



Point Beach Nuclear Plant
6610 Nuclear Rd., Two Rivers, WI 54241

(414) 755-2321

PBL 97-0055

February 12, 1997

Document Control Desk
U. S. NUCLEAR REGULATORY COMMISSION
Mail Station P1-137
Washington, DC 20555

Ladies/Gentlemen:

DOCKET 50-301
RESTART DOCUMENTATION
POINT BEACH NUCLEAR PLANT, UNIT 2

Pursuant to discussions conducted at a January 31, 1997, NRC/Wisconsin Electric senior management meeting, we are enclosing documentation for review by your staff to support restart issues as identified on the Unit 2 Startup Commitment List. The items are:

#4: Conduct as-built inspections of the electrical and I&C components on the Unit 2 CVCS and CCW systems.

We are enclosing Work Order 9606548, its associated work plan and an independent verification that performed as-built inspections of the component cooling system. Also enclosed are the results of the independent review of the closeout package. This is additional information from that sent on February 10, 1997.

#5: Complete Work Orders 9513222, 9513223, 9513224 and 9513225 that conducts inspections of Appendix R alternate power transfer switches.

We are enclosing Work Order 9513222 and its associated work plan that inspected the 1P-2A charging pump alternate power transfer switch; Work Order 9513223 and its associated work plan that inspected the P32B&F service water pump alternate power selector switch; Work Order 9513224 and its associated work plan that inspected the 1P-10A&B RHR pump alternate power selector switch; and Work Order 9513225 and its associated work plan that inspected the 1P-11A&B CC water pump alternate power disconnect switch. Also enclosed are the results of the independent review of the closeout package.

#17: Review 10 CFR 50.59s performed in 1996 and upgrade those identified as requiring a full safety evaluation.

We are enclosing 21 10 CFR 50.59 screenings that require upgrading relative to the following documents: OP-1A, Cold Shutdown to Low Power Operation; OP-3C, Hot Shutdown to Cold Shutdown; RP-1A, Preparation for Refueling; OP-6A, Operation of Component Cooling System; AOP-6F, Low Boron Concentration Water Pockets in RCS; AM 3.3, At-Power Primary-to-Secondary Leakage Monitoring Program; MR 96-025*A MCB Wiring for Train Separation for Service Water Pump Supply Breakers 2B52-27C and 2B52-27B; CL-7A&B, Revision to Position SI-826A, P-15A&B SI Pump Suction from BAST Series Isolation from Open to Shut Position; WO 9607176, Replace ILC-473F and PMT; WO 9411618 RC-441 Nitrogen Piping and Regulator Replacement; MR 96-052, Fuse Installation for Auxiliary Feedwater MOV Control Circuits; MK 96-051, Replace Supply Breakers for 1&2AF-4002 Control Circuits; MR 90-218, Unit 1 Rod Insertion Limit Computer

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Replacement; MR 96-005 1P-15A&B HHSI Pump Oil Level Sightglass Installation; MR 96-039, Blowdown Evaporator Piping Replacement; FSAR Section 5.1, Deletion of Large Pieces of Pipe as Potential Missiles; MR 90-047*A, BA and Reactor Makeup Water Flow Transmitter Replacement; MR 89-133*C, Additional 120 Vac Receptacles and Lighting inside Unit 1 Containment; IT-08A, Cold Start Test of Turbine-Driven Auxiliary Feedwater Pump and Valve Test, Temp Change; TS-84, Replacement of Existing Oil Sightglass on G-04 EGB-13P Governor; and, AOP-8H, Hydrogen Ignition in MSB.

#32: Implement interim improvements for the condition reporting process, based on a review of assessments and identified recommendations for improving that process.

We are enclosing PBM 97-0115 dated February 11, 1997 that documents assessments performed.

#36: Revise NP 8.1.1, Work Order Processing, and NP 8.1.3, Post-Maintenance Testing to ensure post-maintenance testing, operability testing and surveillance test requirements are properly addressed.

We are enclosing copies of NP 8.1.1, Work Order Processing, and NP 8.1.3, Post-Maintenance Testing, in support of this item.

#42: Seismically upgrade CCW, SI, RHR, and RHR/Letdown piping supports and remove an AFW snubber.

Closeout documentation in support of Issue #42 was sent on February 10, 1997. We are now enclosing the results of the independent review of the closeout package.

#46: Install a new 125 V dc feed to 480 V safeguards bus 2B-03.

Closeout documentation in support of Issue #46 was sent on February 10, 1997. We are now enclosing the results of the independent review of the closeout package.

#52: Move power plant computer system alarms to the exterior of C-20 panels.

Closeout documentation in support of Issue #52 was sent on February 10, 1997. We are now enclosing the results of the independent review of the closeout package.

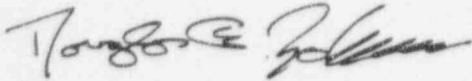
#60: Replace proximity switches and targets with an improved design and overhaul the fuel transfer cart to enhance control system operation.

We are enclosing Work Orders 9601506 that measured the transfer cart track misalignment; Work Order 9602502 that installed cable mounts; Work Order 9603921 that rebuilt and replaced the idler sprocket; Work Order 9611267 and its associated work plan that removes the temporary modification that installed the toggle switch for the non-functional SW-11; Work Order 9611278 and its associated work plan that replaced bushings and rebuilt the sprocket; and, Work Order 9611755 and its associated work plan that removed the cart from the canal and inspected wheel bearings and chain. We are also enclosing the results of the independent review of the closeout package.

#78: Communicate specific expectations regarding AFW and EDG status control to operators.

We are enclosing a January 13, 1997 memo and Operations Notebook entry dated February 11, 1997 that is a required reading entry related to AFW status.

Sincerely,

A handwritten signature in dark ink, appearing to read "Douglas F. Johnson". The signature is fluid and cursive, with the first name "Douglas" being more prominent than the last name "Johnson".

Douglas F. Johnson
Manager-
Regulatory Services & Licensing

MBK/hds

Enclosures

cc: NRC Regional Administrator

WCC TRACKING

4

DSS

ORIGINAL ***** PBNF ***** WD No: 9606548
WD Priority: J- * UNIT 2 * MWD * UNIT 2 *
Resp Group: ASB ***** HEADER PAGE ***** Step Print: 09/27/96
Equipment: CC System: CC HP Zone:
Equipment Name: CC SYSTEM MULTI AND/OR NON-NUMBERED EQUIPMENT
Physical Location: CC Discovery Date: 06/17/96

Problem Description:
AS-BUILT COMPONENT COOLING WATER SYSTEM INSTRUMENT AND CONTROL WIRING.

Originator: ASB Outage ID: U2R22
Tag/Sticker Placed: N No: 95599 Tag/Sticker Lctn:
Job Type: BETTERMENT PROJECTS Project ID: Condition Report: N
Work Function: WORK ORDER
Mod Req #: -

=====

QA: N	SEIS: 3	Operability Pre-Test: N	Procedures:
SR: N	LCO: N		
EQ: N	PMT: Y	Operability Post-Test: N	Procedures:
SSA: L	CIV: N	MRULE: N	
A/P: P	CACC:		
RRN:	-	-	-
QA Codes:		Sect XI Class:	Tech Spec Ref:
Tools Needed:			

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Work Plan/Instructions reviewed. Planner: CE
LINE SUPERVISOR: 1610171419121 NAME: DATE: 10/26/96

=====

Plant Conditions: OFF LINE Ignition Control Permit: N
Other Conditions: Transient Combustible Permit: N
Fire Barrier Penetration Permit: N RWP: N
Equipment Isolation Required: ☒ FME: Y
Isolation Tag Series #: -

Operability Pre-Test Complete. _____ Equipment Isolation as requested. _____
Permission granted to perform Work.
Ops DSS Notification Req: Y Ops DSS Signature: _____ Date: 10/28/96

=====

Special Notification:

Number of Steps: 001
Acct #: 00 - 0000N - 9500244 - 00000
MFG Code: Tech Manual Cntl #:

=====

* WORK ORDER CLOSEOUT *

10/02/97

=====

Group Head Signature: _____ Date: 12/21/96

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RIGINAL ***** PBNP ***** WO No: 9606548001
O Priority: J * UNIT 2 * MWO * UNIT 2 *
esp Group: ASP ***** STEP DETAIL ***** Step Print: 09/27/96
quipment: CC System: CC HP Zone:
quipment Name: CC SYSTEM MULTI AND/OR NON-NUMBERED EQUIPMENT
hysical Location: CC
equence No: 01
Short Desc: CCW SYSTEM WIRING Need Date
Sched Start Date:

LANNED:

WORK PROCEDURES:

Crew: X
Shift: 2
Class: 810

ork Plan Description:
SBUILD PER THE ATTACHED WORK PLAN

C REVIEW REQUIRED: N

DATE: __/__/__

ORK PERFORMED: CS ASANT PRR ATACAN work Plan

TE: _____ QAR: _____

ACTUAL USED: CREW: X
SHIFT: D
WORKER CLASS: 810
NUMBER OF WORKERS: 1
TOTAL HOURS: 40
TTL EXPOSURE/STEP (MREM): 0

PARTS USED LIST ATTACHED: Y
WO TAGS REMOVED: Y / N / NA
EMPLOYEE NUMBER: WIKS 12121

WORK COMPLETE DATE: 11/9/96
EMPLOYEE NAME: THU

* WORK COMPLETED *
Cause Failure Code: PM / SVC / NRM / _____
As Found-Out of Spec: Y / N / NA Machine History Review Required: Y / N
Failed Component: _____
Corrective Action: NA/ RP/ RE/ Downtime: _____ hrs
LINE SUPERVISOR: IEIC 1714121 NAME: _____ DATE: 11/9/96

* EQUIPMENT RETURN TO SERVICE *
Operability Post Testing: None based on work done
EQUIP. TAKEN OOS - DATE: 10/18/96 TIME: 0200 RTN DATE: 12/15/96 TIME: 1810
Operability Procs Performed _____
MON OPS SUPV: _____ NAME: + DATE: 12/15/96
DSS: 121318151211 NAME: _____ DATE: 12/15/96

DANGER TAG REQUEST

Work Control Document #

6605

9606548

Time/Date of application: 10/26 6930	Time/Date Tag Required: 0700 10/28/96
Requesting Individual:	Requesting Work Group: As built
Responsible Supervisor:	Estimated Job Completion (Time/Date):
Equipment ID: CCW System As building Unit: PB2	
Scope of Work:	
Additional Work Control Documents:	
<div style="display: flex; justify-content: space-between;"> <div> Recommended Danger Tagging/Explanation: </div> <div> No Tags Req'd: <input checked="" type="checkbox"/> <i>with</i> </div> <div> Double Isolation: <input type="checkbox"/> </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div> Positive Control: <input type="checkbox"/> </div> <div> Grounding Req'd: <input type="checkbox"/> </div> <div> Partial Removal Req'd: <input type="checkbox"/> </div> </div> <div style="margin-top: 10px;"> <i>Per Work Plan</i> </div> <div style="margin-top: 10px;"> <i>Tagging will be on an as needed basis. Refer to step 6.1.1.</i> </div>	
<p><i>NOTE: The RMP/TWP/SMP/Work Order/Work Plan may be referenced above for the recommended danger tagging.</i></p>	
<p>References: (NOTE: Must include Rev. number for controlled documents used to verify adequacy.)</p>	
<p>Information:</p>	
<div style="display: flex; justify-content: space-between;"> <div> Appendix R: <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, attach Fire Round Sheet </div> <div> Preparer: </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div> LCO Req'd: <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, attach LCO Tracking Form PBF-9133 </div> <div> Date: </div> </div>	
<div style="display: flex; justify-content: space-between;"> <div> Reviewer _____ Date _____ </div> <div> Approver (SRO) _____ Date _____ </div> </div> <p><i>NOTE: Additional reviews and approvals req'd for changes or additions to original tagout. Describe changes in information section.</i></p> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> Reviewer _____ Date _____ </div> <div> Approver (SRO) _____ Date _____ </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> Reviewer _____ Date _____ </div> <div> Approver (SRO) _____ Date _____ </div> </div>	
<div style="display: flex; justify-content: space-between;"> <div> Danger Tags No Longer Required and Protected Worker Log Sign-Offs Complete </div> <div> Tag Series No. </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> Responsible Supervisor _____ </div> <div> Date _____ </div> </div>	

Return to Service Testing Reviews

INITIALS
Pre-Release / Pre or Post-RTS

Work Group Post-Maintenance Testing

The type of
PMT done is dependent on the category of as-built
and includes 1) QC inspection and 2)
continuity testing.

Section XI Equipment Y (N)

12/10/96

Operability Testing

Operability testing required will
depend on extent of work done
and will be delineated in work plan.

None

Inservice Testing

Inservice testing required will
depend on extent of work done.
Refer to work plan.

None

JHK

ENGINEERING REVIEW

Visual As Built inspection
per work plan. No PMT Req.

SB

SECTION XI ENGINEERING REVIEW

Procedure References:

1. NP 8.1.1, "Corrective Maintenance Work Order Processing"
2. NP 4.2.20, "Radiation Work Permit"
3. NP 4.2.3, "ALARA Review Procedure"

RWP Number	
Date Issued	
Actual Exposure for RWP (rem)	

POINT BEACH NUCLEAR PLANT
RWP REQUEST

Unit: 2 Group: NES (As Built)

Equipment ID: As Built Group Insp Date/Time RWP Required: 8-7-96 3 months

Equipment Name: _____ Anticipated Duration: 3 months

System: _____ Location: U-2 Cont (Everywhere) Critical Path: ☐ Yes ☒ No

MWR Number: _____ HP Zone: _____ MWR Priority: _____

Other Work Documents: _____

Job Description: See Below

THE FOLLOWING ITEMS SHOULD BE CONSIDERED WHEN INITIATING AN RWP:

- Work Area Access/Egress
- Audio Visual Aids
- Work in Lowest Radiation Field
- Filling/Flushing/Draining
- Temporary Ventilation Systems
- Remove Radiation Sources
- Work Coordination
- Contamination/Containments
- Tool Requirements
- Radiological Hold Points
- Equipment Isolation
- Special Training
- Pre-Job Briefing
- Source Term Reduction
- Perform Work Outside of Radiation Area
- Temporary Shielding
- Permanent Shielding
- Review Worker Dose Status
- Procedures
- Remote Operations

WORK PLAN		PERSON HOURS IN WORK AREA
1	Perform As-Built Inspection on cables, raceways, penetrations	
2	in U-2 Containment. Areas marked on RWP.	
3	A&B S/G Cabs, A&B RCPs, Region Hx Cbl	
4	Overhead areas in Containment Cable penetration areas on	
5	46" & 21" in Containment.	
6	#3 pipeway 26" & #4 pipeway 8" & PAB	
7	#5 pipeway 8" & l.	
8	For inspection of cable CONDUIT path & location	
9		
10		
11		
12		

Estimated Labor Hours for Job: 800 Estimated Exposure (rem): Individual 200 Collective 600

Review of Estimated Exposure Completed: _____ Date: 8-29-96

Supervisor Integrated Pre-Job Briefing Required: _____ Health Physics

Work Group: ☐ Yes ☒ No HP: ☐ Yes ☒ No

Supv. Initials: [Signature]

Originator: _____ Date: 8/29/96

*ALARA Review Required: ☐ Yes ☒ No

*Required if total estimated dose to any individual is > 1 rem, total estimated collective dose is > 2 rem, or non-routine at-power containment entries.

WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEM

Revision: 3

October 26, 1996

UNIT
2

UNIT 2 CCW AS-BUILT

1.0 PURPOSE AND APPLICABILITY

1.1 Purpose

To as-built (review, verify and document) Unit 2 Component Cooling System instrumentation and controls circuitry. To be as-built include;

- a. CC Pumps 2P-11A/B
- b. CCW Motor Operated Valves (MOVs)
- c. Field Instrumentation
- d. Portions of C01 and 2C03
- e. MCC Compartment Wiring
- f. Remote Operated Valves (ROVs)
- g. Portions of 2C-109, 2N04 and TB-50.
- h. Portion of C254

1.2 Applicability

Unit 2 Component Cooling System instrument and controls wiring.

2.0 REFERENCES

For each cabinet, instrument or device there is an associated drawing package detailing the wiring to be checked and as-built. It is intended that the person(s) doing the as-built will compare the drawings contained in the package with the installations and note any differences.

3.0 SUPPORT

Operation will place the equipment to be as-built in the condition required. When necessary, Electricians will open cabinets, instrument racks and boxes. I&C technicians and Plant Engineering are on call to answer questions and resolve issues that arise during inspections.

WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEMRevision: 3
October 26, 1996

4.0 EQUIPMENT AND SUPPLIES

4.1 There are no special tools required to perform this as-built. The electrician will use a normal variety of hand tools to gain access to cabinets, instruments racks, and wiring in order to ascertain the actual wiring path of a particular installation.

4.2 Supplies

There are no supplies required.

5.0 PRECAUTIONS5.1 Plant/Equipment

- 5.1.1 Care shall be used to prevent disconnecting wires.
- 5.1.2 Care shall be used to prevent wire bundling devices and scraps from falling into equipment.
- 5.1.3 Care shall be taken not to over tighten electrical connections.

5.2 Personnel

- 5.2.1 Work may be required on energized circuits. Personnel shall use appropriate safety precautions including removing any conducting objects from their person that may cause shock should contact with a live circuit occur.
- 5.2.2 When electrical power isolation is required, electrician shall complete a Danger Tag Request Form or confirm that a danger tag request form has been submitted (there is a tag series) for the associated equipment. Sign onto the Worker Protection Log.
- 5.2.3 Work may be required to be performed near CCW equipment where the chemical compositions of chromates (a carcinogen) may be present. If a leak of any kind is discovered within the work area, notify the Chemistry Department to resolve any possible risk issue.

WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEMRevision: 3
October 26, 19966.0 INSTRUCTIONS

NOTE: WCC authorization and notification is necessary for start, continuation or completion of work. Person responsible for work will check with WCC at each shift change.

6.1 Tagging.

- 6.1.1 Tagging will be done on an as-needed basis. In most cases, positive control will be exercised.

6.2 General Work Procedures

- 6.2.1 Gain access to wiring of equipment being inspected (remove cover, open panels, etc.)
- 6.2.2 Photograph equipment according to past practice ensuring all aspects of the installation prior to the as-built process can be referenced through developed pictures.
- 6.2.3 Fully tighten all connection points on components and terminal blocks listed in the associated documentation for this equipment.
- 6.2.4 Compare terminal numbers, wire labels and cable labels on documentation provided for each wire found and note differences on discrepancy form included.
- 6.2.5 Wherever possible, write terminal numbers, wire labels and cable labels on termination sheets in documentation provided for each wire found.
- 6.2.6 When possible, follow external cabling and document destination to field device.
- 6.2.7 When an existing wire bundling device is encountered that must be separated:
- Secure but do not tighten new wire bundling device around wires while maintaining existing bundling configuration.

**WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEM**Revision: 3
October 26, 1996

- b. Remove **AND** dispose of wire bundling devices as encountered.

6.2.8 Perform visual inspection of all terminal blocks to original configuration by comparing terminal block wiring to documentation provided.

6.2.9 Record all device, equipment, and panel numbers visible. Designate whether identification numbers are CHAMPS labels or not.

6.2.10 Inspect all wires contained in bundles for any defects.

NOTE: *Do not tighten bundles requiring wire repairs.*

- a. Tighten new wire bundling devices installed in Step 6.2.7.a.

