MAR 18 1992

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See Rpt.

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

Tennessee Valley Authority
ATTN: Mr. M. O. Medford
Vice President, Nuclear
Assurance, Licensing
and Fuels
6N 38A Lookout Place
1101 Market Street
Chattanooga, TN 37402-2801

Gentlemen:

SUBJECT: MEETING SUMMARY - WATTS BAR UNIT 1

This letter refers to the meeting conducted at your request at the Watts Bar site in Spring City, Tennessee on February 19, 1992. The purpose of the meeting was to discuss status of restart commitments, the quality and type of work accomplished, and current inspection topics of interest. A list of attendees and a copy of TVA's handout are enclosed.

It is our opinion that this meeting was beneficial and provided a better understanding of TVA's activities and plans to attain a full restart posture for construction work.

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

Sincerely,

Original Signed By
BRUCE A. WILSON

Bruce A. Wilson, Branch Chief
Reactor Projects Branch 4
Division of Reactor Projects

Enclosures:
1. List of Attendees
2. Presentation Summary

cc w/encls: (See page 2)

MK 2

IE01 11

cc w/encls:
M. Runyon, Chairman
Tennessee Valley Authority
ET 12A 7A
400 West Summit Hill Drive
Knoxville, TN 37902

Tennessee Valley Authority
ET 12A 9A
400 West Summit Hill Drive
Knoxville, TN 37902

W. F. Willis
Chief Operating Officer
ET 12B 16B
400 West Summit Hill Drive
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D. Nunn, Vice President
Nuclear Projects
Tennessee Valley Authority
WT 12A 12A
400 West Summit Hill Drive
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J. H. Garrity
Vice President, Watts Bar Site
Tennessee Valley Authority
P.O. Box 800
Spring City, TN 37381

Honorable Robert Aikman
County Executive
Rhea County Courthouse
Dayton, TN 37321

W. H. Kennoy, Director
Tennessee Valley Authority
ET 12A
400 West Summit Hill Drive
Knoxville, Tennessee 37902

H. H. Weber, Manager
Engineering Modifications
Watts Bar Nuclear Plant
Tennessee Valley Authority
P. O. Box 800
Spring City, TN 37381

Honorable Johnny Powell
County Executive
Meigs County Courthouse
Decatur, TN 373

O. D. Kingsley, Jr.
President, Generating Group
Tennessee Valley Authority
6N 38A Lookout Place
1101 Market Street
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M. Burzynski
Manager, Nuclear Licensing
Regulatory Affairs
Tennessee Valley Authority
3B Lookout Place
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G. Pannell, Site Licensing Manager
Watts Bar Nuclear Plant
Tennessee Valley Authority
P.O. Box 800
Spring City, TN 37381

TVA Representative
Rockville Office
11921 Rockville Pike
Suite 402
Rockville, MD 20852

General Counsel
Tennessee Valley Authority
400 West Summit Hill Drive
ET 11B 33H
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Michael H. Mobley, Director
Division of Radiological Health
T.E.R.R.A. Building, 6th Floor
150 -9th Avenue North
Nashville, TN 37247-3201

J. B. Waters, Director
Tennessee Valley Authority
ET 12A 9A
400 West Summit Hill Drive
Knoxville, TN 37902

State of Tennessee

bcc w/encls: (See page 3)

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

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

RII:DRP
HLivermore:vyg
03/ /92

RII:DRP
KBarr
03/ /92

ENCLOSURE 1

LIST OF ATTENDEES

Name	Title
NRC Staff	
S. D. Ebneter	Regional Administrator, Region II (RII)
J. R. Johnson	Deputy Director, Division of Reactor Projects, RII
B. A. Wilson	Branch Chief, Division of Reactor Projects, RII
J. F. Wechselberger	Representative, Executive Director's Office
K. P. Barr	Section Chief, Division of Reactor Projects, RII
R. D. Gibbs	Project Engineer, Division of Reactor Projects, RII
G. A. Walton	Senior Resident Inspector, Watts Bar, RII
P. G. Humphrey	Resident Inspector, Watts Bar, RII
K. D. Ivey	Resident Inspector, Watts Bar, RII
J. F. Lara	Resident Inspector, Watts Bar, RII
F. J. Hebdon	Director, Project Directorate II-4, Office of Reactor Regulation, (NRR)
P. S. Tam	Licensing Project Manager, NRR
TVA Staff	
W. L. Elliott	Engineering Manager, Watts Bar
J. H. Garrity	Site Vice President, Watts Bar
L. E. Martin	Site Quality Assurance Manager, Watts Bar
M. O. Medford	Vice President and Nuclear Assurance, Licensing and Fuels
G. L. Pannell	Site Licensing Manager, Watts Bar
H. H. Weber	Manager, Engineering and Modifications
N. Kazanas	Vice President, Completion Assurance
D. Nunn	Vice President, Nuclear Projects
D. A. Nauman	Senior Vice President, Nuclear Power

50-390 WATTS BAR 1 TVA

Meeting Summary of 2/19/92

Rec'd w/ltr dtd 3/18/92...9204080159

ENCLOSURE 2

AGENDA FOR MEETING WITH TVA/NRC
FEBRUARY 19, 1992
2 P.M.

1.	*HISTORY OF WBN RESTART*	*GARRITY*
2.	*STATUS OF WBN RESTART COMMITMENTS*	*PANNELL*
	° *COMMITMENTS* ° *BACKLOG REDUCTIONS*	
3.	*WORK ACCOMPLISHED BY ENGINEERING*	*WEBER*
4.	*WORK ACCOMPLISHED BY MODIFICATIONS*	*WEBER*
	° *AMOUNT OF WORK* - *WORKPLANS, MAINTENANCE REQUESTS: (NUMBER, MANHOURS)*	
	° *TYPE OF WORK* - *DISCIPLINES* - *TASK TYPES*	
5.	*QUALITY OF WORK*	
	° *ENGINEERING AND MODIFICATIONS VIEWS (CHECKLIST DATA, WORK AHEAD)*	*WEBER*
	° *QUALITY ASSURANCE/QUALITY CONTROL OVERSIGHT AND REVIEW*	*KAZANAS*
6.	*CURRENT INSPECTION TOPICS OF INTEREST*	*PANNELL*

HISTORY OF WBN RESTART

12/21/90	*ELECTRICAL WORK STOPPED BASED ON WORKPLAN 8413 PROBLEMS AND CORRECTIVE ACTION PROGRAM WEAKNESSES*
12/28/90	*MECHANICAL WORK AND OTHER CONSTRUCTION STOPPED BASED ON EXTENT OF CONDITION*
04/12/91	*MANAGEMENT OBJECTIVES FOR RESTART PRESENTED TO NRC*
08/19/91	*ECI AWARDED CONSTRUCTION CONTRACT*
10/28/91 - 11/15/91	*NRC TEAM INSPECTION OF MANAGEMENT OBJECTIVES*
11/19/91	*MANAGEMENT MEETING TO DISCUSS RESULTS OF CONSTRUCTION RESTART WORK*
11/22/91	*WITH NRC CONCURRENCE, TVA RESTARTS CONSTRUCTION*
12/18/91	*DIRECT CONSTRUCTION CRAFT AT 200*
02/11/92	*DIRECT CONSTRUCTION CRAFT AT 300*

STATUS OF WBN RESTART COMMITMENTS

OPEN ITEMS FROM NRC TEAM INSPECTION FOR RESTART OF CONSTRUCTION 390/91-29

- *166 QUESTIONS/REQUESTS FOR INFORMATION WERE GENERATED DURING THE INSPECTION OF WHICH ALL WERE SATISFIED AND CLOSED TO ALLOW RESTART OF CONSTRUCTION*

- *THE FOLLOWING 5 ITEMS WERE IDENTIFIED AS NOT IMPACTING RESTART OF CONSTRUCTION BUT HAD FOLLOW UP ACTIONS. ALL ARE NOW CLOSED.*

  1. *TWO SCARs REGARDING FAILURE TO INITIATE CAQs NEEDED CLARIFICATION ON REFERENCES USED FOR CLOSURE DOCUMENTATION. SUPPLEMENTAL INFORMATION PROVIDED ON 11/27/91. THESE SCARs ARE CLOSED.*

  2. *THE RIP CAP REQUIRED REVISION TO REFLECT ACTION OF MATERIAL UPGRADE PROGRAM. RIP CAP REVISION WAS SUBMITTED TO NRC ON 02/03/92. THIS CAP IS SCHEDULED FOR CLOSURE IN LATE 1992.*

  3. *STANDARDIZE REVIEW OF CAQs AGAINST CRITERIA FOR RESTART OF CONSTRUCTION - COMPLETED 11/22/91.*

  4. *REVIEW TROI FOR ANY CATEGORIES NOT REVIEWED FOR RESTART OF CONSTRUCTION IMPACT - COMPLETED 11/22/91.*

  5. *TVA TO PROVIDE A 50.55(f) SUBMITTAL TO NRC DESCRIBING CHANGES TO THE QA PLAN - COMPLETE 12/04/91.*

STATUS OF WBN RESTART COMMITMENTS (cont.)

