Mr. Braj K. Singh, Project Manager
Office of Nuclear Reactor Regulation
Phillips Building (MS-R-128)
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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1/1

8602100368 860206
PDR ADOCK 05000259
P PDR

TENNESSEE VALLEY AUTHORITY
WATTS BAR EMPLOYEE CONCERN PROGRAM
NUCLEAR REGULATORY COMMISSION
WEEKLY K-FORM LISTING

QTC NUMBER	SUBJECT	KEY WORD	KEY WORD	MAY 16 LETTER	#
IN-85-672-004	REPLAC HANGERS	HANGERS	INSTALL	- -	1
IN-85-993-008	PROCEDURAL REQUIREMT	QA	EFFECT	-X-	1
IN-85-993-009	EVALUATION/TEST	QA	EFFECT	- -	1
IN-85-993-010	QUALITY SUPERVISOR	QA	EFFECT	- -	1
IN-85-993-011	REWORK NONCF COND	QA	EFFECT	- -	1
IN-85-993-X12	NOT FOLOWIG PROCEDUR	CRAFT	TRAINING	- -	1
IN-86-271-001	CIVIL REJECT RATES	CIVIL	INSPECTION	- -	1
SQM-6-009-001	SQN/EQUIP INSPECT	QA	EFFECT	- -	1
SQM-6-009-X03	SQN/RECORD FALSIF	QA	DOCUMENT	- -	1
SQM-6-009-X04	SQN/INSPECTION RECOR	QA	DOCUMENT	- -	1
*** Total ***					10

FSk

EMPLOYEE CONCERN ASSIGNMENT REQUEST

TO: Director - NSRS TRANSMITTAL NUMBER T50262

ERT has received the Employee concern identified below, and has assigned the indicated category and priority:

Priority: 1 Concern #SQM-6-009-X03

Category: 88 I-86-240-SQN Confidentiality:___Yes____No(I&H)

Supervisor Notified:____Yes__X_No Nuclear Safety Related_YES_

Concern: INSPECTION RECORDS MAY HAVE BEEN FALSIFIED. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. NUCLEAR POWER DEPARTMENT CONCERN.

SQN/Record falsif

W. Thomas Lockhart 1/24/86
Manager, ERT Date

NSRS has assigned responsibility for investigation of the above concern to:

ERT_____

NSRS/ERT_____

NSRS_____✓

(OTHERS) (SPECIFY) QA

QA Document

Bruce P. Siefken 1-30-86
NSRS Date

EMPLOYEE CONCERN ASSIGNMENT REQUEST

TO: Director - NSRS TRANSMITTAL NUMBER T50261

ERT has received the Employee concern identified below, and has assigned the indicated category and priority:

Priority: 1 Concern #IN-85-953-X12

I-86-249-W6N

Category: 7 Confidentiality: ___Yes____No(I&H)

Supervisor Notified:____Yes_X__No Nuclear Safety Relatec_YES_

Concern: CRAFT PERSONNEL HAVE NOT ALWAYS "KNOWN WHAT THEY ARE DOING", AND BY NOT FOLLOWING PROCEDURES, HAVE CAUSED MUCH UNNECESSARY REWORK. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CONSTRUCTION DEPARTMENT CONCERN.

not folowig procedure

1/27/86

Manager, ERT Date

NSRS has assigned responsibility for investigation of the above concern to:

ERT_____

NSRS/ERT_____

NSRS ✓

OTHERS (SPECIFY) _____

Craft Training

6-30-86

NSRS Date

P51-

EMPLOYEE CONCERN ASSIGNMENT REQUEST

TO: Director - NSRS TRANSMITTAL NUMBER T50261

ERT has received the Employee concern identified below, and has assigned the indicated category and priority:

Priority: 1 Concern #IN-85-993-011
I-86-[illegible]

Category: 53 Confidentiality:___Yes____No(I&H)

Supervisor Notified:_X__Yes____No Nuclear Safety Related_YES_

Concern: REWORK OF A NONCONFORMING CONDITION WAS DETERMINED WITHOUT APPROPRIATE INVESTIGATION INTO POTENTIAL ADVERSE EFFECTS OF THIS REWORK. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CONSTRUCTION DEPARTMENT CONCERN.

Rework nonconf item

[signature] 1/27/86
Manager, ERT Date

NSRS has assigned responsibility for investigation of the above concern to:

ERT_____

NSRS/ERT_____

NSRS_____✓__

OTHERS (SPECIFY)_____

QA
effect

[signature] 1-30-86
NSRS Date

EMPLOYEE CONCERN ASSIGNMENT REQUEST

TO: Director - NSRS TRANSMITTAL NUMBER T50261

ERT has received the Employee concern identified below, and has assigned the indicated category and priority:

Priority: 1 Concern #IN-85-993-010

I-86-047-WGN

Category: 53 Confidentiality:___Yes____No(I&H)

Supervisor Notified:_X__Yes____No Nuclear Safety Relatec_YES_

Concern: QUALITY SUPERVISOR WAS INFORMED OF A QUALITY PROBLEM. BUT DID NOT TAKE PROBLEM TO HIGHER AUTHORITY TO ENSURE THAT PROPER RESOLUTION WAS OBTAINED. DETAILS KNOWN TO QTC, WITHHELD TO MAINTAIN CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CONSTRUCTION DEPARTMENT CONCERN.

Quality Supervisor

Manager, ERT 1/27/86
Date

NSRS has assigned responsibility for investigation of the above concern to:

ERT_____

NSRS/ERT_____

NSRS_____/_____

OTHERS (SPECIFY) _____

QA
Effect

NSRS 1-30-86
Date

P54

EMPLOYEE CONCERN ASSIGNMENT REQUEST

TO: Director - NSRS TRANSMITTAL NUMBER T50261

ERT has received the Employee concern identified below, and has assigned the indicated category and priority:

Priority: 1 Concern #IN-85-393-009

I-86-24-WBN

Category: 53 Confidentiality:___Yes____No(I&H)

Supervisor Notified:____Yes_X__No Nuclear Safety Related_YES_

Concern: TVA QUALITY DEPARTMENT MANAGEMENT GOES OUT OF ITS WAY TO COME UP WITH "TESTS" TO ALLOW ACCEPTING NONCONFORMING HARDWARE BY "EVALUATING" IT AWAY RATHER THAN SEEING TO IT THAT PROCEDURES ARE FOLLOWED CORRECTLY IN THE FIRST PLACE. DETAILS KNOWN TO OTC, WITHHELD TO MAINTAIN CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CONSTRUCTION DEPARTMENT CONCERN.

evaluation / test

_____ 1/27/86
Manager, ERT Date

NSRS has assigned responsibility for investigation of the above concern to:

ERT_____

NSRS/ERT_____

NSRS____✓____

OTHERS (SPECIFY) _____

QA
Effect

_____ 1-30-86
NSRS Date

'Mary'

P51

EMPLOYEE CONCERN ASSIGNMENT REQUEST

TO: Director - NSRS

TRANSMITTAL NUMBER T50261

ERT has received the Employee concern identified below, and has assigned the indicated category and priority:

Priority: 1

Concern #IN-85-993-008

I-86-245-WBN

Category: 53

Confidentiality: ___Yes____No(I&H)

Supervisor Notified:____Yes_X__No Nuclear Safety Related_YES_

Concern: 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 RE-WORKED PIECEMETAL VIA MAINTENANCE REQUESTS. DETAILS KNOWN TO QTC, WITHHELD TO MAINTAIN CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. CONSTRUCTION DEPARTMENT CONCERN.

PROCEDURAL REQUIREMENTS

Manager, ER 1/27/86
Date

NSRS has assigned responsibility for investigation of the above concern to:

ERT_____

NSRS/ERT_____

NSRS____✓____

OTHERS (SPECIFY) _____

QA
effort

NSRS 1-30-86
Date

851

EMPLOYEE CONCERN ASSIGNMENT REQUEST

TO: Director - NSRS

TRANSMITTAL NUMBER T50262

ERT has received the Employee concern identified below, and has assigned the indicated category and priority:

Priority: 3

Concern #IN-86-271-001
I-86-243-WBN

Category: 38

Confidentiality:___Yes____No(I&H)

Supervisor Notified:____Yes__X_No

Nuclear Safety Related ~~NO~~ YES

Concern: TREND ANALYSIS REPORTS FOR AUGUST, 1985 SHOW CIVIL REJECT RATES (INSPECTION REJECTION NOTICES, IRN'S) VERY LOW. 2,000 INSPECTIONS WERE PERFORMED RESULTING IN TWO (2) REJECTIONS. OTHER DISCIPLINES SHOW A MUCH HIGHER PERCENTAGE, OVER 20% AT TIMES. CI BELIEVES THERE MAY BE A PROBLEM WITH CIVIL INSPECTIONS. NO ADDITIONAL INFORMATION AVAILABLE IN FILE. CONSTRUCTION DEPARTMENT CONCERN.

Low reject rates

William [signature] 1/29/86
Manager, ERT Date

NSRS has assigned responsibility for investigation of the above concern to:

ERT_______

NSRS/ERT_______

NSRS___✓____

OTHERS (SPECIFY)______________________________

Civil Inspection

Bruce L. Siefken 1-30-86
NSRS Date

P56

EMPLOYEE CONCERN ASSIGNMENT REQUEST

TO: Director - NSRS TRANSMITTAL NUMBER T50262

ERT has received the Employee concern identified below, and has assigned the indicated category and priority:

Priority: 1 Concern #SQM-6-009-001
I-86-242-SQN

Category: 53 Confidentiality: ___Yes____No(I&H)

Supervisor Notified: __X_Yes____No Nuclear Safety Related_YES_

Concern: A PIECE OF EQUIPMENT (NOT SPECIFIED) MAY NOT HAVE BEEN ADEQUATELY INSPECTED. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. NUCLEAR POWER DEPARTMENT CONCERN.

sqn/equip inspect

William A. Pilcher 1/29/86
Manager, ERT Date

NSRS has assigned responsibility for investigation of the above concern to:

ERT_____

NSRS/ERT_____

NSRS_____✓

OTHERS (SPECIFY)_____

QA effect

Bruce L. Lefler 1-30-86
NSRS Date

RIC

EMPLOYEE CONCERN ASSIGNMENT REQUEST

TO: Director - NSRS TRANSMITTAL NUMBER T50262

ERT has received the Employee concern identified below, and has assigned the indicated category and priority:

Priority: 1 Concern #SQM-6-009-X04

I-86-241-SQN

Category: 53 Confidentiality:___Yes____No(I&H)

Supervisor Notified:_X__Yes____No Nuclear Safety Related_YES_

Concern: INSPECTION RECORDS MAY REFLECT IMPROPER DATA. DETAILS KNOWN TO QTC, WITHHELD DUE TO CONFIDENTIALITY. NO FURTHER INFORMATION MAY BE RELEASED. NUCLEAR POWER DEPARTMENT CONCERN.

SQN/inspection records

William A Pilcher 1/23/86
Manager, ERT Date

NSRS has assigned responsibility for investigation of the above concern to:

ERT_____

NSRS/ERT_____

NSRS___✓____

OTHERS (SPECIFY)_____

QA Document

Bruce P Siefken 1-30-86
NSRS Date

TVA EMPLOYEE CONCERN PROGRAM
WATTS BAR NUCLEAR PLANT
NUCLEAR REGULATORY COMMISSION LISTING

QTC_NUMBER	SUBJECT	INVEST ORG	DATE REPORT	SUB?	DATE RESPONSE	ACC?	DATE INVEST CLOSED	KEY WORD	#
EX-85-003-003	UNAUTH CHNG TO WDREC	ERT	07/09/85	.T.	07/24/85	T	07/24/85	WELDING	1
EX-85-008-001	UNQUAL SUBJOURNEYMEN	ERT	09/28/85	.T.	/ /		/ /	CONSTRUCTI	1
EX-85-009-001	SUBSTN WK BY SUBJRMN	ERT	09/28/85	.T.	/ /		/ /	CONSTRUCTI	1
EX-85-010-002	UNQAUL SUBJOURNEYMEN	ERT	09/28/85	.T.	/ /		/ /	CONSTRUCTI	1
EX-85-012-001	UNQUALIFIED PERSONNE	ERT	09/28/85	.T.	/ /		/ /	CONSTRUCTI	1
EX-85-021-001	INADEQUAT ACCOUNTABI	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
EX-85-021-002	VERIFI PROCESS/WELD	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
EX-85-026-001	CRACKS IN CONTAIN WA	NSRS	01/07/86	.T.	/ /		01/10/86	CIVIL	1
EX-85-039-003	DESIGN DEFICIENCY	EG&G	11/07/85	.T.	01/14/86	T	01/17/86	WELDING	1
EX-85-042-003	WELDERS REQUALIFICAT	ERT	10/23/85	.T.	/		10/30/85	WELDING	1
EX-85-046-001	IMPRP FIRE DAMPERS	NSRS	12/17/85	.F.	/ /		12/17/85	MEHCANICAL	1
EX-85-049-001	NO SECURITY BARRIER	NSRS	10/17/85	.T.	11/26/85	T	12/10/85	SECURITY	1
EX-85-052-006	CONDUIT TORN OUT	NSRS	01/06/86	.F.	/ /		01/07/86	CONSTRUCTI	1
EX-85-059-002	INADQ INSTAL HANGERS	NSRS	12/18/85	.F.	/ /		12/24/85	HANGERS	1
HI-85-020-001	REP VIOL & REC DISPL	ERT	01/15/86	.F.	/ /		01/15/86	QA	1
HI-85-029-001	ADV JOB ACT FOR CONC	ERT	01/15/86	.F.	/ /		01/15/86	QA	1
HI-85-041-001	DISP FOR REPT VIOLAT	ERT	01/15/86	.F.	/ /		01/15/86	QA	1
HI-85-067-001	EMP AFRAID REP DAMAG	NSRS	01/15/86	.F.	/ /		01/15/86	QA	1
IN-85-001-002	WELD ROD CONTROL	ERT	07/10/85	.F.	/ /		07/06/85	WELDING	1
IN-85-001-003	WELDS UNDER WATER	ERT	07/10/85	.T.	09/23/85	T	09/23/85	WELDING	1
IN-85-001-005	"SHODDY WORKMANSHIP"	NSRS	12/10/85	.T.	/ /		12/12/85	WELDING	1
IN-85-007-003	VENDOR WELDS INSPECT	NSRS	12/10/85	.T.	/ /		12/12/85	WELDING	1
IN-85-008-002	IMPROP INSTAL INSULA	NSRS	01/06/86	.T.	/ /		/ /	CONSTRUCTI	1
IN-85-010-002	VIOLATION OF 050 NTS	NSRS	11/22/85	.T.	/ /		/ /	HANGERS	1
IN-85-010-004	FIRE PROT PIPNG DSN	ERT	09/16/85	.F.	/ /		09/24/85	DESIGN	1
IN-85-012-001	MAT MANF TO ASTM SPC	ERT	01/02/86	.T.	/ /		/ /	MATERIAL	1
IN-85-012-X02	TENSILE STRNG OF FIT	NSRS	08/05/85	.T.	/ /		08/05/85	MATERIAL	1
IN-85-016-001	BROKN CONCRE AT PLAT	NSRS/ERT	08/05/85	.F.	/ /		08/04/85	CIVIL	1
IN-85-016-003	TUBING NOT CLAMPED	NSRS	09/03/85	.T.	01/06/86	T	/ /	HANGERS	1
IN-85-018-004	SUPV NOT FOLLOW PROC	NSRS	11/14/85	.T.	/ /		11/20/85	ELECTRICAL	1
IN-85-020-001	IMPROP INSTAL REDHDS	NSRS/ERT	08/15/85	.T.	/ /		/ /	CIVIL	1
IN-85-021-001	TUBE BENDERS	ERT	07/27/85	.T.	10/22/85	T	10/30/85	CONSTRUCTI	1
IN-85-021-002	SYS77 DRAINS IN FLR	ERT	08/23/85	.T.	/ /		08/30/85	DESIGN	1
IN-85-021-003	BACKDATE CERTF CARDS	ERT	08/19/85	.T.	/ /		/ /	WELDING	1
IN-85-021-X05	WELDER CERTIF FALSIF	ERT/OGC	10/24/85	.T.	/ /		/ /	WELDING	1
IN-85-024-001	DRWNS & 050 NOTES	NSRS	07/03/85	.T.	01/10/86	F	/ /	HANGERS	1
IN-85-025-001	INCORE THERMO TEST	NSRS	07/03/85	.F.	/ /		/ /	TESTING	1
IN-85-026-001	FITUP INSPECTS	NSRS	12/31/85	.T.	/ /		01/07/86	WELDING	1
IN-85-027-002	COMPUTER ANALYSIS	ERT	08/01/85	.T.	10/08/85	T	10/08/85	DESIGN	1
IN-85-031-001	ENBD PLTS NOT CORREC	ERT	08/20/85	.T.	01/02/86	F	/ /	DESIGN	1
IN-85-032-001	PIPING CALCULATIONS	ERT	11/26/85	.F.	/ /		11/29/85	DESIGN	1
IN-85-033-001	EP 4.03	NSRS	01/02/86	.T.	/ /		/ /	DESIGN	1
IN-85-037-001	CONCRETE ANCHORS	ERT	07/09/85	.T.	01/07/86	F	/ /	CIVIL	1
IN-85-038-001	ANALYS OF LARGE PIPE	ERT	07/08/85	.T.	09/05/85	T	09/05/85	DESIGN	1
IN-85-039-001	THML STRS ON PIPING	ERT	07/09/85	.T.	09/05/85	T	09/05/85	DESIGN	1
IN-85-039-002	STRES&SUPPRT LD PROB	ERT	11/08/85	.T.	/ /		11/12/85	DESIGN	1
IN-85-052-001	DRWNGS & 050 NOTES	NSRS	07/03/85	.T.	01/14/86	F	/ /	HANGERS	1

TVA EMPLOYEE CONCERN PROGRAM
WATTS BAR NUCLEAR PLANT
NUCLEAR REGULATORY COMMISSION LISTING

QTC_NUMBER	SUBJECT	INVEST ORG	DATE REPORT	SUB?	DATE RESPONSE	ACC?	DATE INVEST CLOSED	KEY WORD	#
IN-85-052-006	FIT-UP INSPECTIONS	NSRS	12/31/85	.T.	/ /		01/07/86	WELDING	1
IN-85-052-007	FITUP INSPECTIONS	NSRS	12/31/85	.T.	/ /		01/07/86	WELDING	1
IN-85-052-008	PROCED FOR WELD RODS	ERT	07/10/85	.T.	12/16/85	T	12/16/85	WELDING	1
IN-85-064-001	SPRAY ON SHUTDN BDS	NSRS	06/28/85	.T.	/ /		06/28/85	ELECTRICAL	1
IN-85-064-002	SHUTDN BDS TOP OPEN	NSRS	06/28/85	.T.	07/22/85	T	07/22/85	ELECTRICAL	1
IN-85-066-001	SEISMIC TRENCH CONCN	ERT	01/28/86	.T.	/ /		/ /	CIVIL	1
IN-85-069-001	INADEQUATE INSPECTS	ERT	07/10/85	.T.	12/10/85	F	/ /	HANGERS	1
IN-85-078-001	UO/SAFTY RELATE SYST	NSRS	10/14/85	.F.	/ /		10/16/85	OPERATIONS	1
IN-85-086-001	STM GEN MATERIALS	ERT	07/10/85	.F.	/ /		07/10/85	MATERIAL	1
IN-85-088-001	VACUM TEST ON DOORS	ERT	07/09/85	.F.	/ /		07/09/85	TESTING	1
IN-85-091-001	LOST DOCUMENTATION	ERT	09/16/85	.T.	/ /		/ /	DOCUMENT	1
IN-85-091-X02	NO NCR FOR LOST DOCU	ERT	08/26/85	.T.	/ /		10/03/85	DOCUMENT	1
IN-85-103-001	IEB 79-02	NSRS	08/09/85	.T.	/ /		08/09/85	DESIGN	1
IN-85-106-001	MN STM LOADS SUPPORT	ERT	07/11/85	.F.	/ /		07/11/85	DESIGN	1
IN-85-108-001	SYS 68 PIPING	ERT	07/12/85	.F.	/ /		07/12/85	MATERIAL	1
IN-85-109-002	BOLTS REPLAC BY WELD	NSRS	11/07/85	.T.	01/08/86	T	01/22/86	WELDING	1
IN-85-113-003	WELDER CERTIFICATION	ERT	07/10/85	.T.	11/12/85	T	11/20/85	WELDING	1
IN-85-119-001	IMPROPER LINE INSTAL	ERT	09/18/85	.T.	10/22/85	T	10/30/85	INSTRUMENT	1
IN-85-130-001	UNQUILIFIED PERSONNE	ERT	09/28/85	.T.	12/26/85	T	02/03/86	CONSTRUCTI	1
IN-85-130-002	FIRE SEALS BREACHED	ERT	07/05/85	.T.	09/13/85	T	09/13/85	CONSTRUCTI	1
IN-85-134-001	CRIT NOT MET/IDSS WL	ERT	11/22/85	.F.	/ /		11/22/85	WELDING	1
IN-85-140-001	OPER WATCH VS PAPER	NSRS	08/30/85	.T.	10/16/85	T	10/16/85	OPERATIONS	1
IN-85-142-003	UNFOLLOWED WORK PLAN	NSRS	12/03/85	.T.	01/22/86	T	01/30/86	CONSTRUCTI	1
IN-85-160-001	UNREPORTED FIRE	NSRS	11/07/85	.F.	/ /		11/12/85	CONSTRUCTI	1
IN-85-160-002	UNQUALIFIED PERSONNE	NSRS	12/03/85	.F.	/ /		12/11/85	CONSTRUCTI	1
IN-85-169-001	SYS 62 VALVE CLASS	ERT	07/10/85	.T.	07/26/85	T	07/26/85	MATERIAL	1
IN-85-173-001	LEAK IN SPRINK SYS	ERT	08/13/85	.F.	/ /		08/13/85	MATERIAL	1
IN-85-186-002	INSL ON CONDT & CABL	ERT	07/10/85	.F.	09/24/85	T	10/10/85	ELECTRICAL	1
IN-85-186-004	BOARDS IN ELEC PANEL	ERT	07/05/85	.F.	09/23/85	T	09/23/85	ELECTRICAL	1
IN-85-189-002	ACCESS TO VALVES/#2	NSRS	10/04/85	.F.	/ /		10/04/85	DESIGN	1
IN-85-196-003	VALVE OPER INADEQ	ERT	08/24/85	.T.	11/25/85	T	12/10/85	OPERATIONS	1
IN-85-196-004	INPROP INSTAL PIPING	NSRS	10/11/85	.F.	/ /		10/16/85	MATERIAL	1
IN-85-198-001	UNCOVERED CABLE TRAY	NSRS	12/04/85	.T.	/ /		12/09/85	CONSTRUCTI	1
IN-85-202-001	CRACK IN WELD	ERT	07/10/85	.T.	/ /		07/09/85	WELDING	1
IN-85-207-002	USE OF FISH TAPE	NSRS	11/22/85	.T.	01/08/86		/ /	ELECTRICAL	1
IN-85-211-001	ERCW LINE LEAK	NSRS	06/27/85	.F.	/ /		06/27/85	MECHANICAL	1
IN-85-211-002	ERCW LINE NOT STAINL	NSRS	10/03/85	.F.	/ /		/ /	MECHANICAL	1
IN-85-212-001	INSP OF WELD SUPPORT	NSRS	01/07/86	.T.	/ /		/ /	WELDING	1
IN-85-216-001	WELDING SEQUENCE	ERT	07/10/85	.T.	08/05/85	F	/ /	WELDING	1
IN-85-217-001	CONDENS POTS, #1	ERT	07/15/85	.T.	/ /		07/14/85	DESIGN	1
IN-85-218-001	APPROVAL OF AS-BUILT	ERT	07/29/85	.T.	08/22/85	T	08/22/85	INSTRUMENT	1
IN-85-220-003	EXCESS NOS OF HGRS	NSRS	12/18/85	.F.	/ /		12/24/85	CIVIL	1
IN-85-221-001	IMPROPER VALVE OPER	ERT	07/05/85	.T.	09/23/85	T	09/23/85	OPERATIONS	1
IN-85-234-001	REQUIRE FOR WELD ROD	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
IN-85-241-001	ANCHOR BOLT HOLES	NSRS	01/07/86	.T.	/ /		01/10/86	CIVIL	1
IN-85-246-001	INSUFFNT MOVEMT/NVR	NSRS	08/09/85	.F.	/ /		08/09/85	DESIGN	1
IN-85-246-003	INADQ INSTAL HANGERS	NSRS	01/08/86	.T.	/ /		01/10/86	CIVIL	1