6.2.11 In any of the following cases, stop work, then notify the DSS and the appropriate Electrical Maintenance, I&C, or Plant Engineering group and seek their assistance in resolving the matter. For each instance, document the event and ultimate resolution using "ABNORMAL CONDITION DISCOVERY & RESOLUTION" form included.

- a. When finding defective wires during as-built wire tracing
- b. Should a wire become disconnected during as-built wire tracing
- c. Should sparking or electrical shocks occur
- d. Whenever you feel it needed or appropriate

6.3 Specific Work To Be Performed

Refer to the work plan supplement

WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEMRevision: 3
October 26, 19967.0 RETURN-TO-SERVICE TESTING

7.1 The actual procedure for obtaining the necessary information during a particular as-built activity can be categorized as Visual, Non-intrusive or Intrusive. Based on the category, the associated PMT required can be determined as None, QC verification, or Testing Required. When testing is required, the testing will be done prior to and in addition to any IT or Operability testing scheduled as matter of course in returning the Unit to service.

7.1.1 It is intended that the Electrician performing the as-built work will identify the category of as-built performed and proceed accordingly. The identification will be documented as a step in the procedure requiring a sign-off.

7.2 The following are definitions of "as-built" and the associated PMT requirements:

7.2.1 Visual: Information obtained by visual inspection only, whereby:

- a. No leads were lifted, intentionally or unintentionally
- b. No wires ties (tie wraps) were cut to expose wires/cable bundles.
- c. No pulling or "tug testing" of conductors at termination points
- d. Wires or cable bundles may be carefully moved to obtain information

7.2.1.1 PMT: not required, but QC inspection may be requested by the Electrician performing the as-built

7.2.2 Non-Intrusive: Information obtained through a moderate amount of hands-on work.

- a. No leads lifted intentionally or otherwise.
- b. All terminations in the vicinity of the affected wiring shall be double checked for tightness prior to handling wire bundles or cables.

WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEMRevision: 3
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- b. Wires/cable ties, or other bundling devices, may be cut so long as there is at least one anchoring point above and below the location of the cut tie that remain in tact. Such anchoring points may be another wire tie, termination point, or cable/wire clamp fastened securely in place. A wire tie shall be loosely placed around the bundle prior to cutting the wire tie desired in order to contain the wires/cables bundled together.
 - c. Wires/cables may be separated to obtain needed information, so long as anchoring points above and below separation are maintained.
 - d. Tug testing shall be such as to assure the crimp of lug to conductor and the conductor to terminal connection is solid and in place. The force applied shall be axial (in line) with the wire direction at the point of termination. No undue force is to be applied that may jeopardize the integrity of the termination, crimp or conductor. Tug testing done to individual conductors.
 - e. No instruments, devices, or raceway removed or disconnected for as-built purposes.
- 7.2.2.1 PMT: No specific testing but requires QC HOLD point. QC Inspector must sign off step indicating an inspection was made and the installation remains in tact.
- 7.2.3 Intrusive: Information obtained whereby the as-built activity resulted in an action that may have jeopardized the integrity of the installation or the reliability of a particular device to perform its' intended function.
- a. A wire was disconnected from its' terminal and/or lug (intentionally or unintentionally)
 - b. Wire/cable ties were cut to expose point-to-point wiring.
 - c. Wire/cable/lug or termination was damaged.
 - d. A device or instrument was removed for the purpose of obtaining as-built information

WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEM

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- 7.2.3.1 PMT: Detailed testing (such as continuity checks) must be performed with recommended QC HOLD points established for safety related and QA scoped installations.

- 7.2.4 At each particular location to be as-built, the electrician will sign off at a step to indicate the category of the as-built performed. Based on the category, the PMT, if required, shall be completed.

7.4. Operability Tests.

- 7.4.1 As the CCW system will remain in-service, operability tests for some equipment (e.g. pumps P-11A/B), actual operation of the equipment can be obtained and serve to prove functionality.

8.0 RESTORATION

- 8.1 Perform visual inspection of all devices and terminations traced to assure the installation is in good condition.
- 8.2 When as-built activity is completed, perform FME closeout inspection of equipment terminal box and complete the FME form for respective terminal box, panel, or device.

WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEM

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- 8.3 Secure equipment (close terminal box covers, replace panel doors, etc.)
- 8.4 Release danger tag and sign off of Worker Protection Log if applicable

9.0 CLOSEOUT

- 9.1 All tools collected and removed.
- 9.2 Perform housekeeping of
- 9.3 Perform NP 8.4.10, Attachment C, FME Closeout sheet.
- 9.4 Record problems encountered and actions taken.
- 9.5 Procedure performer(s) sign for work completion.

Signature _____ Date 12-9-96

Signature _____ Date _____

Signature _____ Date _____

FME CLOSEOUT

WORK PACKAGE NO 9606548

COMPONENT/SYSTEM LOCATION U2 CC ELECTRICAL AS-BUILT

INSPECTION METHOD VISUAL

INSPECTION RESULTS SAT

INSPECTION PERFORMED BY: _____ DATE 12-6-96

WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEMRevision: 3
October 26, 1996WORK PLAN SUPPLEMENT
AS-BUILT OF U2 CCW SYSTEMI. CCW Pumps

- *1. Prior to starting, confirm with Operations that CCW Pump 2P-11B is available for service. (If 2P-11B is not available, work on 2P-11A cannot be done)

A. 2P-11A. 480V LC 2B03, Unit #34A (2B52-34A)

1. Breaker compartment wiring (2B-03 to control room)
2. Control Room wiring of TTAA and TTAB in 2C03
3. Control Room wiring of UPB in C01

- A1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing

- A2. This as-built activity was NON-INTRUSIVE and requires a QC Inspection

- A3. QC Inspection completed

- A4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

- *2. Prior to starting, confirm with Operations that CCW Pump 2P-11A is available for service. (If 2P-11A is not available, work on 2P-11B cannot be done).

- *3. Charging Pumps 2P-2A and 2P-2B should be off.

**WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEM**Revision: 3
October 26, 1996**B. 2P-11B. 480V LC 2B04, Unit #28B (2B52-28B)**

1. Breaker compartment wiring (2B-04 to control room, and 2B03)
2. 2B03 breaker compartment 37A wiring to Charging Pump 2P-2A
3. 2B03 breaker compartment 37B wiring to Charging Pump 2P-2B
4. Control Room wiring of TEAF in 2C03
3. Control Room wiring of UBL in C01

B1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing

_____/11/9/96

B2. This as-built activity was NON-INTRUSIVE and requires a QC Inspection

_____/____/____

B3. QC Inspection completed

_____/____/____

B4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

_____/____/____

II. CCW Supply to RCPs and L/D HX**A. 2CC-719: Containment Equipment CCW Supply Header Isolation Valve**

1. MCC Wiring at 2B52-426C
2. CR wiring at 2C03, TBAF

A1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing

_____/11/9/96

A2. This as-built activity was NON-INTRUSIVE and requires a QC Inspection

_____/____/____

A3. QC Inspection completed

_____/____/____

A4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

_____/____/____

**WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEM**

Revision: 3

October 26, 1996

B. RCP 2P-1A CCW Supply Path**1. 2CC-754A: 2P-1A RCP CCW Inlet MOV**

- a. MCC Wiring at 2B52-326C
- b. CR wiring at 2C03, TUAF

1B1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing

_____/_____/11/9/96

1B2. This as-built activity was NON-INTRUSIVE and requires a OC Inspection

_____/_____/

1B3. QC Inspection completed

_____/_____/

1B4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

_____/_____/

2. 2CC-759A: 2P-1A RCP CC Outlet MOV

- a. MCC Wiring at 2B52-326F
- b. CR wiring at 2C03, TUAH

2B1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing

_____/_____/11/9/96

2B2. This as-built activity was NON-INTRUSIVE and requires a OC Inspection

_____/_____/

2B3. QC Inspection completed

_____/_____/

2B4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

_____/_____/

WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEMRevision: 3
October 26, 1996**3. 2CC-761A: 2P-1A RCP Thermal Barrier Cooling Return SOV**

- a. Field wiring of SOV (solenoid and limit switches)
- b. Control room wiring at 2C03, TTAD
- c. 125 VDC Power Supply Breaker MOB-261

3B1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing

_____/_____
11/9/96

3B2. This as-built activity was NON-INTRUSIVE and requires a QC Inspection

_____/_____
/

3B3. QC Inspection completed

_____/_____
/

3B4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

_____/_____
/

4. 2TIC-612: 2P-1A RCP CC Return Hdr Temp Ind Ctlr

- a. Field Connections
- b. Control Room 2C03, TUAM (alarm)

4B1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing

_____/_____
11/9/96

4B2. This as-built activity was NON-INTRUSIVE and requires a QC Inspection

_____/_____
/

4B3. QC Inspection completed

_____/_____
/

4B4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

_____/_____
/

WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEM

Revision: 3

October 26, 1996

C. RCP 2P-1B CCW Supply Path**1. 2CC-754B : 2P-1B RCP CCW Inlet MOV**

- a. MCC Wiring at 2B52-326J
- b. CR wiring at 2C03, TUAG

1C1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing

_____/_____/11/9/96

1C2. This as-built activity was NON-INTRUSIVE and requires a OC Inspection

_____/_____/____/____/

1C3. QC Inspection completed

_____/_____/____/____/

1C4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

_____/_____/____/____/

2. 2CC-759B: 2P-1B RCP CC Outlet MOV

- a. MCC Wiring at 2B52-326M
- b. CR wiring at 2C03, TTAB & TTAC

2C1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing

_____/_____/11/9/96

2C2. This as-built activity was NON-INTRUSIVE and requires a OC Inspection

_____/_____/____/____/

2C3. QC Inspection completed

_____/_____/____/____/

2C4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

_____/_____/____/____/

WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEM

Revision: 3

October 26, 1996

3. 2CC-761B: 2P-1B RCP Thermal Barrier Cooling Return SOV

- a. Field wiring of SOV (solenoid and limit switches)
- b. Control room wiring at 2C03, TEAO
- c. 125 VDC Supply Breaker MOB-252

3C1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing

3C2. This as-built activity was NON-INTRUSIVE and requires a QC Inspection

3C3. QC Inspection completed

3C4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

4. 2TIC-608: 2P-1B RCP CC Return Hdr Temp Ind Ctlr

- a. Field Connections
- b. Control Room 2C03, TUAL (alarm)

4C1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing

4C2. This as-built activity was NON-INTRUSIVE and requires a QC Inspection

4C3. QC Inspection completed

4C4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEM

Revision: 3

October 26, 1996

D. HX-4 Excess Letdown Heat Xchanger (ELHX) Shell Side CCW Supply**1. 2CC-769: HX-4 ELHX Shell Side Outlet SOV**

- a. Field wiring of SOV (solenoid and limit switches)
- b. Control room wiring at 2C03, TTAL
- c. Control Room wiring at C01, UOQ
- d. 125 VDC Power Supply MOB-264

D1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing

→ J 11/9/96

D2. This as-built activity was NON-INTRUSIVE and requires a OC Inspection

_____ / _____

D3. QC Inspection completed

_____ / _____

D4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

_____ / _____

III. CCW Misc Loads**A T-12C CCW Surge Tank Emergency Make-Up Inlet SOV, 2CC-815**

- 1. MCC Wiring at 2B52-327M
- 2. CR wiring at 2C03, TTAM

A1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing

→ < 11/9/96

A2. This as-built activity was NON-INTRUSIVE and requires a OC Inspection

_____ / _____

A3. QC Inspection completed

_____ / _____

A4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

_____ / _____

WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEMRevision: 3
October 26, 1996**B. T-12 CC Surge tank Radiation Ctrl'd Vent SOV, 2CC-017**

1. Field wiring of SOV (solenoid and limit switches)
2. Control room wiring at 2C03, TCAE
3. 125 VDC Power Supply Breaker MOB-257

B1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing

B2. This as-built activity was NON-INTRUSIVE and requires a OC Inspection

B3. QC Inspection completed

B4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

C. T-12 CC Surge Tank Level XMTR, 2LT-618:

1. Field Connections (RK-51)
2. Local indicator
3. Cabinet 2C-109

C1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing

C2. This as-built activity was NON-INTRUSIVE and requires a OC Inspection

C3. QC Inspection completed

C4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

**WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEM**Revision: 3
October 26, 1996**D. Component Cooling Water Liquid Monitor, 2RE-217**

1. Field Connections, JB-2RE217
2. Cabinet C-254
3. Control Room wiring 2C03, TCAE

D1. This as-built activity was a VISUAL inspection only and
will not require additional post maintenance testing

(
L 11/9/96

D2. This as-built activity was NON-INTRUSIVE and requires a
QC Inspection

_____/____

D3. QC Inspection completed

_____/____

D4. This as-built activity was an INTRUSIVE inspection and
requires additional PMT testing.

_____/____

E. HX-12 C/D CC HX Outlet Flow XMTR, 2FT-619

1. Field Connections
2. Cabinet 2C-109

E1. This as-built activity was a VISUAL inspection only and
will not require additional post maintenance testing

11/9/96

E2. This as-built activity was NON-INTRUSIVE and requires a
QC Inspection

_____/____

E3. QC Inspection completed

_____/____

E4. This as-built activity was an INTRUSIVE inspection and
requires additional PMT testing.

_____/____

WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEMRevision: 3
October 26, 1996**F. 2P-11 A/B CC Pump Discharge Hdr Pressure Ind Ctlr, 2PIC-639****1. Field Connections**

- F1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing
- F2. This as-built activity was NON-INTRUSIVE and requires a QC Inspection
- F3. QC Inspection completed
- F4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

11/9/96

_____/_____
_____/_____
_____/_____

G. RHR HX-11A Shell Side CCW Supply MOV, 2CC-738A

1. MCC Wiring at 2B52-324J
2. CR wiring at 2C03, TUA E

- G1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing
- G2. This as-built activity was NON-INTRUSIVE and requires a QC Inspection
- G3. QC Inspection completed
- G4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

11/9/96

_____/_____
_____/_____
_____/_____

**WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEM**

Revision: 3

October 26, 1996

H. RHR HX-11B Shell Side CCW Supply MOV, 2CC-738B

1. MCC Wiring at 2B52-424J
2. CR wiring at 2C03, TBAG & TBAH

H1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing

____ / 11/9/96

H2. This as-built activity was NON-INTRUSIVE and requires a QC Inspection

____ / ____

H3. QC Inspection completed

____ / ____

H4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

____ / ____

I. P-10A/B RHR Pump Seal Water HX Shell Side Out FIS, 2FT/FIS-640

1. Field Connections ;Instrument rack RK-75
2. Control Room 2C03, TUAM

I1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing

____ / 11/9/96

I2. This as-built activity was NON-INTRUSIVE and requires a QC Inspection

____ / ____

I3. QC Inspection completed

____ / ____

I4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

____ / ____

**WORK PLAN FOR THE AS-BUILT WIRE TRACING
OF UNIT 2 COMPONENT COOLING SYSTEM**

Revision: 3

October 26, 1996

J. P-14A/B Spray Pump Seal Water HX Shell Side Out FIS, 2FT/FIS-649

1. Field Connections ;Instrument rack RK-76
2. 2TB-649
3. Control Room 2C03, TUAL

J1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing

_____/_____/_____
11/9/96

J2. This as-built activity was NON-INTRUSIVE and requires a QC Inspection

_____/_____/_____
/

J3. QC Inspection completed

_____/_____/_____
/

J4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

_____/_____/_____
/

K. P-15A/B SI Pump Seal Water HX Shell Side Out FIS, 2FT/FIS-650:

1. Field Connections RK-77
2. Control Room 2C03, TUAM

K1. This as-built activity was a VISUAL inspection only and will not require additional post maintenance testing

_____/_____/_____
11/9/96

K2. This as-built activity was NON-INTRUSIVE and requires a QC Inspection

_____/_____/_____
/

K3. QC Inspection completed

_____/_____/_____
/

K4. This as-built activity was an INTRUSIVE inspection and requires additional PMT testing.

_____/_____/_____
/

POINT BEACH UNIT 2 RESTART COMMITMENT
INDEPENDENT REVIEW RESULTS

Commitment ID Number 4

Commitment Description

Conduct as-built inspections of the electrical and I&C components on the Unit 2 CVCS and CCW systems (Work Orders 9607322, 9611140, 9606548, and 9611139). This will ensure that the associated drawings will be accurate.

Should these as-built inspections identify either generic issues or significant discrepancies which could negatively impact reactor safety, the scope of the as-built inspections will be expanded. Where discrepancies are identified, appropriate corrective and preventive actions will be taken commensurate with their safety significance.

Review Methodology

Review completed Work Orders for results of as-built inspections.

Discuss results with Responsible Person.

Review as-built program process.

Review Results

Reviewed four Work Orders listed above. Two Work Orders were for the as-built inspections (one for CVCS and one for component cooling water), and the other two were for I&C support for the inspections. Existing drawings were marked up in the inspections to reflect the as-built conditions. No problems were noted in these Work Orders.

The Work Plans were also reviewed. These work plans were adequate. Each as-built activity categorized the inspection as Visual, Non-intrusive, or Intrusive. The inspection category determined whether a QC inspection or PMT was required. All inspections in these work orders were Visual only. This method and the checklist for each activity are considered adequate. The I&C Work Orders (9611139 and 9611140) were to coordinate the instrument wiring as-builts with the instrument calibration to consolidate activities and ensure the calibration is performed after the as-built inspection for PMT. This work methodology is appropriate and shows good coordination between the As-built and I&C work groups.

Discussed these work orders and As-built program with Responsible Person. This program is a long-term drawing update program, concentrating on safety-related systems. Following the as-built field inspection, Drawing Change Notices (DCNs) are generated to update the permanent plant drawings. Updates are also generated for equipment databases (CHAMPS and CARDS) and other plant documents.

POINT BEACH UNIT 2 RESTART COMMITMENT
INDEPENDENT REVIEW RESULTS

Commitment ID Number 4

Recommendations

None. There were no concerns noted with these Work Orders or the overall As-built program.

Based on this independent review, there are no items involved with Restart Commitment #4 which would impede Unit 2 startup.

WGC TRACKING

WP Step 13

ORIGINAL

WO Priority: J

* UNIT 0 *

MWO

* UNIT 0 *

WO No: 9513222

Resp Group: MTN

HEADER PAGE

Step Print: 01/20/97

Equipment: B854B

System: 480V HP Zone:

Equipment Name: 1P-2A CHARGING PUMP ALT POWER TRANSFER SWITCH

Physical Location: B/PAB/U1 CHG PMP AREA

Discovery Date: 11/22/95

Problem Description:

ASCO MANUAL TRANSFER SWITCH MAY BE MISSING E-RINGS IN THE ARCING CONTACT ASSEMBLY. INSPECT SWITCH AND INSTALL E-RINGS IF NECESSARY.