BACKLOG REDUCTIONS

MANAGEMENT OBJECTIVES RESULTS

BACKLOG	11/22/91	02/17/92
CORRECTIVE ACTIONS	740	725
BLUE DOT CAQs	411	395
CATDs	172	164
CAT	45	45
IDIs (TVA)	8	5
OLD WORKPLANS CLOSE	719	516
NEW WORKPLANS WRITE	653	926
PROCUREMENT ENGINEERING GROUP	250	248
VSR/DRs	323	320
NE DRAFTING BACKLOG	227	43
CALC CROSS-REFERENCE INDEX SYSTEM (CCRIS)	0	0
FILE MAINTENANCE BACKLOG NORMAL PROCESS LEVEL	70	89
CONFIGURATION CONTROL DRAWINGS 90 = ADDITIONAL CCDs REQUESTED BY OPERATIONS (NON-RESTART)	90	40
OLD PROGRAM DRAWING DEVIATIONS	0	0
UNVERIFIED ASSUMPTIONS CALCS	755	468

WORK ACCOMPLISHED BY ENGINEERING

- *OVERALL ENGINEERING QUALITY AND SCHEDULE COMPLIANCE ACCEPTABLE*

- *KEY ISSUES ARE BEING RESOLVED WITH NRC*

- *SHOULD BE PREPARED TO START RAMPDOWN OF ENGINEERING IN LATE SPRING/EARLY SUMMER*

WORK ACCOMPLISHED BY ENGINEERING (cont.)

MAJOR NUCLEAR ENGINEERING ITEMS LEFT

ITEM

CIVIL/SEISMIC

- *HVAC DUCT SUPPORTS*
- *CABLE TRAY SUPPORTS*
- *LARGE BORE SUPPORTS*
- *SMALL BORE SUPPORTS*
- *CONDUIT SUPPORTS*
- *EQUIPMENT SEISMIC*
- *CIVIL CALCULATIONS*

MECHANICAL/NUCLEAR CALCULATIONS

ELECTRICAL ISSUES

SYSTEMS COMPLETION EFFORT

APPENDIX R

WORK SCHEDULED AND SUPPORTIVE OF RAMPDOWN OF ENGINEERING IN LATE SPRING 1992

WORK ACCOMPLISHED BY ENGINEERING (cont.)

SIGNIFICANT NUCLEAR ENGINEERING ISSUES REMAINING WITH NRC

- *CIVIL/SEISMIC STRUCTURAL STEEL THERMAL EVALUATION CRITERIA - NRR NOTIFIED - TVA WILL SUBMIT CONFIRMING LETTER BY 03/01/92*

- *CABLE ISSUES - SER HAS APPROVED APPROACH - NRC CONCURRENCE ON CABLE PULLBY NOT YET RECEIVED - NRC AUDIT OF REMAINING OPEN ITEMS EXPECTED WEEK OF 03/02/92*

- *DESIGN BASELINE VERIFICATION PROGRAM CAP/IDI CORRECTIVE ACTIONS/CIVIL COMMODITY ATTRIBUTES - NRR INSPECTION OF CIVIL AND FOLLOW UP OF MECHANICAL ITEMS TO BE SCHEDULED FOR LATE SPRING*

- *MASTER FUSE LIST - NEED NRC CONCURRENCE OF WBN PROGRAM SUBMITTED JANUARY 31, 1992, RELATED TO VERIFICATION OF INSTALLED FUSES AND CONFIGURATION CONTROL*

- *RECENTLY SUBMITTED FIRE PROTECTION REPORT - NRC CONCURRENCE REQUIRED*

WORK ACCOMPLISHED BY MODIFICATIONS

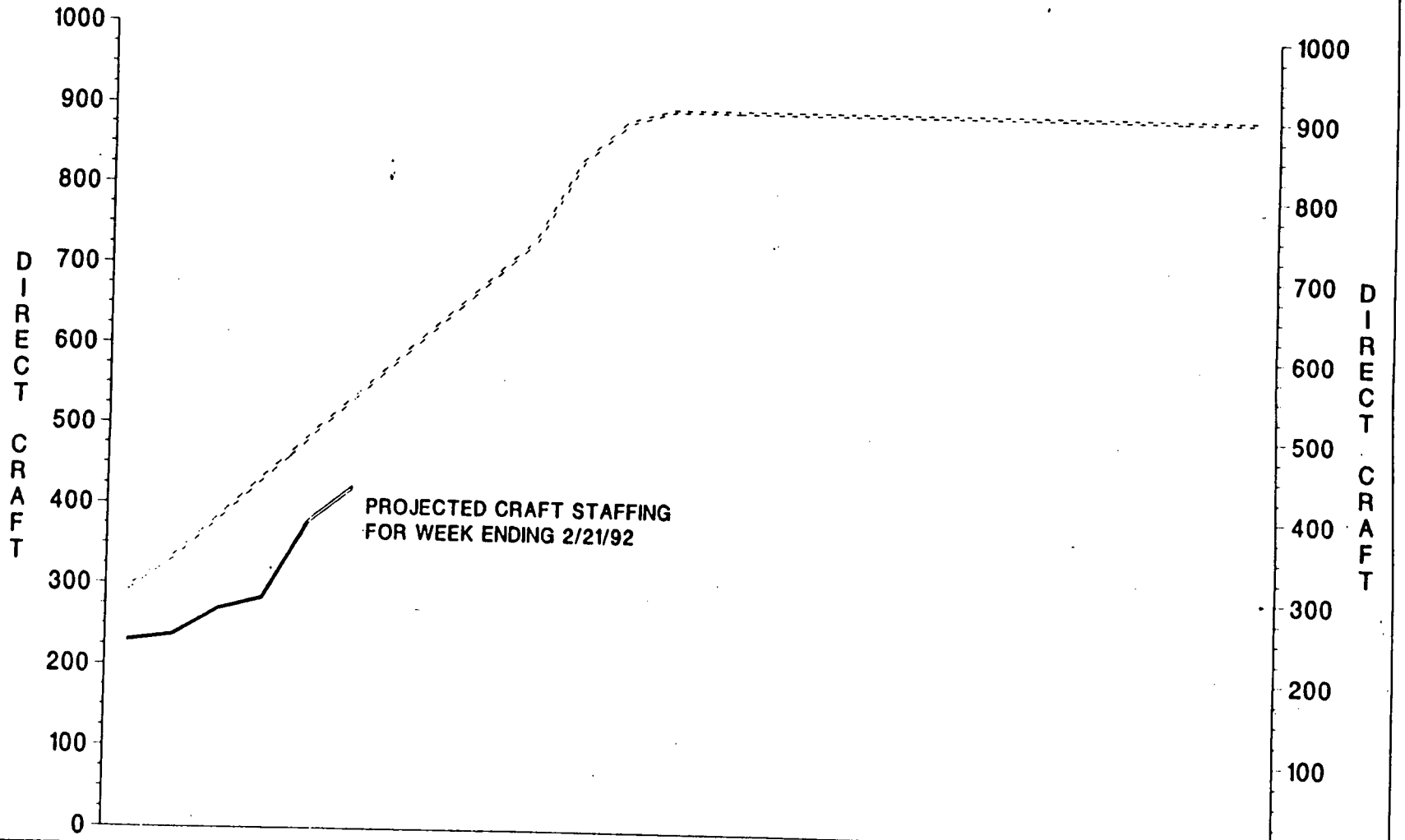
- *WORK IS SLOW*
- *EMPHASIS IS ON QUALITY*
- *STAFFING UP AT 50/WEEK IF:*
  - *WORK IS AVAILABLE*
  - *QUALITY RESULTS*

PR17A

SLOW MONITORED RESTART

MODIFICATIONS DIRECT CRAFT MANLOADING PROJECTION

WBN - MODIFICATIONS



PLANNED	294	334	384	434	484	534	584	634	684	734	834	884	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900	900
ACTUAL	230	237	270	284	378	422																						
WEEK ENDING	1/17	1/24	1/31	2/7	2/14	2/21	2/28	3/6	3/13	3/20	3/27	4/3	4/10	4/17	4/24	5/1	5/10	5/17	5/22	5/29	6/5	6/12	6/19	6/26	7/3	7/10		

WORK ACCOMPLISHED BY MODIFICATIONS (cont.)

