TENNESSEE VALLEY AUTHORITY
KNOXVILLE, TENNESSEE 37902
400 West Summit Hill Drive, E3A8

January 2, 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 December 27, 1985 through January 2, 1986. TVA has previously submitted copies of the requested information through December 26, 1985. We are also enclosing computer summaries of the information which we have transmitted to date.

If you have questions concerning the material transmitted, please contact M. A. Harrison or B. F. Siefken at FTS No. 856-6328 or 856-6230, respectively.

Sincerely,

K. W. Whitt
Director, Nuclear Safety
Review Staff

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

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ADD:
EB (LIAW)
PSB (L. HULMAN)
EICSB (SRINIVASAN)
RSB (ACTING)
FOB (VASSALLO)
AD - G. LAINAS (Ltr only)
AD - J. KNIGHT (ltr only)
EB (BALLARD)
EICSB (ROSA)
PSB (GAMMILL)
RSB (BERLINGER)
FOB (BENAROYA)

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TENNESSEE VALLEY AUTHORITY
WATTS BAR NUCLEAR PLANT
EMPLOYEE CONCERN PROGRAM
NUCLEAR REGULATORY COMMISSION LISTING

QTC NUMBER	SUBJECT	INVEST ORG	DATE REPORT	SUB?	DATE RESPONSE	ACC?	DATE INVEST CLOSED	KEY WORD	#
** MILESTONE: 1 FUEL LOAD									
EX-85-003-003	UNAUTH CHNG TO WDREC	ERT	07/09/85	.T.	07/24/85	T	07/24/85	WELDING	1
EX-85-049-001	NO SECURITY BARRIER	NSRS	10/17/85	.T.	11/26/85	T	12/10/85	SECURITY	1
IN-85-001-003	WELDS UNDER WATER	ERT	07/10/85	.T.	09/23/85	T	09/23/85	WELDING	1
IN-85-010-002	VIOLATION OF 050 NTS	NSRS	11/22/85	.T.	/ /		/ /	HANGERS	1
IN-85-012-X02	TENSILE STRNG OF FIT	NSRS	08/05/85	.T.	/ /		08/05/85	MATERIAL	1
IN-85-018-004	SUPV NOT FOLLOW PROC	NSRS	11/14/85	.T.	/ /		11/20/85	ELECTRICAL	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.	/ /		/ /	HANGERS	1
IN-85-031-001	ENBD PLTS NOT CORREC	ERT	08/20/85	.T.	11/18/85		/ /	DESIGN	1
IN-85-037-001	CONCRETE ANCHORS	ERT	07/09/85	.T.	09/11/85	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.	07/30/85	F	/ /	HANGERS	1
IN-85-088-001	VACUM TEST ON DOORS	ERT	07/09/85	.F.	/ /		07/09/85	TESTING	1
IN-85-091-X02	NO NCR FOR LOST DOCU	ERT	08/26/85	.T.	/ /		10/03/85	DOCUMENT	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-85-160-001	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-85-202-001	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.	/ /		/ /	ELECTRICAL	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-85-293-001	NCR 4412	NSRS	12/18/85	.F.	/ /		12/18/85	DESIGN	1
IN-85-311-008	CR ENTRANCE FIREDOOR	ERT	08/19/85	.T.	09/24/85	T	10/10/85	OPERATIONS	1
IN-85-325-006	VALV CONT/OPER TRAN	NSRS	10/01/85	.F.	/ /		10/04/85	OPERATIONS	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-85-413-001	"050"NOTES	NSRS	08/09/85	.T.	/ /		08/09/85	HANGERS	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-85-439-003	INADEQ CRAFT SUPV	NSRS	10/30/85	.F.	/ /		10/30/85	CONSTRUCTI	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.	/ /		/ /	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-85-457-001	INADQ REVIEW BY PORC	NSRS	10/17/85	.T.	/ /		/ /	OPERATIONS	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 SRCW LINS	NSRS	10/03/85	.F.	/ /		/ /	QA	1
IN-85-527-001	CABLE PULL W/O FUSE	NSRS	11/27/85	.T.	/ /		11/29/85	ELECTRICAL	1
IN-85-534-005	FIRE PROTEC HYDRO TE	NSRS	10/02/85	.F.	/ /		/ /	TESTING	1
IN-85-544-001	WORK W/O WORKPLAN	ERT	10/22/85	.F.	/ /		/ /	QA	1

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QTC NUMBER	SUBJECT	INVEST ORG	DATE REPORT	SUB?	DATE RESPONSE	ACC?	DATE INVEST CLOSED	KEY WORD	#
IN-85-544-002	VIOLATION OF PROCEDU	ERT	10/23/85	.T.	12/16/85	T	12/23/85	QA	1
IN-85-581-002	WLDRS NOT QUAL ELEC	NSRS	10/17/85	.T.	/ /		10/17/85	CONSTRUCTI	1
IN-85-612-X07	WELDER CERTIF FALSIF	ERT/OGC	10/24/85	.T.	/ /		/ /	WELDING	1
IN-85-671-002	NOT ISSUING IRN/WRN	NSRS	12/03/85	.T.	/ /		/ /	CIVIL	1
IN-85-676-001	DISAGREE W/TVA POLIC	NSRS	10/31/85	.T.	/ /		/ /	QA	1
IN-85-682-005	MGT ALLOW INSP HARAS	NSRS	11/27/85	.F.	/ /		/ /	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-85-688-004	PREVENT OF CORRECTIV	NSRS	12/09/85	.T.	/ /		/ /	QA	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-X07	WELDER CERT CARD FAL	ERT/OGC	10/24/85	.T.	/ /		/ /	WELDING	1
IN-85-795-001	COMPRESS FITTING	ERT	08/07/85	.T.	10/07/85	F	/ /	INSTRUMENT	1
IN-85-795-002	COMPRESS FITTING	ERT	08/07/85	.T.	10/07/85	F	/ /	INSTRUMENT	1
IN-85-845-001	SYS43 UNIS NOT ACHD	NSRS	12/04/85	.F.	/ /		/ /	CIVIL	1
IN-85-847-006	CRFT SUP ALW UNAP PL	NSRS	10/29/85	.T.	/ /		/ /	QA	1
IN-85-850-002	QUANTITY VS. QUALITY	NSRS	11/07/85	.F.	/ /		11/12/85	QA	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.	/ /		/ /	QA	1
IN-85-897-001	INEXP CRAFTSMEN	NSRS	11/07/85	.T.	/ /		11/12/85	CRAFT	1
IN-85-913-004	CONSTRUCT VIOLATIONS	NSRS	11/26/85	.F.	/ /		/ /	QA	1
IN-85-915-003	DRAWING CONTROL	NSRS	10/22/85	.T.	/ /		/ /	DOCUMENT	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.	/ /		/ /	QA	1
IN-85-977-002	DOCUMENT OF TCS/SIS	NSRS	10/03/85	.T.	/ /		/ /	DOCUMENT	1
IN-86-055-003	HYDRAZINE SPILL	NSRS	10/17/85	.T.	/ /		/ /	OPERATIONS	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-86-087-003	DELAY IN CARS/DRS	NSRS	12/09/85	.T.	/ /		/ /	QA	1
IN-86-087-004	DIFFERENCE IN Q-LIST	NSRS	10/04/85	.T.	/ /		/ /	QA	1
IN-86-090-001	DIFFERENCE IN Q-LIST	NSRS	10/04/85	.T.	/ /		/ /	QA	1
IN-86-090-002	DELAY IN CARS/DRS	NSRS	12/09/85	.T.	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.	/ /		/ /	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.	/ /		/ /	ELECTRICAL	1
IN-86-103-002	REMOVAL OF INSULATIO	NSRS	11/13/85	.F.	/ /		11/15/85	CONSTRUCTI	1
IN-86-112-001	USE OF TOOLS NOT DOC	NSRS	12/12/85	.T.	/ /		/ /	OPERATIONS	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-86-155-004	WELDS MAY NOT INSPEC	NSRS	10/22/85	.F.	/ /		10/22/85	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

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QTC NUMBER	SUBJECT	INVEST ORG	DATE REPORT	SUB?	DATE RESPONSE	ACC?	DATE INVEST CLOSED	KEY WORD	#
IN-86-210-001	HEAT EXCH TUBES INAD	ERT	11/05/85	.T.	/ /		/ /	DESIGN	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-86-259-004	INADEQ CABLE PULL	NSRS	10/31/85	.T.	/ /		11/04/85	ELECTRICAL	1
IN-86-316-002	INCOMPLETE WORK PKG	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	08/13/85	.T.	09/27/85	F	/ /	WELDING	1
NS-85-004-001	INADEQ ORIFICE PLATE	NSRS	12/17/85	.T.	/ /		/ /	DESIGN	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-85-014-002	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
PH-85-022-001	ORIFICE PLATES ERROR	NSRS	12/17/85	.T.	/ /		/ /	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-85-055-001	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
** Subtotal **									124
** MILESTONE: 2 CRITICALITY									
IN-85-016-003	TUBING NOT CLAMPED	NSRS	09/03/85	.T.	/ /		/ /	HANGERS	1
IN-85-025-001	INCORE THERMO TEST	NSRS	07/03/85	.F.	/ /		/ /	TESTING	1
IN-85-064-002	SHUTDN BDS TOP OPEN	NSRS	06/28/85	.T.	07/22/85	T	07/22/85	ELECTRICAL	1
IN-85-069-001	INADEQUATE INSPECTS	ERT	07/10/85	.T.	10/10/85	F	/ /	HANGERS	1
IN-85-106-001	MN STM LOADS SUPPORT	ERT	07/11/85	.F.	/ /		07/11/85	DESIGN	1
IN-85-109-002	BOLTS REPLAC BY WELD	NSRS	11/07/85	.T.	/ /		/ /	WELDING	1
IN-85-186-002	INSL ON CONDT & CABL	ERT	07/10/85	.F.	09/24/85	T	10/10/85	ELECTRICAL	1
IN-85-216-001	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-85-246-001	INSUFFNT MOVEMT/NVR	NSRS	08/09/85	.F.	/ /		08/09/85	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-85-415-002	CONCRETE ERCW LINES	NSRS	07/11/85	.F.	/ /		07/11/85	MECHANICAL	1
IN-85-439-006	SUBSTD WEAK CONCRETE	NSRS	11/07/85	.F.	/ /		/ /	CIVIL	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.	/ /		/ /	WELDING	1
IN-85-485-X01	SOFT CONCRETE	NSRS	11/07/85	.F.	/ /		/ /	CIVIL	1
IN-85-534-001	FIRE PROTECT SYSTEM	NSRS	10/08/85	.F.	/ /		/ /	DESIGN	1
IN-85-601-001	INADEQ SURVL INSTRUC	NSRS	10/09/85	.T.	/ /		10/09/85	QA	1