Originator:

NEP

Outage ID:

Activity:

Tag/Sticker Placed: N No: 87878

Tag/Sticker Lctn:

Job Type: BETTERMENT PROJECTS

Project ID:

Condition Report: Y

Work Function: WORK ORDER

Mod Req: -

QA: Y SEIS: 3 Operability Pre-Test: N Procedures:

SR: N LCO: N

EQ: N PMT: Y Operability Post-Test: N Procedures:

SSA: Y CIV: N

MRULE: Y

A/P: P CACC:

RRN: - - - - - Tech Spec Ref:

QA Codes: 37

Sect XI Class:

Tools Needed:

Work Plan/Instructions reviewed. Planner

ASE

LINE SUPERVISOR: WEN 12133 NAME:

DATE: 1/22/97

Plant Conditions: SEE PROB DESC OR PROCEDURE

Ignition Control Permit: N

Other Conditions:

Transient Combustible Permit: N

Fire Barrier Penetration Permit: N

RWP: N

Equipment Isolation Required: Y

FME: N

Isolation Tag Series #: 97-050

Operability Pre-Test Complete. ____

Equipment Isolation as requested. ____

Permission granted to perform Work. ____

Ops DSS Notification Req: Y Ops DSS Signature: 1/22/97

e: 1/22/97

Special Notification:

APPENDIX R FIREROUNDS MAY BE REQUIRED

INSPECT LUGS FOR LOOSE CONNECTIONS

Number of Steps: 001

Acct #: 00 - 00000 - 1200141 - 00000

MFG Code: ASCO

Tech Manual Cntl #: 01443

* WORK ORDER CLOSEOUT *

Group Head Signature: _____ Date: 1/25/97

ORIGINAL ***** PBNP ***** WO No: 9513222001
WO Priority: J * UNIT 0 * MWO * UNIT 0 *
Resp Group: MTN ***** STEP DETAIL ***** Step Print: 01/20/97
Equipment: B854B System: 480V HP Zone:
Equipment Name: 1P-2A CHARGING PUMP ALT POWER TRANSFER SWITCH
Physical Location: 8/PAB/U1 CHG PMP AREA
Sequence No: 01
Short Desc: INSPECT SWITCH Need Date
Sched Start Date:

PLANNED:

WORK PROCEDURES:

Crew: ME
Shift: D
Class: 420

Work Plan Description:

INSPECT TRANSFER SWITCH PER ATTACHED WORKPLAN. WORK SCHEDULED TO BE PERFORMED 06/01/97 CONCURRENT WITH B52-13A CALL-UP (E-A3). ALL QC, PMT, AND FME REQUIREMENTS ADDRESSED BY WORKPLAN AS NECESSARY.

QC REVIEW REQUIRED: Y SKARVAN, KEITH MPS DATE: 012097

WORK PERFORMED: *Inspected transfer switch per attached work plan.*

MTE: *MCME-002* QAR: _____
MCME-007 _____

ACTUAL USED	CREW	SHIFT
WORKER CLASS:	<i>420</i>	<i>810</i>
NUMBER OF WORKERS:	<i>1</i>	<i>1</i>
TOTAL HOURS:	<i>2</i>	<i>2</i>
TTL EXPOSURE/STEP (MREM):	<i>-</i>	<i>-</i>

PARTS USED LIST ATTACHED: Y *(N)*

WO TAGS REMOVED: Y / N / *NA* WORK COMPLETE DATE: *1/24/97*

EMPLOYEE NUMBER: *121811810161*

EMPLOYEE NAME: *MTT*

* WORK COMPLETED *

Cause Failure Code: PM / *SVC* / NRM /
As Found-Out of Spec: Y / N / *NA* Machine History Review Required: Y / N

Failed Component: _____

Corrective Action: *NA/RP/RE/*

LINE SUPERVISOR: *121811810161*

NAME: _____

Downtime: _____ hrs

DATE: *1/23/97*

* EQUIPMENT RETURN TO SERVICE * *0*

Operability Post Testing: *Work performed sat*
EQUIP. TAKEN OOS - DATE: ____/____/____ TIME: ____ RETURN DATE: ____/____/____ TIME: ____

Operability Procs Performed

NON OPS SUPV: _____ NAME: _____ DATE: ____/____/____
DSS: *121811810161* NAME: _____ DATE: *1/23/97*



POINT BEACH NUCLEAR PLANT

WO WORK PLAN

Work Control Document: WO 9513222, ASCO Manual Transfer Switch Inspection
B854B: 1P-2A CHARGING PUMP ALT POWER TRANSFER SWITCH

Work Plan Originator:

Date: January 18, 1997

CIM 1443

Hold Point	Step No.	Work Plan Description	Worker	Date												
FME		TOOLS AND EQUIPMENT SHALL BE CHECKED FOR LOOSE PARTS AND DEBRIS AND TEMPORARY COVERS SHOULD BE INSTALLED FOR FOREIGN MATERIAL EXCLUSION (FME) OF SYSTEMS/COMPONENTS PER NP 8.4.10 "EXCLUSION OF FOREIGN MATERIAL FROM PLANT COMPONENTS AND SYSTEMS".														
	1	Danger tag the following {ref West 541F153 sh 3}: a. B52-54B RACKED OUT {ref MDB 3.2.4} b. 1B313A-B854B Breaker A2 OFF {ref MDB 3.2.3}	OPS	1/22/97												
CAUTION: AUXILIARY CONTACTS AND TERMINALS IN TRANSFER SWITCH B854B MAY BE ENERGIZED WITH 125 V DC (INDICATOR WIRING). AVOID CONTACT																
	2	Record position of manual operator: <u>UP</u> or DOWN (Circle one)		1/22/97												
	3	Verify transfer switch main contacts are de-energized.	REP	1/22/97												
NOTE: Transfer switch may be manually operated as necessary to provide ease of access for the remainder of this workplan.																
CAUTION: To avoid personal injury turn the MANUAL HANDLE <u>quickly</u> to the full mechanical stop position.																
CAUTION: To avoid personal injury do not operate the switch while tools or personnel are in the switch cabinet.																
	4	Remove the interphase barriers from the front of the switch: a. Loosen four (4) hex head screws holding upper barrier and lower barrier to switch panel. b. Remove top barrier first, then bottom barrier	REP	1/22/97												
	5	Inspect 6 (six) arcing contacts for the presence of retaining rings. Verify retaining rings are properly installed in the groove on the pivot pin. (See the attached sketch, Figure 6-10 from the Component Instruction Manual 1443, modified to show the pivot pin and retaining ring.) Record presence or absence of retaining rings in the following table (Y/N (circle one)): <table border="0" style="margin-left: auto; margin-right: auto;"><tr><td></td><td>Left Phase</td><td>Center Phase</td><td>Right Phase</td></tr><tr><td>Upper Arcing Contact</td><td><u>Y</u>/N</td><td><u>Y</u>/N</td><td><u>Y</u>/N</td></tr><tr><td>Lower Arcing Contact</td><td><u>Y</u>/N</td><td><u>Y</u>/N</td><td><u>Y</u>/N</td></tr></table>		Left Phase	Center Phase	Right Phase	Upper Arcing Contact	<u>Y</u> /N	<u>Y</u> /N	<u>Y</u> /N	Lower Arcing Contact	<u>Y</u> /N	<u>Y</u> /N	<u>Y</u> /N	REP	1/22/97
	Left Phase	Center Phase	Right Phase													
Upper Arcing Contact	<u>Y</u> /N	<u>Y</u> /N	<u>Y</u> /N													
Lower Arcing Contact	<u>Y</u> /N	<u>Y</u> /N	<u>Y</u> /N													
	6	If any retaining rings are missing install them in the groove of the pivot pin as shown on modified Figure 6-10 attached. (Spare retaining rings are located in the QA Hold cage - not lot numbered as of this writing) Record the number retaining rings installed: <u>0</u>	REP	1/22/97												



POINT BEACH NUCLEAR PLANT

WO WORK PLAN

Work Control Document: WO 9513222, ASCO Manual Transfer Switch Inspection
B854B: 1P-2A CHARGING PUMP ALT POWER TRANSFER SWITCH

Work Plan Originator: R. Larsen

Date: January 18, 1997

Hold Point	Step No.	Work Plan Description	Worker	Date
	7	<p>Inspect the interphase barriers. Record the following:</p> <p>Upper interphase barrier Lower interphase barrier</p> <p># of broken nylon rivet : <u>0</u> <u>0</u></p> <p>Color of nylon rivets <u>BLACK</u> <u>BLACK</u></p> <p>(Spare nylon rivets are located in the QC Hold cage - not lot numbered as of this writing).</p> <p>Support Dowel Present Y / <u>(N)</u> (circle one) Y / <u>(N)</u> (circle one)</p>	REP	1/22/97
CAUTION: To prevent damage, be sure the interphase barriers are outside the movable barriers.				
	8	<p>Install the interphase barriers (refer to CIM 1443, fig 6.7):</p> <p>a. Install bottom barrier first, then top barrier</p> <p>b. Tighten four (4) hex head screws holding upper barrier to switch panel.</p>	REP	1/22/97
PMT:	9	Cycle the switch to verify that the barriers are properly installed. There should be no mechanical interference.	REP	1/22/97
PMT	10	Visually verify that all switch contacts make/break/make as operator handle is moved from UP to DOWN position	REP	1/22/97
PMT	11	Meggering: With "A Load" contacts closed (operator handle in UP position) megger phase-to-phase and phase-to-ground. All readings should be greater than 1 G-Ohm at 500v.	REP	1/22/97
FME	12	Place manual operator in position found and noted in Step 2. Clean any foreign material from switch cabinet and perform a Foreign Materials Exclusion inspection.	REP	1/22/97
	13	<p>Release Danger Tags.</p> <p>a. Rack in B52-54B. <i>RL</i></p> <p>b. Leave breaker A2 of 1B313A-B854B in OFF position <i>RL</i></p>	OPS	1/23/97
QC	No QC hold or inspection points required. Any changes in work scope or additional work instructions requires review by QC inspector for QC hold or inspection points.			

Work Order No. 9513222

Return to Service Testing Reviews

INITIALS

Pre-Release / Pre or Post-RTS

Work Group Post-Maintenance Testing

Cycle switch & verify NO mechanical interference ✕

Visually verify switch contacts Make & Break ✕

Megger phase to phase & phase to ground & verify ✕
7 4 6 ohms

Section XI Equipment Y (N)

Operability Testing

None

Inservice Testing

NA

ENGINEERING REVIEW

SECTION XI ENGINEERING REVIEW

NA →

Unit: PBO

>>>

REVIEW WORK ORDER REQUEST

<<<

System: 480V

-----CH5306M 07/25/95----

Work Order No: 9513222

Desc: INSPECT SWITCH

Equip ID: B854B

Physical Lctn: 8/PAB/U1 CHG PMP AREA

Equip Name: 1P-2A CHARGING PUMP ALT POWER TRANSFER SWITCH

Resp Group: MTN

Equip Group: SWGEAR

Outage: _____ P2 #: _____

Pri: J PLANT BETTERMENT/SERVICE TYPE WOS

Need By: 06/09/96 WO Type: J BETTERMENT PROJECTS

Project: _____

Status: 20 IN PLANNING

WO Function: WO WORK ORDER

Assign To: _____

Callup:

MPFF: N

Orig: WE2416 (

N) Appr: NP4017

(N)

Cond Report?: Y

RWP Required?: N

FME?: N

Discov Date: 11/22/95

Inst Loop:

Problem Description:

ASCO MANUAL TRANSFER SWITCH MAY BE MISSING E-RINGS IN THE ARCING CONTACT ASSEMBLY. INSPECT SWITCH AND INSTALL E-RINGS IF NECESSARY.

Tag/Sticker Placed: N TAG NO: 87878 Tag/Sticker Lctn:

Last Updated By:

Date: 12/12/95

<ENT> - UPDATE

PF4 - RESET

PF8 - NEXT PAGE

PF20 - MODEL

PF2 - COST

PF5 - PREV REC

PF9 - PREV SCRIN

PF3 - WO MENU

PF6 - NEXT REC

PF10 - SUMMARY

PF22 - EQUIPMENT

GN-0007

PROCESS COMPLETE.

□

WORK ORDER NO: 9513222

Equip Id: B854B

Physical Lctn: 8/PAB/U1 CHG PMP AREA

Equip Name: 1P-2A CHARGING PUMP ALT POWER TRANSFER SWITCH

TECH SPEC 1 15

REFERENCES 2 15

3 15

OPERABILITY Pre-Test Post-Test

P&ID DRAWINGS

NONE

@
@
@

DRAWINGS Elem

Vendor

Connection

1 378

ASCO JS-423601

BECH 6118 E-98 SH 37

2

ASCO JS-423604

3

WEST 541F153 SH 3

4

5

6

Last Updated By:

Date:

<ENT> - UPDATE

PF4 - RESET

PF7 - PREV PAGE

PF10 - SUMMARY

PF2 - COST

PF5 - PREV REC

PF8 - NEXT PAGE

PF3 - WO MENU

PF6 - NEXT REC

PF9 - PREV SCREEN

PF22 - EQUIPMENT

□

UNIT: PBO

>>> ADD/REVISE EQUIPMENT - DATA SCREEN 1 <<< System: 480V

-----CH5101 11/03/95

EQUIP ID: B854B

Physical Lctn: 8/PAB/U1 CHG PMP AREA

EQUIP NAME: 1P-2A CHARGING PUMP ALT POWER TRANSFER SWITCH

PARENT/EQUIPMENT ID:

TRACKING ID: PBO B854B-AA

Text ID:

PSI Text ID:

Tracking Desc: 1P-2A CHARGING PUMP ALT POWER TRANSF Tech Manual C+1: 01443

Equip Group: SWGEAR Equip Type:

Resp Group: MTN WO Jo:

Mfg Code: ASCO AUTOMATIC SWITCH CO.

Vendor Code: -----

Model No: 175E247C

Serial No: 999100-3

QA: Y FP: N OPERABILITY

CR REF: -

SDR: SDR-S-480V

SR: N A/P: P Pre-Test: N

SE-RPT:

Appendix R: H

EQ: N SSA: Y Post-Test: N

EQ-RPT:

Unit Shared: N

CIV: N QA Codes: 37

CMP:

Safegrd Train:

SEIS: 3 DSS Notification: Y Special Notification: A B

LCO: N M-RULE: Y

NPRDS: NPRDS (Y/N):

Unit:

Component ID:

Utility ID:

System ID:

Utility System ID:

PF2 - REPAIR COST PF6 - NEXT RECORD

PF10 - PWR SUP

PF20 - MODEL

PF3 - EQ MENU

PF11 - OPEN WO

PF22 - PSI TEXT

PF4 - RESET

PF8 - NEXT PAGE

PF12 - DETAIL

PF23 - TEXT

PF5 - PREV RECORD

PF9 - PREV SCREEN

PF19 - BRWS TRK ID PF24 - HISTORY

□

UNIT: PBO

>>> ADD/REVISE EQUIPMENT - DATA SCREEN 2 << SYSTEM: 480V

----- CH5136M -----

EQUIP ID: B854B

Physical Lctn: 8/PAB/U1 CHG PMP AREA

Equip Name: 1P-2A CHARGING PUMP ALT POWER TRANSFER SWITCH

TRACKING ID: PBO B854B-AA

Text ID: PSI Text ID:

Equip Group: SWGEAR Equip Type:

Resp Group: MTN WO No:

TECH SPEC 1: 15. _____

Installation Doc: MR 87-121

REFERENCES 2: 15. _____

Applicable Spec: WE PB-418

3: 15. _____

IC History Review Req'd: _

DRAWINGS P and ID

1: NONE

@

2: _____

@

3: _____

@

West 499B466 Elem 1: Sh 378

2: Sh _____

3: Sh _____

4: Sh _____

5: Sh _____

6: Sh _____

Connection 1: BECH 6118 E-98 SH 37

2: _____

3: _____

4: _____

Vendor 1: ASCO JS-423601

2: ASCO JS-423604

3: WEST 541F153 SH 3

4: _____

5: _____

6: _____

PF2 - REPAIR COST

PF6 - NEXT RECORD

PF10 - PWR SUP

PF3 - EQ MENU

PF7 - PREV PAGE

PF11 - OPEN WO

PF22 - PSI TEXT

PF4 - RESET

PF8 - NEXT PAGE

PF12 - DETAIL

PF23 - TEXT

PF5 - PREV RECORD

PF9 - PREV SCREEN

PF24 - HISTORY

□

Equip ID: B854B Physical Lctn: 8/PAB/U1 CHG PMP AREA
Equip Name: 1P-2A CHARGING PUMP ALT POWER TRANSFER SWITCH
Trk'g ID: PB0 B854B-AA Add Text ID: PSI Text ID:
Equip Group: SWGEAR EQUIP TYPE: Resp Group: MTN WO No:

HP Zone: Mfg No: JE Inv No:
NON-Ops Acct: 000 - 00 - 00000 - 1200141 - 00000 MTN MECH/ELEC MAINTENANCE
Ops Acct: 000 - 00 - 00000 - 1200074 - 00000 OPS PLANT OPERATIONS

Notes:
APPENDIX R FIRE WATCH REQUIRED PER S.O. 4.12.7.

Locate Date:	By:	PO#:	SQUG:	CACC:
SECT XI CLASS:	RRM:	-	-	-
OPS SYS	SYSTEM	DESIGN	DESIGN	COMPONENT
CREW	ENGINEER	ENGINEER	DOC ENGINEER	ENGINEER

PF2 - REPAIR COST	PF6 - NEXT RECORD	PF10 - PWR SUP	
PF3 - EQ MENU	PF7 - PREV PAGE	PF11 - OPEN WO	PF22 - PSI TEXT
PF4 - RESET	PF8 - NEXT PAGE	PF12 - DETAIL	PF23 - TEXT
PF5 - PREV RECORD	PF9 - PREV SCREEN	PF21 - BRWS ACCTS	PF24 - HISTORY

□

UNIT: PBO >>> ADD/REVISE EQUIPMENT - SWITCHGEAR <<< System: 480V
----- CH5155M -----
EQUIP ID: B854B Physical Lctn: 8/PAB/U1 CHG PMP AREA
Equip Name: 1P-2A CHARGING PUMP ALT POWER TRANSFER SWITCH
TRACKING ID: PBO B854B-AA Text ID: PSI Text ID:
Tracking Desc: 1P-2A CHARGING PUMP ALT POWER TRANSF Tech Manual Ctl: 01443
Equip Group: SWGEAR Equip Type: Resp Group: MTN WO No:
Mfg Code: ASCO AUTOMATIC SWITCH CO.
Vendor Code: -----
Model No: 175E247C Serial No: 999100-3

Mfg Type: _____ Starter Size: _____
Control Power Norm: _____
Control Power Alt: _____
Thermal Overload: _____ Voltage: 480 VAC
Protective Devices: _____ Amps: 600 AAC
Power Supply Norm: PBO B52-54B
Power Supply Alt: _____

PF2 - REPAIR COST	PF5 - PREV RECORD	PF10 - POWER SUPPLY	PF23 - TEXT
PF3 - EQUIP MENU	PF6 - NEXT RECORD	PF11 - OPEN WO	PF24 - HISTORY
PF4 - RESET	PF7 - PREV PAGE	PF22 - PSI TEXT	

□

FAX**Date** 01/17/97**Number of pages including cover sheet** 4**TO:**

PBNP Maintenance

Phone**Fax Phone****FROM:**Wisconsin Electric Power
Company

P.O. Box 2046

Milwaukee, WI 53201-
2046**Phone** 414-221-3989**Fax Phone** 414-221-2010**CC:****REMARKS:** ☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please Comment

Bob,

It is important the interphase barriers be reinstalled properly, see figure 6-7 of the CIM. The barriers consist of an upper and lower section in addition to "moveable barriers on shafts". These "moveable barriers on shafts" may interfere with switch operation if they are not positioned with respect to the removable upper and lower sections as shown in figure 6-7 of the CIM.

Also, if any e-clips (retaining rings) or nylon rivets (holding the interphase barriers together) are missing, replacement parts are in the QA hold cage. A stocking authorization request has been submitted for them but when I checked CHAMPs yesterday I did not find a lot number for them yet.