SLOW, MONITORED STATUS AS OF 2/14/92

WORK STATUS

WORKPLANS	ELECTRICAL	MECHANICAL	TOTAL
TOTAL ESTIMATED	2368	3268	5636
IN VAULT AND READY FOR VAULT	26	10	36
COMPLETED	3	1	4
WORKING	22	34	56
AVAILABLE	95	89	184
AVAILABLE W/RESTRAINT	237	128	365
TOTAL TO GO	1985	3006	4991

WR/WO	ELECTRICAL	MECHANICAL	TOTAL
TOTAL ESTIMATED	2741	2335	5076
IN VAULT	33	24	57
COMPLETED	0	3	3
WORKING	18	12	30
AVAILABLE	23	15	38
AVAILABLE W/RESTRAINT	49	36	85
TOTAL TO GO	2618	2245	4863

WORK ACCOMPLISHED BY MODIFICATIONS (cont.)

STATUS OF WORK TYPES AS OF 2/14/92

COMMODITY INSTALLATIONS 11/25/91 TO PRESENT

TASK DESCRIPTION	TASK CODE	UNIT OF MEASURE	QUANTITY	MANHOURS
P&C CABLE PULLING	CC	LF	1748	210
CABLE TERMINATIONS	CT	EA	763	517
DETERMINATIONS	CTR	EA	185	269
ELEC. BOARD WORK (BREAKER HANDLES)	EB	EA	1535	1457
CONDUIT	EC	LF	328	255
CONDUIT REMOVAL	ECR	LF	55	115
LARGE HANGER MODS	HRM	EA	14	4750
LARGE HANGER MAINT	HRX	EA	9	872
CONDUIT SUPPORTS	HS	EA	33	185
INSULATION REMOVAL	ISR	LF	7898	17703
JUNCTION BOXES	JB	EA	10	341
PROTECTIVE COATING	PP	SF	10260	3690
TAGS AND LABELS	TG	EA	1393	2554
SMALL BORE PIPE	2U	LF	35	389
EARTH BACKFILL	BA	CY	323	403

QUALITY OF WORK

ASSESSMENT OF NUCLEAR ENGINEERING QUALITY

INTERNAL QUALITY INDICATORS (ALL 98 PERCENT OR ABOVE)

- *DCNs*
- *CALCULATIONS*
- *PROCUREMENT DOCUMENTS*
- *LICENSING SUBMITTALS*

AREAS FOR CONTINUED MANAGEMENT ATTENTION

- *BACKLOG*
- *VARIOUS QUALITY ISSUES ARISING FROM REVIEWS; e.g., NRC ISSUES ON WALKDOWN PACKAGES*
- *FDCN COMPLETION*
- *UNVERIFIED ASSUMPTIONS*

OVERALL QUALITY GOOD WITH ATTENTION BEING FOCUSED ON TROUBLE SPOTS AS THEY ARISE

MODIFICATIONS – SLOW MONITORED RESTART

Overall Summary Report for Second Party / Peer Oversight Work Attribute Checklists

QUALITY & NON–QUALITY ATTRIBUTES

Period – 11/22/91 – 02/12/92

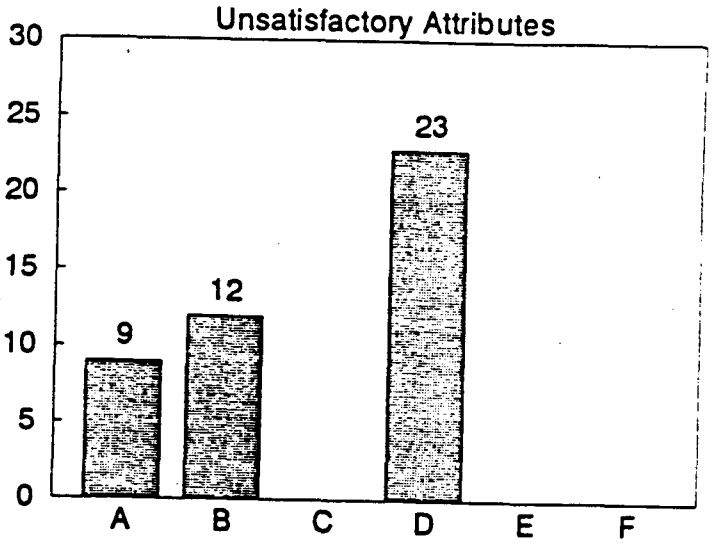
SUMMARY OF ALL AREAS

OVERALL SUMMARY

	ELECTRICAL	MECHANICAL	TOTAL
CHECKLIST RECEIVED	154	197	351
ATTRIBUTES REVIEWED	3,815	5,391	9,206
UNSAT ATTRIBUTES	21	23	44
ACCEPTANCE RATE	99.4%	99.6%	99.5%

AREA SUMMARY

AREAS	ELECTRICAL	MECHANICAL	TOTAL
WORK DOCUMENTS	7	2	9
PRE–JOB CONFERENCE	7	5	12
WORK AREA ASSESSMENT	0	0	0
WORK IMPLEMENTATION	7	16	23
POST JOB WALKDOWN	0	0	0
CLOSURE	0	0	0
TOTALS	21	23	44



Legend :

A – Work Document Reviews
B – Pre–Job Conference
C – Work Area Assessment
D – Work Implementation
E – Post Job Walkdown
F – Closure

ANALYSIS/CRITIQUE :

- QUALITY OF WORKMANSHIP REMAINS HIGH.
- WORK MONITORING PROGRAM IS WORKING WELL.
- TVA / ECI INTERFACE DIFFICULTIES ARE BEING RESOLVED..
- WORKPLAN WRITERS, CRAFTSMEN, AND RESPONSIBLE ENGINEERS ARE STILL IN THE LEARNING PROCESS FOR THE NEW PROGRAM REQUIREMENTS.
- REJECTIONS TO DATE HAVE BEEN MAINLY ADMINISTRATIVE WITH TWO (2) HARDWARE DEFICIENCIES IDENTIFIED.
  - ENLARGED BASEPLATE HOLE
  - FAILURE TO TRANSFER HEAT NUMBER (BOP)
- REOCCURING REJECTIONS HAVE NOT BEEN IDENTIFIED DURING THE LAST FOUR REPORTING CYCLES.

QUALITY OF WORK
(cont.)