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IN-85-616-001	RO NOT AVAILABLE	NSRS	08/30/85	.T.	10/16/85	T	10/16/85	OPERATIONS	1
IN-85-802-001	TARGET ROCK VALVES	NSRS	10/25/85	.T.	12/20/85	T	12/27/85	DESIGN	1
IN-85-845-002	SYS43 HANGER DESIGN	NSRS	11/20/85	.T.	/ /		/ /	HANGERS	1
IN-86-064-001	INAPT AIR FLOW SWITC	NSRS	12/18/85	.T.	/ /		12/18/85	EQUIPMENT	1
IN-86-122-001	CRACKS IN WF 33 BEAM	NSRS	10/10/85	.T.	/ /		10/16/85	MATERIAL	1
IN-86-259-003	PVC CONDUITS BROKEN	NSRS	12/03/85	.F.	/ /		12/06/85	ELECTRICAL	1
XX-85-020-001	SQN/ECNS APPLICABILI	NSRS	11/19/85	.F.	/ /		11/19/85	OPERATIONS	1
** Subtotal **									26
** MILESTONE: 3 5% POWE.									
IN-85-001-002	WELD ROD CONTROL	ERT	07/10/85	.F.	/ /		07/06/85	WELDING	1
IN-85-016-001	BROKN CONCRE AT PLAT	NSRS/ERT	08/05/85	.F.	/ /		08/04/85	CIVIL	1
IN-85-021-003	BACKDATE CERTF CARDS	ERT	08/19/85	.T.	/ /		/ /	WELDING	1
IN-85-027-002	COMPUTER ANALYSIS	ERT	08/01/85	.T.	11/20/85	F	/ /	DESIGN	1
IN-85-052-008	PROCED FOR WELD RODS	ERT	07/10/85	.T.	12/16/85	T	/ /	WELDING	1
IN-85-064-001	SPRAY ON SHUTDN BDS	NSRS	06/28/85	.T.	/ /		06/28/85	ELECTRICAL	1
IN-85-086-001	STM GEN MATERIALS	ERT	07/10/85	.F.	/ /		07/10/85	MATERIAL	1
IN-85-108-001	SYS 68 PIPING	ERT	07/12/85	.F.	/ /		07/12/85	MATERIAL	1
IN-85-113-003	WELDER CERTIFICATION	ERT	07/10/85	.T.	11/12/85	T	11/20/85	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.	/ /		/ /	CONSTRUCTI	1
IN-85-186-004	BOARDS IN ELEC PANEL	ERT	07/05/85	.F.	09/23/85	T	09/23/85	ELECTRICAL	1
IN-85-211-001	ERCW LINE LEAK	NSRS	06/27/85	.F.	/ /		06/27/85	MECHANICAL	1
IN-85-221-001	IMPROPER VALVE OPER	ERT	07/05/85	.T.	09/23/85	T	09/23/85	OPERATIONS	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-85-388-006	HEAT CODE TRACEABILI	NSRS	07/03/85	.T.	07/26/85	T	07/26/85	MATERIAL	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-85-453-007	INADEQ CERTF OF WELD	ERT	08/19/85	.T.	/ /		/ /	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-85-493-004	INADEQ WELD CERTIFIC	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-501-001	UNUSED WLD RDS DISPO	ERT	09/03/85	.T.	/ /		/ /	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-85-534-002	FIRE PROT LINES	NSRS	10/22/85	.F.	/ /		10/22/85	DESIGN	1
IN-85-540-001	INADE WELD CERTIFICA	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-543-002	INADEQ WELD CERTIFIC	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-554-001	INCOMP STAIN STEL LN	NSRS	09/03/85	.F.	/ /		09/03/85	CONSTRUCTI	1
IN-85-579-001	INCOMPLETE WELD	ERT	12/03/85	.T.	/ /		/ /	WELDING	1
IN-85-612-006	INADEQ WELD CERTIFIC	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-671-004	WELDS NOT PROP INSPE	NSRS	10/22/85	.T.	/ /		10/22/85	WELDING	1
IN-85-705-001	UNQUALIFIED PERSONNE	ERT	09/28/85	.T.	/ /		/ /	CONSTRUCTI	1

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IN-85-725-X14	INADQ RECERT PROG	ERT	11/05/85	.F.	/ /		/ /	WELDING	1
IN-85-725-X15	TEST PLATES INADQ	ERT	11/05/85	.F.	/ /		/ /	WELDING	1
IN-85-778-001	WELDER CERTIFICATION	ERT	09/26/85	.T.	/ /		10/15/85	WELDING	1
IN-85-824-002	UNAPPROV BEND PROCED	ERT	08/23/85	.T.	10/18/85	T	10/30/85	QA	1
IN-85-845-004	IMPROPER WELDING	NSRS	10/10/85	.F.	/ /		10/16/85	WELDING	1
IN-85-850-004	WORK W/O OFFC APPROV	NSRS	12/19/85	.T.	/ /		12/24/85	QA	1
IN-86-055-002	LEAKING PIPE	NSRS	11/22/85	.F.	/ /		11/27/85	MAINTENANC	1
IN-86-083-003	PRODUCTION VS QUALIT	NSRS	12/05/85	.F.	/ /		/ /	TESTING	1
IN-86-119-001	INADEQUATE CONDUITS	NSRS	10/09/85	.T.	/ /		/ /	ELECTRICAL	1
IN-86-169-001	CONDUIT HEAT DAMAGED	NSRS	11/26/85	.T.	/ /		/ /	ELECTRICAL	1
IN-86-173-001	DESIGN CALCULATIONS	NSRS	10/28/85	.T.	/ /		/ /	DESIGN	1
IN-86-205-001	ERCW UNSUITABLE	NSRS	12/03/85	.F.	/ /		12/11/85	MECHANICAL	1
IN-86-259-006	INADQ SEPAR OF CABLE	NSRS	11/01/85	.T.	/ /		/ /	ELECTRICAL	1
IN-86-262-003	EXCEED MAX PULL TENS	NSRS	10/31/85	.T.	/ /		11/04/85	ELECTRICAL	1
IN-86-268-003	IMPROPER INSTAL CABL	NSRS	11/01/85	.T.	/ /		/ /	ELECTRICAL	1
IN-86-291-007	SECURITY CLEAR PERS	NSRS	12/03/85	.T.	/ /		/ /	OPERATIONS	1
PH-85-001-002	INST LNS SLOPE PROB	ERT	07/06/85	.T.	09/20/85	T	09/23/85	INSTRUMENT	1
WI-85-053-003	IMPORP WELDING DOCUM	NSRS	11/14/85	.T.	/ /		/ /	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-85-054-003	DRAINS PLUGGED UP	NSRS	11/22/85	.F.	/ /		11/27/85	MECHANICAL	1
** Subtotal **									55
** MILESTONE: 5 100% POWER									
IN-85-010-004	FIRE PROT PIPNG DSN	ERT	09/16/85	.F.	/ /		09/24/85	DESIGN	1
IN-85-021-002	SYS77 DRAINS IN FLR	ERT	08/23/85	.T.	/ /		08/30/85	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-85-289-002	DEFECT PIPING	NSRS	12/19/85	.T.	/ /		/ /	DESIGN	1
IN-85-407-001	INACCURATE Q-LIST	NSRS	10/04/85	.T.	/ /		/ /	DESIGN	1
IN-85-688-003	VALIDITY OF CRIT SYS	NSRS	10/04/85	.T.	/ /		/ /	DESIGN	1
IN-85-945-001	ELEC MANHOLES DISORG	NSRS	10/22/85	.T	/ /		/ /	ELECTRICAL	1
IN-85-998-002	IRN PROG NEEDS IMPRO	NSRS	12/03/85	.T.	/ /		/ /	QA	1
IN-86-087-002	EFFECT OF QA DEPT	NSRS	11/19/85	.F.	/ /		11/21/85	QA	1
** Subtotal **									9
** MILESTONE: 6 01/01/86									
EX-85-012-001	UNQUALIFIED PERSONNE	ERT	09/28/85	.T.	/ /		/ /	CONSTRUCTI	1
IN-85-078-001	UO/SAFTY RELATE SYST	NSRS	10/14/85	.F.	/ /		10/16/85	OPERATIONS	1
IN-85-196-003	VALVE OPER INADEQ	ERT	08/24/85	.T.	11/25/85	T	12/10/85	OPERATIONS	1
IN-85-272-004	FIREPROOFING CABLES	NSRS	12/10/85	.T.	/ /		12/12/85	DESIGN	1
IN-85-352-002	NO PORT WELD OVENS	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
IN-85-424-001	NO PORT OVENS	ERT	11/27/85	.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-85-496-002	LINER OF ERCW PIPING	NSRS	10/03/85	.F.	/ /		/ /	MECHANICAL	1

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IN-85-618-004	DAMAGED INST TUBING	NSRS	08/12/85	.T.	12/20/85	T	12/27/85	CONSTRUCTI	1
IN-85-825-002	CLAIRTY IN PROCEDURE	NSRS	10/22/85	.F.	/ /		10/22/85	OPERATIONS	1
IN-85-913-001	ELECT JUNCTION BOXES	NSRS	11/26/85	.F.	/ /		/ /	ELECTRICAL	1
IN-85-913-002	ELECT JUNCTION BOXES	NSRS	11/26/85	.F.	/ /		/ /	ELECTRICAL	1
** Subtotal **									13
** MILESTONE: 6 09/02/85									
IN-85-020-001	IMPROP INSTAL REDHDS	NSRS/ERT	08/15/85	.T.	/ /		/ /	CIVIL	1
** Subtotal **									1
** MILESTONE: 6 1ST REFUEL									
IN-85-211-002	ERCW LINE NOT STAINL	NSRS	10/03/85	.F.	/ /		/ /	MECHANICAL	1
IN-85-234-001	REQUIRE FOR WELD ROD	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
** Subtotal **									2
** MILESTONE: 6 I85-166WBN									
IN-86-145-002	CONCRETE LINING APAR	NSRS	10/03/85	.F.	/ /		/ /	MECHANICAL	1
** Subtotal **									1
** MILESTONE: 6 IN85-052008									
EX-85-021-001	INADEQUAT ACCOUNTABI	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
** Subtotal **									1
** MILESTONE: 6 IN85-113003									
EX-85-021-002	VERIFI PROCESS/WELD	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-426-002	INADEQ WELD CERTIFIC	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-815-001	CERTIFICATI OF WELDR	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
IN-85-835-002	WELDING CERTIFICATIO	ERT	09/26/85	.T.	/ /		10/03/85	WELDING	1
** Subtotal **									4
** MILESTONE: 6 IN85-140001									
IN-86-208-001	SI REQ TO MUCH TIME	NSRS	12/17/85	.T.	/ /		/ /	OPERATIONS	1
** Subtotal **									1
** MILESTONE: 6 IN85-150001									
IN-86-167-001	NO TRACEABIL OF RODS	ERT	11/27/35	.T.	/ /		/ /	WELDING	1