Contact me if you have any questions -

I copied the drawing on to 2 pages because the FAX wouldn't take 11x17.

1M4865

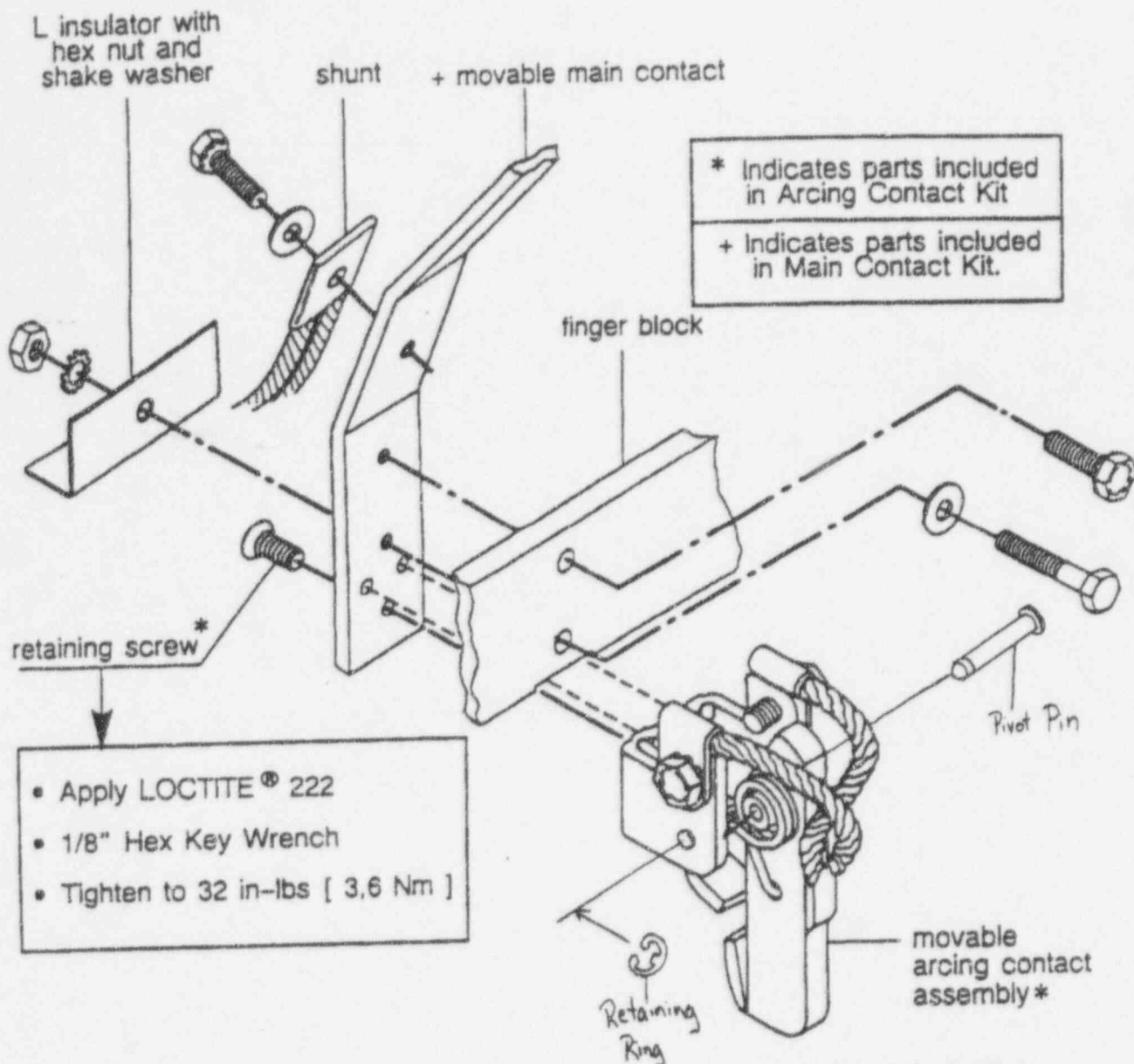


Figure 6-10. Arcing and Main Movable Contact Assembly (one pole shown) 300 & 600 A

6-4.2 ARCING AND MAIN MOVABLE CONTACT REPLACEMENT. First complete the steps in paragraph 6-4.1. The movable arcing and main contacts are mounted in the contact shaft assembly. The three main contacts are screwed to the back side of the two finger blocks and to the shunts. The six arcing contact assemblies, which extend from the ends of the main contacts, are the normal replacement parts. They make first and break last to protect the main contacts. Remove and replace the arcing and main movable contacts of the switch (Figure 6-10) as follows:

a. Remove the six arcing contact assemblies. Use a 1/8 inch hex key wrench to remove counterclockwise (ccw) the retaining screw from the base of each arcing contact assembly.

b. Remove the spacer by using the MANUAL HANDLE. Then close the bottom contacts of the switch.

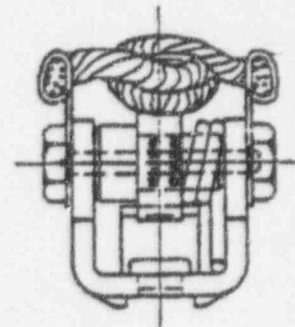
c. Disconnect the three main shunts. Use a 1/2 inch socket wrench to remove (ccw) the large hex head (Sems) screw and flat washer to disconnect each shunt from the movable main contact.

d. Remove the three movable main contacts. Use the MANUAL HANDLE again to insert the spacer between finger block and panel. Use a 7/16 inch nutdriver to remove (ccw) four hex head (Sems) screws securing each movable main contact to the finger blocks. Use a 7/16 inch socket wrench to hold the nut securing the L insulator behind the main contact while removing the screw. Then remove the movable main contacts.

PARTS LIST

ITEM	DESCRIPTION	PART NO.	QTY
1	CONTACT ASSEMBLY	409124	1
2	BRACKET ASSEMBLY	409264	1
3	SPRING	401578	1
4	RETAINING RING	026294-162	1
5	SCREW (SEMS)	110912-048-A2	2
6	PIVOT PIN	401576	1

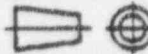
ABOVE PARTS LIST IS FOR REFERENCE ONLY.
USE COMPUTERIZED BILL OF MATERIAL FOR
PRODUCTION PURPOSES.



FORM PIGTAILS
AS SHOWN.

TIGHTEN TO
32 IN/LBS.

Piece 6, Pivot pin with E-clip installed
is located where the 2 indicated
lines cross.

ARCING		CONTACT		ASSY.		 THIRD ANGLE PROJECTION		SS SS 10/88 108282 RELEASED	
E940/962		600/800 AMP.						ER NO. BY APP. DATE	
BY SS		DATE 10/88		COMPUTER GENERATED DRAWING				AE <input type="checkbox"/> AN <input type="checkbox"/> AL <input checked="" type="checkbox"/> AP <input type="checkbox"/> AJ <input type="checkbox"/> CH <input type="checkbox"/> AV <input type="checkbox"/> W <input type="checkbox"/> AA <input type="checkbox"/> PS <input type="checkbox"/> AG <input type="checkbox"/> AP <input type="checkbox"/> CTC <input type="checkbox"/> AC <input type="checkbox"/>	
DRAWN BY		SS		MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCE PROCEDURE MP-1-003		1/1 SCALE		ASSEM. REF. NO.	
PROJ. APP.									
CHECKED				PROPERTY OF AUTOMATIC SWITCH COMPANY. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		<input type="checkbox"/> CRT		GS 401600	
DFT. APP.		SS		10/88					
ENG. ACT		SS		10/88					
				Automatic Switch Co. FLORHAM PARK, NEW JERSEY 07932 PRINTED IN U.S.A.		7 FILE		CHANGE LETTER	

Section III. Repair of 300 and 600 Ampere Switches Catalog 163E299C, Catalog 486E4C and 175E247C

6-4 PARTS REMOVAL AND REPLACEMENT ON SWITCH ASSEMBLY.

6-4.1 GENERAL. Except for some structural members, all parts and sub-assemblies are removable from the front without removing switch from enclosure.

a. Tools required.

- (1) 1/8 inch hex key wrench
- (2) 1/4 inch nutdriver
- (3) 11/32 inch nutdriver
- (4) 7/16 inch nutdriver
- (5) 5/16 inch open-end wrench
- (6) 3/8 inch open-end wrench
- (7) 7/16 inch socket wrench
- (8) 1/2 inch socket wrench
- (9) blade screwdriver
- (10) phillips screwdriver
- (11) offset blade screwdriver
- (12) torque wrench (100 in.-lbs)
- (13) 1/2 inch spacer (drill shank)
- (14) cotton swab or small brush
- (15) test light (continuity tester)
- (16) needle-nose pliers
- (17) pencil or wood dowel
- (18) 2 1/4 inch spacer (wood block or bolt)
- (19) LOCTITE® 222 thread sealant
- (20) ruler

b. To open the enclosure door loosen the clamp screws in sequence. See Figure 1-1.

c. Remove the barriers from the front of the switch. Use a 1/4 inch nutdriver to loosen only (ccw) four hex head screws holding upper barrier and lower barrier to switch panel. Remove top barrier first and bottom barrier last. Slide top barrier up and tilt outward from the top; slide bottom barrier up and tilt outward from the bottom. See Figure 6-7.

d. Remove the six arc chutes and fiber clamp pieces after removing two nylon retainer nuts on both sides of each arc chute. See Figure 6-8.

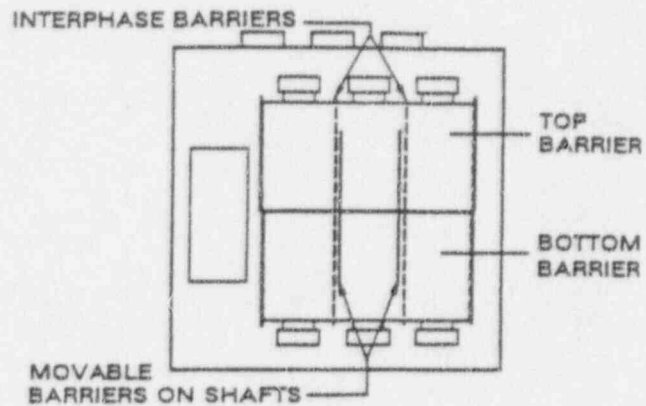


Figure 6-7. Barrier Assembly 300 & 600 A

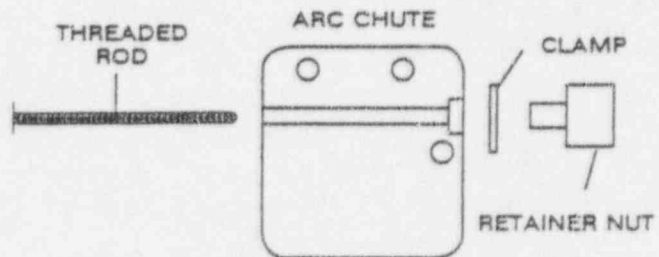


Figure 6-8. Arc Chute Assembly 300 & 600 A

WARNING

To prevent personal injury keep your fingers away from the QMQB mechanism when operating the switch.

e. To prevent the QMQB mechanism from operating, hold the MANUAL HANDLE about mid position while tightening down the lock nut on the power spring guide rod extending from the yoke. Then the MANUAL HANDLE can be used for slow operation (maintenance purposes only). See Figure 6-9.

f. Insert a 2 1/4 inch spacer between the panel and one finger block to hold the contacts open. Use the maintenance handle to hold the contacts open until the spacer can be inserted; this spacer will hold the contact shaft in mid position.

g. Visually inspect the main contacts. They should be replaced if severely eroded or pitted.

h. The top contacts are open when the MANUAL HANDLE is up. The bottom contacts are open when MANUAL HANDLE is down.

WCC TRACKING

#5

WP step 13

1

ORIGINAL ***** UNIT 0 ***** UNIT 0 *****
 WO Priority: J ***** UNIT 0 ***** UNIT 0 *****
 Resp Group: MTN ***** UNIT 0 ***** UNIT 0 *****
 Equipment: B854D ***** UNIT 0 ***** UNIT 0 *****
 Equipment Name: P-32B/F SERVICE WTR PUMP ALT PWR SELECTOR SWITCH
 Physical Location: 8/CB/G-01 RM ***** UNIT 0 ***** UNIT 0 *****
 System: 480V HP Zone
 Discovery Date: 11/22/95

Problem Description:
 ASCO MANUAL TRANSFER SWITCH MAY BE MISSING E-RINGS IN THE ARCING CONTACT ASSEMBLY. INSPECT SWITCH AND INSTALL E-RINGS IF NECESSARY.

Originator: NEF Outage ID: Activity:
 Tag/Sticker Placed: N No: 875 Tag/Sticker Lctn:
 Job Type: BETTERMENT PROJECTS Project ID: Condition Report: Y
 Work Function: WORK ORDER
 Mod Req #: -

QA: Y SEIS: 3 Operability Pre-Test: N Procedures:
 SR: N LCO: N
 EQ: N FMT: Y Operability Post-Test: N Procedures:
 SSA: Y CIV: N MRULE: Y
 A/P: A CACC:
 RRN: - - - Tech Spec Ref:
 QA Codes: 37 Sect XI Class:
 Tools Needed:

Work Plan/Instructions reviewed. Planner: MPS
 LINE SUPERVISOR: WE4121313 NAME: DATE: 1/22/97
 Plant Conditions: SEE PROB DESC OR PROCEDURE Ignition Control Permit: N
 Other Conditions: Transient Combustible Permit: N
 Fire Barrier Penetration Permit: N RWP: N
 Equipment Isolation Required: Y FME: Y
 Isolation Tag Series #: 97-051

Operability Pre-Test Complete. Equipment Isolation as requested.
 Permission granted to perform Work.
 Ops DSS Notification Req: Y Ops DSS Signature: Date: 1/22/97

Special Notification:
 APPENDIX R FIREROUNDS MAY BE REQUIRED
 INSPECT LUGS FOR LOOSE CONNECTIONS

Number of Steps: 001
 Acct #: 00 - 00000 - 1200141 - 00000
 MFG Code: ASCO Tech Manual Cntl #: 01443

* WORK ORDER CLOSEOUT *

Group Head Signature: Date: 1/25/97

ORIGINAL ***** FBNP ***** WO No: 9513223001
WO Priority: J * UNIT 0 * MWO * UNIT 0 *
Resp Group: MTN ***** STEP DETAIL ***** Step Print: 01/20/97
Equipment: B854D System: 480V HP Zone
Equipment Name: P-32B/F SERVICE WTR PUMP ALT PWR SELECTOR SWITCH
Physical Location: 8/CB/G-01 RM
Sequence No: 01
Short Desc: INSPECT SWITCH Need Date
Sched Start Date:

PLANNED: WORK PROCEDURES:
Crew: ME
Shift: D
Class: 420

Work Plan Description:
INSPECT TRANSFER SWITCH PER ATTACHED WORKPLAN. WORK SCHEDULED TO BE
PERFORMED 12/01/99 CONCURRENT WITH B52-54D CALL-UP (E-A5).
ALL QC, PMT, AND FME REQUIREMENTS ADDRESSED BY WORKPLAN AS NECESSARY.

QC REVIEW REQUIRED: Y I MFS DATE: 012097

WORK PERFORMED: *Inspected transfer switch per attached work plan*

MTE: *MCMG-001* QAR: *MCMG-001*

ACTUAL USED	CREW	SHIFT
WORKER CLASS:	420	810
NUMBER OF WORKERS:	1	1
TOTAL HOURS:	2	2
TTL EXPOSURE/STEP (MREM)		

PARTS USED LIST ATTACHED: Y / N
WO TAGS REMOVED: Y / N / NA WORK COMPLETE DATE: 1/22/97
EMPLOYEE NUMBER: EMPLOYEE NAME: *TLL*

* WORK COMPLETED *
Cause Failure Code: PM / CVD / NRM /
As Found-Out of Spec: Y / N / NA Machine History Review Required: Y / N
Failed Component:
Corrective Action: *NA/PP/PP*
LINE SUPERVISOR: NAME: Downtime: hrs
DATE: 1/23/97

* EQUIPMENT RETURN TO SERVICE *
Operability Post Testing: *Work performed sat*
EQUIP. TAKEN OOS - DATE: TIME: RETURN DATE: TIME:
Operability Procs Performed
NON OPS SUPV: NAME: DATE: 1/23/97
DSS: NAME: DATE:



POINT BEACH NUCLEAR PLANT

WO WORK PLAN

Work Control Document: WO 9513223, ASCO Manual Selector Switch Inspection
B854D: P-32B/F SW PUMP ALT POWER TRANSFER SWITCH

Work Plan Originator

Date: January 18, 1997

CIM 1443

Hold Point	Step No.	Work Plan Description	Worker	Date												
FME		TOOLS AND EQUIPMENT SHALL BE CHECKED FOR LOOSE PARTS AND DEBRIS AND TEMPORARY COVERS SHOULD BE INSTALLED FOR FOREIGN MATERIAL EXCLUSION (FME) OF SYSTEMS/COMPONENTS PER NP 8.4.10 "EXCLUSION OF FOREIGN MATERIAL FROM PLANT COMPONENTS AND SYSTEMS".														
	1	Danger tag the following: {ref: West 541F153 sh 3} a. B52-54D RACKED OUT {ref MDB 3.2.4 Panel B08} b. 1B311C-B854D Transfer Switch to the NORMAL position (P-32B connected to 1B52-11C) {Ref MDB 3.2.3 Panel 1B03} c. 2B334B-B854D Transfer switch to the NORMAL position (P-32F connected to 2B52-34B) {Ref MDB 3.2.4 Panel 2B03}	OPS	1/22/97												
CAUTION: AUXILIARY CONTACTS AND TERMINALS IN TRANSFER SWITCH B854D MAY BE ENERGIZED WITH 125 V DC (INDICATOR WIRING). AVOID CONTACT																
	2	Record position of manual operator: UP or <u>DOWN</u> (Circle one)		1/22/97												
	3	Verify main switch contacts are de-energized on both A and B load sides.	RSP	1/24/97												
NOTE: B854D Transfer Switch may be manually operated as necessary to provide ease of access for the remainder of this workplan.																
CAUTION: To avoid personal injury turn the MANUAL HANDLE <u>quickly</u> to the full mechanical stop position.																
CAUTION: To avoid personal injury do not operate the switch while tools or personnel are in the switch cabinet.																
	4	Remove the interphase barriers from the front of the switch. a. Loosen four (4), 1/4" hex head screws holding upper barrier and lower barrier to switch panel. b. Remove top barrier first, then bottom barrier	RSP	1/22/97												
	5	Inspect 6 (six) arcing contacts for the presence of retaining rings. Verify retaining rings are properly installed in the groove on the pivot pin. (See Figure 6-10 from the Component Instruction Manual 1443, modified to show the pivot pin and retaining ring.) Record presence or absence of retaining rings in the following table (Y/N (circle one)):														
		<table border="0"> <thead> <tr> <th></th> <th>Left Phase</th> <th>Center Phase</th> <th>Right Phase</th> </tr> </thead> <tbody> <tr> <td>Upper Arcing Contact</td> <td>(Y) / N</td> <td>(Y) / N</td> <td>(Y) / N</td> </tr> <tr> <td>Lower Arcing Contact</td> <td>(Y) / N</td> <td>(Y) / N</td> <td>(Y) / N</td> </tr> </tbody> </table>		Left Phase	Center Phase	Right Phase	Upper Arcing Contact	(Y) / N	(Y) / N	(Y) / N	Lower Arcing Contact	(Y) / N	(Y) / N	(Y) / N	RSP	1/22/97
	Left Phase	Center Phase	Right Phase													
Upper Arcing Contact	(Y) / N	(Y) / N	(Y) / N													
Lower Arcing Contact	(Y) / N	(Y) / N	(Y) / N													