QUALITY ASSURANCE/QUALITY CONTROL OVERSIGHT AND REVIEW

COMPLETION ASSURANCE OVERVIEW OF CAREFULLY MONITORED RESTART

° *IN EXCESS OF 1500 INDIVIDUAL MONITORING ACTIVITIES PERFORMED SINCE 11/22/91*

- *OVERALL 97.7% TOTAL ACCEPTANCE*
- *BY ATTRIBUTE ACCEPTANCE RATE IS GREATER THAN 99.7%*

° *FIELD WORK ACTIVITIES ARE UNDER A HIGH DEGREE OF MONITORING AND ARE PERFORMING GOOD WORK.*

° *FIRST TIME PRESENTATION OF WORK TO QUALITY CONTROL*

- *OVER 3200 UNITS OF INSPECTION INSPECTED*
- *OVERALL INITIAL INSPECTION 99% ACCEPT*
  - *ELECTRICAL - 99%*
  - *MECHANICAL - 92%*
  - *CIVIL - 96%*
- *CURRENT WORKMANSHIP - 99%*
  - *ELECTRICAL - 100%*
  - *MECHANICAL - 97%*
  - *CIVIL - 98%*

OVERALL TOTALS

QUALITY [redacted]LATED
& BALANCE OF PLANT

11-22-91 TO 02-13-92

WORK PHA[redacted]

I – Job Preplanning
II – Work Documents
III – Pre Job Conference
IV – Work Area Assessment

(TOTAL / SAT)

V – Work Implementation
VI – Post Work Activities
VII – Closure

ATTRIBUTES	I	II	III	IV	V	VI	VII	TOTAL
A – Organization/Responsibilities	31 / 31							31 / 31
B – Management Oversight	17 / 17	17 / 17	21 / 21	3 / 3	10 / 10			68 / 68
C – Design/Design Change	13 / 13	17 / 16		2 / 2	6 / 6	1 / 1	78 / 78	117 / 116
D – Materials/Procurement	135 / 134		27 / 27		14 / 14	1 / 1		177 / 176
E – Storage/Identification	139 / 132				10 / 9			149 / 141
F – Training	19 / 16	2 / 1	20 / 20		16 / 16			57 / 53
G – Work Documents		58 / 55	48 / 48		41 / 40	1 / 1	19 / 19	167 / 163
H – Document Control		15 / 15	13 / 13		11 / 11		2 / 2	41 / 41
I – Work & Special Proc. Implement.		1 / 0			47 / 44			48 / 44
J – Permits/Clearance/Hold Orders/Tag	7 / 7	28 / 28	32 / 32	38 / 38	2 / 2	19 / 19		126 / 126
K – Interface	9 / 9	9 / 9	13 / 13	2 / 2	11 / 11	1 / 1		45 / 45
L – Inspection	1 / 1	7 / 7	4 / 4		26 / 26	3 / 3		41 / 41
M – Contractor Oversight		102 / 96	19 / 19		112 / 108	1 / 1		234 / 224
N – M&TE	2 / 2	9 / 9	7 / 7		38 / 38	9 / 9		65 / 65
O – Nonconformance and C/A		7 / 7			6 / 6	2 / 2	2 / 2	17 / 17
P – Status					6 / 6	5 / 5	5 / 5	16 / 16
Q – Records		41 / 40			27 / 27	27 / 27	26 / 24	121 / 118
R – Overall Program		5 / 5	3 / 3	2 / 2	2 / 2			12 / 12
TOTALS	373 / 362	318 / 305	207 / 207	47 / 47	385 / 376	70 / 70	132 / 130	1532 / 1497

TOTAL SAT(1497)
———————————— = 97.7 % TOTAL ACCEPTANCE
TOTAL LOOKS (1532)

WBN-16

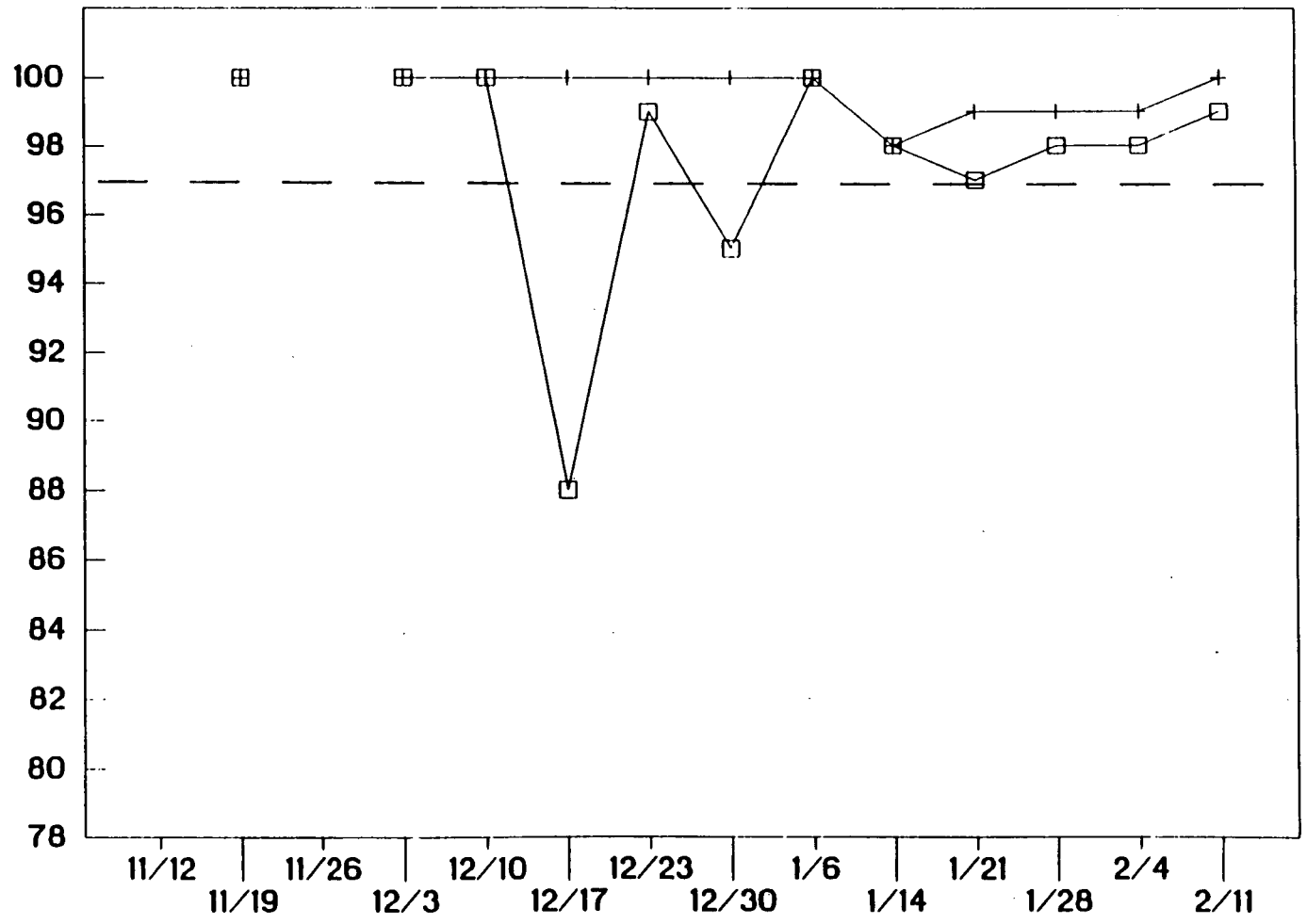
WATTS [redacted] NUCLEAR PLANT
SWEC QC INSPECTION STATUS UNIT 1 CONSTRUCTION
TOTAL SAFETY RELATED/BOP