TVA EMPLOYEE CONCERN PROGRAM
WATTS BAR NUCLEAR PLANT
NUCLEAR REGULATORY COMMISSION LISTING

QTC_NUMBER	SUBJECT	INVEST ORG	DATE REPORT	SUB?	DATE RESPONSE	ACC?	DATE INVEST CLOSED	KEY WORD	#
IN-85-246-005	RUSTED WELDS/#2/RB	ERT	10/24/85	.T.	/ /		/ /	WELDING	1
IN-85-247-001	QUALITY OF RODS	ERT	01/29/86	.T.	// /		/ /	WELDING	1
IN-85-250-001	INSP PERF W/O WK REL	NSRS	11/27/85	.T.	/ /		11/29/85	HANGERS	1
IN-85-251-002	MAINT WITHOUT NCR	NSRS	10/31/85	.F.	12/06/85	T	12/10/85	QA	1
IN-85-260-003	WELD DOCUMNTATION	ERT	10/07/85	.F.	11/29/85	T	12/10/85	WELDING	1
IN-85-271-001	GROUND DOWN WELDS	ERT	12/19/85	.T.	/ /		/ /	WELDING	1
IN-85-272-004	FIREPROOFING CABLES	NSRS	12/10/85	.T.	/ /		12/12/85	DESIGN	1
IN-85-277-001	INSTAL PIPE W/O DRWG	NSRS	11/27/85	.T.	/ /		11/29/85	CONSTRUCTI	1
IN-85-278-001	INADQ EMP FOR RECORD	NSRS	01/13/86	.F.	/ /		01/17/86	DOCUMENT	1
IN-85-278-002	INADQ DOCUMENT CONTR	NSRS	12/10/85	.F.	/ /		12/12/85	DOCUMENT	1
IN-85-278-003	INADQ QA RECORDS	NSRS	12/18/85	.F.	/ /		12/24/85	DOCUMENT	1
IN-85-279-002	FCR & NCR APPROVALS	NSRS	01/23/86	.T.	/ /		/ /	QA	1
IN-85-279-003	FCRS MISINCORP DRWGS	NSRS	01/23/86	.T.	/ /		/ /	DOCUMENT	1
IN-85-279-005	NO TRACKING SYSTEM	NSRS	11/13/85	.T.	/ /		11/15/85	DESIGN	1
IN-85-281-001	DIFFUSER FLOW	ERT	07/05/85	.T.	07/25/85	T	07/25/85	DESIGN	1
IN-85-281-003	TRNSM NOT READ SAME	NSRS	08/15/85	.T.	12/04/85	T	12/10/85	DESIGN	1
IN-85-282-002	PIPING WELDS	ERT	12/19/85	.T.	/ /		/ /	WELDING	1
IN-85-284-001	QUALITY OF WELD RODS	ERT	01/29/86	.T.	/ /		/ /	WELDING	1
IN-85-284-005	POOR PLANT CLEANLINE	NSRS	01/21/86	.F.	/ /		01/24/86	CONSTRUCT	1
IN-85-285-001	IMPROP INSTAL PLATES	NSRS	01/08/86	.T.	/ /		01/10/86	CIVIL	1
IN-85-285-002	PULL TEST NOT 100%	NSRS	01/16/86	.F.	/ /		/ /	CIVIL	1
IN-85-285-003	MGRS INT ONLY PRODUC	NSRS	01/08/86	.T.	/ /		01/10/86	QA	1
IN-85-289-001	ERRORS DURING TESTIN	NSRS	01/07/86	.T.	/ /		01/10/86	OPERATIONS	1
IN-85-289-002	DEFECT PIPING	NSRS	12/19/85	.T.	/ /		/ /	DESIGN	1
IN-85-289-006	VERMASCO APPL PREMAT	NSRS	11/27/85	.T.	/ /		11/29/85	ELECTRICAL	1
IN-85-293-001	NCR 4412	NSRS	12/18/85	.F.	/ /		12/18/85	DESIGN	1
IN-85-299-002	ROD PERFORMANCE	ERT	01/29/86	.T.	/ /		/ /	WELDING	1
IN-85-311-008	CR ENTRANCE FIREDOOR	ERT	08/19/85	.T.	09/24/85	T	10/10/85	OPERATIONS	1
IN-85-317-001	WELD RODS	ERT	01/29/86	.T.	/ /		/ /	WELDING	1
IN-85-325-003	CYCLICAL STRESS FAIL	NSRS	01/21/86	.T.	/ /		01/22/86	DESIGN	1
IN-85-325-006	VALV CONT/OPER TRAN	NSRS	10/01/85	.F.	/ /		10/04/85	OPERATIONS	1
IN-85-337-001	ERCW LN W/CEMENT LIN	NSRS	10/03/85	.F.	/ /		/ /	MECHANICAL	1
IN-85-337-002	WELD ROD CONTROL	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
IN-85-346-003	WELD CERTIFICATIONS	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-352-001	UPDATE WELD CERTIFIC	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-352-002	NO PORT WELD OVENS	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
IN-85-366-003	INADQ CONTROL DRWGS	NSRS	01/30/86	.T.	/ /		02/03/86	DOCUMENT	1
IN-85-373-001	DAMAGED CABLE	NSRS	06/28/85	.T.	07/25/85	T	07/25/85	ELECTRICAL	1
IN-85-388-003	UNLABELED MATERIALS	NSRS	01/24/86	.T.	/ /		/ /	MATERIAL	1
IN-85-388-004	QA LEVEL MATERIALS	NSRS	01/31/86	.T.	/ /		/ /	MATERIAL	1
IN-85-388-006	HEAT CODE TRACEABILI	NSRS	07/03/85	.T.	07/26/85	T	07/26/85	MATERIAL	1
IN-85-393-003	FSAR REQ FOR SUPERV	NSRS	07/03/85	.T.	11/25/85	T	11/27/85	OPERATIONS	1
IN-85-406-001	UNAUTH CHNG TO WDREC	ERT	07/09/85	.T.	07/24/85	T	07/24/85	WELDING	1
IN-85-407-001	INACCURATE Q-LIST	NSRS	10/04/85	.T.	12/24/85	F	/ /	DESIGN	1
IN-85-410-003	EMBED PLATE "HOLLOW"	NSRS	01/07/86	.T.	/ /		01/10/86	CIVIL	1
IN-85-410-006	GRPS ADHERE PROCEDUR	NSRS	01/06/86	.T.	/ /		01/10/86	QA	1
IN-85-411-001	SAFTY HAZ ON PLATFRM	NSRS	07/23/85	.T.	08/09/85	T	09/08/85		1

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IN-85-411-002	DEFECTIVE WELD RODS	ERT	01/29/86	.T.	/ /		/ /	WELDING	1
IN-85-413-001	"050"NOTES	NSRS	08/09/85	.T.	/ /		08/09/85	HANGERS	1
IN-85-415-002	CONCRETE ERCW LINES	NSRS	07/11/85	.F.	/ /		07/11/85	MECHANICAL	1
IN-85-424-001	NO PORT OVENS	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
IN-85-424-004	STMFIT PERFM WELDING	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
IN-85-424-006	ACCOUNT OF WELD RODS	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
IN-85-424-007	LACK OF WELD ROD CON	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
IN-85-424-011	INADEQ UPDT WELD CER	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-424-X13	FALSIF WELDER CERTIF	ERT/OGC	10/24/85	.T.	/ /		/ /	WELDING	1
IN-85-426-001	UNREQ PORT OVENS	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
IN-85-426-002	INADEQ WELD CERTIFIC	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-439-002	"HOLLOW" EMBED PLATE	NSRS	01/07/86	.T.	/ /		01/10/86	CIVIL	1
IN-85-439-003	INADEQ CRAFT SUPV	NSRS	10/30/85	.F.	/ /		10/30/85	CONSTRUCTI	1
IN-85-439-006	SUBSTD WEAK CONCRETE	NSRS	11/07/85	.F.	/ /		/ /	CIVIL	1
IN-85-441-001	NO DATA ON TUBE STEL	NSRS	01/31/86	.T.	/ /		/ /	MATERIAL	1
IN-85-441-003	NO PORT WELD OVENS	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
IN-85-442-X12	LINING LOSS IN PIPE	NSRS	10/03/85	.F.	/ /		/ /	MECHANICAL	1
IN-85-442-X13	UNDR DAM NOT TO SPEC	ERT	01/28/86	.T.	/ /		/ /	CIVIL	1
IN-85-445-002	UNAUT ACCS TO WLD SY	ERT	08/27/85	.T.	/ /		08/27/85	WELDING	1
IN-85-445-004	INCORR INSPEC REQUIR	ERT	11/25/85	.T.	/ /		/ /	QA	1
IN-85-445-008	PROC DIFFICULT TO KN	NSRS	10/23/85	.F.	/ /		10/30/85	CRAFT	1
IN-85-445-010	EYE TEST INADEQUATE	NSRS	10/28/85	.T.	12/10/85	T	/ /	WELDING	1
IN-85-445-013	47-050 HARD TO USE	NSRS	10/10/85	.T.	/ /		10/16/85	HANGERS	1
IN-85-445-X15	INSP REQ FALSIFIED	ERT/OGC	11/25/85	.T.	/ /		/ /	QA	1
IN-85-450-001	FLUX BURNS OF WLD RD	ERT	01/29/86	.T.	/ /		/ /	WELDING	1
IN-85-453-007	INADEQ CERTF OF WELD	ERT	08/19/85	.T.	/ /		/ /	WELDING	1
IN-85-453-009	PASS OF WELD ROD	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
IN-85-454-004	PASS OF WELD ROD	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
IN-85-455-001	POOR QUAL WELD RODS	ERT	01/29/86	.T.	/ /		/ /	WELDING	1
IN-85-457-001	INADQ REVIEW BY PORC	NSRS	10/17/85	.T.	01/02/86		/ /	OPERATIONS	1
IN-85-457-002	NCRS FOR SPT FUL RCK	NSRS	01/22/86	.F.	/ /		/ /	QA	1
IN-85-458-007	CHNG OF WELD STATUS	ERT	08/27/85	.T.	/ /		08/27/85	WELDING	1
IN-85-460-002	MATRL W/O HEAT #'S	NSRS	01/31/86	.T.	/ /		/ /	MATERIAL	1
IN-85-460-003	GOUGE IN LINE, 1#	ERT	08/29/85	.T.	09/24/85	T	10/17/85	MECHANICAL	1
IN-85-460-X05	EXCAV ARC STRK SYS72	ERT	10/21/85	.T.	01/15/86	F	/ /	WELDING	1
IN-85-463-007	DELAY IN DOCUMT DRWS	NSRS	11/22/85	.F.	/ /		11/27/85	DOCUMENT	1
IN-85-465-001	LINES CLOSE TO HANGR	NSRS	07/30/85	.T.	08/09/85	T	09/08/85	MECHANICAL	1
IN-85-465-002	LOOSE CONDUIT	NSRS	09/09/85	.F.	11/14/85	T	11/20/85	HANGERS	1
IN-85-472-002	NO NCRS ON ERCW LINS	NSRS	10/03/85	.F.	/ /		/ /	QA	1
IN-85-472-007	EROSION IN TRENCH AR	ERT	01/28/86	.T.	/ /		/ /	CIVIL	1
IN-85-481-001	NO QCP FOR CONC INSP	NSRS	01/09/86	.T.	/ /		/ /	QA	1
IN-85-485-X01	SOFT CONCRETE	NSRS	11/07/85	.F.	/ /		/ /	CIVIL	1
IN-85-493-004	INADEQ WELD CERTIFIC	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-496-001	ERCW LIQUEFACTION	ERT	01/28/86	.T.	/ /		/ /	CIVIL	1
IN-85-496-002	LINER OF ERCW PIPING	NSRS	10/03/85	.F.	/ /		/ /	MECHANICAL	1
IN-85-501-001	UNUSED WLD RDS DISPO	ERT	09/03/85	.T.	/ /		/ /	WELDING	1
IN-85-514-001	CONTAM DURING CUTTIN	ERT	08/22/85	.T.	01/09/86	T	/ /	INSTRUMENT	1

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IN-85-520-002	BAD WELD ROD	ERT	01/29/86	.T.	/ /		/ /	WELDING	1
IN-85-524-001	CRACKS IN FLUX	ERT	01/29/86	.T.	/ /		/ /	WELDING	1
IN-85-527-001	CABLE PULL W/O FUSE	NSRS	11/27/85	.T.	/ /		11/29/85	ELECTRICAL	1
IN-85-530-001	WLDS NOT ACCRD PROCD	NSRS	08/15/85	.F.	/ /		08/15/85	WELDING	1
IN-85-532-004	WELDER RECERTIFICATE	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-532-005	RECERT W/O VERIFICAT	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-532-006	OVERSIZED WELDS	NSRS	08/16/85	.T.	/ /		/ /	WELDING	1
IN-85-534-001	FIRE PROTECT SYSTEM	NSRS	10/08/85	.F.	12/20/85		/ /	DESIGN	1
IN-85-534-002	FIRE PROT LINES	NSRS	10/22/85	.F.	/ /		10/22/85	DESIGN	1
IN-85-534-005	FIRE PROTEC HYDRO TE	NSRS	10/02/85	.F.	01/02/86		/ /	TESTING	1
IN-85-540-001	INADE WELD CERTIFICA	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-541-001	REQ WELD ON 2 SIDES	NSRS	08/15/85	.F.	/ /		08/15/85	WELDING	1
IN-85-543-002	INADEQ WELD CERTIFIC	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-543-004	DETERORIATE STEEL	NSRS	07/29/85	.F.	09/26/85	T	11/29/85	CONSTRUCTI	1
IN-85-544-001	WORK W/O WORKPLAN	ERT	10/22/85	.F.	01/06/86	T	01/14/86	QA	1
IN-85-544-002	VIOLATION OF PROCEDU	ERT	10/23/85	.T.	12/16/85	T	12/23/85	QA	1
IN-85-554-001	INCOMP STAIN STEL LN	NSRS	09/03/85	.F.	/ /		09/03/85	CONSTRUCTI	1
IN-85-556-001	SUBJ DOING JOUR WORK	ERT	09/28/85	.T.	/ /		/ /	WELDING	1
IN-85-579-001	INCOMPLETE WELD	ERT	12/03/85	.T.	/ /		/ /	WELDING	1
IN-85-581-002	WLDRS NOT QUAL ELEC	NSRS	10/17/85	.T.	/ /		10/17/85	CONSTRUCTI	1
IN-85-584-001	FIT-UP INSPECT REQUR	NSRS	12/31/85	.T.	/ /		01/07/86	WELDING	1
IN-85-589-001	LINER ON ERCW LINE	NSRS	10/03/85	.F.	/ /		/ /	MECHANICAL	1
IN-85-599-002	SUBJ DOING JOURN WRK	ERT	09/28/85	.T.	/ /		/ /	WELDING	1
IN-85-595-005	SEP OF CARBON/SS	NSRS	01/06/86	.F.	/ /		01/08/86	MATERIAL	1
IN-85-600-001	POOR QUAL WELD ELECT	ERT	01/29/86	.T.	/ /		/ /	WELDING	1
IN-85-601-001	INADEQ SURVL INSTRUC	NSRS	10/09/85	.T.	/ /		10/09/85	QA	1
IN-85-612-006	INADEQ WELD CERTIFIC	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-612-X07	WELDER CERTIF FALSIF	ERT/OGC	10/24/85	.T.	/ /		/ /	WELDING	1
IN-85-615-001	OBSTRUCTED ACCESS	NSRS	10/04/85	.F.	/ /		10/04/85	DESIGN	1
IN-85-616-001	RO NOT AVAILABLE	NSRS	08/30/85	.T.	10/16/85	T	10/16/85	OPERATIONS	1
IN-85-618-004	DAMAGED INST TUBING	NSRS	08/12/85	.T.	12/20/85	T	12/27/85	CONSTRUCTI	1
IN-85-630-002	SEAL LEAKS INTO BLDG	NSRS	01/15/86	.T.	/ /		01/17/86	CIVIL	1
IN-85-630-003	ERCW LINE IMPROP INS	NSRS	11/19/85	.F.	/ /		/ /	MECHANICAL	1
IN-85-630-004	INADQ DOC FOR ERCW	NSRS	11/19/85	.F.	/ /		/ /	MECHANICAL	1
IN-85-636-001	OVERBAKED WELD RODS	ERT	01/29/86	.T.	/ /		/ /	WELDING	1
IN-85-667-002	HVAC DUCT/NO HEAT #	NSRS	01/31/86	.T.	/ /		/ /	MATERIAL	1
IN-85-671-001	FITUP INSPECTION	NSRS	12/31/85	.T.	/ /		01/07/86	WELDING	1
IN-85-671-002	NOT ISSUING IPN/WRN	NSRS	12/03/85	.T.	/ /		/ /	CIVIL	1
IN-85-671-004	WELDS NOT PROP INSPE	NSRS	10/22/85	.T.	/ /		10/22/85	WELDING	1
IN-85-676-001	DISAGREE W/TVA POLIC	NSRS	10/31/85	.T.	12/27/85	T	01/07/86	QA	1
IN-85-682-005	MGT ALLOW INSP HARAS	NSRS	11/27/85	.F.	01/16/86	T	02/04/86	QA	1
IN-85-684-001	DEFECTIVE TUBE STEEO	NSRS	09/16/85	.F.	/ /		09/16/85	MATERIAL	1
IN-85-688-002	INADEQUATE TVA PROCE	NSRS	12/18/85	.T.	/ /		12/24/85	QA	1
IN-85-688-003	VALIDITY OF CRIT SYS	NSRS	10/04/85	.T.	12/24/86	F	/ /	DESIGN	1
IN-85-688-004	PREVENT OF CORRECTIV	NSRS	12/09/85	.T.	/ /		/ /	QA	1
IN-85-693-003	EXP/TRAIN OF LABORER	NSRS	01/28/86	.F.	/ /		01/28/86	CONSTRUCTI	1
IN-85-705-001	UNQUALIFIED PERSONNE	ERT	09/28/85	.T.	/ /		/ /	CONSTRUCTI	1