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** Subtotal **									1
** MILESTONE: 6 IN85-352002									
IN-85-441-003	NO PORT WELD OVENS	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
** Subtotal **									1
** MILESTONE: 6 IN85-406001									
IN-85-445-002	UNAUT ACCS TO WLD SY	ERT	08/27/85	.T.	/ /		08/27/85	WELDING	1
IN-85-458-007	CHNG OF WELD STATUS	ERT	08/27/85	.T.	/ /		08/27/85	WELDING	1
** Subtotal **									2
** MILESTONE: 6 IN85-415002									
IN-85-196-004	INPROP INSTAL PIPING	NSRS	10/11/85	.F.	/ /		10/16/85	MATERIAL	1
IN-85-442-X12	LINING LOSS IN PIPE	NSRS	10/03/85	.F.	/ /		/ /	MECHANICAL	1
IN-85-589-001	LINER ON ERCW LINE	NSRS	10/03/85	.F.	/ /		/ /	MECHANICAL	1
IN-85-713-004	CONCRETE LIN IN PIPE	NSRS	10/03/85	.F.	/ /		/ /	MECHANICAL	1
IN-85-846-002	GOUT LINER/SAFTY HAZ	NSRS	10/03/85	.F.	/ /		/ /	MECHANICAL	1
** Subtotal **									5
** MILESTONE: 6 IN86-316006									
IN-86-316-003	WORK PKG VS MANUAL	NSRS	12/18/85	.T.	/ /		/ /	OPERATIONS	1
** Subtotal **									1
** MILESTONE: 6 NO DATE									
EX-85-039-003	DESIGN DEFICIENCY	NSRS	11/07/85	.T.	/ /		/ /	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
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-85-103-001	IEB 79-02	NSRS	08/09/85	.T.	/ /		08/09/85	DESIGN	1
IN-85-198-001	UNCOVERED CABLE TRAY	NSRS	12/04/85	.T.	/ /		12/09/85	CONSTRUCTI	1
IN-85-220-003	EXCESS NOS OF HGRS	NSRS	12/18/85	.F.	/ /		12/24/85	CIVIL	1
IN-85-278-003	INADQ QA RECORDS	NSRS	12/18/85	.F.	/ /		12/24/85	DOCUMENT	1
IN-85-279-005	NO TRACKING SYSTEM	NSRS	11/13/85	.T.	/ /		11/15/85	DESIGN	1
IN-85-282-002	PIPING WELDS	ERT	12/19/85	.T.	/ /		/ /	WELDING	1
IN-85-289-006	VERMASCO APPL PREMAT	NSRS	11/27/85	.T.	/ /		11/29/85	ELECTRICAL	1
IN-85-337-001	ERCW LN W/CEMENT LIN	NSRS	10/03/85	.F.	/ /		/ /	MECHANICAL	1
IN-85-373-001	DAMAGED CABLE	NSRS	06/28/85	.T.	07/25/85	T	07/25/85	ELECTRICAL	1
IN-85-424-007	LACK OF WELD ROD CON	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
IN-85-426-001	UNREQ PORT OVENS	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
IN-85-532-006	OVERSIZED WELDS	NSRS	08/16/85	.T.	/ /		/ /	WELDING	1

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IN-85-543-004	DETERORIATE STEEL	NSRS	07/29/85	.F.	09/26/85	T	07/29/85	CONSTRUCTI	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-85-877-001	LIN ACPT WITH DEFAUL	NSRS	12/12/85	.F.	/ /		12/12/85	QA	1
IN-85-915-002	DRAWING CONTROL	NSRS	10/17/85	.F.	/ /		10/17/85	DOCUMENT	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-86-014-001	EXCESS SI ON EQUIPME	NSRS	12/17/85	.T.	/ /		/ /	OPERATIONS	1
IN-86-108-001	DRAWINGS NOT CURRENT	NSRS	11/01/85	.F.	/ /		11/04/85	DOCUMENT	1
IN-86-110-001	INADQ ICE LOADING	NSRS	10/25/85	.T.	/ /		10/30/85	DESIGN	1
IN-86-150-001	TRACEABILITY NOT ATT	ERT	11/27/85	.T.	/ /		/ /	WELDING	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
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-86-221-001	RED HEADS NOT REMOVE	NSRS	12/09/85	.T.	/ /		12/12/85	CIVIL	1
IN-86-232-001	REPAIR ERCW VIOLAT	NSRS	10/03/85	.F.	/ /		/ /	MECHANICAL	1
IN-86-259-001	FAILURE USE FUSE LIN	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-X11	TVA PROC NO IEEE STD	NSRS	11/14/85	.F.	/ /		/ /	DESIGN	1
IN-86-262-002	OVERCROWDING CABLES	NSRS	11/14/85	.T.	/ /		/ /	ELECTRICAL	1
IN-86-266-X09	LACK OF COVERAGE	NSRS	10/31/85	.F.	/ /		11/04/85	ELECTRICAL	1
IN-86-290-001	IRNS NOT QUAL RECORD	NSRS	12/03/85	.T.	/ /		/ /	QA	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
PH-85-038-001	OE PROCEDURE REVISIO	NSRS	12/17/85	.T.	/ /		12/17/85	DESIGN	1
WI-85-040-001	NCR FOR ERCW LINE	NSRS	11/19/85	.F.	/ /		/ /	MECHANICAL	1
WI-85-040-002	INADQ PROC/INSP PLAN	NSRS	11/19/85	.F.	/ /		/ /	MECHANICAL	1
WI-85-041-001	WELD MAT INADEQUATE	ERT	11/27/85	.T.	/ /		/ /	WELDING	1
WI-85-084-001	WELDER CERTIFICATION	ERT	11/12/85	.T.	/ /		/ /	WELDING	1
** Subtotal **									50
** MILESTONE: 6 PH85-001002									
IN-85-119-001	IMPROPER LINE INSTAL	ERT	09/18/85	.T.	10/22/85	T	10/30/85	INSTRUMENT	1
** Subtotal **									1
** MILESTONE: 6 U2 FUEL LD									
EX-85-059-002	INADQ INSTAL HANGERS	NSRS	12/18/85	.F.	/ /		12/24/85	HANGERS	1
IN-85-173-001	LEAK IN SPRINK SYS	ERT	08/13/85	.F.	/ /		08/13/85	MATERIAL	1
IN-85-189-002	ACCESS TO VALVES/#2	NSRS	10/04/85	.F.	/ /		10/04/85	DESIGN	1
IN-85-246-005	RUSTED WELDS/#2/RB	ERT	10/24/85	.T.	/ /		/ /	WELDING	1

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IN-85-250-001	INSP PERF W/O WK REL	NSRS	11/27/85	.T.	/ /		11/29/85	HANGERS	1
IN-85-530-001	WLDS NOT ACCRD PROCD	NSRS	08/15/85	.F.	/ /		08/15/85	WELDING	1
IN-85-615-001	OBSTRUCTED ACCESS	NSRS	10/04/85	.F.	/ /		10/04/85	DESIGN	1
IN-86-155-002	HANGER UNACCEP WELDS	NSRS	11/27/85	.F.	/ /		11/29/85	WELDING	1
** Subtotal **									8
** MILESTONE: 7 N/A									
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
IN-85-021-001	TUBE BENDERS	ERT	07/27/85	.T.	10/22/85	T	10/30/85	CONSTRUCTI	1
IN-85-032-001	PIPING CALCULATIONS	ERT	11/26/85	.F.	/ /		11/29/85	DESIGN	1
IN-85-091-001	LOST DOCUMENTATION	ERT	09/16/85	.T.	/ /		/ /	DOCUMENT	1
IN-85-130-001	UNQUILIFIED PERSONNE	ERT	09/28/85	.T.	/ /		/ /	CONSTRUCTI	1
IN-85-271-001	GROUND DOWN WELDS	ERT	12/19/85	.T.	/ /		/ /	WELDING	1
IN-85-277-001	INSTAL PIPE W/O DRWG	NSRS	11/27/85	.T.	/ /		11/29/85	CONSTRUCTI	1
IN-85-278-002	INADQ DOCUMENT CONTR	NSRS	12/10/85	.F.	/ /		12/12/85	DOCUMENT	1
IN-85-411-001	SAFTY HAZ ON PLATFRM	NSRS	07/23/85	.T.	08/09/85	T	09/08/85		1
IN-85-514-001	CONTAM DURING CUTTIN	ERT	08/22/85	.T.	/ /		/ /	INSTRUMENT	1
IN-85-541-001	REQ WELD ON 2 SIDES	NSRS	08/15/85	.F.	/ /		08/15/85	WELDING	1
IN-85-556-001	SUBJ DOING JOUR WORK	ERT	09/28/85	.T.	/ /		/ /	WELDING	1
IN-85-589-002	SUBJ DOING JOURN WRK	ERT	09/28/85	.T.	/ /		/ /	WELDING	1
IN-85-748-001	TIE-IN OF SEAL DRAIN	ERT	08/16/85	.F.	/ /		08/16/85	DESIGN	1
IN-86-108-002	SQN/BFN/BLN DRWGS	NSRS	12/26/85	.T.	/ /		/ /	DOCUMENT	1
NS-85-002-001	BFN/SUPTS ON PHR SYS	ERT	10/12/85	.T.	/ /		/ /	OPERATIONS	1
XX-85-001-001	SQN/D-G BATTERIES	NSRS	11/18/85	.T.	/ /		/ /	QA	1
XX-85-007-002	SQN/LEAK DUE TO MGMT	NSRS	12/13/85	.F.	/ /		12/13/85	OPERATIONS	1
XX-85-009-001	VOID/XX-85-009-002	NSRS	12/20/85	.F.	/ /		12/27/85	OPERATION	1
XX-85-009-002	SQN/PERSONAL SAFETY	NSRS	12/20/85	.F.	/ /		12/27/85	OPERATIONS	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-85-028-001	SQN/INCREASE IN RWP	ERT	11/22/85	.F.	/ /		/ /	OPERATIONS	1
XX-85-028-X02	SQN/FALSFIFED SIGNAT	NSRS	12/26/85	.T.	/ /		/ /	QA	1
XX-85-028-X03	SQN/RADIA WORK PERMI	NSRS	12/26/85	.T.	/ /		/ /	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.	/ /		/ /	MATERIAL	1
XX-85-046-001	SQN/INST SENSING LIN	NSRS	12/24/85	.T.	/ /		/ /	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.	/ /		/ /	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