POINT BEACH NUCLEAR PLANT

WO WORK PLAN

Work Control Document: WO 9513223, ASCO Manual Selector Switch Inspection
B854D: P-32B/F SW PUMP ALT POWER TRANSFER SWITCH

Work Plan Originator:

Date: January 18, 1997

Hold Point	Step No.	Work Plan Description	Worker	Date
	6	If any retaining rings are missing install them in the groove of the pivot pin as shown on modified Figure 6-10 attached. (Spare retaining rings are located in the QA Hold cage - not lot numbered as of this writing) Record the number retaining rings installed: <u>0</u>	REP	1/22/97
	7	Inspect the interphase barriers. Record the following: <div style="display: flex; justify-content: space-around;"> Upper interphase barrier Lower interphase barrier </div> # of broken nylon rivet : <u>0</u> <u>0</u> Color of nylon rivets <u>BLACK</u> <u>BLACK</u> (Spare nylon rivets are located in the QC Hold cage - not lot numbered as of this writing). Support Dowel Present Y / <u>N</u> (circle one) Y / <u>N</u> (circle one)	REP	1/22/97
CAUTION: To prevent damage, be sure the interphase barriers are outside the movable barriers.				
	8	Install the interphase barriers (refer to CIM 1443, fig 6.7). Install bottom barrier first, then top barrier.	REP	1/22/97
PMT:	9	Cycle the switch to verify that the barriers are properly installed. There should be no mechanical interference.	REP	1/23/97
PMT	10	Visually verify that all respective switch contacts make/break/make as operator handle is moved from UP to DOWN position	REP	1/23/97
PMT	11	Meggering: 1. With "A Load" contacts closed (operator handle in UP position) megger phase-to-phase and phase-to-ground. All readings should be greater than 1 G-Ohm at 500v. 2. With "B Load" contacts closed (operator handle in DOWN position) megger phase-to-phase and phase-to-ground. All readings should be greater than 1 G-Ohm at 500v.	REP	1/23/97
FME	12	Place manual operator in position found and noted in Step 2. Clean any foreign material from switch cabinet and perform a Foreign Materials Exclusion inspection.	REP	1/22/97
	13	Release Danger Tags. a. Rack in B52-54D. <i>REP</i> b. Remove danger tag from transfer switch 1B311C-B854D and leave in NORMAL <i>REP</i> c. Remove danger tag from transfer switch 2B334B-B854D and leave in NORMAL <i>REP</i>	TOPS	1/23/97

[illegible]

FAX**Date** 01/17/97**Number of pages including cover sheet** 4**TO:**

PBNP Maintenance

Phone**Fax Phone****FROM:**Wisconsin Electric Power
Company

P.O. Box 2046

Milwaukee, WI 53201-
2046**Phone** 414-221-3989**Fax Phone** 414-221-2010**CC:****REMARKS:** ☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please Comment

It is important the interphase barriers be reinstalled properly, see figure 6-7 of the CIM. The barriers consist of an upper and lower section in addition to "moveable barriers on shafts". These "moveable barriers on shafts" may interfere with switch operation if they are not positioned with respect to the removeable upper and lower sections as shown in figure 6-7 of the CIM.

Also, if any e-clips (retaining rings) or nylon rivets (holding the interphase barriers together) are missing, replacement parts are in the QA hold cage. A stocking authorization request has been submitted for them but when I checked CHAMPs yesterday I did not find a lot number for them yet.

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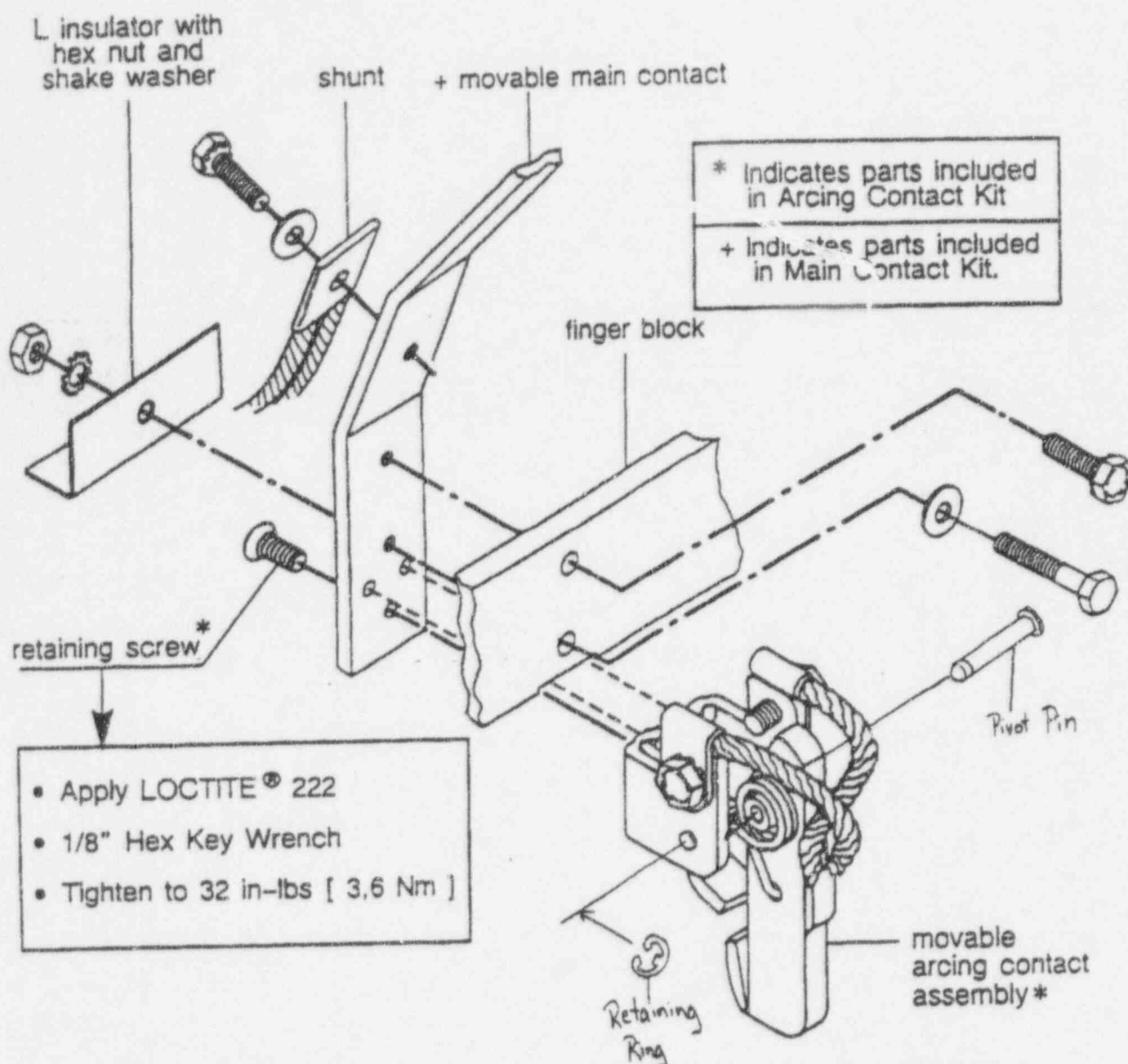


Figure 6-10. Arcing and Main Movable Contact Assembly (one pole shown) 300 & 600 A

6-4.2 ARCING AND MAIN MOVABLE CONTACT REPLACEMENT. First complete the steps in paragraph 6-4.1. The movable arcing and main contacts are mounted in the contact shaft assembly. The three main contacts are screwed to the back side of the two finger blocks and to the shunts. The six arcing contact assemblies, which extend from the ends of the main contacts, are the normal replacement parts. They *make* first and *break* last to protect the main contacts. Remove and replace the arcing and main movable contacts of the switch (Figure 6-10) as follows:

a. Remove the six arcing contact assemblies. Use a 1/8 inch hex key wrench to remove counterclockwise (ccw) the retaining screw from the base of each arcing contact assembly.

b. Remove the spacer by using the MANUAL HANDLE. Then close the bottom contacts of the switch.

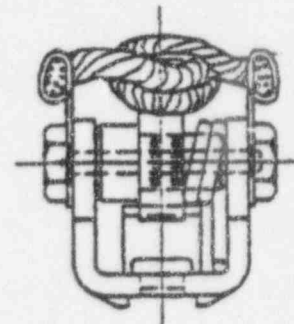
c. Disconnect the three main shunts. Use a 1/2 inch socket wrench to remove (ccw) the large hex head (Sems) screw and flat washer to disconnect each shunt from the movable main contact.

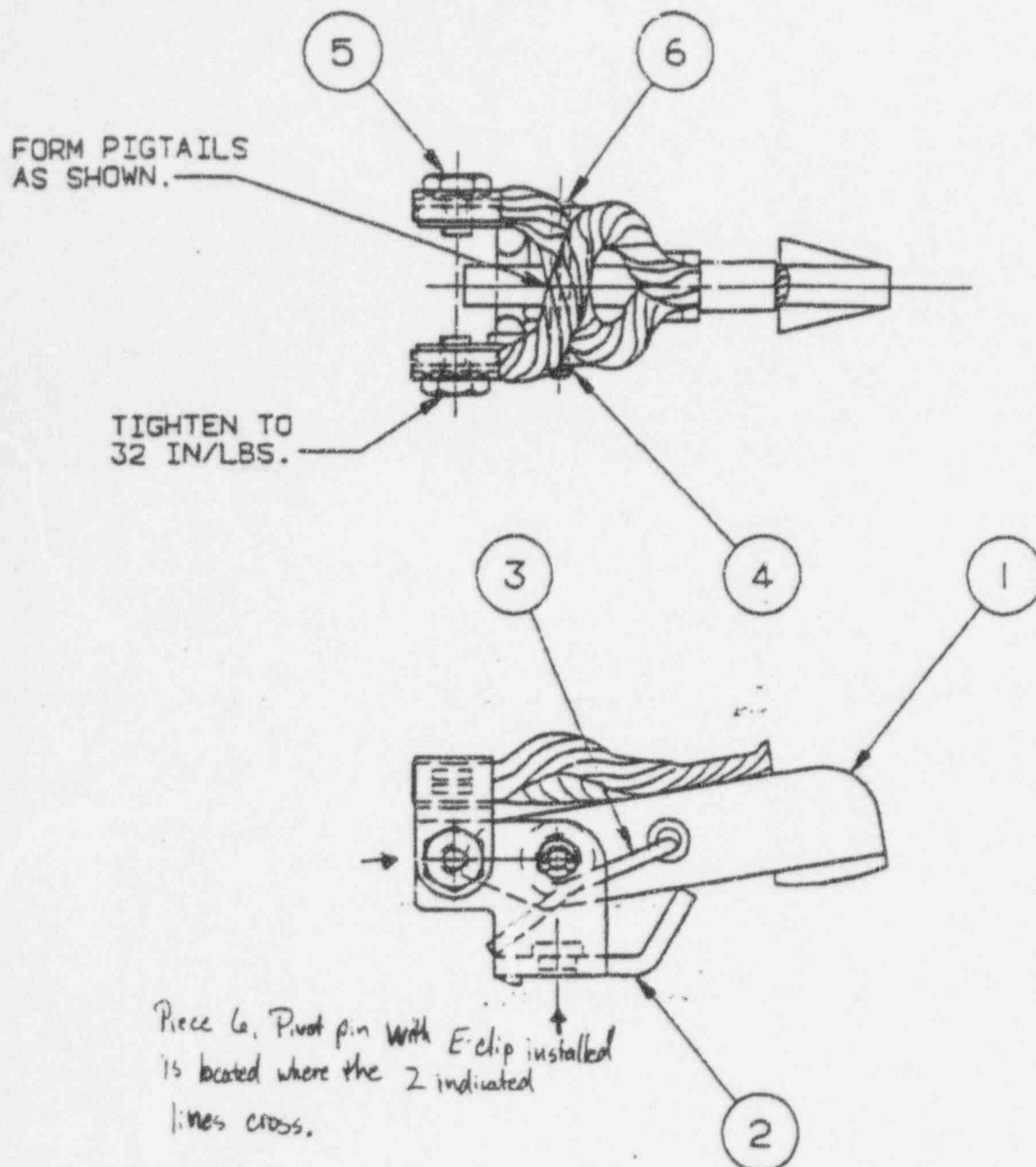
d. Remove the three movable main contacts. Use the MANUAL HANDLE again to insert the spacer between finger block and panel. Use a 7/16 inch nutdriver to remove (ccw) four hex head (Sems) screws securing each movable main contact to the finger blocks. Use a 7/16 inch socket wrench to hold the nut securing the L insulator behind the main contact while removing the screw. Then remove the movable main contacts.

PARTS LIST

ITEM	DESCRIPTION	PART NO.	QTY
1	CONTACT ASSEMBLY	409124	1
2	BRACKET ASSEMBLY	409264	1
3	SPRING	401578	1
4	RETAINING RING	026294-162	1
5	SCREW (SEMS)	110912-048-A2	2
6	PIVOT PIN	401576	1

ABOVE PARTS LIST IS FOR REFERENCE ONLY.
USE COMPUTERIZED BILL OF MATERIAL FOR
PRODUCTION PURPOSES.





ARCING		CONTACT		ASSY.		THIRD ANGLE PROJECTION		SS SS 10/88	
E940/962								108282 RELEASED	
600/800 AMP.								ER NO. BY APP. DATE	
BY SS 10/88		COMPUTER GENERATED DRAWING		1/1		ASSEM. REF. NO.		AE AN AL X AR AJ	
PROJ. APP.		MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCC PROCEDURE NF-1-003		SCALE				CH AV VR AA PE	
CHECKED		PROPERTY OF AUTOMATIC SWITCH COMPANY. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.						AG AP CTC AC	
DFT APP. SS 10/88		Automatic Switch Co.		7		GS 401600			
ENG. APP. SS 10/88		FLORHAM PARK, NEW JERSEY 07932 PRINTED IN U.S.A.		FILE		CHANGE LETTER			

Section III. Repair of 300 and 600 Ampere Switches Catalog 163E299C, Catalog 486E4C and 175E247C

6-4 PARTS REMOVAL AND REPLACEMENT ON SWITCH ASSEMBLY.

6-4.1 GENERAL. Except for some structural members, all parts and sub-assemblies are removable from the front without removing switch from enclosure.

a. Tools required.

- (1) 1/8 inch hex key wrench
- (2) 1/4 inch nutdriver
- (3) 11/32 inch nutdriver
- (4) 7/16 inch nutdriver
- (5) 5/16 inch open-end wrench
- (6) 3/8 inch open-end wrench
- (7) 7/16 inch socket wrench
- (8) 1/2 inch socket wrench
- (9) blade screwdriver
- (10) phillips screwdriver
- (11) offset blade screwdriver
- (12) torque wrench (100 in-lbs)
- (13) 1/2 inch spacer (drill shank)
- (14) cotton swab or small brush
- (15) test light (continuity tester)
- (16) needle-nose pliers
- (17) pencil or wood dowel
- (18) 2 1/2 inch spacer (wood block or bolt)
- (19) LOCTITE® 222 thread sealant
- (20) ruler

b. To open the enclosure door loosen the clamp screws in sequence. See Figure 1-1.

c. Remove the barriers from the front of the switch. Use a 1/4 inch nutdriver to loosen only (ccw) four hex head screws holding upper barrier and lower barrier to switch panel. Remove top barrier first and bottom barrier last. Slide top barrier up and tilt outward from the top; slide bottom barrier up and tilt outward from the bottom. See Figure 6-7.

d. Remove the six arc chutes and fiber clamp pieces after removing two nylon retainer nuts on both sides of each arc chute. See Figure 6-8.

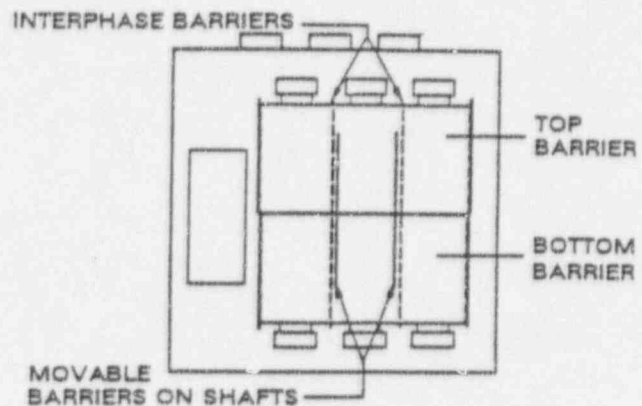


Figure 6-7. Barrier Assembly 300 & 600 A

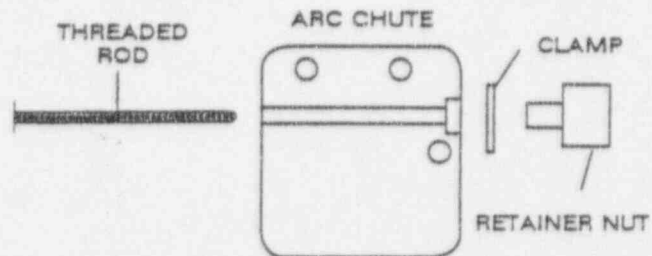


Figure 6-8. Arc Chute Assembly 300 & 600 A

WARNING

To prevent personal injury keep your fingers away from the QMQB mechanism when operating the switch.

e. To prevent the QMQB mechanism from operating, hold the MANUAL HANDLE about mid position while tightening down the lock nut on the power spring guide rod extending from the yoke. Then the MANUAL HANDLE can be used for slow operation (maintenance purposes only). See Figure 6-9.

f. Insert a 2 1/2 inch spacer between the panel and one finger block to hold the contacts open. Use the maintenance handle to hold the contacts open until the spacer can be inserted; this spacer will hold the contact shaft in mid position.

g. Visually inspect the main contacts. They should be replaced if severely eroded or pitted.

h. The top contacts are open when the MANUAL HANDLE is up. The bottom contacts are open when MANUAL HANDLE is down.

WCC TRACKING

#5

WP step 13

1

ORIGINAL ***** PBNP ***** WO No: 9513224
NO Priority: J * UNIT 0 * MWO * UNIT 0 *
Resp Group: MTN ***** HEADER PAGE ***** Step Print: 01/20/97
Equipment: B855B System: 480V HF Zone:
Equipment Name: 1P-10A/B RHR PUMP ALT POWER SELECTOR SWITCH
Physical Location: 6.5/U2F/COL N-13 Discovery Date: 11/22/95

Problem Description:
ASCO MANUAL TRANSFER SWITCH MAY BE MISSING E-RINGS IN THE ARCING CONTACT ASSEMBLY. INSPECT SWITCHES AND INSTALL E-RINGS IF NECESSARY.