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IN-85-713-004	CONCRETE LIN IN PIPE	NSRS	10/03/85	.F.	/ /		/ /	MECHANICAL	1
IN-85-725-X14	INADQ RECERT PROG	ERT	11/05/85	.F.	12/16/85	T	12/26/85	WELDING	1
IN-85-725-X15	TEST PLATES INADQ	ERT	11/05/85	.F.	12/26/85	T	12/26/85	WELDING	1
IN-85-748-001	TIE-IN OF SEAL DRAIN	ERT	08/16/85	.F.	/ /		08/16/85	DESIGN	1
IN-85-754-001	INADQ PLATE & STEEL	NSRS	01/06/86	.F.	/ /		01/08/86	MATERIAL	1
IN-85-770-002	PROC FOR CER NOT PER	ERT	10/24/85	.T.	/ /		/ /	WELDING	1
IN-85-770-003	UNCERTIFIED WELDERS	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-770-X07	WELDERS CERT FALSIFI	ERT/OGC	10/24/85	.T.	/ /		/ /	WELDING	1
IN-85-778-001	WELDER CERTIFICATION	ERT	09/26/85	.T.	/ /		10/15/85	WELDING	1
IN-85-778-X07	WELDER CERT CARD FAL	ERT/OGC	10/24/85	.T.	/ /		/ /	WELDING	1
IN-85-795-001	COMPRESS FITTING	ERT	08/07/85	.T.	01/22/86	T	/ /	INSTRUMENT	1
IN-85-795-002	COMPRESS FITTING	ERT	08/07/85	.T.	01/22/86	T	/ /	INSTRUMENT	1
IN-85-802-001	TARGET ROCK VALVES	NSRS	10/25/85	.T.	12/20/85	T	12/27/85	DESIGN	1
IN-85-815-001	CERTIFICATI OF WELDR	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-824-002	UNAPPROV BEND PROCED	ERT	08/23/85	.T.	10/18/85	T	10/30/85	QA	1
IN-85-825-002	CLAIRTY IN PROCEDURE	NSRS	10/22/85	.F.	/ /		10/22/85	OPERATIONS	1
IN-85-835-002	WELDING CERTIFICATIO	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-839-001	ERCW MOTOR PROBLEM	NSRS	01/06/86	.F.	/ /		01/07/86	DESIGN	1
IN-85-845-001	SYS43 UNIS NOT ACHD	NSRS	12/04/85	.F.	/ /		/ /	CIVIL	1
IN-85-845-002	SYS43 HANGER DESIGN	NSRS	11/20/85	.T.	/ /		/ /	HANGERS	1
IN-85-845-003	IMPROP INST&MTL STOR	NSRS	01/22/86	.T.	/ /		/ /	MATERIAL	1
IN-85-845-004	IMPROPER WELDING	NSRS	10/10/85	.F.	/ /		10/16/85	WELDING	1
IN-85-846-002	GOUT LINER/SAFTY HAZ	NSRS	10/03/85	.F.	/ /		/ /	MECHANICAL	1
IN-85-847-006	CRFT SUP ALW UNAP PL	NSRS	10/29/85	.T.	01/22/86	T	01/31/86	QA	1
IN-85-850-002	QUANTITY VS. QUALITY	NSRS	11/07/85	.F.	/ /		11/12/85	QA	1
IN-85-850-004	WORK W/O OFFC APPROV	NSRS	12/19/85	.T.	/ /		12/24/85	QA	1
IN-85-852-001	VENDOR WELDS	NSRS	01/06/86	.F.	/ /		01/07/86	WELDING	1
IN-85-853-X02	VIOLAT TVA PROCEDURE	ERT	10/12/85	.F.	/ /		10/18/85	QA	1
IN-85-858-001	QUANTITY VS QUALITY	NSRS	12/09/85	.T.	01/15/86		/ /	QA	1
IN-85-864-002	MODIFI TO RHR MOTORS	NSRS	01/23/86	.T.	/ /		/ /	MECHANICAL	1
IN-85-877-001	LIN ACPT WITH DEFAUL	NSRS	12/12/85	.F.	/ /		12/12/85	QA	1
IN-85-897-001	INEXP CRAFTSMEN	NSRS	11/07/85	.T.	/ /		11/12/85	CRAFT	1
IN-85-913-001	ELECT JUNCTION BOXES	NSRS	11/26/85	.F.	01/22/86	T	02/04/86	ELECTRICAL	1
IN-85-913-002	ELECT JUNCTION BOXES	NSRS	11/26/85	.F.	01/22/86	T	02/04/86	ELECTRICAL	1
IN-85-913-004	CONSTRUCT VIOLATIONS	NSRS	11/26/85	.F.	01/22/86	T	02/04/86	QA	1
IN-85-915-002	DRAWING CONTROL	NSRS	10/17/85	.F.	/ /		10/17/85	DOCUMENT	1
IN-85-915-003	DRAWING CONTROL	NSRS	10/22/85	.T.	/ /		/ /	DOCUMENT	1
IN-85-915-X04	INVEST RESULTS FALSI	ERT/OGC	01/07/86	.T.	/ /		01/10/86	QA	1
IN-85-927-X01	STORAGE REQUIREMENTS	NSRS	01/22/86	.T.	/ /		/ /	CONSTRUCTI	1
IN-85-945-001	ELEC MANHOLES DISORG	NSRS	10/22/85	.T.	/ /		/ /	ELECTRICAL	1
IN-85-955-001	PWR LOST SYST INOPER	NSRS	12/09/85	.T.	/ /		12/12/85	DESIGN	1
IN-85-964-003	IMPROP MAT/EQIUP USE	NSRS	12/10/85	.F.	/ /		12/12/85	MATERIAL	1
IN-85-964-X06	USE OF "SUPERGLUE"	NSRS	12/04/85	.F.	/ /		12/11/85	CONSTRUCTI	1
IN-85-965-001	WELDOR CER BACKDATED	ERT	10/24/85	.T.	/ /		/ /	WELDING	1
IN-85-977-001	TAPE NOT REPL ON RCS	NSRS	10/10/85	.F.	01/14/86	F	/ /	QA	1
IN-85-977-002	DOCUMENT OF TCS/SIS	NSRS	10/03/85	.T.	01/22/86	T	02/03/86	DOCUMENT	1
IN-85-982-001	REBAR LOCATERS UNUSE	NSRS	01/08/86	.T.	/ /		01/10/86	CIVIL	1

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QTC_NUMBER	SUBJECT	INVEST ORG	DATE REPORT	SUB?	DATE RESPONSE	ACC?	DATE INVEST CLOSED	KEY WORD	#
IN-85-998-002	IRN PROG NEEDS IMPRO	NSRS	12/03/85	.T.	/ /		/ /	QA	1
IN-86-014-001	EXCESS SI ON EQUIPME	NSRS	12/17/85	.T.	/ /		/ /	OPERATIONS	1
IN-86-055-002	LEAKING PIPE	NSRS	11/22/85	.F.	/ /		11/27/85	MAINTENANC	1
IN-86-055-003	HYDRAZINE SPILL	NSRS	10/17/85	.T.	12/26/85	T	01/07/86	OPERATIONS	1
IN-86-064-001	INAPT AIR FLOW SWITC	NSRS	12/18/85	.T.	/ /		12/18/85	EQUIPMENT	1
IN-86-068-002	RETUBIN OF HEAT EXCH	ERT	11/05/85	.T.	/ /		/ /	MAINTENANC	1
IN-86-081-001	INADEQ PLANT SYS STA	NSRS	11/19/85	.T.	/ /		/ /	OPERATIONS	1
IN-86-083-003	PRODUCTION VS QUALIT	NSRS	12/05/85	.F.	12/31/85	T	01/13/86	TESTING	1
IN-86-087-002	EFFECT OF QA DEPT	NSRS	11/19/85	.F.	/ /		11/21/85	QA	1
IN-86-087-003	DELAY IN CARS/DRS	NSRS	12/09/85	.T.	/ /		/ /	QA	1
IN-86-087-004	DIFFERENCE IN Q-LIST	NSRS	10/04/85	.T.	12/24/85	F	/ /	QA	1
IN-86-090-001	DIFFERENCE IN Q-LIST	NSRS	10/04/85	.T.	12/24/85	F	/ /	QA	1
IN-86-090-002	DELAY IN CARS/DRS	NSRS	12/09/85	.T.	/ /		/ /	QA	1
IN-86-090-003	SIS APPROVAL W/O REV	NSRS	10/17/85	.T.	/ /		/ /	OPERATIONS	1
IN-86-098-001	DELAY IN CAR/DR	NSRS	12/09/85	.T.	/ /		/ /	QA	1
IN-86-102-001	REQ FOR CONDUIT INSU	NSRS	10/11/85	.T.	12/26/85	T	01/07/86	HANGERS	1
IN-86-102-002	NO ATTACH D/CONDUIT	NSRS	10/14/85	.F.	/ /		10/16/85	CONSTRUCTI	1
IN-86-103-001	NO ATTACH D/CONDUIT	NSRS	10/11/85	.T.	12/23/85	T	01/07/86	ELECTRICAL	1
IN-86-103-002	REMOVAL OF INSULATIO	NSRS	11/13/85	.F.	/ /		11/15/85	CONSTRUCTI	1
IN-86-108-001	DRAWINGS NOT CURRENT	NSRS	11/01/85	.F.	/ /		11/04/85	DOCUMENT	1
IN-86-108-002	SQN/BFN/BLN DRWGS	NSRS	12/26/85	.T.	/ /		/ /	DOCUMENT	1
IN-86-110-001	INADQ ICE LOADING	NSRS	10/25/85	.T.	/ /		10/30/85	DESIGN	1
IN-86-112-001	USE OF TOOLS NOT DOC	NSRS	12/12/85	.T.	01/30/86	T	02/05/86	OPERATIONS	1
IN-86-119-001	INADEQUATE CONDUITS	NSRS	10/09/85	.T.	/ /		/ /	ELECTRICAL	1
IN-86-122-001	CRACKS IN WF 33 BEAM	NSRS	10/10/85	.T.	/ /		10/16/85	MATERIAL	1
IN-86-124-001	LOW GRADE STEEL	NSRS	01/13/86	.F.	/ /		01/15/86	MATERIAL	1
IN-86-134-001	PROECDURES/DRAWINGS	NSRS	01/06/85	.F.	/ /		01/08/86	DOCUMENT	1
IN-86-134-002	IRN POLICY	NSRS	12/03/85	.T.	/ /		/ /	QA	1
IN-86-135-003	LINES NOT INSPECTED	NSRS	12/09/85	.T.	/ /		/ /	HANGERS	1
IN-86-143-002	WELDER CERT BACKDATE	ERT	10/24/85	.T.	/ /		/ /	WELDING	1
IN-86-145-002	CONCRETE LINING APAR	NSRS	10/03/85	.F.	/ /		/ /	MECHANICAL	1
IN-86-150-001	TRACEABILITY NOT ATT	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
IN-86-155-002	HANGER UNACCEP WELDS	NSRS	11/27/85	.F.	/ /		11/29/85	WELDING	1
IN-86-155-004	WELDS MAY NOT INSPEC	NSRS	10/22/85	.F.	/ /		10/22/85	WELDING	1
IN-86-158-005	CONDUITS NOT PLUGGED	NSRS	01/09/86	.T.	/ /		/ /	DESIGN	1
IN-86-158-007	CUTS CLOSE TO CONDUI	NSRS	01/09/86	.T.	/ /		/ /	WELDING	1
IN-86-167-001	NO TRACEABIL OF RODS	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
IN-86-167-003	WELDING RODS INADEQU	ERT	01/29/86	.T.	/ /		/ /	WELDING	1
IN-86-167-005	WELDER REQUAL BACKDT	ERT	10/24/85	.T.	/ /		/ /	WELDING	1
IN-86-167-X06	WELDER CERT CARD FAL	ERT/OGC	10/24/85	.T.	/ /		/ /	WELDING	1
IN-86-169-001	CONDUIT HEAT DAMAGED	NSRS	11/26/85	.T.	01/21/86	F	/ /	ELECTRICAL	1
IN-86-173-001	DESIGN CALCULATIONS	NSRS	10/28/85	.T.	12/20/85		/ /	DESIGN	1
IN-86-183-001	BOLTS INSTAL STL CON	NSRS	01/09/86	.F.	/ /		01/13/86	MATERIAL	1
IN-86-184-002	CLASSIFICATION PIPIN	NSRS	12/18/85	.T.	/ /		12/24/85	MATERIAL	1
IN-86-184-004	PIPE SIZES	NSRS	12/18/85	.T.	/ /		12/24/85	WELDING	1
IN-86-190-003	ANCHOR NOT TEST INDI	ERT	10/24/85	.T.	/ /		10/30/85	CIVIL	1
IN-86-199-001	CAB PULL/REQ PER QCI	NSRS	10/31/85	.T.	/ /		11/04/85	ELECTRICAL	1