TENNESSEE VALLEY AUTHORITY
WATTS BAR NUCLEAR PLANT
EMPLOYEE CONCERN PROGRAM
NUCLEAR REGULATORY COMMISSION LISTING

QTC NUMBER	SUBJECT	INVEST ORG	DATE REPORT	SUB?	DATE RESPONSE	ACC?	DATE INVEST CLOSED	KEY WORD	#
XX-85-086-003	SQN/DESIGN DEFICIENC	NSRS	11/29/85	.T.	/ /		/ /	WELDING	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
XX-85-096-004	VOID/XX-85-096-005	NSRS	11/26/85	.T.	/ /		11/29/85	OPERATIONS	1
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.	/ /		/ /	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
** Subtotal **									49
*** Total ***									345

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

NRC

UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

TO : E. R. Ennis, Acting Site Director, Watts Bar Nuclear Plant

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

DATE : DEC 27 1985

SUBJECT: CORRECTIVE ACTION RESPONSE EVALUATION

REPORT NO. : I-85-286-WBN

SUBJECT : IMPROPER ANNUNCIATION OF TARGET ROCK VALVES

CONCERN NO.: IN-85-802-001

(X) ACCEPT ( ) REJECT

for K. W. Whitt

MAH:JTH
cc (Attachment):
R. P. Denise, LP6N35A-C
D. R. Nichols, E10A14C-K
QTC/ERT, CONST-WBN--for response to employee.
E. K. Sliger, LP6N48A
W. F. Willis, E12B16 C-K (4)

Principally prepared by M. A. Harrison.

0217U

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

TVA 14 (05-9-65)

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 P&E (Nuclear)

DATE : DEC 18 1985

SUBJECT: WATTS BAR NUCLEAR PLANT - RESPONSE TO EMPLOYEE CONCERN INVESTIGATION REPORT TRANSMITTAL -(IN-85-802-001)

Transmitted herein is P&E Nuclear's response to recommendations I-85-286-WBN-01 and I-85-286-WBN-02 contained in Nuclear Safety Review Staff (NSRS) employee concern investigation report I-85-286-WBN.

If you have any questions, please contact W. L. Byrd at 3774, Watts Bar Nuclear Plant P&E (Nuclear).

W L Byrd for
W. T. Cottle

WLB:RRG:NC
Attachment

DEC 20 85

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

MAH

9TH

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

Response to Recommendation I-85-286-WBN-01

SQN was contacted and it was determined that they were familiar with the "sensitivity" of the magnetic reed switches. They have had to perform adjustments on the valves, but to this point have not considered it a problem and have identified no corrective action.

The vendor was contacted and informed of our concern. The vendor recommended enhancing the switch setting by locating the switch trip point and displacing the switch an additional 32nd to 16th of an inch.

Based on the above information, Electrical Maintenance Section selected a valve, in particular 1-FCV-1-7, and adjusted it by the "enhancement" method recommended by the vendor. The valve was then subjected to stroke time testing as required by Technical Specifications (Tech Spec) and passed.

WBN will revise MI-57.30 (adjustment of Magnetic Reed Switches on Target Rock Valves) to include the recommendations of the vendor. Target Rock valves will be adjusted and tested individually to verify that after adjustment all Tech Spec requirements are still met. Estimated completion date for this action is January 30, 1986. Further action will be required with regard to Tech Spec changes if any valves fail to meet Tech Spec requirements after adjustment.

The final evaluation of these proposed corrective actions cannot be made until WBN has heated up after loading fuel. The Preoperational Test Section still has testing to complete for Test Exception 19 for TVA-29 on the Target Rock valves on the blowdown system after heatup. This testing will verify the valves operability and position indication after we heatup. It is felt in the interim that these action are sufficient to solve the problem and alleviate the concern.

Response to Recommendation I-85-286-WBN-02

Trending has been identified by WBN management as an area requiring improvement not only with respect to Target Rock valves, but throughout the maintenance program. Efforts are underway to gather information from other utilities and to incorporate this and other information into a working Trend Analysis Program at WBN. These efforts are addressed in the attached memo.

Additional Response to Nuclear Safety Review Staff Report Number I-85-286-WBN

An area addressed by the NSRS report, but not called out in the recommendations, was industrial safety associated with Target Rock valve maintenance. WBN safety office was contacted and the NSRS report discussed with them. It is felt that all aspects of industrial safety associated with performing maintenance on theses valves is covered in WBN procedures and no additional action is necessary in this area.

Principally prepared by C. E. Wood, Jr.

TO1 85-114 817

NOV 14 1985

B. S. Willis, Acting Plant Manager
Watts Bar Nuclear Plant P&E (Nuclear)

WATTS BAR NUCLEAR PLANT (WBN) - MAINTENANCE PLANNING AND SCHEDULING

The attached pages represent the proposed responsibilities, goals, and actions for the maintenance planning and scheduling effort for the upcoming year, as well as a description of the methods of handling this area at present. It is their purpose to update you concerning these plans/efforts.

As you are aware, these actions are a result of review of industry practices in these areas, Institute of Nuclear Power Operations (INPO) industry evaluations, and our own review of plant needs and practices.

Please note also that provisions are included for goal adjustment and that, at present, the complete program development/implementation span is estimated to be a three to five-year effort.

As you are also aware, this program will work hand-in-hand with the improvement efforts concerning the Surveillance Instruction (SI) scheduling and Preventive Maintenance (PM) programs, and will result in procedural revisions and development.

Please review this package and provide your comments as soon as conveniently possible.

H. B. Bounds

CDN:MRS
Attachments
cc (Attachments):
NUC PR RIMS, LP 4S 132D-C
R. E. Bradley, Operations, Watts Bar P&E (Nuclear)
J. L. Collins, Mech Mtn, Watts Bar P&E (Nuclear)
W. S. Delk, Engg, Watts Bar P&E (Nuclear)
H. M. DeSouza, Sp Proj (M), Watts Bar P&E (Nuclear)
R. D. Greer, Elect Mtn, Watts Bar P&E (Nuclear)
M. K. Jones, Engg Group Supv, Watts Bar P&E (Nuclear)
R. C. Marley, Plng & Sch, Watts Bar P&E (Nuclear)
R. T. McCollom, Inst Mtn, Watts Bar P&E (Nuclear)
C. D. Nelson, Sp Proj (M), Watts Bar P&E (Nuclear)
Redford Norman, Acting Plt Supt (O&E), Watts Bar P&E (Nuclear)
Site Director's Office, Watts Bar P&E (Nuclear)

MAINTENANCE PLANNING AND SCHEDULING
Watts Bar Nuclear Plant

PURPOSE

It is the intent of the following to:

A. outline the current organizational status of the Maintenance Planning Group.

B. define the Planning Group's responsibilities and goals as they currently stand.

C. describe the current or planned methods and status of fulfilling those responsibilities.

D. define the roles of all key group and plant personnel having necessary group interaction.

E. project the anticipated involvement of the group in areas such as organization, support needs, overall plant scheduling, and situational manpower needs.

F. provide a discussion area for the purpose of milestone review and general comments concerning the program.

A. Outline of the current organizational status of the Maintenance Planning Group.

The Planning Group is under the direction of the Plant Superintendent [redacted] and is composed of a planner/coordinator from each maintenance section, an operations coordinator, and planners from each maintenance section. The planner/coordinators and planners are functionally assigned to the Special Projects Manager (M). In addition to the above, the operations coordinator has the assistance of an additional operations experienced person, and each of the sections has the assistance of a data entry operator. Also, each maintenance section has a materials planner that remains functionally assigned to that section but aids in the planning and work process through material expediting efforts.

B. Definition of current responsibilities and goals of the Planning and Scheduling Group.

1. To establish a method to accurately recognize and maintain recognition of section and total maintenance backlog.

2. Prepare the maintenance work schedules, daily and lengthier, as plant status dictates.

3. Establish methods to ensure section interaction is provided as needed.

4. To ensure identified work is properly prioritized and statused in relation to (a) plant and (b) section needs.

5. To ensure work is preplanned in the detail required to assure performance as scheduled.

6. To establish a dependable method to determine needed and available manpower resources.

7. To determine the most effective rate of manpower scheduling for each section and crew.

8. Develop necessary "yardstick" or "feedback" methods to measure progress and provide recognition of any needed structural or method changes.

Major Goals

a. Perform maintenance work within an overall plant schedule.
b. Minimize lost time and motion in the maintenance crews.
c. Minimize quantity and duration of equipment "tagouts."
d. Provide high plant reliability while maintaining equipment in optimum condition.

C. Current or planned methods.

1. Backlog recognition and maintenance. By making use of the current, available computer programs (with format changes) the group has developed two reports that have the capabilities of providing the information needed in this goal area. These "backlog" sorts are provided in the following ways:

a. All outstanding maintenance request (MR) work is sorted by system and by due date. This report is issued and used daily and provides the ability to look at all outstanding work against any plant system, who is assigned the work, what the work status is, and the forecasted need date for work completion (either by mode or calendar date). Each of the section coordinators are now working to clarify all outstanding work as to system, manpower and manhour estimates, and status. Parallel with this, the operations coordinator is working with the sections to ensure priorities are correctly placed on outstanding maintenance work. Through this effort and the proper handling of all newly identified work, the total system "backlog" will be known as well as the other areas of information mentioned earlier.

b. The second of the backlog reports is sorted by section, by craft, and by completion date. This report gives the same information as (a) above, but in the manner provided can give the Plant Superintendent (M), the section supervisor, general foreman, etc., the respective craft backlog, work status, forecasted completion need (date or milestone), and estimated manhour/manpower needs for each job. This report will be provided at supervisors' requests, and can be a key tool in section workload and need recognition.

These reports were developed in the latter part of September and, as stated earlier, effort is currently ongoing to "purify" all outstanding work. Target completion date for these activities is December 1, 1985.