Originator: NEP Outage ID: Activity:
Tag/Sticker Placed: N No: 87876 Tag/Sticker Lctn: Condition Report: Y
Job Type: BETTERMENT PROJECTS Project ID:
Work Function: WORK ORDER
Mod Req: -

QA: Y SEIS: 3 Operability Pre-Test: N Procedures:
SR: N LCO: N
EQ: N PMT: Y Operability Post-Test: N Procedures:
SSA: N CIV: N MRULE: Y
A/P: A CACC:
RRN: - - - - - Tech Spec Ref:
QA Codes: 37 Sect XI Class:
Tools Needed:

Work Plan/Instructions reviewed. Planner: SKARYAN, KEITH MPS
LINE SUPERVISOR: WIZ4121321 NAME: DATE: 1/22/97

Plant Conditions: SEE PROB DESC OR PROCEDURE Ignition Control Permit: N
Other Conditions: Transient Combustible Permit: N
Fire Barrier Penetration Permit: N RWP: N
Equipment Isolation Required: Y FME: Y
Isolation Tag Series #: 97-052

Operability Pre-Test Complete. Equipment Isolation as requested.
Permission granted to perform Work.
Ops DSS Notification Req: Y Ops DSS Signature: Date: 1/22/97

Special Notification:
APPENDIX R FIREROUNDS MAY BE REQUIRED
INSPECT LUGS FOR LOOSE CONNECTIONS

Number of Steps: 001
Acct #: 00 - 00000 - 1200141 - 00000
MFG Code: ASCO Tech Manual Cntl #: 01443

* WORK ORDER CLOSEOUT *

Group Head Signature: Date: 1/22/97

ORIGINAL ***** PBNP ***** WO No: 9513224001
WO Priority: J * UNIT 0 * MWO * UNIT 0 *
Resp Group: MTN ***** STEP DETAIL ***** Step Print: 01/20/97
Equipment: B855B System: 480V HF Zone:
Equipment Name: 1P-10A/B RHR PUMP ALT POWER SELECTOR SWITCH
Physical Location: 6.5/U2F/COL N-13
Sequence No: 01
Short Desc: INSPECT SWITCHES
Need Date
Sched Start Date:

PLANNED:

WORK PROCEDURES:

Crew: ME
Shift: D
Class: 420

Work Plan Description:

INSPECT TRANSFER SWITCH PER ATTACHED WORKPLAN. WORK SCHEDULED TO BE
PERFORMED 07/01/97 CONCURRENT WITH B52-55B CALL-UP (E-A5).
ALL QC, PMT, AND FME REQUIREMENTS ADDRESSED BY WORKPLAN AS NECESSARY.

QC REVIEW REQUIRED: Y IPS DATE: 012097

WORK PERFORMED: *Inspected transfer switch per work plan.*

MTE: *MC MG 002* QAR: _____
MC MM 007 _____

ACTUAL USED:	CREW:	SHIFT:
WORKER CLASS:	<i>420</i>	<i>810</i>
NUMBER OF WORKERS:	<i>1</i>	<i>1</i>
TOTAL HOURS:	<i>2</i>	<i>2</i>
TTL EXPOSURE/STEP (MREM):	<i>1</i>	<i>1</i>

PARTS USED LIST ATTACHED: Y *(N)*

WD TAGS REMOVED: Y / N / *NS* WORK COMPLETE DATE: *1/22/97*

EMPLOYEE NUMBER: *10101101* EMPLOYEE NAME: *1/17*

* WORK COMPLETED *

Cause Failure Code: PM / *SVC* / NRM /
As Found-Out of Spec: Y / N / *NA* Machine History Review Required: Y / N

Failed Component: _____
Corrective Action: *NA* RP/RE/ _____ Downtime: _____ hrs
LINE SUPERVISOR: _____ NAME: _____ DATE: *1/23/97*

* EQUIPMENT RETURN TO SERVICE *

Operability Post Testing: *Work performed Sat*
EQUIP. TAKEN OOS - DATE: ____/____/____ TIME: ____ RETURN DATE: ____/____/____ TIME: ____
Operability Procs Performed _____
NON OPS SUPV: *10101101* NAME: _____ DATE: ____/____/____
DSS: *1* NAME: _____ DATE: *1/23/97*



POINT BEACH NUCLEAR PLANT

WO WORK PLAN

Work Control Document: WO 9513224, ASCO Manual Transfer Switch Inspection
B855B: 1P-10A/B RHR PUMP ALT POWER SELECTOR SWITCH

Work Plan Originator: _____

Date: January 18, 1997

CIM 1443

Hold Point	Step No.	Work Plan Description	Worker	Date												
FME		TOOLS AND EQUIPMENT SHALL BE CHECKED FOR LOOSE PARTS AND DEBRIS AND TEMPORARY COVERS SHOULD BE INSTALLED FOR FOREIGN MATERIAL EXCLUSION (FME) OF SYSTEMS/COMPONENTS PER NP 8.4.10 "EXCLUSION OF FOREIGN MATERIAL FROM PLANT COMPONENTS AND SYSTEMS".														
	1	Danger tag the following: {ref: West 541F153 sh 3} a. B52-55B RACKED OUT {ref MDB 3.2.4 Panel B08} b. 1B312A-B855B Transfer Switch to the NORMAL position (1P-10A connected to 1B52-12A) {Ref MDB 3.2.3 Panel 1B03 pg 1/2} c. 1B421A-B855B Transfer switch to the NORMAL position (1P-10B connected to 1B52-21A) {Ref MDB 3.2.3 Panel 1B04 pg 1/2}	OPS	1/22/97												
CAUTION: AUXILIARY CONTACTS AND TERMINALS IN TRANSFER SWITCH B855B MAY BE ENERGIZED WITH 125 V DC (INDICATOR WIRING). AVOID CONTACT																
	2	Record position of manual operator: <u>UP</u> or DOWN (Circle one)		1/24/97												
	3	Verify main switch contacts are de-energized on both A and B load sides.	REP	1/24/97												
NOTE: B855B Transfer Switch may be manually operated as necessary to provide ease of access for the remainder of this workplan.																
CAUTION: To avoid personal injury turn the MANUAL HANDLE <u>quickly</u> to the full mechanical stop position.																
CAUTION: To avoid personal injury do not operate the switch while tools or personnel are in the switch cabinet.																
	4	Remove the interphase barriers from the front of the switch. a. Loosen four (4), 1/4" hex head screws holding upper barrier and lower barrier to switch panel. b. Remove top barrier first, then bottom barrier	REP	1/24/97												
	5	Inspect 6 (six) arcing contacts for the presence of retaining rings. Verify retaining rings are properly installed in the groove on the pivot pin. (See Figure 6-10 from the Component Instruction Manual 1443, modified to show the pivot pin and retaining ring.) Record presence or absence of retaining rings in the following table (Y/N (circle one)): <table border="0" style="margin-left: auto; margin-right: auto;"><thead><tr><th></th><th>Left Phase</th><th>Center Phase</th><th>Right Phase</th></tr></thead><tbody><tr><td>Upper Arcing Contact</td><td>Y / N</td><td>Y / N</td><td>Y / N</td></tr><tr><td>Lower Arcing Contact</td><td>Y / N</td><td>Y / N</td><td>Y / N</td></tr></tbody></table>		Left Phase	Center Phase	Right Phase	Upper Arcing Contact	Y / N	Y / N	Y / N	Lower Arcing Contact	Y / N	Y / N	Y / N	REP	1/24/97
	Left Phase	Center Phase	Right Phase													
Upper Arcing Contact	Y / N	Y / N	Y / N													
Lower Arcing Contact	Y / N	Y / N	Y / N													



POINT BEACH NUCLEAR PLANT

WO WORK PLAN

Work Control Document: WO 9513224, ASCO Manual Transfer Switch Inspection
B855B: 1P-10A/B RHR PUMP ALT POWER SELECTOR SWITCH

Work Plan Originator

Date: January 18, 1997

Hold Point	Step No.	Work Plan Description	Worker	Date
	6	If any retaining rings are missing install them in the groove of the pivot pin as shown on modified Figure 6-10 attached. (Spare retaining rings are located in the QA Hold cage - not lot numbered as of this writing) Record the number retaining rings installed: <u>0</u>	REP	1/23/97
	7	Inspect the interphase barriers. Record the following: <div style="display: flex; justify-content: space-around;"> Upper interphase barrier Lower interphase barrier </div> # of broken nylon rivet : <u>0</u> <u>0</u> Color of nylon rivets <u>BLACK</u> <u>BLACK</u> (Spare nylon rivets are located in the QC Hold cage - not lot numbered as of this writing). Support Dowel Present Y / <u>N</u> (circle one) Y / <u>N</u> (circle one)	REP	1/23/97
CAUTION: To prevent damage, be sure the interphase barriers are outside the movable barriers.				
	8	Install the interphase barriers (refer to CIM 1443, fig 6.7). Install bottom barrier first, then top barrier.	REP	1/23/97
PMT:	9	Cycle the switch to verify that the barriers are properly installed. There should be no mechanical interference.	REP	1/24/97
PMT	10	Visually verify that all respective switch contacts make/break/make as operator handle is moved from UP to DOWN position	REP	1/24/97
PMT	11	Meggering: 1. With "A Load" contacts closed (operator handle in UP position) megger phase-to-phase and phase-to-ground. All readings should be greater than 1 G-Ohm at 500v. 2. With "B Load" contacts closed (operator handle in DOWN position) megger phase-to-phase and phase-to-ground. All readings should be greater than 1 G-Ohm at 500v.	REP	1/23/97
FME	12	Place manual operator in position found and noted in Step 2. Clean any foreign material from switch cabinet and perform a Foreign Materials Exclusion inspection.	REP	1/23/97
	13	Release Danger Tags. a. Rack in B52-55B. b. Remove danger tag from transfer switch 1B312A-B855B and leave in NORMAL c. Remove danger tag from transfer switch 1B421A-B855B and leave in NORMAL	OPS	1/23/97



WO WORK PLAN

Work Control Document: WO 9513224, ASCO Manual Transfer Switch Inspection
B855B: 1P-10A/B RHR PUMP ALT POWER SELECTOR SWITCH

Work Plan Originator: _____

Date: January 18, 1997

Hold Point	Step No.	Work Plan Description	Worker	Date
QC		No QC hold or inspection points required. Any changes in work scope or additional work instructions requires review by QC inspector for QC hold or inspection points.		

Work Order No. 9513224

Return to Service Testing Reviews

INITIALS

Pre-Release / Pre or Post-RTS

Work Group Post-Maintenance Testing

Cycle switch & verify NO mechanical interference ☒

Visually verify switch contacts Make & Break ☒

Megger phase to phase & phase to ground & verify ☒
2 4 G ohm

Section XI Equipment Y ☒ N

Operability Testing

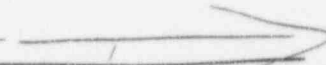
none

Inservice Testing

NA

ENGINEERING REVIEW

SECTION XI ENGINEERING REVIEW

NA 

FAX

Date 01/17/97

Number of pages including cover sheet 4

TO:

PBNP Maintenance

Phone

Fax Phone

FROM:

Wisconsin Electric Power
Company

P.O. Box 2046

Milwaukee, WI 53201-
2046

Phone 414-221-3989

Fax Phone 414-221-2010

CC:

REMARKS: ☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please Comment

It is important the interphase barriers be reinstalled properly, see figure 6-7 of the CIM. The barriers consist of an upper and lower section in addition to "moveable barriers on shafts". These "moveable barriers on shafts" may interfere with switch operation if they are not positioned with respect to the removeable upper and lower sections as shown in figure 6-7 of the CIM.

Also, if any e-clips (retaining rings) or nylon rivets (holding the interphase barriers together) are missing, replacement parts are in the QA hold cage. A stocking authorization request has been submitted for them but when I checked CHAMPs yesterday I did not find a lot number for them yet.

Contact me if you have any questions -

I copied the drawing on to 2 pages because the FAX wouldn't take 11x17.

1M4865

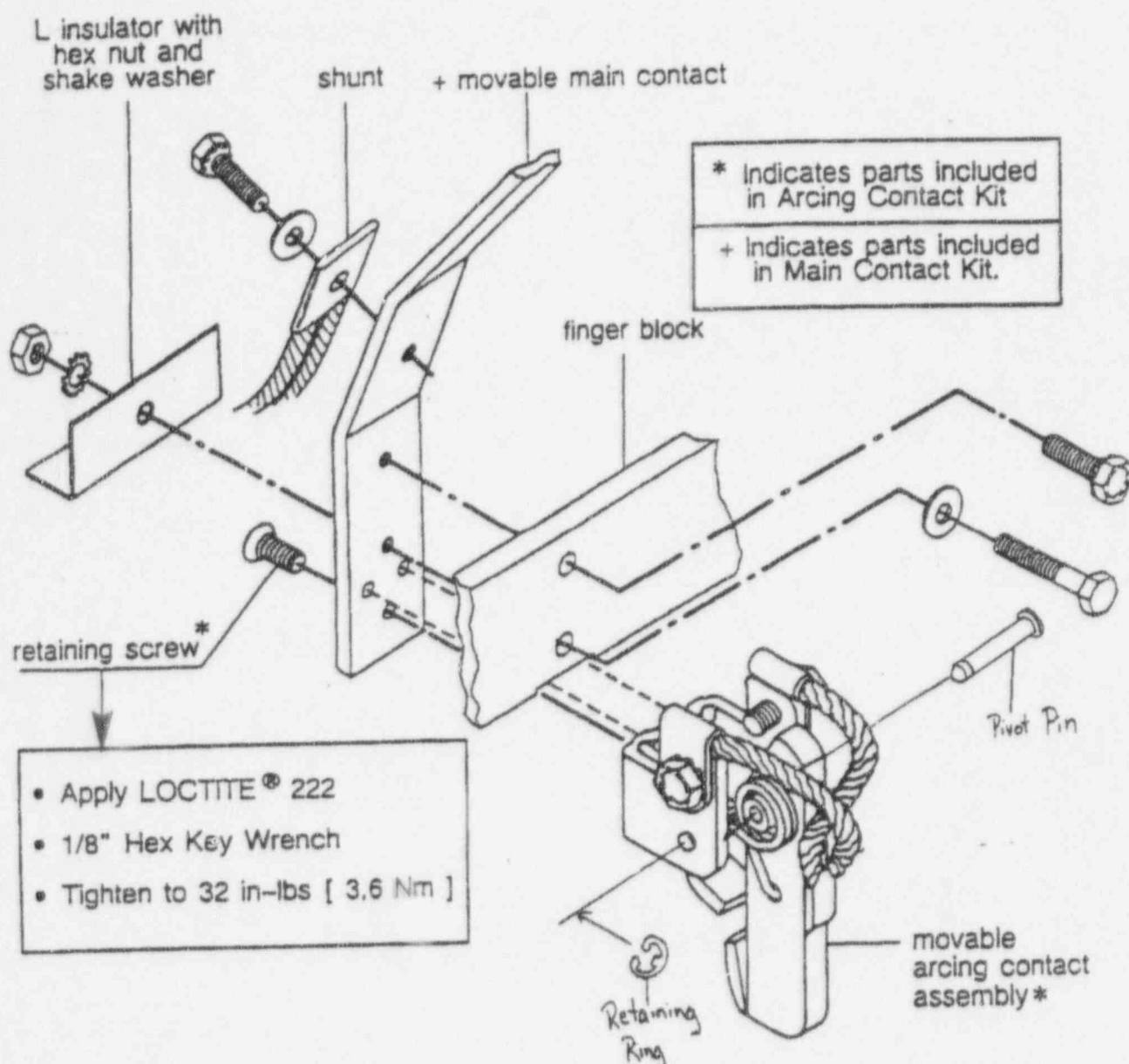


Figure 6-10. Arcing and Main Movable Contact Assembly (one pole shown) 300 & 600 A

6-4.2 **ARCING AND MAIN MOVABLE CONTACT REPLACEMENT.** First complete the steps in paragraph 6-4.1. The movable arcing and main contacts are mounted in the contact shaft assembly. The three main contacts are screwed to the back side of the two finger blocks and to the shunts. The six arcing contact assemblies, which extend from the ends of the main contacts, are the normal replacement parts. They make first and break last to protect the main contacts. Remove and replace the arcing and main movable contacts of the switch (Figure 6-10) as follows:

a. Remove the six arcing contact assemblies. Use a 1/8 inch hex key wrench to remove counterclockwise (ccw) the retaining screw from the base of each arcing contact assembly.

b. Remove the spacer by using the MANUAL HANDLE. Then close the bottom contacts of the switch.

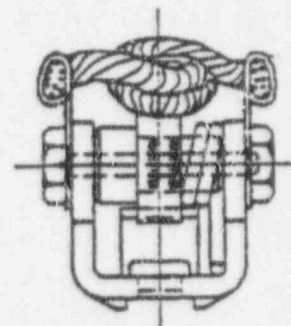
c. Disconnect the three main shunts. Use a 1/2 inch socket wrench to remove (ccw) the large hex head (Sems) screw and flat washer to disconnect each shunt from the movable main contact.

d. Remove the three movable main contacts. Use the MANUAL HANDLE again to insert the spacer between finger block and panel. Use a 7/16 inch nutdriver to remove (ccw) four hex head (Sems) screws securing each movable main contact to the finger blocks. Use a 7/16 inch socket wrench to hold the nut securing the L insulator behind the main contact while removing the screw. Then remove the movable main contacts.

PARTS LIST

ITEM	DESCRIPTION	PART NO.	QTY
1	CONTACT ASSEMBLY	409124	1
2	BRACKET ASSEMBLY	409264	1
3	SPRING	401578	1
4	RETAINING RING	026294-162	1
5	SCREW (SEMS)	110912-048-A2	2
6	PIVOT PIN	401576	1

ABOVE PARTS LIST IS FOR REFERENCE ONLY.
USE COMPUTERIZED BILL OF MATERIAL FOR
PRODUCTION PURPOSES.



Section III. Repair of 300 and 600 Ampere Switches Catalog 163E299C, Catalog 486E4C and 175E247C

6-4 PARTS REMOVAL AND REPLACEMENT ON SWITCH ASSEMBLY.

6-4.1 GENERAL. Except for some structural members, all parts and sub-assemblies are removable from the front without removing switch from enclosure.

a. Tools required.

- (1) 1/8 inch hex key wrench
- (2) 1/4 inch nutdriver
- (3) 11/32 inch nutdriver
- (4) 7/16 inch nutdriver
- (5) 5/16 inch open-end wrench
- (6) 3/8 inch open-end wrench
- (7) 7/16 inch socket wrench
- (8) 1/2 inch socket wrench
- (9) blade screwdriver
- (10) phillips screwdriver
- (11) offset blade screwdriver
- (12) torque wrench (100 in-lbs)
- (13) 1/2 inch spacer (drill shank)
- (14) cotton swab or small brush
- (15) test light (continuity tester)
- (16) needle-nose pliers
- (17) pencil or wood dowel
- (18) 2 1/2 inch spacer (wood block or bolt)
- (19) LOCTITE® 222 thread sealant
- (20) ruler

b. To open the enclosure door loosen the clamp screws in sequence. See Figure 1-1.

c. Remove the barriers from the front of the switch. Use a 1/4 inch nutdriver to loosen only (ccw) four hex head screws holding upper barrier and lower barrier to switch panel. Remove top barrier first and bottom barrier last. Slide top barrier up and tilt outward from the top; slide bottom barrier up and tilt outward from the bottom. See Figure 6-7.

d. Remove the six arc chutes and fiber clamp pieces after removing two nylon retainer nuts on both sides of each arc chute. See Figure 6-8.