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IN-86-200-003	SUPPORT NOT SAFE	NSRS	12/11/85	.F.	/ /		12/12/85	CIVIL	1
IN-86-201-001	CAB PULL LIMIT EXCEE	NSRS	10/31/85	.T.	/ /		11/04/85	ELECTRICAL	1
IN-86-205-001	ERCW UNSUITABLE	NSRS	12/03/85	.F.	/ /		12/11/85	MECHANICAL	1
IN-86-208-001	SI REQ TO MUCH TIME	NSRS	12/17/85	.T.	/ /		/ /	OPERATIONS	1
IN-86-210-001	HEAT EXCH TUBES INAD	ERT	11/05/85	.T.	/ /		/ /	DESIGN	1
IN-86-217-001	UNCERT CONCRE FINISH	ERT	02/03/86	.T.	/ /		02/04/86	CRAFT	1
IN-86-221-001	RED HEADS NOT REMOVE	NSRS	12/09/85	.T.	/ /		12/12/85	CIVIL	1
IN-86-221-004	CLEANERS NOT APPVD	NSRS	10/10/85	.T.	12/06/85	T	12/12/85	MATERIAL	1
IN-86-226-001	HARAS FOR REP QC	NSRS	11/11/85	.T.	/ /		/ /	QA	1
IN-86-232-001	REPAIR ERCW VIOLAT	NSRS	10/03/85	.F.	/ /		/ /	MECHANICAL	1
IN-86-232-X03	FCRS NOT APPROVED	NSRS	01/23/86	.T.	/ /		/ /	CONSTRUCTI	1
IN-86-259-001	FAILURE USE FUSE LIN	NSRS	10/31/85	.T.	/ /		11/04/85	ELECTRICAL	1
IN-86-259-003	PVC CONDUITS BROKEN	NSRS	12/03/85	.F.	/ /		12/06/85	ELECTRICAL	1
IN-86-259-004	INADEQ CABLE PULL	NSRS	10/31/85	.T.	/ /		11/04/85	ELECTRICAL	1
IN-86-259-005	OVERFILLED CABLE TRA	NSRS	11/14/85	.T.	/ /		/ /	ELECTRICAL	1
IN-86-259-006	INADQ SEPAR OF CABLE	NSRS	11/01/85	.T.	01/06/86		/ /	ELECTRICAL	1
IN-86-259-X11	TVA PROC NO IEEE STD	NSRS	11/14/85	.F.	/ /		/ /	DESIGN	1
IN-86-259-X13	FOREIGN OBJS IN CONC	NSRS	01/06/86	.T.	/ /		/ /	CIVIL	1
IN-86-262-002	OVERCROWDING CABLES	NSRS	11/14/85	.T.	/ /		/ /	ELECTRICAL	1
IN-86-262-003	EXCEED MAX PULL TENS	NSRS	10/31/85	.T.	/ /		11/04/85	ELECTRICAL	1
IN-86-262-005	INADEQ BOLTS FOR TRA	NSRS	01/07/86	.T.	/ /		01/10/86	HANGERS	1
IN-86-263-001	QA DOCU NOT MEET STD	NSRS	02/03/86	.T.	/ /		02/04/86	DOCUMENT	1
IN-86-266-X09	LACK OF COVERAGE	NSRS	10/31/85	.F.	/ /		11/04/35	ELECTRICAL	1
IN-86-268-003	IMPROPER INSTAL CABL	NSRS	11/01/85	.T.	01/06/86		/ /	ELECTRICAL	1
IN-86-290-001	IRNS NOT QUAL RECORD	NSRS	12/03/85	.T.	/ /		/ /	QA	1
IN-86-291-007	SECURITY CLEAR PERS	NSRS	12/03/85	.T.	01/10/86	T	01/17/86	OPERATIONS	1
IN-86-294-002	INADQ WELD BASE PLAT	NSRS	01/08/86	.T.	/ /		01/10/86	CIVIL	1
IN-86-303-002	HOUSEKEEP NEEDS IMPR	NSRS	01/24/86	.F.	/ /		01/21/86	CONSTRUCTI	1
IN-86-305-001	LACK OF CONCRETE BON	NSRS	01/13/86	.F.	/ /		01/15/86	CIVIL	1
IN-86-305-002	NO FIRE DAMPERS	NSRS	12/10/85	.F.	/ /		12/10/85	DESIGN	1
IN-86-314-004	INADQ CABLE SEPARATI	NSRS	11/27/85	.T.	/ /		11/29/85	ELECTRICAL	1
IN-86-316-002	INCOMPLETE WORK PKG	NSRS	12/18/85	.T.	/ /		/ /	OPERATIONS	1
IN-86-316-003	WORK PKG VS MANUAL	NSRS	12/18/85	.T.	/ /		/ /	OPERATIONS	1
IN-86-316-005	WORK PKG INCOMPLETE	NSRS	12/18/85	.T.	/ /		/ /	OPERATIONS	1
IN-86-316-006	WORK PKGS INCOMPLETE	NSRS	12/18/85	.T.	/ /		/ /	OPERATIONS	1
IN-86-316-007	ENG INCOMP WORK PKGS	NSRS	12/18/85	.T.	/ /		/ /	OPERATIONS	1
IN-86-316-X09	ENG DISREGARD MANUAL	NSRS	12/18/85	.T.	/ /		/ /	OPERATIONS	1
NS-85-001-001	INACCUR WELD INSPECT	ERT/OGM	08/13/85	.T.	09/27/85	F	/ /	WELDING	1
NS-85-002-001	BPN/SUPTS ON RHR SYS	ERT	10/12/85	.T.	/ /		/ /	OPERATIONS	1
NS-85-004-001	INADEQ ORIFICE PLATE	NSRS	12/17/85	.T.	/ /		/ /	DESIGN	1
PH-85-001-002	INST LNS SLOPE PROB	ERT	07/06/85	.T.	09/20/85	T	09/23/85	INSTRUMENT	1
PH-85-003-021	ENG EVAL NOT CONDUCT	NSRS	10/10/85	.T.	/ /		10/16/85	QA	1
PH-85-006-001	CHANGES TO 050 NOTES	NSRS	08/09/85	.F.	/ /		08/09/85	HANGERS	1
PH-85-012-001	INSPECT OF WELDS	ERT	07/19/85	.T.	/ /		07/19/85	WELDING	1
PH-85-013-001	'OFF-BRAND' WELD ROD	ERT	01/29/86	.T.	/ /		/ /	WELDING	1
PH-85-014-002	INSPECT NOT PERFORMD	ERT/OGC	12/14/85	.F.	/ /		/ /	INSPECTION	1
PH-85-018-001	AUDIT FINDS WITHHELD	ERT	07/10/85	.F.	/ /		07/10/85	QA	1

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QTC_NUMBER	SUBJECT	INVEST ORG	DATE REPORT	SUB?	DATE RESPONSE	ACC?	DATE INVEST CLOSED	KEY WORD	#
PH-85-022-001	ORIFICE PLATES ERROR	NSRS	12/17/85	.T.	/ /		/ /	DESIGN	1
PH-85-038-001	OE PROCEDURE REVISIO	NSRS	12/17/85	.T.	/ /		12/17/85	DESIGN	1
PH-85-042-001	INADEQ USE OF BOLTS	NSRS	01/06/86	.F.	/ /		/ /	DESIGN	1
WI-85-003-001	FALSE WELD CERTF CRD	ERT	10/24/85	.T.	/ /		/ /	WELDING	1
WI-85-003-X02	WELDER CERT CARD FAL	ERT/OGC	10/24/85	.T.	/ /		/ /	WELDING	1
WI-85-013-003	INSPECT THRU PAINT	ERT	11/06/85	.T.	/ /		/ /	WELDING	1
WI-85-016-001	PROCEDURE VIOLATIONS	ERT	11/01/85	.F.	/ /		/ /	CIVIL	1
WI-85-035-007	UNCERTIFIED WELDER	ERT	01/24/86	.F.	/ /		01/24/86	WELDING	1
WI-85-040-001	VOID/WI-85-040-006	NSRS	11/19/85	.F.	/ /		/ /	MECHANICAL	1
WI-85-040-002	INADQ PROC/INSP PLAN	NSRS	11/19/85	.F.	/ /		/ /	MECHANICAL	1
WI-85-040-004	LINES INADQ CONSTRUC	ERT	01/28/86	.T.	/ /		/ /	CIVIL	1
WI-85-041-001	WELD MAT INADEQUATE	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
WI-85-041-014	STELL MARKINGS	NSRS	01/31/86	.T.	/ /		/ /	MATERIAL	1
WI-85-053-003	IMPORP WELDING DOCUM	NSRS	11/14/85	.T.	12/31/85		/ /	WELDING	1
WI-85-053-006	TEST DIR NOT QUAL	NSRS	10/25/85	.F.	12/20/85	T	12/27/85	CONSTRUCTI	1
WI-85-053-007	ORIG DOCUMENT LOST	NSRS	01/06/86	.F.	/ /		/ /	DOCUMENT	1
WI-85-054-003	DRAINS PLUGGED UP	NSRS	11/22/85	.F.	/ /		11/27/85	MECHANICAL	1
WI-85-055-001	WELDER RECERTIFICATI	ERT	09/24/85	.T.	/ /		10/02/85	WELDING	1
WI-85-056-001	NOT FOLLOW CODE REQU	ERT	09/24/85	.T.	/ /		10/02/85	WELDING	1
WI-85-[illegible]001	INADQ INSTAL HANGERS	NSRS	01/08/86	.T.	/ /		01/10/86	HANGERS	1
WI-85-084-001	WELDER CERTIFICATION	ERT	11/12/85	.T.	01/17/86		/ /	WELDING	1
XX-85-001-001	SQN/D-G BATTERIES	NSRS	11/18/85	.T.	12/30/85		/ /	QA	1
XX-85-007-002	SQN/LEAK DUE TO MGMT	NSRS	12/13/85	.F.	/ /		12/13/85	OPERATIONS	1
XX-85-009-002	SQN/PERSONAL SAFETY	NSRS	12/20/85	.F.	/ /		12/27/85	OPERATIONS	1
XX-85-010-001	SQN/VOIDED HANGERS	ERT	01/29/86	.F.	/ /		/ /	HANGERS	1
XX-85-013-001	SQN/WRONG WELD ROD	ERT	08/22/85	.F.	/ /		08/27/85	WELDING	1
XX-85-019-001	BLN/AUDIT FINDINGS	ERT	07/10/85	.F.	/ /		07/10/85	QA	1
XX-85-020-001	SQN/ECNS APPLICABILI	NSRS	11/19/85	.F.	/ /		11/19/85	OPERATIONS	1
XX-85-028-001	SQN/INCREASE IN RWP	ERT	11/22/85	.F.	01/21/86		/ /	OPERATIONS	1
XX-85-028-X02	SQN/FALSFIFED SIGNAT	NSRS	12/26/85	.T.	01/17/86	T	01/30/86	QA	1
XX-85-028-X03	SQN/RADIA WORK PERMI	NSRS	12/26/85	.T.	01/17/86	T	01/30/86	QA	1
XX-85-033-006	SQN/FOREMAN MATERIAL	NSRS	12/09/85	.F.	/ /		12/10/85	MATERIAL	1
XX-85-038-001	SQN/SEP OF CARBON/SS	ERT	10/10/85	.T.	01/17/86	T	/ /	MATERIAL	1
XX-85-041-001	SQN/WRONG TYPE ROD	NSRS	01/02/86	.F.	01/18/86		01/03/86	WELDING	1
XX-85-046-001	SQN/INST SENSING LIN	NSRS	12/24/85	.T.	01/29/86		/ /	INSTRUMENT	1
XX-85-051-001	SQN/RADIATION MONITO	NSRS	11/26/85	.T.	/ /		/ /	OPERATIONS	1
XX-85-052-001	SQN/INADQ DESIGN DOO	NSRS	11/26/85	.T.	/ /		/ /	DESIGN	1
XX-85-054-001	SQN/VIOLAT SIGN-OFFS	NSRS	11/26/85	.F.	/ /		11/29/85	WELDING	1
XX-85-062-002	BFN/BLN/INADQ FILING	NSRS	12/26/85	.T.	01/17/86		/ /	DOCUMENT	1
XX-85-065-001	SQN/IMPROPER INSPECT	NSRS	12/09/85	.F.	/ /		12/10/85	WELDING	1
XX-85-068-007	SQN/REPLAC SPOOL PIE	NSRS	12/09/85	.F.	/ /		12/10/85	QA	1
XX-85-070-007	SQN/DESIGN DRAWINGS	NSRS	12/20/85	.T.	/ /		12/24/85	HANGERS	1
XX-85-083-001	SQN/WELD INSPECTIONS	NSRS	12/12/85	.F.	/ /		12/13/85	WELDING	1
XX-85-086-003	SQN/DESIGN DEFICIENC	NSRS	11/29/85	.T.	01/27/86		/ /	WELDING	1
XX-85-087-001	SQN/CONTAINMENT COAT	NSRS	01/22/86	.T.	/ /		/ /	OPERATIONS	1
XX-85-093-001	SQN/INADQ TRAIN ENGI	NSRS	12/09/85	.F.	/ /		/ /	OPERATIONS	1
XX-85-093-003	BFN/INADQ TRAIN ENGI	NSRS	11/29/85	.F.	/ /		/ /	OPERATIONS	1