There are also a variety of special logs that can be obtained through the use of available sort capabilities. All maintenance work on hold for material, backlog on non-process work, and backlog of unplanned work are some examples of these.

2. Preparation of work schedules. The group works to develop the section schedules based on the priorities assigned to the backlog work, as identified by operations section needs. The operations coordinator and section coordinators meet at 3:00 p.m. daily to discuss the plans and needs of the upcoming 32 hours (4 shifts). This provides an opportunity to discuss support needs, problem areas, and any adjustments that had to be made during the course of the day. Modifications, OC, Preop Test, and other plant sections are represented as needed. It is here that removing equipment from service, upcoming activities, and support availability are discussed; and the adjustments for the upcoming evening shift and plans for the following midnight, day, and evening shifts are more clearly focused.

   Currently, there is also a daily meeting prior to the start of the day shift. This meeting is broader in scope than the afternoon meeting. Prior to the start of the meeting (current start time is 7:45 a.m.), the operations coordinator reviews incoming MRs for need, priority, and potential impact on planned events of the day. (**NOTE:** See item 4 for a definition of priorities and further explanation of their handling.) During this morning meeting previous workday activities are discussed, including status or completion of important tasks (such as major maintenance progress or MRs for preoperational support), those that encountered problems, and the status of any ongoing activities affecting near-time milestones. The upcoming day's activities are discussed in terms of working those items scheduled and again, any major items or milestones are discussed. All plant organization manager is represented in this meeting and needed information is exchanged, and action items noted for any near-term activities.

   The plans developed in the 3:00 p.m. meeting are the basis for the input into the daily activity schedule. In addition, longer duration or major milestone maintenance work will also be entered into the P-II scheduling system.

   It is intended for the accurate backlog, upcoming surveillance instruction (SI) schedule, upcoming preventive maintenance shcedule and plant status to provide the necessary ingredients to:

   a. point out items needing completion in the upcoming week, month, etc.

   b. provide a solid estimate of the manpower necessary to support those items.

   c. provide the ability to more clearly identify "predecessor" activities and, therefore;

   d. provide the plant an accurate "situation" picture from an overall need perspective.

There are several aspects of this area that will require continual refinement for a lengthy period of time. Weekly, monthly, and quarterly program review and necessary adjustments will be made. During these reviews the integrating of the various parallel activities (SI schedule, preventive maintenance (PM) schedules, etc.) will take place and decrease the amount of "manual" coordination and increase efficiency. The goal for being comfortable in this area is June 1, 1986, but we are aware that much of this effort is interim in nature and overall program completion (or satisfaction, both by definition and implementation) is estimated to be a 3 to 5-year program.

3. Establish methods for section interaction as needed. In addition to those activities previously described in the scheduling discussion, interaction is maintained by means of other similar activities. "Course-of-day" discussions between the office of the operations coordinator, section coordinators, the shift engineer, and special projects manager provide updates, special needs recognition (such as immediate attention MRs), and the identity of specific tasks that have impact on the formulation of the next shift's or day's activities. Section interaction between the coordinators, planners, general foremen, and foremen are also taking place continuously. Cross section interaction for unexpected support needs or those support needs for the next day's or other future work schedules are also taking place; and the shift engineers, operations coordinator, and the operations unit 2 representative also share the same types of information.

   It is obvious that communication is the key to the success of these methods. Accuracy in these communications is an area that has improved but not to a satisfactory level. The consensus is that the more accurately work is prioritized and preplanned prior to being scheduled to work, the easier it is for these communications to be more accurate and timely. There is no argument with that logic and it becomes obvious that determining resources necessary to preplan work in the detail desired is one of the foremost needs. That process is underway now with a proposal to establish a base of one planner per approximately three crews or 20 craftpersons and the direction to only work maintenance that has been preplanned in detail to include information such as material availability, support needs, permits needed, etc. Accurate need communication in interaction will be one of the positive results of this.

   Intentions are for a six-month period of staffing at this level, and during this time constant review and adjustments in identified areas of need will be ongoing. By April 1, 1986 long-term organization and job description determination will be decided. Any other "format" interaction methods needed will be evolving during this time also.

4. Prioritizing and statusing of identified maintenance work. Prioritizing of process equipment maintenance is the responsibility of the operations section. This is accomplished by the interaction between the operations coordinator and the shift engineer. Input for schedule priorities is also derived from section needs such as commitments, SI performance, etc. These activities also must go through the operations coordinator for concurrence of scheduling. The definition of priorities is contained in Administrative Instruction (AI) 9.2, and these definitions are attached.

Statusing of the MRs is handled by the section coordinators and planners. Attached is a definition sheet of the status codes currently being used. These codes define the type of work the MR involves such as process equipment, if tagging of the equipment will be required, as well as where the work stands, planned and available, hold for material, ready for post maintenance testing, etc.

As stated in item 1, it is the goal of the group to have the backlog accuracy established by December 1, 1985, and having the status of the backlog accurately represented is a component of this.

5. Preplanning of work. Work preplanning is done by the section planner and (at this time) the coordinator to some extent. When an MR enters the section, it is entered on the tracking program in the status field (0) indicating unplanned work. The planner is responsible for obtaining all pertinent information necessary to work this job. This may include contact with the general foreman, foreman, cognizant engineer, etc. The intended and expected result is for the work instructions to be complete, all permits needed recognized and those possible available, material availability known, and material reserved if necessary. In short, it is to be as completely planned as possible prior to moving into the "available for work status field."

   The coordinator is responsible for ensuring that planners are acceptably preplanning before the work is declared available. It is the responsibility, through feedback, of the foremen and general foremen to verify that acceptable preplanning is done. If work is unable to continue due to unforeseen problems, the MR is to be returned to the planner and the status changed to the appropriate area. (**NOTE:** Every effort possible should be made by the foreman/general foreman to complete work that is started, but MRs with problems that cannot be resolved quickly enough to avoid days of hold must have their status changed in order to maintain accuracy in work status.) It is the goal of the group to have, by April 1, 1986 all the information sharing sessions necessary with section supervisors, general foremen, foremen, etc., to provide proper handling of this process. It is further a goal by November 1, 1986 to be to the point where the time frame between work identification and available for work is defineable and minimal. These goals are hand-in-hand with those of area 3.

6. Manpower resources needed and available. Manpower needed for the upcoming week, month, quarter, etc., will be much easier to accurately identify through the use of the backlog sort, SI schedule, PM schedule, and other items such as the training schedules. It is intended to develop a method of combining needs from all those areas requiring manpower into one program that can total these needs and inform the respective sections. This is currently done manually and incompletely. It is expected that ongoing efforts on some of the other programs will aid this effort (such as SI and PM scheduling and manpower leveling). The "manual" process can be refined and used in the interim. Target date for refinement of "manual" method is April 1, 1986. Complete program target date to be established at this time also.

"Manpower availability" is also currently being handled "manually" and on a day-to-day basis. Since these two areas are so directly related, the goals and schedules are the same.

7. Effective scheduling rates. This activity is being handled differently in each of the sections. It is recognized that the most effective rate of scheduling work per crew and section may vary from one plant situation to another. For example, the amount of immediate attention work can increase significantly during startup or hot functional testing, and this type of work can affect every section considering the primary and support responsibilities any section can have.

   Currently, the sections are, as best they can, scheduling work for the crews to include some percentage of work that is not "schedule pressing." This effort is difficult at this time for the following reasons:

   a. Backlog is increasing. This trend has continued for the past six weeks and includes some work that is short-term in completion need.

   b. The SI performance activities not only contribute to (a) but are manpower resource impacters as well.

   c. The sections are contributing significant manhours to training. The result of these and other reasons is that the sections often find themselves not having the ability to schedule anything but pressing work.

   It is the opinion of the group that going through startup and continued experience in the planning activities will clarify for each of the sections the best loading for their respective crews. Practically all of the previously discussed activities also have an impact on this area; therefore, the goal for determining the most efficient rate and type of daily scheduling is April 1, 1986 with adjustments as necessary being made in the interim.

8. Development of methods to measure progress and recognize need for change. There are several possible methods for fulfilling this need. Listed below are some of these and their target dates for implementation:

   a. Planner to crew ratio - The currently intended ways to measure this success and need is through (1) the monitoring of the backlog for the growth rate of unplanned MRs (status 0); (2) feedback from the planners and coordinators concerning number 1; and (3) monitoring of quality of planning through feedback from general foremen and foremen. It is proposed that approximately a 3-crew or 20 craftperson to planner ratio be established for six months, that these activities go on during this time, and at the end of this six-month period this ratio be determined (between April 1 and May 1, 1986).

   b. Scheduling success - The monitoring of work completed versus scheduled, and delay causes are the keys to determing schedule success. This is currently done informally and fixes determined as problems arise. The following are intended to be provided to more accurately address this subject.

1. Use of delay codes and tracking of their total impact on a periodic basis (use of codes by December 1, 1985 and auto-tracking by April 1, 1986).

2. Reporting of work completed versus scheduled to complete on a daily and weekly basis. This is currently being done daily but not in a report form. (Develop report form by January 1, 1986.)

3. Feedback from sections (foremen, general foremen, planners) through coordinators to be used continually.

c. Removal of equipment from service - Through the group feedback chains mentioned previously, the monitoring of repeated tagouts is possible. Although it is difficult at this time to calculate total tagout reduction accurately, it is certainly possible to maintain knowledge of the frequency of tagouts that are for activities that should have been done concurrently with other work. Improvement has already been made in this area, and through the integration of the PM and SI scheduling efforts this area will see further improvement. Review of outstanding system work when a major clearance is placed, reviewing SIs that require equipment to be run, two days in advance and prior notification and discussion in the daily planning meetings are some of the methods being used successfully now. These will continue to be the tools used in determining acceptability in this area.

d. Crew lost time and motion - Progress and need in this goal area is and will be measured much the same as the scheduling success goal area (b). The most useable being the monitoring of the delay causes with the same implementation dates.

It is understood that there will be more such methods as the program evolves.

D. Roles of key group and plant personnel directly interacting with or having impact on maintenance planning and scheduling activities.

1. The operations coordinator through interfacing with operations personnel and the planning coordinator (primarily) ensures that the proper priority (see priority definitions) by date or mode is placed on all identified maintenance work, coordinates the scheduling of maintenance activities that require equipment tagging or operations support, aids in the decision-making process necessary for determining system outages, and maintains overall knowledge of major daily and upcoming section activities.