DISCIPLINE	WEEKLY QUALITY LEVELS (QL) 11/12 QL	11/19 QL	11/26 QL	12/3 QL	12/10 QL	12/17 QL	12/23 QL	12/30 QL	1/6 QL	1/14 QL	1/21 QL	1/28 QL	2/4 QL	2/11 QL	14 WEEK SUMMARY QL	INSP	REJ.
TOTAL CONSTRUCTION (1+2+3)	100	96	98	96	100	98	99	97	99	92	97	99	99	99	99	4344	48
A. Current Craft Workmanship	100	96	98	100	100	100	100	100	99	99	99	99	99	100	99	[redacted]	17
B. Existing (Old) Workmanship	100	100	100	96	100	98	99	97	100	100	99	99	99	100	99	[redacted]	11
C. NE Output Error (DCN's)	100	100	100	100	100	100	100	100	100	100	100	99	99	100	99	[redacted]	5
D. WP or MR Error	100	100	100	100	100	99	100	100	100	94	99	99	99	100	99	[redacted]	11
E. Material Defects	100	100	100	100	100	100	100	100	100	100	99	99	100	99	99	[redacted]	4
1. ELECTRICAL	[redacted]	[redacted]	100	[redacted]	100	100	100	100	[redacted]	100	100	100	99	100	99	3602	1
A. Current Craft Workmanship	[redacted]	[redacted]	100	[redacted]	100	100	100	100	[redacted]	100	100	100	100	100	100	[redacted]	0
B. Existing (Old) Workmanship	[redacted]	[redacted]	100	[redacted]	100	100	100	100	[redacted]	100	100	100	100	100	100	[redacted]	0
C. NE Output Error (DCN's)	[redacted]	[redacted]	100	[redacted]	100	100	100	100	[redacted]	100	100	100	100	100	100	[redacted]	0
D. WP or MR Error	[redacted]	[redacted]	100	[redacted]	100	100	100	100	[redacted]	100	100	100	99	100	99	[redacted]	1
E. Material Defects	[redacted]	[redacted]	100	[redacted]	100	100	100	100	[redacted]	100	100	100	100	100	100	[redacted]	0
2. MECHANICAL	[redacted]	91	100	90	100	88	98	96	98	89	89	85	93	96	92	526	40
A. Current Craft Workmanship	[redacted]	91	100	100	100	100	100	100	98	98	95	96	96	100	98	[redacted]	12
B. Existing (Old) Workmanship	[redacted]	100	100	90	100	91	98	96	100	100	98	97	96	100	98	[redacted]	12
C. NE Output Error (DCN's)	[redacted]	100	100	100	100	100	100	100	100	100	100	95	100	100	99	[redacted]	4
D. WP or MR Error	[redacted]	100	100	100	100	97	100	100	100	91	98	97	100	100	98	[redacted]	9
E. Material Defects	[redacted]	100	100	100	100	100	100	100	100	100	98	100	100	96	99	[redacted]	3
3. CIVIL	100	100	94	100	100	100	100	[redacted]	100	100	100	94	88	100	97	216	7
A. Current Craft Workmanship	100	100	94	100	100	100	100	[redacted]	100	100	100	97	94	100	98	[redacted]	4
B. Existing (Old) Workmanship	100	100	100	100	100	100	100	[redacted]	100	100	100	100	100	100	100	[redacted]	0
C. NE Output Error (DCN's)	100	100	100	100	100	100	100	[redacted]	100	100	100	100	97	100	100	[redacted]	1
D. WP or MR Error	100	100	100	100	100	100	100	[redacted]	100	100	100	100	97	100	100	[redacted]	1
E. Material Defects	100	100	100	100	100	100	100	[redacted]	100	100	100	97	100	100	100	[redacted]	1

WBN-18

WATTS BAR NUCLEAR PLANT

SWEC QC SAFETY RELATED INSPECTION STATUS UNIT 1 CONSTRUCTION



WBN-19

QUALITY OF WORK
(cont.)

QUALITY ASSURANCE/QUALITY CONTROL OVERSIGHT AND REVIEW

TVA OVERVIEW OF STONE AND WEBSTER ENGINEERING CORPORATION (SWEC)/QUALITY CONTROL (QC)

- *PERFORMED 246 MONITORING ACTIVITIES*
  - *TWO PROBLEMS IDENTIFIED PRIMARILY ATTRIBUTED TO STARTUP PROBLEMS*
    - *TRAINING ON PROGRAM REQUIREMENTS*
    - *DOCUMENTATION PROBLEMS*
    - *NDE EXAMINATION PROBLEMS*
    - *WORK PACKAGE CLOSURE SEQUENCE OF DATES*

QUALITY OF WORK
(cont.)

COMPLETION ASSURANCE SUMMARY

PROCESS CONTROLS IN PLACE

- ***AS EXPECTED, MANY PROCESS ENHANCEMENTS HAVE BEEN IDENTIFIED AND ARE BEING INCLUDED***
  - ***CONTROLS ARE IN PLACE TO BRING WORK FORCE UP CAREFULLY AS WE LEARN***

TIMELY FEEDBACK OF PROBLEMS FOR CORRECTION

- ***SUPERVISORS/INSPECTORS/WORKERS***
- ***WEEKLY INDICIES ARE PUBLISHED***
- ***CORRECTIVE ACTION PROGRAM NEEDS IMPROVEMENT***

QUALITY INDICIES ARE BEING MEASURED, MAINTAINED, AND PERFORMANCE REQUIREMENTS RAISED

MATERIAL, WORK PLANS, AND ENGINEERING COMPLETIONS HAVE BEEN INCREASED

HUMAN PERFORMANCE AND MANAGEMENT EFFECTIVENESS EFFORTS CONTINUED FOR TVA AND PRIME CONTRACTORS

TVA AND CONTRACTOR ROLES UNDERSTOOD WORKING AND IMPROVING

QUALITY OF WORK
(cont.)

SUMMARY OF ATTRIBUTE REVIEWS

	ATTRIBUTES REVIEWED	*UNSAT*	*PERCENT UNSAT*
LINE MONITORING	*9206*	*44*	*0.5*
QUALITY ENGINEERING	*1532*	*35*	*2.3*
QUALITY CONTROL	*8688*	*192*	*2.2*
TOTAL REVIEWS	*19,426*	*271*	*1.4*

CURRENT INSPECTION TOPICS OF INTEREST

- *MATERIAL SANITIZATION PROCESS*
- *CALCULATION OF CABLE PULL TENSION FOR WORKPLAN 8413*
- *SEQUENCE IN WORKPLAN APPROVAL DATES*
- *SPECIFICATION OF ASME HYDRO ON FIRE PUMP VACUUM RELIEF LINE*
- *SCAFFOLDING*
- *PLATFORM WALKDOWNS*

CURRENT INSPECTION TOPICS OF INTEREST

(HANDOUT MATERIAL)

MATERIAL SANITIZATION PROCESS

PROBLEM STATEMENT 1:

QUALITY MATERIAL WHICH IS NEITHER SANITIZED NOR UNDER THE QUALITY RELEASE PROGRAM IS BEING ISSUED TO THE PLANT FOR QUALITY APPLICATIONS.

FACT STATEMENTS:

1. Maintenance properly identified the work to be performed as safety related and also properly identified the TIIC number (QA II).

2. Maintenance planner filled out the form 575, specifying "TVA QA - yes"

3. At the power stores issue counter, the TIIC was located with the bin tag specifying QA III.

4. Since the TIIC bin label was mismarked as QA III instead of QA II, the issue clerk was able to issue the material without it being sanitized due to the fact that QA III's were not in the scope of the sanitization project at that time. (8-21-91)

5. Materials issue clerk properly completed the form 575 and issued the material.

6. The control of the material by maintenance subsequent to the issue needs further investigation.

CORRECTIVE ACTIONS:

Interim

1. The warehouse issue counter has been made the control point for all material issues and relocations to alternate issue points. Engineering personnel have been put on the issue counter to monitor all issue activities.

Long Term

1. The sanitization effort should ensure that all items are tagged in accordance to SSP 10.02 and that any conflicting bin tags are removed.

2. Review all QA level I and II items issued prior to 2-15-92 where the issue date is prior to the sanitization date.

QA III items as of 12-17-91 were placed under the sanitization effort. Review all QA III items issued.

4. Disposition all specific conditions identified by the NRC audit and found during the above actions.

PROBLEM STATEMENT 2:

THERE WAS A CONSCIOUS MANAGEMENT DECISION TO EXCLUDE QA III ITEMS AT THE BEGINNING OF THE SANITIZATION PROGRAM. THERE WAS NO PROCEDURAL VIOLATION. THE TIME GAP BETWEEN 6-5-91 AND 12-17-91 WAS OVERLOOKED.

FACT STATEMENTS:

1. The management decision not to sanitize QA level III items from 6-5-91 (the end date of the RIP review) to 11-7-91 (Construction restart) was based on no construction work and little to no risk.

2. All instances of QA level III items during this timeframe could be identified in the future by using MAMS and the completed form 575s.