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XX-85-096-005	SQN/MONITOR TUBE PRO	NSRS	11/26/85	.T.	/ /		11/29/85	OPERATIONS	1
XX-85-098-002	SQN/RADIATION AREAS	NSRS	12/09/85	.F.	/ /		12/10/85	OPERATIONS	1
XX-85-099-001	SQN/SECURITY AT PLAN	NSRS	12/09/85	.F.	/ /		12/10/85	OPERATIONS	1
XX-85-101-004	SQN/MIN. RADIAT EXPO	NSRS	12/27/85	.T.	01/17/86		/ /	OPERATIONS	1
XX-85-102-011	SQN/DEFECTS ID BY MA	NSRS	12/11/85	.F.	/ /		12/11/85	WELDING	1
XX-85-108-001	SQN/RMS NEVER INSP	NSRS	12/20/85	.F.	/ /		12/27/85	WELDING	1
XX-85-108-002	SQN/WELD INSP PROCES	NSRS	12/20/85	.F.	/ /		12/27/85	WELDING	1
XX-85-120-002	SQN/QA PROCEDURE	NSRS	01/02/86	.T.	/ /		01/03/86	MATERIAL	1
XX-85-122-020	SQN/NUREG 0700	NSRS	01/27/86	.T.	/ /		/ /	DESIGN	1

TVA 64 (OS-9 85) (OP-WP-5-85)

UNITED STATES GOVERNMENT

Memorandum TENNESSEE VALLEY AUTHORITY

TO: W. T. Cottle, Site Director, Watts Bar Nuclear Plant

FROM: K. W. Whitt, Director of Nuclear Safety Review Staff, E3A8 C-K

DATE: FEB 05 1986

SUBJECT: CORRECTIVE ACTION RESPONSE EVALUATION

REPORT NO. : I-85-727-WBN

SUBJECT : ACCOUNTABILITY OF M&TE USE

CONCERN NO.: IN-86-112-001

(X) ACCEPT ( ) REJECT

K. W. Whitt

RCC:JTH
cc (Attachment):
R. P. Denise, LP6N40A-C
D. R. Nichols, E10A14C-K
QTC/ERT, CONST-WBN--For response to employee.
E. K. Sliger, LP6N48A

Principally prepared by Richard C. Cutshaw.

0409U

Pay U.S. Savings Bonds Regularly on the Payroll Savings Plan

TVA 64 (OS-9-85)

UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

TO : K. W. Whitt, Director of Nuclear Safety Review Staff, E3A8 C-K

FROM : W. T. Cottle, Site Director, Watts Bar Nuclear Plant NUC PR

DATE : JAN 28 1986

SUBJECT: WATTS BAR NUCLEAR PLANT - RESPONSE TO EMPLOYEE CONCERN INVESTIGATION REPORT TRANSMITTAL

Transmitted herein is P&E Nuclear's response to recommendations I-85-727-WBN-01 and I-85-727-WBN-02 contained in Nuclear Safety Review Staff (NSRS) employee concern investigation report I-85-727-WBN.

If you have any questions, please contact W. L. Byrd at 3774, Watts Bar Nuclear Plant NUC PR.

W. T. Cottle

WLB:RRG:NC
Attachment

This memorandum was principally prepared by R. R. Gibbs.

JAN 30 '86

2/3/86--JTH
cc (Attachment):
W. D. Stevens, E2B38 C-K--For evaluation.

Response to Recommendations I-85-727-WBN-01 and I-85-727-WBN-02

We concur with the conclusions of the subject investigation report and have determined that the findings are not reportable.

At present thirteen (13) Materials Unit issue personnel have been informally trained, and the documentation transmitted to the Training Office. The remaining issue personnel will be trained by January 31, 1986. The Division of Power System Operations (DPSO) Watts Bar supervisor has committed to train his issue personnel by January 15, 1986.

A memorandum will be sent to plant section supervisors by January 31, 1986, reminding them to ensure their personnel are aware of the user responsibilities identified in AI-5.9.

The site Engineering and Technical Training Section (E&TTS) will develop a M&TE training class which will be made available to all appropriate user and issue personnel. E&TTS will establish a schedule for site procedure training development by February 14, 1986. At this time we can determine when the M&TE course will be available.

AI-10.1 will be revised by E&TTS to require that records of training in response to NRC inspections, QA Audits, or QA/QC Surveys will be handled as QA records. This revision will be completed by February 14, 1986.

Principally prepared by J. Edward Gibbs.

TVA 64 (OS-9-65) (OP-WP-5-85)

UNITED STATES GOVERNMENT

Memorandum TENNESSEE VALLEY AUTHORITY

TO: W. T. Cottle, Site Director, Watts Bar Nuclear Plant

FROM: K. W. Whitt, Director of Nuclear Safety Review Staff, E3A8 C-K

DATE: JAN 31 1986

SUBJECT: NUCLEAR SAFETY REVIEW STAFF INVESTIGATION REPORT TRANSMITTAL

Transmitted herein is NSRS Report No. I-85-146-WBN

Subject MATERIAL CONTROL - HEAT NUMBER TRACEABILITY

Concern No. IN-85-667-002, IN-85-388-004, IN-85-441-001, IN-85-460-002, and WI-85-041-014

and associated recommendations for your action/disposition.

It is requested that you respond to this report and the attached recommendations by February 28, 1986. Should you have any questions, please contact P. R. Washer at telephone 3712-WBN.

Recommend Reportability Determination: Yes X No ____

Director, NSRS/Designee

PRW:GDM
Attachment
cc (Attachment):
H. L. Abercrombie, SQN
W. Bibb, BFN
James P. Darling, BLN
R. P. Denise, LP6N40A-C
D. R. Nichols, E10A14 C-K
QTC/ERT, Watts Bar Nuclear Plant
T. K. Sliger, LP6N48A-C

--Copy and Return--

To : K. W. Whitt, Director of Nuclear Safety Review Staff, E3A8 C-K

From: _____

Date: _____

I hereby acknowledge receipt of NSRS Report No. I-85-146-WBN
Subject MATERIAL CONTROL - HEAT NUMBER TRACEABILITY for action/disposition.

_____ _____ _____
Signature Date

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

TENNESSEE VALLEY AUTHORITY

NUCLEAR SAFETY REVIEW STAFF

NSRS INVESTIGATION REPORT NO. I-85-146-WBN

EMPLOYEE CONCERNS IN-85-667-002, IN-85-388-004, IN-85-441-001, In-85-460-002, AND WI-85-041-014

MILESTONE 6

SUBJECT: MATERIAL CONTROL - HEAT NUMBER TRACEABILITY

DATES OF INVESTIGATION: December 29, 1985-January 10, 1986

INVESTIGATOR: P R Washer FOR R. L. NEWBY — 1-31-86 DATE

REVIEWED BY: P R Washer P. R. WASHER — 1-31-86 DATE

APPROVED BY: [signature] R. K. HARRISON — 1/31/86 DATE

I. BACKGROUND

NSRS has investigated five related employee concerns which Quality Technology Company (QTC) identified during the Watts Bar Employee Concern Program. Because of the similarity of the concerns, they were investigated together. The concerns were worded as follow.

IN-85-667-002

Reactor buildings 1 & 2. There are numerous HVAC duct supports with no heat number throughout the buildings. CI has no additional information. CI indicated that 1 in 3 or so were missing numbers.

IN-85-388-004

QA level 1 & 2 materials received the same treatment up to 4-5 years ago, then the heat number omitted from level 2. No traceablility when requisitioned out. Unit 1 & 2.

IN-85-441-001

Heat number and other data are not scribed on tube steel (hangers). The attached tag has heat number only written on it. Units # 1 & 2, all buildings where there are hangers

IN-85-460-002

A36 material in the MA material storage area (outside) with no heat numbers. The area is called "The Rack" by employees.

WI-85-041-014

A-36 structural steel is not marked with heat/lot number and is therefore not traceable. CI has no additional information. NUC. Power Department concern.

II. SCOPE

The issues of the investigation were determined from the stated concerns to be that heat-number traceability is not maintained on Quality Level II material after receipt at Watts Bar.

Requirements and Commitments

The following upper-tier documents and commitments were reviewed and utilized during this investigation.

A. 10CFR50 Appendix B. "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants"

B. 10CFR21. "Reporting of defects and noncompliance"

C. Watts Bar FSAR, Topical Report, TVA-TR75-1A, R8, "Quality Assurance Program Description"

D. ANSI-N45.2-1971, "Quality Assurance Program Requirements for Nuclear Power Plants"

E. ANSI-N45.2.5-1974, "Supplementary Quality Assurance Requirements for installation, inspection, and testing of structural concrete and structural steel during the construction phase of Nuclear Power Plants"

III. SUMMARY OF FINDINGS

A. 10CFR50 Appendix B introduction states in part:

> Nuclear power plants and fuel reprocessing plants include structures, systems, and components that prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public. This appendix establishes quality assurance requirements for the design, construction, and operation of those structures, systems, and components. The pertinent requirements of this appendix apply to all activities affecting the safety-related functions of those structures, systems, and components; these
>
> activities include designing, purchasing, fabricating handling, shipping, storing, cleaning, erecting, installing, inspecting, testing, operating, maintaining, repairing, refueling, and modifying.

Criterion VIII further states:

> Measures shall be established for the identification and control of materials, parts, and components, including partially fabricated assemblies. These measures shall assure that identification of the item is maintained by heat number, part number, serial number, or other approporiate means, either on the item or on records traceable to the item, as required throughout fabrication, erection, installation, and use of the item. Thes identification and control measures shall be designed to prevent the use of incorrect or defective material, parts, and components.

TVA has implemented ANSI standards through the Topical Report to further define how we will identify material. ANSI N45.2-1971 Paragraph 9 further sates: ". . . These measures shall provide for assuring that only correct and accepted items are used and installed, and relating an item of production (batch, lot, component part) at any stage, from initial receipt through fabrication, installation, repair or modification, to an applicable drawing, specification or other pertinent technical document. . . .Identification may be either on the item or on records traceable to the item, as appropriate".

B. Construction Specification N3G-881, R4, "Identification of structures, systems and components covered by the Watts Bar Nuclear Plant Quality Assurance Program," further defines the identification and traceability requirements for the Watts Bar structures and provides the TVA position for Watts Bar on traceability of seismic Category 1 structures. This specification defines Quality Levels (QL) 1 and II, with QL-I requiring traceability to a certified material test report all the way to installation. QL-II only

requires traceability to segregated warehouse storage. TVA specifies the quality level on the appropriate drawings issued for systems, structures, and components. In essence, QL-I structural material supports systems with "primary safety functions," and QL-II material supports systems with "secondary safety functions".

C. General Construction Specification G-36, RO, "Quality Levels of Structural Materials," further defines the quality levels and classifies specific materials and is in agreement with N3G-881.

D. Construction Quality Assurance Program Policy QAPP-8, R2, requires construction to uniquely identify all safety-related items and provide traceability of items to appropriate documentation.

E. 10CFR21, Paragraph 21.21, "Reporting of defects and noncompliance," requires the purchaser of components, when notified by the NRC or vendor,to evaluate the deviation. In addition, the license holder is

required to notify the NRC of components which deviate from requirements. In the report to the NRC, TVA is required, among other things, to identify the firm" . . . supplying the basic component which fails to comply or contains a defect," and "the number and location of all such components in use at . . . " the facility.

In addition. Paragraph 21.51 states in part:

a. Each licensee of a facility or activity subject to the regulations in this part shall maintain such records in connection with the licensed facility or activity as may be required to assure compliance with the regulations in this part.

b. Each individual, corporation, partnership, or other entity subject to the regulations in this part shall prepare records in connection with the designs, manufacture, fabrication, placement, erection, installation, modification, inspection, or testing of any facility, basic component supplied for any licensed facility or to be used in any lecensed activity sufficient to assure compliance with the regulations in this part.