2. The section coordinators are responsible for coordinating the priority needs of the plant (from the operations coordinator) to their respective section supervisors, general foremen, and planners, gathering feedback from the same concerning status of section activities, and through giving direction to the respective planners and data entry operators ensuring that the MR logs are maintained in accurate status, planning of work is done acceptably and by priority, the daily schedule is accurate, and that section support needs are communicated to the other planner coordinators.

3. The section planners are responsible for accurately preplanning maintenance work to the highest degree possible. This responsibility requires interfacing with foremen, general foremen, coordinators, personnel from other sections such as PQA, Power Stores, etc.

4. The additional operations experienced person assists all the previously mentioned individuals. He reviews newly identified work with the backlog in order to identify any redundancy, aids in the coordination of post maintenance testing arrangements, and provides much assistance in the gathering and dispersing of daily activity updates.

5. The data entry operators are responsible for accurately transferring MR information into the computer program. This process includes the necessary status changes and activities that are associated with the MR history.

6. The special projects manager (M) is responsible to:

   a. work with and aid all of the above.

   b. provide direction as recognized by need of other group members and the Plant Superintendent (M).

   c. provide the aspects necessary to inform all plant personnel of needs and actions of the group, specifically the Plant Superintendent (M).

   d. with the aid of all of the group develop the integration with the SI and PM schedule as they evolve.

7. (Other Plant Personnel)

   Section supervisors are responsible for ensuring the cooperation necessary in the sections exists to enable the planners and coordinators to function effectively, for aiding in the achievement of the goals of the group, providing feedback to the group, and ensuring that input such as committments are made known to the cocordinators so that proper scheduling attention can be ensured on section needs.

8. General foremen are responsible for aiding in the scheduling and planning activities through support of planner needs, input and feedback to the coordinator, ensuring that foremen properly complete the MRs including actually time taken, accurate as-found condition, delays encountered, etc., and making the necessary crew adjustments to support immediate attention activities.

9. Foremen are responsible for ensuring that scheduled activities are worked to the greatest extent possible, ensuring that maintenance requests are filled out neatly, accurately, and completely, returning those MRs that cannot be completed to the planners for status change, and expeditiously reviewing completed MRs so that they may be promptly forwarded through the section to the records storage area.

10. (General)

    a. All plant personnel have the responsibility to promptly identify needed maintenance through the initiation of a properly completed MR form.

b. At every level all supervisors have the responsibility to ensure MRs that they approve are filled out properly and are needed.

c. All personnel associated with the performance completion of maintenance, such as PQA inspections, post maintenance testing, material provision, or any other service are responsible for doing so in a professional and expeditious manner.

E. **Anticipated involvement of the group in the following areas:**

1. Organization - As outlined throughout this discussion there are several items to be worked out that can impact the overall group organization. Assuming the basic organization formation and direction remains the same, it is anticipated that it will take more than the current staff to preplan work to the level desired. As also pointed out earlier it is best to get some more experience with the efforts in the sections such as the six-month proposal. It is also considered evident that, once the plant becomes regulated, the Health Physics organization should be represented in the planning group.

   Other considerations include more direct involvement in the group's activities by PQA, Engineering, and Building Services. These groups are being coordinated with now satisfactorily, but during those times when a greater proportion of the emergent work is of the immediate attention type, a closer coordination will be needed.

2. Support needs - The planning and scheduling effort, in order to obtain maximum efficiency, will need:

   a. The development of planning information programs on the computer that accesses all pertinent information. At this time it appears that we will track maintenance work as we are currently doing and develop an information program from the established EQIS format. Plans are to enlist the services of a hardware and program expert, by April 1, 1986, to aid in determining the best long-term equipment direction. There is also a need for direct windows into the equipment in order to ensure that log accuracy is maintained and planning efforts are not hindered.

   b. Space - Although it is the consensus at this time that the planner coordinators and planners should remain in the respective sections, there is need for work and equipment space in these areas. These are in the process of being defined and tie directly to those milestones for the April to May, 1986 timeframe.

   c. More plant system training and training in the use of the computers for the planners, planner coordinators, and the operations coordinator assistant are anticipated needs.

3. Overall plant scheduling - As stated previously, the maintenance planning and scheduling effort will be integrated with the SI and PM schedules as they are developed until they actually become one. Critical milestones or major maintenance activities will continue to be reflected in the P-II or composite schedules.

4. Situational manpower needs - It is recognized that during such times as plant startup and outages, the need for additional planners/coordinators from the sections will exist. Experience has shown that the increase in activity adjustment mandates the need for shift to shift adjustments as opposed to day-to-day.

F. **Milestone review and comments.**

A brief summary of the milestone activities previously discussed and their target dates are as follows:

Document Area	Milestone	Target Date	Date Achieved
C-1	Backlog accuracy and sorts available	12/01/85	
C-4	Accuracy in prioritizing and statusing of new work	12/01/85	
C-3	Long-term organization determination	04/01/86 to 05/01/86	
C-5	Information sessions for work method/status	04/01/86	
C-6	Methods for manpower needed/available	04/01/86	
C-7	Effective scheduling rate	04/01/86	
C-8	Progress/changes measure need	04/01/86 (Steps 12/01/15, 01/01/86)	
C-2	Comfort/Integration SI and PM Scheduling	06/01/86	
C-5	Work identified to available refinements	11/01/86	

Comments

The development and refinement of this program is considered, as stated in area C-2, a long-term program in the three to five-year range. It is recognized that future milestone targeting will need to take place, as the activities identified in this "first" program year state. Please notice also that this first year provides the opportunity for goal adjustment, and recognition constantly and specifically creates a solid review for program direction at the six-month interval.

STATUS

Attachment to Item C.4

Status 0 - Unplanned MRs - MRs which planners have that are to be evaluated. When the MR is evaluated, it will be placed in one of the statuses below.

Status 1 - Clearance Required - MRs which require equipment tagging.

Status 2 - No Clearance Required - MRs which do not require equipment tagging, but are on plant systems, structures, or components.

Status 3 - Outage - MRs which require a unit outage to be worked.

Status 4 - Miscellaneous - MRs which are not on plant systems, structures, or components.

Status 5 - Section Review - All work, tests, etc., are complete and the MR is in the section for review.

Status 6 - MR Finalized - MR dispositioned.

Code A - Available - MR is available to be worked in the status field in which it is located.

Code M - Material Hold - MR is on hold for parts/material in the status field in which it is located. Person responsible for obtaining parts is to be placed in "GF/FRM" field.

Code E - Engineer or Planner Hold - Engineer or Planner within section has [redacted] MR for evaluation in the status field in which it is located. [redacted] Engineer's Supervisor's/Engineer's name to go in "comment" field. [redacted]

Code P - PMT - Post Maintenance Test required to close MR in the status field in which it is located. Section responsible for post maintenance test to go in "comment" field.

Code S - Scheduled - MR is scheduled to work. A foreman has it on his schedule to work.

Code H - Outside Hold - An MR requires action to be completed (other than PMT) by another group/craft/section in the status field in which it is located so that the MR may be complete. The name of the other group is to be placed in "comment" field.

Code X - MR Cancelled or Rejected - In status field 6.

Code F - Filed in Section - In status field 6.

Code C - Transmitted to DCU - In status field 6.

Code D - Entered into Maintenance History - In status field 6.

Code T - Throw Away - In status field 6.

Affected Section - To Now Read

4.9.1.2 - Delete

4.9.2 - Immediate Attention MRs

Work items that require maintenance activity to begin immediately, due to operation's determination that the affected equipment/activity is needed within the next 24 hours, will be prioritized as immediate attention. These type MRs must be issued only when the potential for; affecting system/plant operation or availability, degrading a safety related system, causing a personnel safety hazard or causing a delay in meeting critical path schedules clearly exists in this time frame.

4.9.3 - Routine MRs

Priority 1 - MRs on plant process equipment/features that do not have the immediate potential for; affecting system/plant operation or availability, degrading a safety related system, causing a personal safety hazard, or causing a delay in meeting critical path schedule will be prioritized as Routine 1 MRs. These MRs will have the unit mode or projected need date placed on them by the operations representative prior to forwarding to the section.

Priority 2 - Those MRs that are not on plant process equipment/features and only have the potential for affecting plant status in a support role will be prioritized as Routine 2 MRs...Need date for the activity supported must be identified, otherwise these type MRs will be considered to be workable anytime.

Affected Section is 5.1.1 - To Now Read

Add 5.1.1.1 Use of Equipment Trouble Cards

Plant personnel may make use of the Equipment Trouble Card, prior to MR issue, for the purpose of effectively identifying deficiencies in the plant. The Equipment Trouble Cards can be used to:

A. Notify plant personnel that a deficiency has been identified and steps taken to correct it and,
B. Therefore eliminate multiple submission of maintenance requests on the same deficiency and,
C. Improve plant status monitoring and maintenance planning, through ease of problem location.

5.1.1.1.1 - Equipment Trouble Card - Definition and Use

The Equipment Trouble Card is a two part card consisting of a hard and soft copy that is attachable to equipment, panels, etc. by use of a tie device. The cards are numbered and should be used in the following manner:

TVA 84 (05-9-65) (OP-WP-5-85)

NRC

UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

TO : E. R. Ennis, Acting Site Director, Watts Bar Nuclear Plant

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

DATE : DEC 27 1985

SUBJECT: CORRECTIVE ACTION RESPONSE EVALUATION

REPORT NO. : I-85-450-WBN

SUBJECT : HYDRO TEXT DIRECTOR CERTIFICATION

CONCERN NO.: WI-85-053-006

(X) ACCEPT ( ) REJECT

for K. W. Whitt

MAH:JTH
cc (Attachment):
R. P. Denise, LP6N35A-C
D. R. Nichols, E10A14C-K
QTC/ERT, CONST-WBN--for response to employee.
E. K. Sliger, LP6N48A
W. F. Willis, E12B16 C-K (4)

Principally prepared by M. A. Harrison

0214U

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

TVA 64 (08-9-65)

UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

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

FROM : W. T. Cottle, Site Director, Watts Bar Nuclear Plant P&E (Nuclear)

DATE : DEC 18 1985

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

Transmitted herein is Construction's response to recommendation number I-85-450-WBN-01 contained in Nuclear Safety Review Staff (NSRS) employee concern investigation report number IN-85-450-WBN.

If you have any questions, please contact W. L. Byrd at 3774, Watts Bar Nuclear Plant P&E (Nuclear).

W L Byrd for
W. T. Cottle

WLB:RRG:NC
Attachment

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

MAH

JTH

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

EMPLOYEE CONCERN WI-85-053-006

CONCERN: I-85-450-WBN-01 - Deviation from FSAR

Remove the variance from Section II of the Construction QTPM that allows personnel who infrequently are assigned an activity on a closely supervised basis to be exempt from the requirements of that procedure.