3. Management intended to perform a lookback but had no formal plan, procedure, or schedule date.

CORRECTIVE ACTIONS:

1. The MIP (sanitization effort) will identify all QA level III issues from 6-5-91 and 12-17-91. Each issue will be evaluated to determine if the materials issued has been evaluated as acceptable, evaluated as unacceptable or still remains as an item requiring evaluation. Each item will be properly dispositioned.

2. The corrective action will begin as soon as a detailed plan is put into place.

Note:

A preliminary review of the MAMS data base for QA III issues and a review of the sanitization data base for items sanitized shows the following:

2095 issues of QA III materials
588 issues of QA III materials are sanitized

28% of all issues are sanitized

PROBLEM STATEMENT 3:

CORRECTIVE ACTION FOR WBPER910483 WAS INEFFECTIVE. THE POLICY OF RELEASING NON-SANITIZED QA MATERIALS TO NON-QA APPLICATIONS WAS TERMINATED BY A 12-5-91 MEMO ISSUED TO THE ISSUE CLERKS. AFTER 12-5-91, THREE INSTANCES WERE FOUND THAT INDICATE THE DIRECTION GIVEN IN THE MEMO WAS NOT BEING FOLLOWED.

FACT STATEMENTS:

1. WBN Materials verbally committed to the NRC that no unsanitized materials would be issued.

2. SSP 10.02 states that no material is to be issued unless it is properly tagged.

3. This condition was noted and written on WBPER910483

4. An instructional memo was issued to the issue clerks and verbal training was given.

5. In spite of the instructional memorandum, the tagging procedure and the verbal training, examples have been found to substantiate that to some degree this condition still exists.

6. To date, no followup activities have been performed to verify effectiveness of the corrective action described above in step 4.

7. WBPER910483 remains open.

CORRECTIVE ACTIONS:

1. The corrective action for the PER has already reviewed this issue for the timespan for 6-5-91 until 11-27-91.

2. The corrective actions for this PER will be revised to extend the timespan scope until 2-15-92.

3. Employees will be re-notified and re-trained on this topic.

4. A followup review will be performed by management to ensure effectiveness of the corrective action.

The policy of followup reviews to ensure effectiveness of corrective actions will be adopted as a standard policy by Materials & Procurement.

PROBLEM STATEMENT 4:

MATERIAL WAS NOT PHYSICALLY SEGREGATED DURING THE SANITIZATION PROCESS AS REQUIRED BY SSP 10.B, PARA 2.1.2, REV 0.

FACT STATEMENTS:

1. SSP 10.B, PARA 2.1.2, clearly states that the materials shall be physically relocated unless size or configuration prohibits.

2. A decision was made to sanitize materials in place versus physical relocation. Bin tags (pink) were adopted to identify the materials. This decision was communicated verbally and no procedure change was initiated.

3. The pink tags were initially worded incorrectly to read; "This material is sanitized".

4. Revised tags were placed on the materials stating "This material is being sanitized".

5. WBPER920003 was written identifying this situation. (Accepted by M&P on 1-9-92 and MRC'd on 1-30-92)

6. A procedure revision was initiated on 2-10-92

7. Power Stores was shut down on 2-13-92

CORRECTIVE ACTIONS:

Interim

1. All materials in Power Stores which were in the sanitization process have been physically relocated to the main MIP warehouse.

Long Term

1. A corrective action plan will be developed which will provide physical segregation for all materials in the sanitization process. Certain materials will require special segregation locations due to their nature i.e. chemicals, special nuclear materials.

PROBLEM STATEMENT 5:

SSP 10.B ALLOWS THE MATERIALS IN THE SANITIZATION PROCESS TO BE TAGGED BEFORE THE FINAL QA INSPECTION.

FACT STATEMENTS:

1. This situation coupled with the lack of physical segregation was responsible for materials being issued from Power Stores that was not sanitized.

2. WBPER920003 was written identifying this situation. (Accepted by M&P on 1-9-92 and MRC'd on 1-30-92) see problem statement 6 for additional facts

3. To date, no actions have been taken and the sequence of tagging remains the same.

CORRECTIVE ACTIONS:

Interim

1. Engineering personnel have been station on the issue counter to monitor issues and relocation to alternate issue points.

2. Additional identification measures were taken by the MIP to ensure that materials leaving the sanitization process for warehouse storage are completly sanitized. This identification is in the form of an orange dot dot placed on the relocation sheets.

Long Term

1. Materials & Procurement is evaluating either making the interim action of having QA affix the tags on the materials a permanent control or the use of other alternate controls.

PROBLEM STATEMENT 6:

WBPER920003 STATES THAT THE MIP HAS INADEQUATE ADMINISTRATIVE CONTROLS, ALLOWING UNSANITIZED MATERIALS TO BE ISSUED TO THE PLANT.

CONCERN 1: THE NRC FEELS THAT THEY SHOULD HAVE BEEN NOTIFIED

CONCERN 2: NO IMMEDIATE CORRECTIVE ACTIONS WERE TAKEN

FACT STATEMENTS:

1. 1-6-92 The PER was initiated
2. 1-9-92 The PER was accepted by M&P as their responsibility
3. 1-30-92 The PER completed Management Review
4. 2-4-92 Stores Manager stated procedure revision was in process
5. 2-4-92 QA manager determined this revision to be inadequate
6. 2-4-92 Materials, QA, MIP managers met - QA agreed to affix tags
7. 2-10-92 MIP manager initiated a procedure review for "Do Not Issue" tags
8. 2-10-92 QA manager revised QAI 10.3 to reflect changes in SSP 10.B
9. Currently, all corrective actions are on hold pending outcome of NRC audit.

CORRECTIVE ACTIONS:

Interim

1. 2-13-92 Power Stores is permanently shut down
2. 2-18-92 All materials in Power Stores in the sanitization process have been physically relocated to the main MIP warehouse.

Long Term

1. The full scope of the problem will be realized upon review of the NRC audit and the QA audit.
2. Due to a need for higher management attention, the PER will be upgraded to a SCAR.
3. A new corrective action plan for the SCAR will be documented.

February 18, 1992

All Materials Personnel

INTERIM CORRECTIVE ACTION FOR MATERIALS CONTROL PROGRAM ADMINISTRATIVE DEFICIENCIES

BACKGROUND:

Separate reviews of the Watts Bar Materials Control Program by Materials, QA, and NRC personnel have been documented multiple deficiencies of an administrative nature which could potentially lead to the release of non-acceptable material to the field. This memo documents the interim corrective actions which have been established to remove the potential for future issues of non-acceptable material.

These issues are being documented in the formal quality deficiency program. Procedural changes to formally establish these and other corrective actions are in progress. This memo will serve as guidance for the short time period which must exist prior to the establishment of more formal direction.

DISCUSSION:

The following distinct Corrective Actions are effective immediately and apply to all Materials personnel.

1) The issue window at the Nuclear Storeroom located in the Service Building Power Stores) has been closed. No material is to be issued from this window to the customer under any circumstances.

2) The Modifications staging issue counter and associated satellite issue counter will remain open.

3) The central point for warehouse issues is now located at Warehouse B. All transactions which involve the movement of material from permanent storage locations shall be conducted at the Warehouse B issue counter. This shall include, but not be limited to:

- Restocking of the Mods Satellite Warehouse
- Stocking of the Mods Staging Area
- Weld filler material replenishment of rod room stock
- Any issue directly to a customer unless the issue is from the Mods Staging or Satellite Issue Facilities.

4) All QA material, which has completed the MIP sanitization process, shall be relocated to Warehouses A, B, D, E, F, and associated yards prior to issue over the Warehouse B counter. Exempted from this relocation is material which has special storage requirements such as paint, lubricants, and cable. The paperwork transactions for all relocation exempt material shall be conducted at the Warehouse B issue counter.

5) As an interim corrective measure, a Quality Engineering Representative has been placed in Warehouse B to review and approve all issue and material relocation transactions. These transactions will not take place without this approval.

6) The use of "Q" stamps at Watts Bar Site has been suspended. All "Q" stamps in use at Watts Bar Site have been collected. A single "Q" stamp is still in use at the Cleveland Cable Warehouse under the control of Betty McPeek and will remain in use until that operation is completed at which time it also will be collected.