Without traceability of material to an installed location, whether on the material or on records traceable to the material or installation, TVA cannot fulfill its 10CFR21 legal notification requirements.

F. Review of the Watts Bar program, both OC and NUC Pr. revealed that implementation is in accordance with N3G-881 and G36. Neither program, however, provides for traceability to a degree or manner that provides absolute traceability from the manufacturer to installation and vice versa as required by 10CFR21 or 10CFR50 Appendix B.

G. TVA appears to have based its decision to not trace materials back to the AISC code for structures. While it is true that the AISC code does not require traceability, it is not a nuclear code and does not impose nuclear documentation and traceability requirements. The

10CFR50, 10CFR21, and ANSI requirements are in addition to the AISC requirements. Adoption of any code for design and/or construction does not relieve TVA of their legal commitments as defined in the FSAR.

H. Interviews with warehouse and receiving inspection personnel, and observation of warehouse storage and material issues areas revealed that identification of steel materials is maintained up to and including issue

I. Inspection in the field and powerhouse areas revealed that identification of material is not maintained to installed location fo QL-II material.

J. The TVA position on traceability after warehouse receipt and issue from the warehouse is that only good material passes the reciept inspection and is issued from the warehouse. In light of the material problems encountered after material has been receipt inspected in the past (NCRs 6069 on tubing, 1602 and 3372 on bolting material, and numerous others), the position that we only receive and issue good material cannot be supported. Unmarked steel after issue is "assumed" to be acceptable A36 steel material.

K. The "MA" storage area of concern IN-85-460-002 could not be identified to warehouse storage areas by the investigator. The only area this could be identified withis the Modifications and Additons Group in Construction (M&A). This storage area is not warehouse storage but a fabrication staging area. By the Watts Bar program, this area is exempt from maintaining traceability for QL-II material.

L. Material traceability for bolting material is the subject of NSRS Investigation Report I-85-161-WBN.

M. Traceability of instrument supports/unistrut is the subject of NSRS Investigation Report I-85-478-WBN.

IV. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Based on the 10CFR50, 10CFR21, and ANSI requirements, NSRS substantiated the five concerns in this investigation. The Watts Bar program does not provide the traceability required by these specifications and legally committed to in the Watts Bar FSAR Topical Report.

Recommendations

I-85-146-WBN-01 - Preparation of NCR

Prepare an NCR to document the failure to establish a program at Watts Bar for material traceability.

I-85-146-WBN-02 - Evaluation of Installed Material

Evaluate the material installed without traceability, and provide a method to account for and qualify material installed without traceability.

0093S

TVA 64 (OS-9-65) (OP-WP-5-85)

NRC

UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

TO: W. T. Cottle, Site Director, Watts Bar Nuclear Plant

FROM: K. W. Whitt, Director of Nuclear Safety Review Staff, E3A8 C-K

DATE: JAN 31 1986

SUBJECT: CORRECTIVE ACTION RESPONSE EVALUATION

REPORT NO. : IN-85-795-001

SUBJECT : COMPRESSION FITTINGS

CONCERN NO.: IN-85-795-002, 001

(X) ACCEPT ( ) REJECT

Please notify NSRS when the identified corrective actions have been completed.

K. W. Whitt

BFS:JTH
cc (Attachment):
R. P. Denise, LP6N40A-C
D. R. Nichols, E10A14C-K
QTC/ERT, CONST-WBN
E. K. Sliger, LP6N48A

Principally prepared by Bruce F. Siefken.

26U

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

TVA 64 (08-9-86)

UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

TO : K. W. Whitt, Director of Nuclear Safety Review Staff, E3A8 C-K

FROM : W. T. Cottle, Site Director, Watts Bar Nuclear Plant NUC PR

DATE : JAN 20 1986

SUBJECT: WATTS BAR NUCLEAR PLANT - INSTRUMENT PROJECT EVALUATION OF EMPLOYEE CONCERN RESPONSE (REPORT Q-85-795-001-02, CONCERN NUMBER IN-85-795-002)

Reference: Memorandum from K. W. Whitt to E. R. Ennis dated October 30, 1986

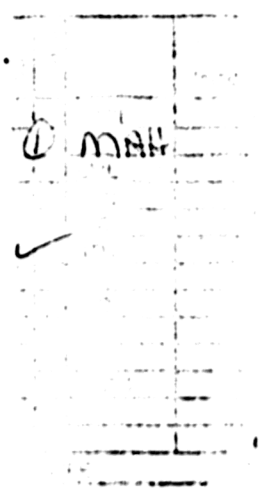
The above reference outlined the basic reasons for the rejection of IN-85-795-002. Attached is a copy of the Instrument Project's evaluation and revised action plan for this report. Please refer to the evaluation report 1240-ER, page 2 of 3 paragraph 3, for specific commitments and attachment "A" for an action plan to implement said commitments.

If you have any questions, please contact W. L. Byrd at 3774, Watts Bar Nuclear Plant NUC PR.

W. T. Cottle

WLB:PDB:NC
Attachment

This memorandum was principally prepared by P. D. Brackins.



Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

TO : Those Listed

FROM : G. W. Curtis, WBN Instrumentation Project Manager

DATE : January 8, 1986

SUBJECT: WATTS BAR NUCLEAR PLANT - INSTRUMENTATION PROJECT ACTION PLAN REVISION - ACTIVITY NO. 1240

Reference: Evaluation Report 1240, Compression Fittings (F01 851211 601)

Attached is a copy of revised action plan 1240 (Compression Fittings) for your information. We have coordinated with those responsible for action items and schedules have been obtained wherever possible.

Where your organization has been assigned an action item, you will need to verify that the identified schedule will be met or provide me with your schedule. Please provide written confirmation when your action items are complete.

If you have any questions, please contact me at WBN x-3728.

GWC:SGH
Attachment
cc: RIMS,SL26 C-K
J. Bonine, Jr., 12-108 SB-K
H. B. Bounds, WBN, NUC PR
W. R. Brown, 9-169 SB-K
W. Byrd, WBN NUC PR, CRTF
R. W. Cantrell, W12A12 C-K
W. T. Cottle, WBN, NUC PR
E. R. Ennis, WBN, NUC PR
K. Hooks, 4340 East West Highway
Bethesda, MD 20814
Mail Stop ENS 312A
M. Shymlock, WBN, NRC
J. C. Standifer, P-104 SB-K
G. Wadewitz, WBN PMO site, WBN
B. S. Willis, WBN, NUC PR

COMPRESSION FITTINGS

ACTION PLAN

ITEM	RESP. ORG.	ACTION	SCHEDULE
1240.01	NSB/RKB	Review NCR-6278 and revise as necessary. (IP - W M Stone to review).	11/29/85 (Complete)
1240.02	OC/TRB	Review responses to ERT concerns and revise as necessary. (IP - W M Stone to review).	01/22/86
1240.03A	OC/TWH	Draft and transmit final 10CFR.55(e) report. (IP - W M Stone to review).	01/10/86
1240.03B	OE/PDM	Transmit final 10CFR 50.55(e) report to NLB	01/13/86
1240.03C	NLB/RS	Transmit final 10CFR 50.55(e) report to NRC	01/15/86
1240.04	OE/EAM/ PDM	Ensure Singleton test parameters are adequate and model worst case installation.	11/22/85 (Complete)
1240.05	OE/EAM/ PDM	Conduct test program to determine if present installations are acceptable including: Tensile Test Fatigue Test Seismic Event Test	11/30/85 (Complete)
1240.06	OE/EAM/ PDM	Conduct test and evaluation of effects of tubing not de-burred.	Complete
1240.07	OC/TRB NP/HBB	Determine standard plant compression fitting and establish program to control issue of fittings. (IP - W M Stone will coordinate).	01/31/86

ITEM	RESP. ORG.	ACTION	SCHEDULE
1240.16	NP/JAT	Develop NUC PR work instructions for installation and re-make of compression fittings to be used by Maintenance and Modifications.	02/28/86
1240.17	NP/CED	Establish and implement NUC PR craft training and certification program for installation and re-make of compression fittings.	03/15/86
1240.18	NP/LJS	Establish NUC PR QA surveillance program for new installation of compression fittings.	02/14/86
1240.19	NP/RTM	Revise plant instruction IMI-150 to require visual inspection of local essential instrument panels for leaking compression fittings during plant heat-up for Units 1 and 2.	02/28/86
1240.20	NP/JLC	Perform inspection of compression fittings and drain and vent valve retaining nuts on lines for radioactive systems. (Use MR reviewed by Inst. Proj. W. M. Stone; use trained craft to perform work).	04/01/86

IN-85-795-001 & 002

F01 851211 601

Compression Fittings

Evaluation Report

Scope:

The scope of this activity includes the compression fittings used in instrument, sample, and essential air lines at Watts Bar Nuclear Plant (WBNP)

Purpose:

The purpose of this activity is to evaluate the installation and related requirements for compression fittings at WBNP. This evaluation will focus on past incorrect installations of fittings and their effect on the safe operation of WBNP (ref: OC NCR 6278 R0, and Employee Concerns No. IN-85-795-001 and 002). The goal of this evaluation is to determine the scope of the improper installations, determine corrective actions for existing installations as required, and identify actions to prevent problems with compression fittings from re-occuring.

Major Facts:

The evaluation of the installation and use of compression fittings was conducted from November 1, 1985 to November 27, 1985 by W. M. Stone (NUC PR/IM). The evaluation was performed by reviewing the NCR and employee concerns on compression fittings. A sample inspection of fitting installations performed by ERT in response to the employee concerns identified six major types of problems. A meeting was conducted by the Instrument Project on November 12, 1985 with OE, OC and NUC PR personnel to discuss the problems with compression fittings and agree on the corrective actions (see meeting notes).

Conclusion:

Compression fittings have been improperly installed on WBNP Units 1 and 2. Six types of installation defects have been identified:

1. Tube not deburred
2. Tube not bottomed out in fitting body
3. Fitting improperly tightened
4. Ferrule installed in reverse direction
5. No ferrule installed
6. Unidentified ferrule installed (found one)

The installation problems have resulted from inadequately trained construction craftsmen and inadequate or non-existant OC site procedures controlling installation practices. The use of too many different types of fittings has also contributed to the problem.

Defects one (1) through four (4) above could pass hydro or pressure testing and continue to exist in pressurized systems witnout leaking. A test program was performed at TVA's Singleton Laboratory to determine if these types of installations are significantly weaker and likely to fail during extended plant operation or a seismic event. The test program has proven that these installations are not likely to fail and are acceptable for use as is. Therefore, these installations will not be reworked except as encountered during routine maintenance work or modifications.

Defects five (5) and six (6) above would not have passed a hydro test and therefore have been corrected. These installations are only a problem on non-hydro tested lines such as drain lines and lines on Unit 1 local panels. The fittings on drain lines of potentially radioactive system will be inspected and defects corrected. A visual inspection of Unit 1 local instrument panels for essential instrumentation (including instruments on Tables A and B of 47W600-0-7 and 47W600-0-8) will be performed during the first pressurization and heat-up, and any leaking fittings will be repaired.

The actions to prevent reoccurrence are many. A detailed construction specification in G-29 will be issued specifying instructions and inspection requirements for the installation and re-make of compression fittings. OC and NUC PR will issue instructions to include the requirements of the G-29 specification. OC and NUC PR will establish training and certification programs for craftsmen installing compression fittings. Both OC and NUC PR will establish QA surveilance programs to assure that compression fittings continue to be installed in accordance with procedures. Also a standard compression fitting will be selected and used exclusively at WBN except when equipment requires another specific type of fitting.

Chronological History:

November 1, 1985 - Attended NUC PR's training class on compression fittings. Class was excellent with good teaching, handouts, and hands-on training. Learned types of fittings and installation problems.

November 2 through November 12, 1985 - Conducted personal field investigation of compression fittings problem. Spoke with ERT investigator, Roger Bird, about ERT concerns (IN-85-795-001 and 002) and investigation. Reviewed NCR 6278 RO and responses to concern. Learned that OE had already begun a testing program.

November 6, 1985 - Spoke with Beth Selewski (Pre-Op Test Section) about sample line tests TVA-28 and NCS-20. She said no unacceptable flow problems were identified which were caused by burrs in tubing. One problem was caused by a clogged valve and the Boric Acid Evaporator package has not yet been tested.

November 8, 1985 - Spoke with several instrument mechanics about compression fittings. They indicated that mostly Parker-Hannafin CPI were used in plant and that they preferred these fittings as standard fittings. Swagelok fittings are used on some Barton equipment and on the RVLIS system. They said most problems with these have been corrected already. The use of Swagelok fittings is limited.

November 12, 1985 - Had meeting with OE, QC, and NUC PR (see meeting minutes) to discuss compression fitting problems and agree on solutions.

November 15, 1985 - Visited Singleton Labs to observe testing program and progress. Paul Guthrie estimated an 11/30/85 completion date and issue of final report by 12/06/85.

November 27, 1985 - Visited Singleton Labs to observe seismic event testing and discuss progress. The testing is progressing very well with no problems or failures and should be complete by 11/30/85.