RESPONSE: WBN-RR-392 has been initiated to incorporate the recommendation to remove the variance from Section II of the Construction QTPM.

This should be complete by February 28, 1986.

Pricipally prepared by Julie Cromer, extension 3228.

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

UNITED STATES GOVERNMENT

NRC

Memorandum

TENNESSEE VALLEY AUTHORITY

TO : E. R. Ennis, Acting Site Director, Watts Bar Nuclear Plant

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

DATE : DEC 27 1985

SUBJECT: CORRECTIVE ACTION RESPONSE EVALUATION

REPORT NO. : I-85-212-WBN

SUBJECT : DAMAGED INSTRUMENT TUBING

CONCERN NO.: IN-85-618-004

(X) ACCEPT ( ) REJECT

K. W. Whitt

MAH:JTH

cc (Attachment):

R. P. Denise, LP6N35A-C

D. R. Nichols, E10A14C-K

QTC/ERT, CONST-WBN--for response to employee.

E. K. Sliger, LP6N48A

W. F. Willis, E12B16 C-K (4)

Principally prepared by M. A. Harrison.

0212U

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

TVA 64 (05-9-85)

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 P&E (Nuclear)

DATE : DEC 18 1985

SUBJECT: WATTS BAR NUCLEAR PLANT - RESPONSE TO EMPLOYEE CONCERN INVESTIGATION REPORT TRANSMITTAL IN-85-618-004

Transmitted herein is Construction's response to Nuclear Safety Review Staff (NSRS) recommendation numbers IN-85-212-WBN-01 and I-85-212-WBN-02 contained in NSRS employee concern investigation report number IN-85-212-WBN.

If you have any questions, please contact W. L. Byrd at 3774, Watts Bar Nuclear Plant P&E (Nuclear).

W. L. Byrd for
W. T. Cottle

WLB:RRG:NC
Attachment

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

✓ 7174H

✓ 8TH

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

RESPONSE TO RECOMMENDATIONS I-85-212-WBN-01 AND I-85-212-WBN-02
CONCERNING NSRS REPORT I-85-212-WBN

I-85-212-WBN-01

Section III finding A:

The subassembly is 2-043-L232B-0004 and has not been completed or inspected. Prior to inspection, the subassembly will be checked and repaired where needed.

Section III finding B:

The conduit numbers listed in this section terminate at 2-FCV-74-8 rather than 2-FCV-74-9. However, an inspection of the flex conduits revealed damage and NCR 6283 was generated in response as the conduits had been inspected and documented.

Section III finding C:

Acknowledgment is made of the need to protect certain permanent features during construction in the form of wooden boxes for snubbers, rubber hose or metal armor for flex hoses, and metal or wooden covers for instruments. This is considered standard practice and is described in QCI/QCP 1.36. Flex conduit inspection added to QCI/QCP 1.36 in September of 1985 as a result of an INPO audit. Currently, particular attention is paid to flex conduits during walkdown for punchlist preparation.

Section III finding D:

We concur with this observation; the problem of congestion is inherent in the design of the accumulator room.

Section III finding E:

No action required.

Section IV-A conclusion:

We concur with this conclusion.

Section IV-A recommendation:

The repair work will be performed as described under the response to Section III. Signs will be placed at entrances to the accumulators to remind employees to be careful of permanent equipment. In the past, letters have been written to remind workers to be careful; this will continue. All work is expected to be completed by February 15, 1986.

I-85-212-WBN-02

Section IV-B conclusion:

We concur with this conclusion

Section IV-B recommendation:

Approximately 6 weeks before scheduled transfer of permanent plant features, OC performs a walkdown to identify any problems, deficiencies, or damage. All items identified are placed on a punchlist and corrected by OC. At the time of transfer, the Pre-Op section of NUC PR and ST&C of OC perform another walkdown, jointly, to determine if additional problems, deficiencies, or damage are encountered. Any items identified are placed on another punchlist and corrected by OC. subsequent to the joint walkdown, NUC PR typically performs additional walkdowns, as desired, prior to transfer. These additional walkdowns have numbered as many as ten, and any problems are forwarded to OC for correction.

This program is described under QCI 1.22 which provides a system for identifying, tracking, correcting, and inspecting deficiencies in permanent equipment. Section III finding E is evidence that the program in place functions adequately.

For any additional information relating to this response contact Charles Wagner or Shawn Hughes, extension 468.

Principally prepared by J. G. Albright.

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

UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

NRC

TO : H. L. Abercrombie, Site Director, Sequoyah Nuclear Plant

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

DATE : DEC 27 1985

SUBJECT: NUCLEAR SAFETY REVIEW STAFF INVESTIGATION REPORT TRANSMITTAL

Transmitted herein is NSRS Report No. I-85-514-SQN

Subject RADIATION WORK PERMITS

Concern No. XX-85-028-X02 and XX-85-028-X03

and associated prioritized recommendations for your action/disposition.

It is requested that you respond to this report and the attached Priority 2 [P2] recommendation by January 17, 1986. The Priority 3 [P3] recommendations will be looked at for corrective action followed through by April 1, 1986. No response is required for these items. Should you have any questions, please contact R. C. Sauer at telephone 2277.

Recommend Reportability Determination: Yes ____ No X

Director, NSRS/Designee

RCS:JTH
Attachment
cc (Attachment):
R. P. Denise, LP6N35A-C
R. J. Griffin, SQN E-18
G. B. Kirk, SQN
D. R. Nichols, E10A14 C-K
QTC/ERT, Watts Bar Nuclear Plant
H. S. Sanger, Jr., E11B33 C-K
Eric Sliger, LP6N48A-C
J. H. Sullivan, SQN
W. F. Willis, E12B16 C-K (4)

220U

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

TENNESSEE VALLEY AUTHORITY

NUCLEAR SAFETY REVIEW STAFF

NSRS REPORT NO. I-85-514-SQN

EMPLOYEE CONCERNS: XX-85-028-X02
XX-85-028-X03

SUBJECT: RADIATION WORK PERMITS

DATES OF INVESTIGATION: OCTOBER 2-4, 1985

LEAD INVESTIGATOR: D. J. Hornstra — 12-24-85
D. J. HORNSTRA — DATE

INVESTIGATOR: D. J. Hornstra for — 12-24-85
C. L. WILSON — DATE

REVIEWED BY: R. C. Sauer — 12/24/85
R. C. SAUER — DATE

APPROVED BY: M. A. Harrison — 12/24/85
M. A. HARRISON — DATE

I. BACKGROUND

A Nuclear Safety Review Staff (NSRS) investigation was conducted to determine the validity of two expressed concerns received by Quality Technology Company (QTC)/Employee Response Team (ERT). The concerns of record, as summarized on the Employee Concern Assignment Request Forms from QTC and identified as XX-85-028-X02 and XX-85-028-X03, stated the following:

XX-85-028-X02

"Sequoyah Radiation Work Permit 02-2-00214 (Sign-In Sheet) contains falsified signatures."

XX-85-028-X03

"Sequoyah Radiation Work Permits are not being completed per procedure requirements. Radiation Work Permit 02-2-00214 is an example."

Based upon additional input from ERT, it was determined that the XX-85-028-X03 concern was limited to documentation entries by the workers on the Radiation Work Permit (RWP). Therefore XX-85-028-X02 and -X03 were considered to be two possible causes for the documentation inadequacies reported by the concerned individual.

The investigation to be conducted was therefore considered to require substantiating or refuting if signatures on RWP 02-2-00214 were being falsified or the entries on the RWP were transcription copies prepared due to procedural errors.

II. SCOPE

The scope of the investigation was determined from the stated concerns of record. The scope of RWP timesheets to be investigated was narrowed down to 1984 by observing the date when the timesheet column was changed from "name" to "signature" and the renumbering of timesheets in 1985 to include the year (now 02-2-85214). RWPs 02-2-00001 through 02-2-00250 for 1984 were reviewed for any signatures discrepancies similar to those identified by the CI.

III. SUMMARY OF FINDINGS

A. Requirements and Commitments

1. SQN FSAR Section 12.3 (ref. 1) states that TVA radiation protection policy is promulgated in the Office of Power Radiation Protection Plan (RPP).

2. TVA Office of Power, Radiation Protection Plan, Section 3.6, Revision 1 (ref. 2), requires NUC PR to establish a system at each nuclear power plant to provide a method to ensure that: (a) radiological hazards are properly identified, (b) appropriate protective clothing requirements are specified, and (c) workers do not exceed established radiation exposure limits.

3. The Nuclear Quality Assurance Manual, Part III, Section 4.1 (ref. 3), provides guidance for the correction of QA records. The NQAM requires that any correction or supplement to a QA record shall include the date and the identification of the person authorized to issue such corrections or supplements. Appendix 1 lists Radiation Work Permits as quality assurance records.

4. SQN Administrative Instruction AI-7 (ref. 4), Section 6.3.7, provides general requirements for correction of quality records "by drawing a single line through the item to be changed, making the correction, and entering the dated initials of the person making the correction."

B. Findings

1. Health Physics Section Instruction Letter HPSIL-7 (ref. 5) requires that, "Each employee entering an RWP area shall record his name (signature should be used), social security number, section, craft, and date of entry on the appropriate RWP Timesheet." No option is provided for anyone other than the individual entering the RWP area to make these data entries.

2. All entries on the first sign-in sheet of RWP 02-2-00214 (1984), Timesheet 0002, were apparently made by one individual, including the block labeled "Signature of Worker."

3. All entries on the first sign-in sheet of RWP 02-2-00250 (1984), Timesheet 0030, were apparently made by one individual, including the block labeled "Signature of Worker." This data had apparently been transferred from 02-2-00250, Timesheet 0006, where corresponding data had been voided. No traceability of this transfer was provided in either timesheet.

4. All entries on the sign-in sheets of RWP 02-00247 (1984), Timesheet 0034, were apparently made by one individual. However, a note was included on Timesheet 0034 that "timesheet issued to correct 'piggy backed' air data." Timesheet 0034 was a transcription of the sign-in data from RWP 02-2-00247, Timesheet 0021.

5. To permit personnel internal exposure calculations by ALARA personnel, all entries on an an RWP must have corresponding air data recorded where airborne contamination is present. Based upon interviews with Health Physics (HP) personnel (Individuals A and B), reissuing an RWP and transcribing the employee information may have been done on occasion because all spaces on the front of the RWP for airborne radiological information had been filled and workers had continued to make entries on the time sheet on subsequent days. In this situation all employee data may have been transferred to a second timesheet by one individual.