7) All non-QA material shall be relocated to Warehouse A,B,D,E,F, and associated yards prior to issue over the Warehouse B counter. Prior to relocation, this QA Level 0 material shall be tagged, as a minimum, with the following information:

   - o TIIC Number
   - o QA Level (QA-0)
   - o Description, and
   - o other pertinent data as applicable

   The tags for non-Q material shall be white paper or gold metal as appropriate to the storage environment.

8) Direct charge material procured for a specific ECN or DCN may be issued to workplans specifically designated for that specific ECN or DCN without passing through the sanitization process. However, all issues or relocations of such material shall be reviewed and approved by the Quality Engineering Representative in the same manner as stocked material. Non ECN/DCN direct charge material or ECN/DCN direct charge material needed for a job other than that for which it was originally procured must be reviewed and approved by both Procurement Engineering and the issue counter Quality Engineering Representative prior to issue.

To All Materials Personnel

ACTION:

Materials managers will conduct indoctrination sessions with small groups of Materials personnel to ensure understanding and adherence to these interim corrective actions. These sessions will be documented and attendance rolls taken on training rosters.

Compliance with this memo is mandatory.

A. J. Roberts
Materials Program Manager

AJR:LRF

cc: N. C. Kazanas, IOB 1A, WBN
H. H. Weber IOB 1A, WBN
J. F. Lewis, MATL. 1G, WBN

0449w

CALCULATION OF CABLE PULL TENSION FOR WORKPLAN 8413

I. CABLE 1PL 4020A WAS INPUT TO CABLE PULL AS A SINGLE CONDUCTOR CABLE INSTEAD OF THREE SINGLE CONDUCTORS

1. To properly represent the cable, 1PL 4020A would be put in three times in succession. The cable pull code would then recognize this as three single conductors.

2. Instead, 1PL 4020A was input once.

3. The cable pull code does not provide pertinent user assistance.

4. The FE was trained on MAI 3.2 to remember how to do the input. However, the corporate training module was not used by Modifications training--training may not have been effective for multiple conductor cables under one cable ID.

5. The checker who was trained on M&AI 3.2 missed the input error.

6. Procedure calls for "checked by" which they have been trained to recognize as independent.

7. Verification probably was not independent.

8. QA monitoring did not catch this input error.

9. Workplan was first implemented using calculation since restart. No cable was actually pulled.

II. MAI-3.2 SPECIFIES AN INPUT STEP THAT CAUSES AN ERROR IN THE CALCULATION OF JAM RATIO

1. MAI procedure requires measured OD to be input into "cable pull max" field - wrong.

2. Correct input is cable OD into "cable pull avg" field

3. The CBLPUL users manual is correct; i.e., instructs input into correct field.

4. When calculating jam ratio to calculation using the MAI, when error of (1) is made, cable pull calculation routine automatically inputs nominal (versus measured) OD into "cable pull avg" field. Results, jam ratio calculation runs and result looks right.

5. Error was not detected when procedure was reviewed and approved by Modifications. NE reviewed.

6. Training on jam ratio calculation was based on erroneous instruction in the MAI.

III. CABLE PULL CALCULATION DOES NOT INCLUDE 80 PERCENT ENGINEERING INVOLVEMENT POINT

1. G Spec G38 governs the calculation for the Engineering involvement point.

2. On October 11, 1990, WBN committed to NRC (Reference NCO880283069) to involve Engineering when side wall bearing pressure approached maximum allowable.

3. NE chose T_{swp} 80 percent T_{swp} allowable as the point where Engineering would be involved.

4. G38 includes the 0.8 factor for manual calculations.

5. MAI 3.2 requires cable pull software calculation only by FE.

6. The 0.8 factor was never incorporated into cable pull software code nor was the cable pull software results adjusted; therefore, the cable pull software calculation only produced the 100 percent value and never called for Engineering involvement.

7. Cable pull software (CBLPUL) was already incorporated into G38 when the manual calculation was updated to include the 0.8 factor.

IV. MODIFICATIONS NOT USING CURRENT REVISION OF CABLE PULL SOFTWARE CODE

1. Revision 3.1 used versus current 3.2.

2. NEP 3.8 requires latest revision (possibly SSP 2.12 also).

3. NE using current revision 3.2.

4. Corporate required to notify and train users per NEP 3.8.

5. Cable pull software code version 3.1 Revision to 3.2 were software enhancements; no technical impacts.

V. MAI 3.2 DOES NOT PROVIDE GUIDANCE THAT REQUIRES THE PULL CALCULATION TO BE REVISED IF THE METHOD OF ATTACHMENT TO THE CABLE DIFFERS FROM THE ORIGINAL CALCULATION

1. NRC asked question - have you factored in actual conditions versus those used as assumptions in original calculation (i.e., method of attachment)?

2. G38 requires documenting method of attachment in original calculation and actual, then verify they match.

3. MAI requires method of attachment be identified in calculation although does not specifically require review before actual pull.

VI. CABLE PULL REQUIRES INPUT THAT IS AVAILABLE FROM A QA DOCUMENT BUT NOT READILY AVAILABLE (IF CABLE PROCUREMENT DOCUMENTS)

1. Engineering SD 12.1.13 does not contain verified information for identification of shielded versus non-shielded cable); i.e., but is being used as source in cable pull software code.

2. Resulting in potential wrong selection of cable attachment for pull.

3. No procedure/instruction sends the user to the proper document to determine if cable is shielded or unshielded.

4. Not problem on current calculations but has a potential of affecting calculation - still in review (action).

VII. G38 DOES NOT PROVIDE GUIDANCE IN REGARD TO MEASURING CABLE O.D.

1. Modifications inconsistently measuring cable O.D.

2. MAI does not provide guidance in measuring cable O.D. nor is this guidance in any required training.

3. Measurement for jam ratio/bend radius calculations.

4. NE performs calculations using nominal manufacturing data to prevent designing a jam.

5. Modifications performs calculations prior to pull using actual average O.D.

VIII. SOFWARE VALIDATION FOR CABLE PULL WAS NOT DOCUMENTED FOR T_c LIMITATION FOR BASKET WEAVE GRIP ATTACHED TO UNSHIELDED CABLE

1. Cable pull calculation is correct for T_c limitation but software validation does not test that case.

SEQUENCE IN WORKPLAN APPROVAL DATES

SEQUENCE IN WORKPLAN SIGNOFF DATES

I. NRC NOTED FOREMAN'S SIGNOFFS AND DATES WERE AFTER THOSE DATED BY QUALITY CONTROL (QC)

1. Instances of inspections where documentation dates were out of sequence have been found.

2. SSP 7.53, 2.6 D.E.F. requires foreman signoff prior to requesting inspection from QC.

3. Foreman failed to comply with 7.53 requirement. QC failed to stop his inspection process before making his signoffs.

4. Instances of LEs not being properly documented have been found.

5. SSP 2.09 specifies requirements for LEs although requirement was not clear.

6. Refailed to recognize deficiencies in workplan closure process (checklists did not have a specific attribute for these type of deficiencies).

II. NRC NOTED REs SIGNOFFS AND DATES WERE AFTER THOSE DATED BY QUALITY CONTROL (QC) OR MISSING

1. MAI 1.3 states "RE signs inspection data sheets (when required) although CMR-management rqeuires RE to sign inspection data sheets.

2. REs were not consistently signing off data sheets as directed by management versus procedural requirement.

3. RE failed to recognize deficiencies in workplan closure process (Checklists did not have a specific attribute for these types of deficiencies).

SPECIFICATION OF ASME HYRO ON FIRE PUMP VACUUM RELIEF LINE

PROBLEM: Failure to specify hydro on System 26 vacuum relief line.

(1) DCN P-01278A, workplan D-01278-01 was to install a vacuum relief valve in the discharge of fire pump 1A-A.

(2) The vacuum relief valve is actually a check valve installed with the disc hinge pin down and flow permitted toward the pump.

(3) The initial issue of workplan D-01278-01 specified a requirement to hydro.

(4) The Field Engineer understood the check valve operated as vacuum relief and was within the system pressure boundary.

(5) The Field Engineer felt code case N-240 applied and on that basis he believed the hydro could be deleted.