W M [illegible] 12/11/85
Preparer

B W Crouch 12/11/85
Reviewer

B W Crouch 12/11/85
Approved

Attachments (2)
cc: RIMS,SL26, C-K
H. B. Bounds, WBN NUC PR
W. R. Brown, 9-169 SB-K
E. R. Ennis, WBN , NUC PR
K. Hooks, 4340 East West Highway
Bethesda, MD 20814
Mail Stop EN3 312A
M. Shymlock, WBN NRC
G. Wadewitz, WBN PMO site, WBN
J. C. Standifer, P-104 SB-K

Compression Fittings Meeting

November 12, 1985

1.0 PURPOSE

A meeting was held on November 12, 1985 to discuss the concerns regarding the installation of compression fittings at Watts Bar Nuclear Plant. A list of those in attendance is attached and the following items were discussed and agreed upon:

2.0 DISCUSSION

The ERT identified concerns and investigations of compression fittings were discussed. The ERT investigator inspected 107 fittings and identified 60 discrepancies in six major categories. The only fittings inspected were on lines that would not or had not been hydro tested such as drain lines on Unit 1 and incomplete lines on Unit 2 systems 30, 43, and 68. The problems discovered during the investigation were not identified or corrected by WBN personnel assisting in the investigation. NCR 6278 was written to document the problems with compression fittings.

The Office of Engineering (OE) has established a test program in cooperation with TVA's Singleton Laboratory to address NCR 6278 and the ERT concerns. The test program addresses Parker-Hannafin CPI (PH) fittings with the tube not bottomed out in the fitting body and Imperial-Eastman Hy-seal (IE) fittings not properly tightened. The purpose of the test is to determine if the incorrect installations which had passed the hydro test would fail at a later date due to vibration and/or a seismic event.

The test program consist of two parts: a tensile test and a fatigue test. The outline of the test program (Attachment to memo from Coan to Wadewitz dated October 8, 1985 - B45851008256) was discussed and questions concerning the test specifications were clarified. J. Haueter pointed out that the span lengths were typical lengths required by seismic supports (ref: 47A051-38). Mr. Haueter also stated that the stress level for the fatigue testing was 10 ksi, resulting in a stress in the fitting of about 20 to 25 ksi. The fatigue test will run for 2.5 million cycles. OE will describe the test parameters in detail in the test report. OE agreed to look at the test set-up and verify it represents worst case situation and to test fittings for seismic event after fatigue testing.

Questions of other fitting installation problems were discussed and OE agreed to add to the test program: PH fittings tightened just past leakage and IE fittings with ferrule reversed. We decided that Swagelok fittings would not need to be tested because their use in the plant is limited to vendor supplied equipment such as Incore Detectors and Reactor Vessel Level Instrumentation. These installations have been reworked to correct problems.

Problem of tubing not deburred was discussed, and OE agreed to disposition this item. Testing will be performed to show how flow is affected by tube burrs. Pre-op testing has proven that sufficient flows were obtained in sample and air lines (See results of Unit 1 Preop tests TVA-28 and NCS-20). Instrument sense lines are static lines and tube burrs don't affect them.

OE agreed to revise G-29 to include correct installation instructions and ASME code inspection requirements.

Problems with compression fittings on lines that have not been hydro tested on Unit 1 and Unit 2 local panels and drain lines were discussed. NUC PR and OC agreed to inspect these installations. Compression fittings on drain lines for potentially radioactive systems (Units 1 and 2) will be inspected and defects found will be corrected. Compression fittings on Unit 1 local panels, where fittings were not subjected to hydro testing and instruments are essential for operation and Tech Spec compliance, will be visually inspected for leaks during the first Unit 1 heat-up. This will be controlled by a one-time change to plant instruction IMI-150. Unit 2 panels need not be inspected because the hydro boundary was expanded to include all instrument lines to the instrument rather than to the panel isolation valve as had been the case for Unit 1.

3.0 CONCLUSION

Compression fittings have been improperly installed and six types of defects have been identified:

1. Tube not de-burred
2. Tube not bottomed out
3. Fitting improperly tightened
4. Ferrule installed in reverse direction
5. No ferrule installed
6. Unidentified ferrule installed

The installation problems have occured because craft personnel were not trained on installtion requirements for compression fittings and too many different types of fittings were used at Watts Bar Nuclear Plant. Also, adequate procedures controlling installation of compression fittings did not exist.

A test program is under way at TVA's Singleton Labs to determine if the presently installed compression fittings with hydro-tested pressure boundaries are of acceptable quality for use as is. An inspection of non-hydro tested fittings on Unit 1 and 2 drain lines and Unit 1 local panels will be performed to identify and correct any defects.

Actions to prevent further problems with the installation of compression fittings include the issue of an OE specification (G-29) detailing installation, re-make, and inspection requirement. NUC PR and OC will issue procedures to implement this specification and will establish craft training and certification programs. NUC PR and OC will also establish QA surveilance programs to assure that compression fittings continue to be installed correctly. A standard site compression fitting will be selected and used except where equipment requires different fittings.

WM Stem
Preparer

Attachment (1)
cc: Attendees

Compression Fittings Meeting

November 12, 1985

Attendance

Name	Organization	Telephone
Ed Burke	OC/ACE & AQM	W-8530
John M. Campbell	OC/IEU-A	W-3468
Jim Cruise	OC/NSB	W-3467
Gary W. Curtis	WBN-PMO	W-3218
Paul Guthrie	OE/CSME	K-2771
Jim Haueter	OE/CSME	K-7906
Shawn W. Hughes	OC/IEU-A	W-3468
Ed Lee	NUC PR/IM	W-8597
William Stone	NUC PR/IM	W-3687
Charles D. Wagner	OC/IEU-A	W-3717

TVA 64 (OS-9-65) (OP-WP-5-85)

NRC

UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

TO: W. T. Cottle, Site Director, Watts Bar Nuclear Plant

FROM: K. W. Whitt, Director of Nuclear Safety Review Staff, E3A8 C-K

DATE: FEB 03 1986

SUBJECT: NUCLEAR SAFETY REVIEW STAFF INVESTIGATION REPORT TRANSMITTAL

Transmitted herein is NSRS Report No. I-85-541-WBN

Subject HANDLING OF PAPERWORK, RECORDS AND DRAWINGS

Concern No. IN-85-366-003

and associated recommendations for your action/disposition.

It is requested that you respond to this report and the attached recommendations by February 28, 1986. Should you have any questions, please contact J. J. Knightly at telephone 3754-WBN.

Recommend Reportability Determination: Yes ____ No X

Director, NSRS/Designee

JJK:GDM
Attachment
cc (Attachment):
H. L. Abercrombie, SQN
W. Bibb, BFN
James P. Darling, BLN
R. P. Denise, LP6N40A-C
D. R. Nichols, E10A14 C-K
QTC/ERT, Watts Bar Nuclear Plant
E. K. Sliger, LP6N48A-C

--Copy and Return--

To : K. W. Whitt, Director of Nuclear Safety Review Staff, E3A8 C-K

From: _____

Date: _____

I hereby acknowledge receipt of NSRS Report No. I-85-541-WBN
Subject HANDLING PAPERWORK, RECORDS, AND DRAWINGS for action/disposition.

_____ _____
Signature Date

TENNESSEE VALLEY AUTHORITY

NUCLEAR SAFETY REVIEW STAFF

NSRS INVESTIGATION REPORT NO. I-85-541-WBN

EMPLOYEE CONCERN IN-85-366-003

MILESTONE 6

SUBJECT: HANDLING OF PAPERWORK. RECORDS. AND DRAWINGS

DATES OF INVESTIGATION: January 22-28. 1986

LEAD INVESTIGATOR: John Knightly
J. J. Knightly — Date: 1-30-86

INVESTIGATOR: A. M. Gentry
A. M. Gentry — Date: 1-30-86

REVIEWED BY: Frederick J. Seagle
for J. D. Smith — Date: 1/30/86

APPROVED BY: W. D. Stevens
M. A. Harrison — Date:

I. BACKGROUND

The Nuclear Safety Review Staff (NSRS) investigated Employee Concern IN-85-366-003 which Quality Technology Company (QTC) had identified during the Watts Bar Employee Concern Program. The concern was worded:

> Handling of paperwork, records and drawings is unsatisfactory. Time should be taken to study the problem and speed up the process of handling paperwork. Management does not listen to the engineer's recommendations of the above subject. CI has no additional information. Construction Dept concern.

II. SCOPE

NSRS reviewed applicable requirements, reports of audits, and previous investigations concerning the handling of paperwork, records, and drawings. Additionally, personnel responsible for documentation management were contacted to discuss the employee's concern.

III. SUMMARY OF FINDINGS

A. Applicable Requirements

1. 10CFR50 Appendix B Criterion VI - "Measures shall be established to control the issuance of documents, such as instructions, procedures, and drawings, including changes thereto, which prescribe all activities affecting quality. . . ."

2. 10CFR50 Appendix B Criterion XVII - "Sufficient records shall be maintained to furnish evidence of activities affecting quality. . . . Records shall be identifiable and retrievable. . . ."

B. Findings

Numerous instances of paperwork management problems have been documented. Examples of these problems in several key areas and the status of corrective actions are described below.

1. Drawing Control

Corrective Action Report WB-CAR-84-41 dated August 30, 1984 reported the failure of Drawing Control Center to have the most current revision levels of all as-constructed drawings in accordance with the requirements of AI-4.3. Root cause was identified as failure of CONST to provide the latest as-constructed revision. The CAR was closed October 1984 following provisions for CONST corrective actions and NUC PR verification.

Audit Deviation Report WB-A-85-07-D02 reported that document control sampling-program requirements were not always implemented on schedule and that some work stations had not been checked to confirm the revision accuracy of issued drawings.

Following corrective action, this deviation was closed July 26, 1985. A subsequent review of the 1985 Document Control Sample Results Logs reported in NSRS Investigation Report No. I-85-458-WBN found that of 3,974 drawing revisions sampled at work stations, 3,958 (99.6 percent) were accurate. Additional discussions with quality assurance personnel indicated considerable confidence in the present drawing controls.

2. Configuration Management

TVA Operations and Construction Quality Assurance Branches Joint Audit Report JA-8300-01, dated April 4-14, 1983 reported: "Existing equipment transfer/configuration control process at WBN and BLN is adequate, but considerable programmatic improvements are needed to clarify the program and make it more effective." Examples at WBN of numerous configuration problems are documented in NCR W-205-P (11/10/84) which resulted from NUC PR-CONST-EN DES task team walkdowns of the residual heat removal, containment spray, component cooling, safety injection, and emergency diesel generator systems. The configuration discrepancies identified in NCR W-205-P have been evaluated as corrected, and the NCR was closed April 1985. In response to EN DES and NUC PR Joint Audit Report JA 8100-6 concerning configuration deficiencies at the Browns Ferry Nuclear Plant, the P&E Configuration Control Task Force (CCTF) was formed in June 1983 and was promptly expanded to assess problems and propose solutions at all TVA nuclear sites. WBN representation is included in this effort.

3. Records Management

ERT Investigation Report for Employee Concern IN-85-091-001 dated September 16, 1985 summarized 38 instances of missing data elements (37 dates and 1 signature) in DCU cable splice documents prepared in 1977. Review and corrective action are pending. WBN Construction Quality Assurance Audit WB-G-82-20, "Quality Records," dated October 1982 identified blank spaces on cable and instrumentation records. This deficiency was closed March 1983 after records review and correction.

The legibility of documentation was investigated and reported in NSRS Investigation Report No. I-85-549-WBN for Employee Concern IN-85-278-002 dated December 1985. Although instances of illegible CONST vault records were identified, illegibility was not found to be a widespread current problem. Additionally, microfilmed records transferred to date from CONST to NUC PR were found to have a high level of legibility.

CONST Quality Assurance Audit WB-G-82-20 dated October 1982 identified instrumentation test cards which were statused as complete and in the vault but which could not be located. This deficiency was closed September 1983 after location of the missing records. ERT Investigation Report for Employee Concern IN-85-091-001 dated September 1985 determined that "quality assurance documentation relative to electrical construction units was lost or misplaced and regenerated by the cognizant personnel per the project site procedures."

The results of several NSRS and QTC investigations and previous audit findings concerning records review effectiveness were summarized in NSRS Investigation Report No. I-85-550-WBN. This report concluded that Construction review of incoming records since September 1983 appeared to have been generally thorough, whereas numerous instances of illegible, incomplete, or misplaced records had been documented prior to that time. Based on spot checks of current records checklists, records transmittal logs, and several categories of vault documentation, it was reported that problem records were being successfully identified during the records review process with subsequent correction by the submitting organizations.

IV. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The employee's concern was substantiated by numerous instances of paperwork problems, particularly for documentation prior to 1983. The concern was mitigated by the fact that corrective actions for recent and current documentation have resulted in improvements in key areas of document control and records management. Additionally, efforts such as the Power and Engineering Configuration Control Task Force with WBN representation are underway to evaluate and correct several major paperwork management problems.

Recommendations

None.

TVA 9A (OS-9-65) (OP-WP-5-85)

NRC

UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

TO: S. Schum, QTC/ERT Program Manager, Watts Bar Nuclear Plant

FROM: K. W. Whitt, Director of Nuclear Safety Review Staff, E3A8 C-K

DATE: FEB 03 1986

SUBJECT: TRANSMITTAL OF ACCEPTED FINAL REPORTS

The following final report has been reviewed and accepted by NSRS and is transmitted to you for preparation of employee response.

I-85-449-WBN (IN-85-693-003)

K. W. Whitt

Please acknowledge receipt by signing below, copying and returning this form to J. T. Huffstetler, E3B37 C-K.

NAME _____ DATE _____

Attachments
cc (Attachments):
H. L. Abercrombie, SQN
W. C. Bibb, BFN
W. T. Cottle, WBN
James P. Darling, BLN
R. P. Denise, LP6N40A-C
D. R. Nichols, E10A14C-K
Eric Sliger, LP6N48A-C

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