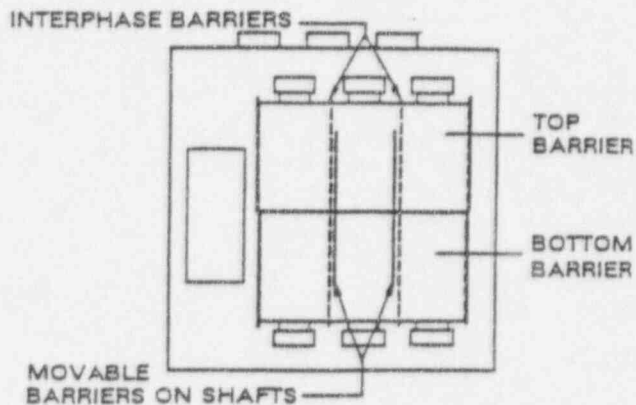


Figure 6-7. Barrier Assembly 300 & 600 A

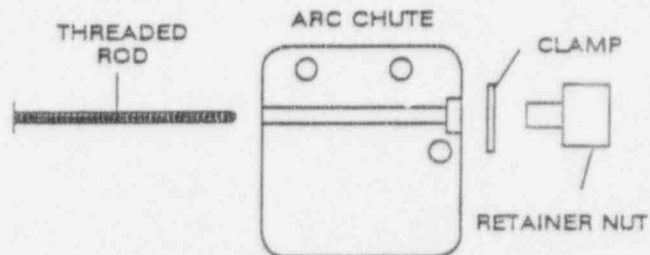


Figure 6-8. Arc Chute Assembly 300 & 600 A

WARNING

To prevent personal injury keep your fingers away from the QMQB mechanism when operating the switch.

e. To prevent the QMQB mechanism from operating, hold the MANUAL HANDLE about mid position while tightening down the lock nut on the power spring guide rod extending from the yoke. Then the MANUAL HANDLE can be used for slow operation (maintenance purposes only). See Figure 6-9.

f. Insert a 2 1/2 inch spacer between the panel and one finger block to hold the contacts open. Use the maintenance handle to hold the contacts open until the spacer can be inserted; this spacer will hold the contact shaft in mid position.

g. Visually inspect the main contacts. They should be replaced if severely eroded or pitted.

h. The top contacts are open when the MANUAL HANDLE is up. The bottom contacts are open when MANUAL HANDLE is down.

WCC TRACKING

WP Step 13

ORIGINAL ***** PBNP ***** WD No: 9513225
WO Priority: J * UNIT 0 * MWO * UNIT 0 *
Resp Group: MTN ***** HEADER PAGE ***** Step Print: 01/20/97
Equipment: B855C System: 480V HP Zone:
Equipment Name: 1P-11A/B CCW PUMP ALT POWER DISCONNECT SWITCH
Physical Location: 8/PAB/U2 CHG PMP AREA Discovery Date: 11/22/95

Problem Description:

ASCO MANUAL TRANSFER SWITCH MAY BE MISSING E-RINGS IN THE ARCING CONTACT ASSEMBLIES. INSPECT SWITCHES AND INSTALL E-RINGS IF NECESSARY.

Originator: NEP Outage ID: Activity:
Tag/Sticker Placed: N No: 87877 Tag/Sticker Lctn:
Job Type: BETTERMENT PROJECTS Project ID: Condition Report: Y
Work Function: WORK ORDER
Mod Req #: -

QA: Y SEIS: 3 Operability Pre-Test: N Procedures:

SR: N LCO: N

EQ: N PMT: Y Operability Post-Test: N Procedures:

SSA: Y CIV: N MRULE: Y

A/P: P CACC:

RRN: - - - - - Tech Spec Ref:

QA Codes: 37 Sect XI Class:

Tools Needed:

Work Plan/Instructions, reviewed. Planner: SKARVAN KETH MPS
LINE SUPERVISOR: NAME: DATE: 1/22/97

Plant Conditions: SEE PROB DESC OR PROCEDURE Ignition Control Permit: N

Other Conditions: Transient Combustible Permit: N

Fire Barrier Penetration Permit: N RWP: N

Equipment Isolation Required: Y FME: Y

Isolation Tag Series #: 97-053

Operability Pre-Test Complete. _____ Equipment Isolation as requested. _____

Permission granted to perform Work.

Ops DSS Notification Req: Y Ops DSS Signature: _____ Date: 1/22/97

Special Notification:

APPENDIX R FIREROUNDS MAY BE REQUIRED

INSPECT LUGS FOR LOOSE CONNECTIONS

Number of Steps: 001

Acct #: 00 - 00000 - 1200141 - 00000

MFG Code: ASCO Tech Manual Cntl #: 01443

* WORK ORDER CLOSEOUT *

Group Head Signature: _____ Date: 1/25/97

ORIGINAL ***** PBNP ***** WD No: 9513225001
WD Priority: J * UNIT 0 * MWO * UNIT 0 *
Resp Group: MTN ***** STEP DETAIL ***** Step Print: 01/20/97
Equipment: B8550 System: 480V HP Zone:
Equipment Name: 1P-11A/B CCW PUMP ALT POWER DISCONNECT SWITCH
Physical Location: 8/PAB/U2 CHG PMP AREA
Sequence No: 01
Short Desc: INSPECT SWITCHES
Need Date:
Sched Start Date:

PLANNED:

WORK PROCEDURES:

Crew: ME
Shift: D
Class: 420

Work Plan Description:

INSPECT TRANSFER SWITCH PER ATTACHED WORKPLAN. WORK SCHEDULED TO BE
PERFORMED 02/01/96 CONCURRENT WITH B52-10A CALL-UP (E-A3).
ALL QC, PMT, AND FME REQUIREMENTS ADDRESSED BY WORKPLAN AS NECESSARY.

QC REVIEW REQUIRED: Y

DATE: 012097

WORK PERFORMED: *Inspected transfer switch per attached work plan.*

MTE: *mcmg-002*
mcmm-007

QAR:

ACTUAL USED: CREW:

SHIFT:

WORKER CLASS:

NUMBER OF WORKERS:

TOTAL HOURS:

TTL EXPOSURE/STEP (MREM):

PARTS USED LIST ATTACHED: Y / ☒ N

WD TAGS REMOVED: Y / N / ☒ NA

WORK COMPLETE DATE: *1/22/97*

EMPLOYEE NUMBER: _____

EMPLOYEE NAME: *J. H.*

Cause Failure Code: PM / ☒ SVC / NRM / _____
As Found-Out of Spec: Y / N / ☒ NA

Machine History Review Required: Y / N

Failed Component: _____

Corrective Action: ☒ NA / RP / RE / _____

LINE SUPERVISOR: _____

NAME: _____

intime: _____ hrs

DATE: *1/23/97*

* EQUIPMENT RETURN TO SERVICE * ☒

Operability Post Testing: *Work performed sat*

EQUIP. TAKEN OOS - DATE: ____/____/____ TIME: ____ RETURN DATE: ____/____/____ TIME: ____

Operability Procs Performed _____

NON OPS SUPV: _____

NAME: _____

DATE: ____/____/____

DSS: _____

NAME: *ML/CPS*

DATE: *1/23/97*



POINT BEACH NUCLEAR PLANT

WO WORK PLAN

Work Control Document: WO 9513225, ASCO Manual Transfer Switch Inspection
B855C: 1P-11A/B CCW PUMP ALT POWER DISCONNECT SWITCH

Work Plan Originator: _____

Date: January 18, 1997

CIM 1443

Hold Point	Step No.	Work Plan Description	Worker	Date												
FME		TOOLS AND EQUIPMENT SHALL BE CHECKED FOR LOOSE PARTS AND DEBRIS AND TEMPORARY COVERS SHOULD BE INSTALLED FOR FOREIGN MATERIAL EXCLUSION (FME) OF SYSTEMS/COMPONENTS PER NP 8.4.10 "EXCLUSION OF FOREIGN MATERIAL FROM PLANT COMPONENTS AND SYSTEMS".														
	1	a. Danger tag breaker B52-55C RACKED OUT {ref MDB 3.2.4 Panel B08} b. Remove red tag ^{lock} from operator handle at switch.	OPS	1/22/97												
CAUTION: AUXILIARY CONTACTS AND TERMINALS IN TRANSFER SWITCH B855C MAY BE ENERGIZED WITH 125 V DC (INDICATOR WIRING). AVOID CONTACT																
	2	Record position of manual operator: UP or DOWN (Circle one)		1/22/97												
	3	Verify main switch contacts are de-energized.	REP	1/23/97												
NOTE: B855C Disconnect Switch may be manually operated as necessary to provide ease of access for the remainder of this workplan.																
CAUTION: To avoid personal injury turn the MANUAL HANDLE <u>quickly</u> to the full mechanical stop position.																
CAUTION: To avoid personal injury do not operate the switch while tools or personnel are in the switch cabinet.																
	4	Remove the interphase barriers from the front of the switch. a. Loosen four (4), 1/4" hex head screws holding upper barrier and lower barrier to switch panel. b. Remove top barrier first, then bottom barrier.	REP	1/23/97												
	5	Inspect 6 (six) arcing contacts for the presence of retaining rings. Verify retaining rings are properly installed in the groove on the pivot pin. (See Figure 6-10 from the Component Instruction Manual 1443, modified to show the pivot pin and retaining ring.) Record presence or absence of retaining rings in the following table (Y/N (circle one)):														
		<table border="0"> <thead> <tr> <th></th> <th>Left Phase</th> <th>Center Phase</th> <th>Right Phase</th> </tr> </thead> <tbody> <tr> <td>Upper Arcing Contact</td> <td>(Y) / N</td> <td>(Y) / N</td> <td>(Y) / N</td> </tr> <tr> <td>Lower Arcing Contact</td> <td>(Y) / N</td> <td>(Y) / N</td> <td>(Y) / N</td> </tr> </tbody> </table>		Left Phase	Center Phase	Right Phase	Upper Arcing Contact	(Y) / N	(Y) / N	(Y) / N	Lower Arcing Contact	(Y) / N	(Y) / N	(Y) / N	REP	1/23/97
	Left Phase	Center Phase	Right Phase													
Upper Arcing Contact	(Y) / N	(Y) / N	(Y) / N													
Lower Arcing Contact	(Y) / N	(Y) / N	(Y) / N													
	6	If any retaining rings are missing install them in the groove of the pivot pin as shown on modified Figure 6-10 attached. (Spare retaining rings are located in the QA Hold cage - not lot numbered as of this writing) Record the number retaining rings installed: <u>0</u>	REP	1/23/97												



POINT BEACH NUCLEAR PLANT

WO WORK PLAN

Work Control Document: WO 9513225, ASCO Manual Transfer Switch Inspection
B855C: 1P-11A/B CCW PUMP ALT POWER DISCONNECT SWITCH

Work Plan Originator

Date: January 18, 1997

Hold Point	Step No.	Work Plan Description	Worker	Date
	7	<p>Inspect the interphase barriers. Record the following:</p> <p>Upper interphase barrier Lower interphase barrier</p> <p># of broken nylon rivet : <u>0</u> <u>0</u></p> <p>Color of nylon rivets <u>BLACK</u> <u>BLACK</u></p> <p>(Spare nylon rivets are located in the QC Hold cage - not lot numbered as of this writing).</p> <p>Support Dowel Present Y <u>(N)</u> (circle one) Y <u>(N)</u> (circle one)</p>	REP	1/23/97
CAUTION: To prevent damage, be sure the interphase barriers are outside the movable barriers.				
	8	Install the interphase barriers (refer to CIM 1443, fig 6.7). Install bottom barrier first, then top barrier.	REP	1/23/97
PMT:	9	Cycle the switch to verify that the barriers are properly installed. There should be no mechanical interference.	REP	1/23/97
PMT	10	Visually verify that all repective switch contacts make/break/make as operator handle is moved from UP to DOWN position	REP	1/23/97
PMT	11	Meggering: With "A Load" contacts closed (operator handle in UP position) megger phase-to-phase and phase-to-ground. All readings should be greater than 1 G-Ohm at 500v.	REP	1/23/97
FME	12	Place manual operator in position found and noted in Step 2. Clean any foreign material from switch cabinet and perform a Foreign Materials Exclusion inspection.	REP	1/23/97
	13	<p>1. Release danger tag and rack in breaker B52-55C</p> <p>2. Replace red tag ^{LOCK} on operator handle at switch Red Lock # <u>82892</u></p>	OPS	
QC		No QC hold or inspection points required. Any changes in work scope or additional work instructions requires review by QC inspector for QC hold or inspection points.		

Work Order No. 9513225

Return to Service Testing Reviews

INITIALS

Pre-Release / Pre or Post-RTS

Work Group Post-Maintenance Testing

Cycle switch + verify NO mechanical interference ✓

Visually verify switch contacts Make + Break ✓

Megger phase to phase + phase to ground + verify ✓
2 4 6 ohm

Section XI Equipment Y (N)

Operability Testing

None

Inservice Testing

NA

ENGINEERING REVIEW

SECTION XI ENGINEERING REVIEW

NA →

FAX**Date** 01/17/97**Number of pages including cover sheet** 4**TO:**

PBNP Maintenance

Phone**Fax Phone****FROM:**Wisconsin Electric Power
Company

P.O. Box 2046

Milwaukee, WI 53201-
2046**Phone** 414-221-3989**Fax Phone** 414-221-2010**CC:****REMARKS:** ☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please Comment

It is important the interphase barriers be reinstalled properly, see figure 6-7 of the CIM. The barriers consist of an upper and lower section in addition to "moveable barriers on shafts". These "moveable barriers on shafts" may interfere with switch operation if they are not positioned with respect to the removeable upper and lower sections as shown in figure 6-7 of the CIM.

Also, if any e-clips (retaining rings) or nylon rivets (holding the interphase barriers together) are missing, replacement parts are in the QA hold cage. A stocking authorization request has been submitted for them but when I checked CHAMPs yesterday I did not find a lot number for them yet.

Contact me if you have any questions

I copied the drawing on to 2 pages because the FAX wouldn't take 11x17.

1M4865

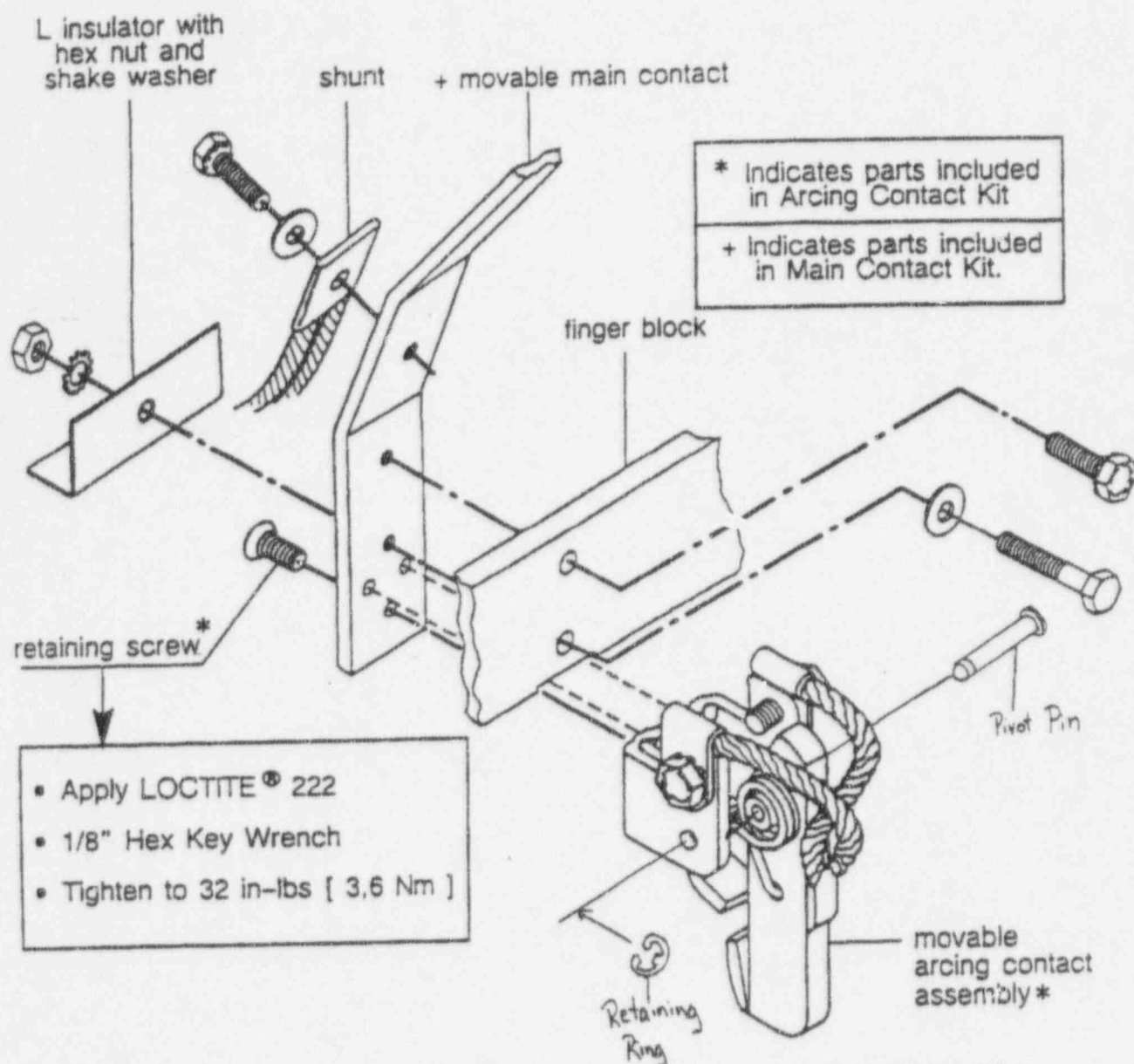


Figure 6-10. Arcing and Main Movable Contact Assembly (one pole shown) 300 & 600 A

6-4.2 ARCING AND MAIN MOVABLE CONTACT REPLACEMENT. First complete the steps in paragraph 6-4.1. The movable arcing and main contacts are mounted in the contact shaft assembly. The three main contacts are screwed to the back side of the two finger blocks and to the shunts. The six arcing contact assemblies, which extend from the ends of the main contacts, are the normal replacement parts. They make first and break last to protect the main contacts. Remove and replace the arcing and main movable contacts of the switch (Figure 6-10) as follows:

a. Remove the six arcing contact assemblies. Use a 1/8 inch hex key wrench to remove counterclockwise (ccw) the retaining screw from the base of each arcing contact assembly.

b. Remove the spacer by using the MANUAL HANDLE. Then close the bottom contacts of the switch.

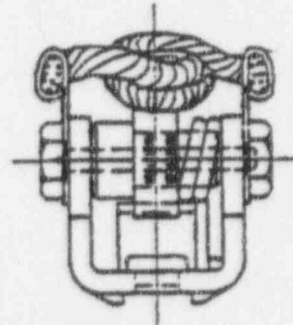
c. Disconnect the three main shunts. Use a 1/2 inch socket wrench to remove (ccw) the large hex head (Sems) screw and flat washer to disconnect each shunt from the movable main contact.