(6) The Field Engineer <u>verbally</u> communicated with QA and the ANI who all agreed the code case would exempt hydro.

(7) The code case referred to "isolation valve", and the Field Engineer interpreted that vacuum relief valve was not an "isolation valve."

(8) The Field Engineer <u>verbally</u> communicated with NE on the issue when he went to get the latest copy of the code case. In discussion, NE was noncommittal on application of the code case and did not recognize this verbal communication as a formal request.

(9) The Field Engineer revised workplan D-01278-01 to use the code case (i.e., exempt hydro) and obtained the required approvals per SSP-7.53.

(10) NE was not required to approve this change according to SSP-7.53.

(11) Using a code case should be considered going outside the code and should therefore require NE approval.

(12) Cannot say with confidence that closure reviews would have identified problem.

(13) Problem was found by NRC during review of workplan before the valve was welded into place.

(14) Licensing, after discussion with NE, found vacuum relief valve was within the system pressure boundary and the code case did not apply. NRC Resident Inspector told.

(15) Workplan D-01278-01 has been revised to re-establish the proper hydro requirement. This hydro was completed on 02/13/92.

(16) PER WBPER920028 was written to document condition.

(17) Immediate actions included establishing a requirement that all code case applications need prior NE approval by use of a Q-DCN. This requirement has been currently communicated to Field Engineers via memo from the Field Engineering Manager.

(18) Only one other instance has been identified where code case N-240 was to be applied. This application is in process of receiving NE approval via a Q-DCN.

(19) Need to know - Find corrective actions to prevent recurrence.

SCAFFOLDING

Problem:

- Scaffolding was found by NRC hung from piping that did not look strong enough to support it.
- The technical basis for the loading guidelines of SSP-6.06 could not be recovered. New guidelines are being recreated.
- Scaffold in the plant may have impaired fire protection systems in that sprinkler head spray patterns may be restricted.

(1) Corporate S&H Manual includes a section for scaffold erection but it is not used directly at Watts Bar Nuclear Plant (WBN). It includes a table of allowable distances from supports; however, it does not adequately address load limits to be used in conjunction with these distances (NPSHM, Section III, paragraph 4.4.30, -31, -32).

(2) The WBN S&H scaffold Manual supplements the corporate S&H manual and is contained in section seven of the corporate manual.

(3) The WBN S&H manual in section seven of the corporate manual references SSP-6.06 and is the document used for scaffold erection at WBN.

(4) Use of the L/d ratio in Appendix C of SSP-6.06 is not practical in that actual plant conditions are much more conservative. For example, 4-inch diameter pipe in the B 31-1 design used at WBN has a maximum support span of 14 feet. The $L/d > 75$ ratio translates to a span of approximately 20 feet with 4-inch diameter pipe. No span in the plant approaches $L/d > 75$; therefore, the loading criteria is essentially 100 pounds X d as stated in Appendix C, SSP-6.06.

(5) No calculations exist which substantiate implementation of the guidelines in Appendix C, SSP-6.06. Craftsmen in the field told the NRC they were trained to SSP-6.06 but when questioned on the implementation of the $L/d > 75$ ratio could not explain its usage. Preliminary walkdowns of scaffold have not revealed any cases of overload or violation of SSP-6.06. A second detailed walkdown is in progress to identify each scaffold which is supported from permanent plant pipe, tray, conduit or duct. When these scaffolds are identified, the new loading guidelines for SSP-6.06 (calculation WCG-1-1311) will be applied for those scaffolds to determine if overloading has occurred. If problems are found, a PER will be generated.

(6) The administrative chain from a workplan to the rigging guidelines is through a reference to SSP-1.05 which administers the corporate NPSHM. The corporate NPSHM contains the WBN supplement in section seven and that supplement refers to the loading guideline in SSP-6.06. In practice, scaffold is not controlled through workplans, but through the scaffold program itself and the scaffold request log. To obtain a scaffold, the requester simply fills out the scaffold log which is proceduralized in the WBN NPSHM and trained carpenters erect the scaffold and inspect it prior

to use. A revision to the WBN supplement will delete the ability to normally use platforms on anything except supports/structural steel and will require an engineered evaluation prior to putting a platform on anything else. Since the problem was identified, the scaffold crew has been put on hold for platforms on pipe, tray, conduit, and duct until the WBN supplement is issued and the personnel are trained.

(7) Under present operating plant procedures, if scaffold is erected which impairs the spray pattern of a sprinkler head a fire protection system impairment permit is required. These permits have not been obtained. It is recognized that we are not under operating conditions and the plant is changing the fire protection program to allow for construction activities such as scaffolding. Fire protection impairment permits will be required if the fire protection piping is impaired but will not be required for a scaffold under a sprinkler head. The revision to the WBN NPSHM will reference FPI-0100 which is the administrative procedure for fire protection.

4812k

PLATFORM WALKDOWNS

PROBLEM: On January 29, 1992 the NRC inspector was comparing the information contained in the walkdown package WCG-1-833 to the actual field configuration. Three separate dimensional discrepancies were identified.

1. The structure which the NRC inspector chose for inspection was randomly selected from the worst case population of 20 platforms being evaluated in the Civil calculations program. He was given a list of drawings from which he made his selection.

2. The platform is approximately 6 ft. by 6 ft. and is supported 8 ft. off the floor by angle section columns. The platform provides access to the boric acid batching tank. The platform is located in a well lit, uncongested area of the Auxiliary Building.

3. The original walkdown was performed in April, 1991. The walkdown was done in accordance with Technical Instruction (TI) 2007 which was written specifically for the Platform task. See item 6 below for tolerances.

4. The NRC inspector specified which dimensions he wanted to check. Dimensions were measured by QC inspectors and witnessed by Site Engineering.

5. Measurements were taken to confirm length of angle leg, thickness of angle, depth of channel section, flange width of channel section, member span, weld size, anchor bolt size (determined from dimensions of bolt head), kick plate size, grating thickness, dimension to top handrail, dimension to middle handrail, and diameter of handrail.

6. Dimensional discrepancies have been documented in WBPER92022. Discrepancies are:

   A. Location of brace is recorded at 18". Actual dimension is 8 11/16". (Tolerance ±3")

   B. Location of conduit support is recorded as 31". Actual dimension is 3'-11". (Tolerance ±2")

   C. Contributory span of conduit is recorded as 21". Actual dimension is 42". (Tolerance ±6")

7. In July 1991, Ebasco identified several walkdown procedures which did not conform to the requirements of AI-1.16 Rev. 5 (issued 6/3/91 as a result of SCAR 50), as a result of an Ebasco QA monitoring overview. The primary issue was the verification of walkdown data. The response to this issue was to perform a 10% (or greater) verification of walkdown data gathered after 6/3/91 for certain Ebasco walkdown procedures. This included the pertinent walkdown procedure to this issue, TI-2007.

Of 13 walkdown packages examined, representing 418 dimensional attributes (7 people), no discrepancies were noted except 4 discrepancies in walkdown package WCG-1-833 (same preparer/checker and W/D package as that during NRC review), performed under TI-2007. These discrepancies were evaluated to have no impact on the existing calculation for which the walkdown information was used as design input. As a result of the finding, the inspection rate was expanded to 100% of the WCG-1-833 data gathered after 6/3/91 which was reverified with no additional discrepancies. Therefore, no further action was taken.

8. On January 30, 1992, WBPER920022 identified 3 walkdown discrepancies which were discovered during an NRC review. These discrepancies were found on information documented prior to 6/3/91 on walkdown package WCG-1-833. NOTE: Only one walkdown team (the same preparer and verifier as noted above) was involved in data collection on walkdown package WCG-1-833.

   A review of the discrepancies, believed to be tranpositional errors, has noted no impact on the existing calculation results.

9. The individuals involved had limited field experience. Currently all walkdown procedures now active require as a minimum two (2) years design experience with field interface of similar nature or two (2) years experience in field walkdown of similar nature.

10. The present extent of condition plan is to perform a 100% verification of all walkdown data attributable to either of the two individuals associated with WBPER920022. Additional sampling will be done to ensure proper bounding of the problem.