6. No information was provided, as required by the NQAM (ref. 3), on any of these corrected RWP timesheets to identify the person authorized to issue the change.

7. HPSIL-7 requires that each individual employee must wear the protective clothing and equipment as required by the RWP. The individual employee does not directly use the airborne radiological information, but he does use the respiratory requirements derived from the airborne radiological information.

8. HP ALARA personnel have proposed a change to the RWP timesheets. These proposed timesheets, consisting of airborne data entries and employee data entries, would be removed from the work site/control point daily when airborne data entries are required. This proposed change should avoid the problem of personnel making data entries on the timesheet for days beyond those covered by the airborne data.

IV. CONCLUSIONS/RECOMMENDATIONS

A. Concern XX-85-028-X03 was substantiated in that all data entries on the first sign-in sheet of RWP 02-2-00214 Timesheet 0002 (1984) were apparently made by one individual (a transcription copy) without traceability to the original documentation. This transcription copy was found to be an improper correction of quality assurance records.

Concern XX-85-028-X02 was not substantiated. Since signatures of workers were not specifically required by HPSIL-7 (which stated <u>should</u>, not <u>shall</u>), the transfer of information between timesheets (including what appears to be a signature) was considered to be a transcription.

B. I-85-514-SQN-01 - <u>Revision to HPSIL-7 to Define Worker Signature Transfer Requirements</u>

The RWPs provide a unique opportunity for incorrect entries which may not be discovered until after the worker is no longer available to correct his documentation. Although the NQAM and AI-7 provide overall guidance on the correction of quality assurance records, HPSIL-7 provides no additional guidance on correction of RWP entries. Corrections have been made to the RWPs (see III.B.2,3) without any traceability to the original documentation. Thus, it cannot be conclusively demonstrated that the employees had made the data entries as required by HPSIL-7.

<u>Recommendation</u>

HPSIL-7 should be revised to clearly define the requirements for transcription of information between RWPs. [P2]

C. I-85-514-SQN-02, Traceability for Transcribed RWPs 02-2-00214 and 02-2-00250

RWP 02-2-00214, Timesheet 0002 (1984), and RWP 02-2-00250, Timesheet 0030 (1984), sign-in sheets were transcribed without traceability to the original sign-in sheets.

Recommendation

The quality assurance records for RWPs 02-2-00214, Timesheet 0002, and 02-2-00250, Timesheet 0030, should be supplemented with information providing traceability to the original worker sign-in sheets. [P3]

D. I-85-514-SQN-03, RWP Changes to Reflect Current Airborne Radiological Information

The need to transcribe data to a new timesheet due to "piggy backed" air data is indicative of programmatic problems with the RWP timesheets. The SQN HP-proposed changes to the RWP and RWP timesheet should resolve the problem of individuals making entries on the timesheet for days beyond those covered by the airborne data.

Recommendation

No action required beyond incorporation of the proposed changes to the RWP and RWP timesheet. [P3]

DOCUMENTS REVIEWED IN INVESTIGATION I-85-514-SQN
AND REFERENCES

1. SQN FSAR, Section 12.3, "Health Physics Program"

2. Office of Power Radiological Protection Plan, Secion 3.6, "Radiation Work Control System"

3. Nuclear Quality Assurance Manual, Part III, Section 4.1, "Quality Assurance Records," dated May 15, 1985

4. SQN Administrative Instruction AI-7, Revision 36, "Recorder Charts and Quality Assurance Records," dated April 19, 1985

5. SQN Health Physics Section Instruction Letter HPSIL-7, Revision 12, "Radiological Work Permits," dated March 22, 1985

6. SNP RWPs 02-2-84001 through 84250

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

NRC

UNITED STATES GOVERNMENT

Memorandum

TENNESSEE VALLEY AUTHORITY

TO : E. R. Ennis, Plant Manager, Watts Bar Nuclear Plant

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

DATE : DEC 27 1985

SUBJECT: NUCLEAR SAFETY REVIEW STAFF INVESTIGATION REPORT TRANSMITTAL

Transmitted herein is NSRS Report No. I-85-788-WBN

Subject USE OF VENDER MANUALS

Concern No. IN-86-316-002, In-86-316-003, IN-86-316-005, IN-86-316-006, IN-86-316-007, and IN-86-316-X09

and associated recommendations for your action/disposition.

It is requested that you respond to this report and the attached recommendations by January 23, 1986. Should you have any questions, please contact R. N. Russell at telephone 3733-WBN.

Recommend Reportability Determination: Yes ____ No X

Director, NSRS/Designee

RNR:GDM
Attachment
cc (Attachment):
R. P. Denise, LP6N35A-C
D. R. Nichols, E10A14 C-K
QTC/ERT, Watts Bar Nuclear Plant
E. K. Sliger, LP6N48A-C
W. F. Willis, E12B16 C-K (4)

--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-85-788-WBN
Subject USE OF VENDER MANUALS for action/disposition.

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

TENNESSEE VALLEY AUTHORITY

NUCLEAR SAFETY REVIEW STAFF

NSRS INVESTIGATION REPORT NO. I-85-758-WBN

EMPLOYEE CONCERNS IN-86-316-002, IN-86-316-003, IN-86-316-005, IN-86-316-006, IN-86-316-007, AND IN-86-316-X09

MILESTONE 1

SUBJECT: USE OF VENDOR MANUALS

DATES OF INVESTIGATION: November 19-December 12, 1985

INVESTIGATOR: R. N. Russell — Date: 12/18/85

REVIEWED BY: W. D. Stevens — Date: 12/18/85

APPROVED BY: for M. A. Harrison — Date: 12/18/85

I. BACKGROUND

NSRS has investigated the following employee concerns which were received by Quality Technology Company (QTC) on October 18, 1985.

IN-86-316-002

CI was involved in repairing a specific piece of equipment. The CI looked at the vendor's manual and realized the work package did not include all necessary repair details the vendor called for. Problem was presented to an engineer who proceeded to inform the repairman that he had all the paperwork he needed right in the work package.

IN-86-316-003

If the work package disagrees with the vendor's manual, workers can not repair according to the vendor's manual.

IN-86-316-005

A work package called for removing specific parts from a particular piece of equipment, but the work package did not cover replacing them after the repair. The engineer was told that the work package did not call for replacing the specific parts. The engineer said, "You have ample paperwork to do the job".

IN-86-316-006

Work packages are frequently incomplete when checked against vendor's manuals.

IN-86-316-007

Engineering does not take the time or effort to write complete work packages that comply with the vendor's manuals. They have been shown time after time that the work packages do not contain enough details to complete the job correctly.

IN-86-316-X09

TVA cannot have a safe and adequate preventive maintenance program if engineering continues to disregard the vendor's manuals for safety related equipment.

The concerns were all similar enough in nature to be addressed jointly.

II. SCOPE

Maintenance request (MR) packages, administrative instructions (AI), standard practices, and quality assurance audit reports were reviewed to determine requirements for the use of vendor manuals and drawings and to determine the actual use of these documents. Craft, engineering, and management personnel were interviewed concerning the use of vendor manuals in maintenance work packages. Too specific an approach regarding personnel and paperwork was not taken to ensure that the concerned individual was not identified. Therefore, this report was approached from an overall vendor manual standpoint.

III. SUMMARY OF FINDINGS

A. Problems with the vendor manual program have been identified by QA in the following documents.

1. Survey Report TDC(S)-85-1, "Vendor Manual Program"

2. Corrective Action Report WB-CAR-85-51

3. Corrective Action Report WB-CAR-85-53

4. Corrective Action Report WB-CAR-85-03

5. Corrective Action Report WB-CAR-85-07

6. Deficiency Report WB-DR-85-205R

These documents identify problems relating to the control and use of vendor manuals onsite at WBNP.

B. Approximately 15 MRs were reviewed to determine the validity of the expressed concerns. The concerns all deal with safety-related equipment. AI-9.2 deals with the processing and review of safety-related maintenance requests. All safety-related MRs are required to be reviewed by the Plant Operations Review Committee (PORC). This includes a review to determine adequacy of instructions, completeness of instructions, and applicability of instructions attached to the MR.

Note: In reviewing the MR, it was noted that certain procedural violations had occurred during the processing and performance. MR A-826812 had been processed according to procedure. However, during performance of work, revision to the MR had been done without PORC review.. A statement referencing a vendor manual to perform work and a statement requiring removal of a thermocouple had been added to the MR. These additions had been approved by a telecon with QA but were not PORC reviewed.

AI-4.4, Section 5.4, requires vendor drawings to be used as information only unless otherwise designated. The drawings in the vendor manual have not been otherwise designated. Also, AI-9.2 and AI-3.1 require that revisions to safety-related MRs receive the same review as the original work instruction. This revision was approved by telecon without PORC review. Also, the vendor drawing referenced is included in a noncertified vendor manual.

C. The vendor manual program has the following requirements.

1. Vendor manuals are not to be used for work unless they have received review and certification by the cognizant section. Interviews with engineering personnel in Maintenance indicate a good understanding of this requirement. However, the craft personnel interviewed did not have an understanding of this. It was their feeling that vendor manuals should be relied on for work instructions.

2. Vendor drawings are not to be used for work unless they have been included in the plant configuration control drawing program. This was also well understood by the engineers but not craftsmen.

D. The MRs reviewed included those referenced in the concerns. Each of these MR work instruction packages had been prepared by engineering personnel, reviewed by PORC, and approved for use. No problems with the quality of the instruction had been noted during the review process.

E. Work instructions are written assuming that those following the instruction have a certain level of craft skill. Therefore, some detailed information may be left out of the instructions.

IV. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The allegations made on these employee concerns are unsubstantiated for the following reasons.

A. Instructions written by the Maintenance Engineering personnel go through a detailed review by PORC.

B. The vendor manual program requires that only those manuals that have been reviewed and certified for use by the cognizant section be used for work.

C. Vendor drawings for the equipment in question have not been put under the configuration control drawing program.

D. Work instructions are not required to have detailed information included. The level of skill of the craftsman performing the job is taken into consideration in the preparation of instructions.

Recommendations

I-85-788-WBN-01 - Document and Correct Problem with MR A-526823

The problems with MR A-526823 identified in this report need to be documented and corrective action taken.

I-85-788-WBN-02 - Train Craft

Mechanical Section craft training should be performed to explain the use of vendor manuals and drawings as required by site practice.