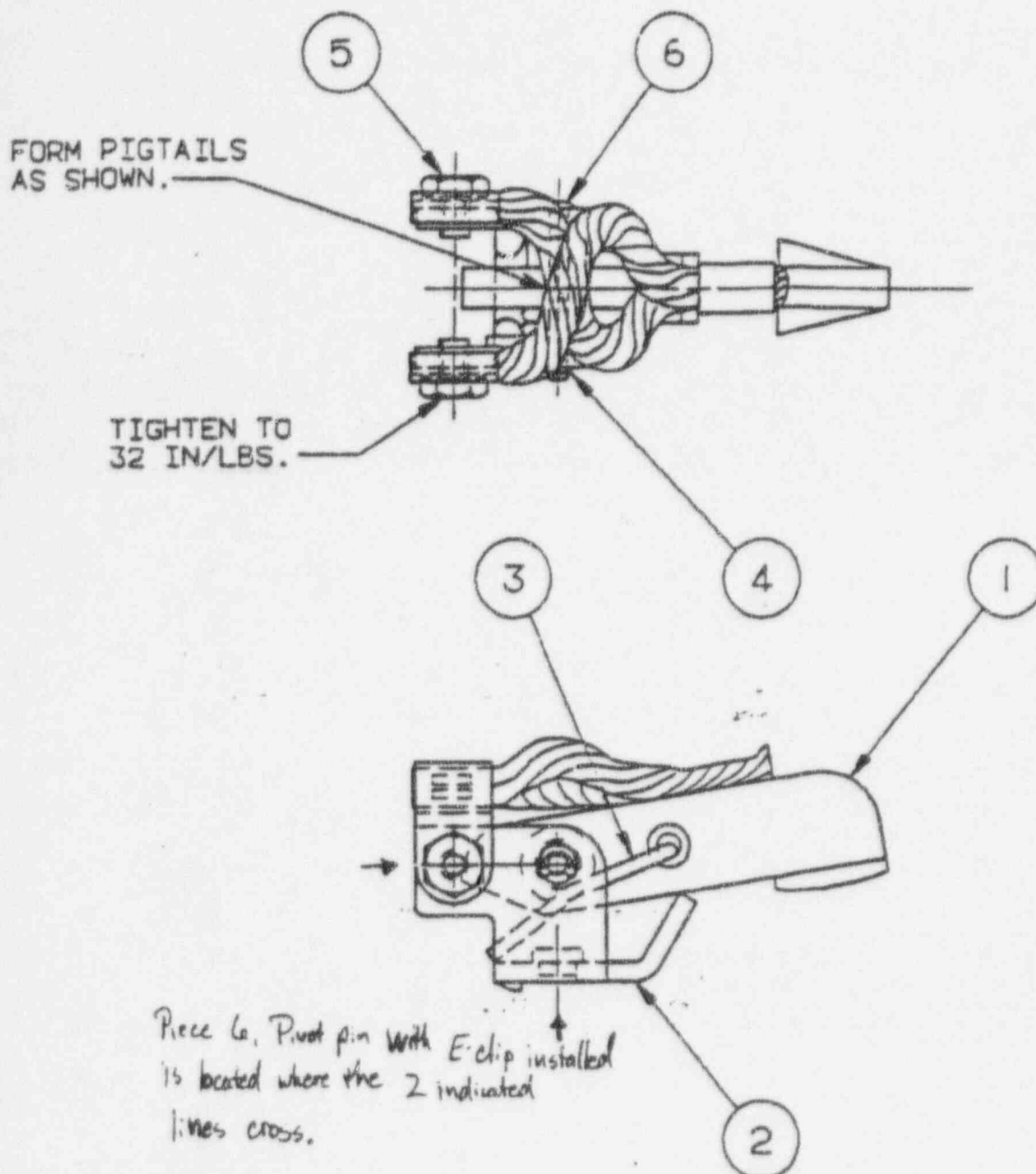
d. Remove the three movable main contacts. Use the MANUAL HANDLE again to insert the spacer between finger block and panel. Use a 7/16 inch nutdriver to remove (ccw) four hex head (Sems) screws securing each movable main contact to the finger blocks. Use a 7/16 inch socket wrench to hold the nut securing the L insulator behind the main contact while removing the screw. Then remove the movable main contacts.

PARTS LIST

ITEM	DESCRIPTION	PART NO.	QTY
1	CONTACT ASSEMBLY	409124	1
2	BRACKET ASSEMBLY	409264	1
3	SPRING	401578	1
4	RETAINING RING	026294-162	1
5	SCREW (SEMS)	110912-048-A2	2
6	PIVOT PIN	401576	1

ABOVE PARTS LIST IS FOR REFERENCE ONLY.
USE COMPUTERIZED BILL OF MATERIAL FOR
PRODUCTION PURPOSES.





ARCING		CONTACT		ASSY.		THIRD ANGLE PROJECTION		SS SS 10/88	
E940/962								108282 RELEASED	
600/800 AMP.								ER NO. BY APP. DATE	
COMPUTER GENERATED DRAWING								AE AN AL X AP AJ	
DRAWN BY SS 10/88		MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASME PROCEDURE WF-1-603		1/1		SCALE		CH AV MI AA PE	
PROJ. APP.						ASSEM. REF. NO.		AC AP CTC AC	
CHECKED				PROPERTY OF AUTOMATIC SWITCH COMPANY. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED.		7		GS 401600	
DFT APP. SS 10/88						FILE		CHANGE LETTER	
ENG. APP. SS 10/88				Automatic Switch Co. FLORHAM PARK, NEW JERSEY 07932 PRINTED IN U.S.A.		FILE			

Section III. Repair of 300 and 600 Ampere Switches Catalog 163E299C, Catalog 486E4C and 175E247C

6-4 PARTS REMOVAL AND REPLACEMENT ON SWITCH ASSEMBLY.

6-4.1 GENERAL. Except for some structural members, all parts and sub-assemblies are removable from the front without removing switch from enclosure.

a. Tools required.

- (1) 1/8 inch hex key wrench
- (2) 1/4 inch nutdriver
- (3) 11/32 inch nutdriver
- (4) 7/16 inch nutdriver
- (5) 5/16 inch open-end wrench
- (6) 3/8 inch open-end wrench
- (7) 7/16 inch socket wrench
- (8) 1/2 inch socket wrench
- (9) blade screwdriver
- (10) phillips screwdriver
- (11) offset blade screwdriver
- (12) torque wrench (100 in.-lbs)
- (13) 1/2 inch spacer (drill shank)
- (14) cotton swab or small brush
- (15) test light (continuity tester)
- (16) needle-nose pliers
- (17) pencil or wood dowel
- (18) 2 1/2 inch spacer (wood block or bolt)
- (19) LOCTITE® 222 thread sealant
- (20) ruler

b. To open the enclosure door loosen the clamp screws in sequence. See Figure 1-1.

c. Remove the barriers from the front of the switch. Use a 1/4 inch nutdriver to loosen only (ccw) four hex head screws holding upper barrier and lower barrier to switch panel. Remove top barrier first and bottom barrier last. Slide top barrier up and tilt outward from the top; slide bottom barrier up and tilt outward from the bottom. See Figure 6-7.

d. Remove the six arc chutes and fiber clamp pieces after removing two nylon retainer nuts on both sides of each arc chute. See Figure 6-8.

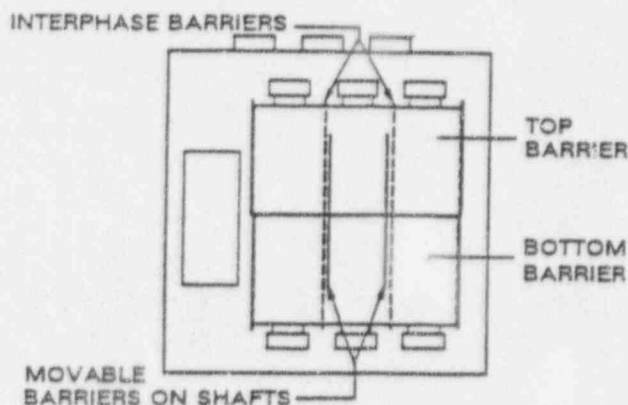


Figure 6-7. Barrier Assembly 300 & 600 A

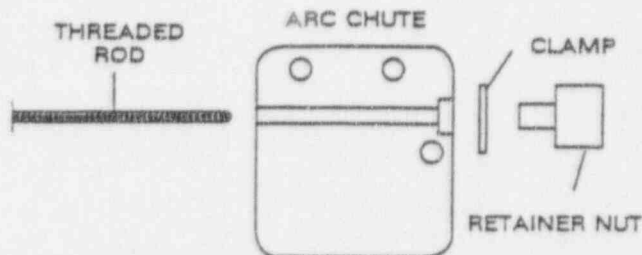


Figure 6-8. Arc Chute Assembly 300 & 600 A

WARNING

To prevent personal injury keep your fingers away from the QMQB mechanism when operating the switch.

e. To prevent the QMQB mechanism from operating, hold the MANUAL HANDLE about mid position while tightening down the lock nut on the power spring guide rod extending from the yoke. Then the MANUAL HANDLE can be used for slow operation (maintenance purposes only). See Figure 6-9.

f. Insert a 2 1/2 inch spacer between the panel and one finger block to hold the contacts open. Use the maintenance handle to hold the contacts open until the spacer can be inserted; this spacer will hold the contact shaft in mid position.

g. Visually inspect the main contacts. They should be replaced if severely eroded or pitted.

h. The top contacts are open when the MANUAL HANDLE is up. The bottom contacts are open when MANUAL HANDLE is down.

POINT BEACH UNIT 2 RESTART COMMITMENT
INDEPENDENT REVIEW RESULTS

Commitment ID Number 5

Commitment Description

Complete Work Orders 9513222 through 9513225 to conduct inspections of Appendix R alternate power transfer switches.

The inspections will determine whether an E shaped retaining ring on the arcing contact assembly of some ASCO switches is missing. Condition Report 95-602 documents the missing E clip issue. Seismic qualification testing has shown that the switches pass the baseline functional testing even without the E shaped retaining rings installed.

Should these inspections identify either generic issues or significant discrepancies which could negatively impact reactor safety, the scope of the inspections will be expanded. Where discrepancies are identified, appropriate corrective and preventive actions will be taken commensurate with their safety significance.

Review Methodology

Review Work Orders 9513222, 9513223, 9513224, and 9513225 for inspection results.

Discuss background and results of inspections with Responsible Person.

Review the WE assessment documentation and any Condition Reports generated.

Review Results

Reviewed completed Work Orders listed above. All four Work Orders have been completed, with all inspected transfer switches having the E-rings properly installed. Reviewed background and basis for these inspections with Responsible Person.

This also applies to 13 other switches in the plant, and all of them have a similar Work Order to inspect for the E-rings. Of these other 13 Work Orders, 6 have been completed, with all having the E-rings properly installed. Similar switches in the warehouse have also been inspected and were found to have the E-rings properly installed.

No Condition Reports have been initiated based on this work.

POINT BEACH UNIT 2 RESTART COMMITMENT
INDEPENDENT REVIEW RESULTS

Commitment ID Number 5

Recommendations

All items required to complete this restart commitment have been properly completed. Based on the qualification testing and all inspected switches having the E-rings properly installed, the 7 switches that have not been inspected should not impact Unit 2 startup.

Based on this independent review, there are no items involved with Restart Commitment #5 which would impede Unit 2 startup.

Restart Commitment #17

Attached are screenings which were determined to need a 50.59 evaluation.

NUCLEAR POWER DEPARTMENT
SAFETY EVALUATION REPORT

#17

SER _____
Page 1

Title of Proposed Modification, Procedure
Change, Test or Experiment:

OP-1A COLD SHUTDOWN TO LOW POWER, Rev 56

Reference Document(s) #:

TS-15.3.1.B & FIGURES 15.3.1-122, TS 15.3.15,
TS TABLE 15.3.5-3 ITEM 1 C&D, TS 15.3.1.A.3

Prepared By: _____

Date: 3/9/96

Reviewed By: _____

Date: 3-9-96

MSS Review/Date: _____

MSS #: _____

Manager - PBNP Approval: _____

Date: _____

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approvals are not necessary for a determination of non-applicability.)

Section 1

Screening - Determination if Safety Evaluation is Required

- A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions. REVISE OP-1A AS FOLLOWS: CHANGE ADMIN LIMIT FOR HEATUP/COOLDOWN TO APPLY WHEN SILO INSTEAD OF WHEN $\leq 360^{\circ}\text{F}$. ADD NOTE STATING THAT THE OPERATING RHR PUMP CAN BE SECURED WHEN $>140^{\circ}\text{F}$ PROVIDED RCP IN OPERATION WITH S/G AVAILABLE. ADD NEW STEP TO BACK IN SECOND SI PUMP. ADD STEP TO VERIFY SI UNBLOCKED. CHANGE FINAL TEMPERATURE TO STABILIZE THE RCS AT BY CHANGING TO A RANGE VS. A SPECIFIC TEMPERATURE.
- B. Does the change, test or experiment involve a change in the Technical Specification? If a change is required, briefly describe what the change should be and why it is required.
NOTE: NRC approval is required prior to implementation.
- ___ Yes X No

C. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

- a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures, be altered? (Refer to NP 10.3.1, step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.) ___ Yes X No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.) ___ Yes X No
- c. Will any procedure described in the PBNP FSAR be altered? (Refer to NP 10.3.1, Attachment A, Part E, for guidance.) ___ Yes X No
- d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ___ Yes X No

**NUCLEAR POWER DEPARTMENT
SAFETY EVALUATION REPORT**

SER _____
Page 2

Section 1 - Continuation

- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ____ Yes X No
- f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? ____ Yes X No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

- a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis document, including its figures, be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) ____ Yes X No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) ____ Yes X No
- c. Will any procedures described in the ISFSI Licensing Basis documents be altered? ____ Yes X No
- d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ____ Yes X No
- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ____ Yes X No
- f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)? ____ Yes X No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

D. Basis for determination that a safety evaluation is not required.

THE ADMIN LIMIT FOR HEATUP/COOLDOWN WAS ESTABLISHED IN 1985.
THE CHANGE SHEET STATED "CHANGE HEATUP RATE TO AN ADMINISTRATIVE
MAX OF 50°F/HR WHEN ≤ 3540 F SO THAT A WIDER OPERATING
PRESSURE BAND FOR RCP OPERATION CAN BE ~~SEE~~ REALIZED THAN
THAT PERMITTED AT 100°F/HR. ALSO FOR APL 82-45/03
(PTS CONSIDERATIONS). "

THE TECH SPEC HEATUP & COOLDOWN CURVES APPLICABLE
IN 1985 INCLUDED CORRECTIONS FOR POSSIBLE INSTRUMENT

INACCURACIES (24°F TEMPERATURE CORRECTION AND 64 PSI PRESSURE CORRECTION). THIS RESULTED IN A HEATUP CURVE THAT ALLOWED A MAX PRESSURE OF 400 PSIG AT 100°F/HR, AND A COOLDOWN CURVE THAT ALLOWED A MAX PRESSURE OF 350 PSIG AT 100°F/HR, (BOTH OF THE PREVIOUS VALUES APPLIED AT 100°F RCS TEMPERATURE).

BY LIMITING THE RATE OF HEATUP & COOLDOWN, A HIGHER PRESSURE IS ALLOWED. THIS ACCOUNTS FOR THE STATEMENT "A WIDER BAND FOR RCP OPERATION CAN BE REALIZED."

APL 82-45/03 WAS BASED ON AN NRC IE INFORMATION NOTICE #82-45. THE NRC DOCUMENT CONCERNED PWR LOW TEMPERATURE OVERPRESSURE PROTECTION. THE NRC HAD 4 CONCERNS

- ① OPERATION WITH BOTH PORUS BLOCK VALVES CLOSED DUE TO LEAKAGE,
- ② OPERATOR ERROR DURING MAINT.
- ③ ISOLATION AND VENTING OF INST. AIR DURING ILRT,
- ④ LOW N₂ PRESSURE TO PORUS DUE TO LEAKAGE.

IN OUR RESPONSE TO THE NRC WE INCLUDED EVALUATION OF THE HEATUP/COOLDOWN CURVES. THE EVALUATION RECOMMENDED LIMITING HEATUP/COOLDOWN TO 50°F/HR WHEN <200°F SO THAT THE LTOP SETPOINT 425 (415 ACTUAL) WOULD PREVENT EXCEEDING THE TECH SPEC VALUE DURING HEATUPS & COOLDOWNS.

WHEN THIS RECOMMENDATION GOT IMPLEMENTED, IT WAS APPLIED AT ≤ 35°F VS THE RECOMMENDED

< 200°F. NO REASON WAS GIVEN FOR THE APPLICATION AT $\leq 354^\circ\text{F}$.

USING THE SAME LOGIC AND THE PRESENT HEATUP/COOL-DOWN CURVES WHICH ALLOW A HIGHER RCS PRESSURE AT THE LOW TEMPERATURE END OF THE CURVE DUE TO REMOVAL OF INSTRUMENT INACCURACIES, THE ADMIN. LIMIT ON HEATUP/COOLDOWN NEED ONLY APPLY WHEN $\leq 160^\circ\text{F}$.

BY MAKING THIS CHANGE, WE WILL BE IN COMPLIANCE WITH THE EVALUATION THAT WAS PERFORMED (USING OUR PRESENT CURVES) AND

ALLOW MORE FLEXIBILITY DURING HEATUP/COOL-DOWNS. 160°F IS CHOSEN BECAUSE THIS IS THE TEMPERATURE AT WHICH ONLY 1 SSCP IS PERMITTED TO BE IN OPERATION AND $\sim 50^\circ\text{F}$ ABOVE THE POINT AT WHICH THE 100°F/HR LINE INTERSECTS WITH THE LTOP SETPOINT (COOL-DOWN CURVE ONLY).

ALSO REFERENCE ATTACHED NRE IEN 82-45, OUR RESPONSE, TECH SPEC APPLICABLE THEN AND NOW.

THE NOTE STATING THAT THE OPERATOR MAY SECURE THE OPERATING RHR PUMP PROVIDED THE APPROPRIATE CONDITIONS ARE MET IS TO INSURE COMPLIANCE WITH TECH. SPECS., AND AS AN OPERATOR REMINDER.

NEW STEP ADDED TO RACK IN SECOND SI PUMP WHEN $> 275^{\circ}\text{F}$ IS TO MAKE OP-1A THE SAME AS CL-10 HEATUP CHECKLIST. WHEN $> 275^{\circ}$, THERE IS NO TECHNICAL BASIS FOR NOT RETURNING THE HIGH HEAD SI PUMP BREAKER TO A RACKED IN POSITION.

NEW STEP ADDED TO VERIFY SI AUTO UNBLOCKS WHEN RCS PRESSURE IS $>$ AUTO UNBLOCK SETPOINT. THIS IS TO INSURE COMPLIANCE WITH TECH SPECS.

IN STEPS 4.16, 4.17.1, & 4.16.9 ^{TO A} CHANGE A RANGE FOR TEMPERATURE CONTROL VS A SPECIFIC TEMPERATURE. $528 - 532^{\circ}\text{F}$ IS IN ACCORDANCE WITH THE RESP'S FOR RX STARTUP, $540 - 547^{\circ}$ IS THE EXPECTED TEMPERATURE FOR STARTUPS OTHER THAN REFUELING.

NONE OF THESE CHANGES REDUCE THE MARGIN OF SAFETY OR CREATE ~~AN~~ ^A NEW SAFETY CONCERN.

THESE CHANGES DO NOT AFFECT ISFSI.

**NUCLEAR POWER DEPARTMENT
SAFETY EVALUATION REPORT**

SER _____
Page 1

Title of Proposed Modification,
Procedure Change, Test or Experiment:

OP-3C, Hot Shutdown to Cold Shutdown, *Row 64*

Reference Document(s) #:

FSAR, Technical Specifications, SOER 94-02, CR

Prepared By: _____

Date: 3/9/96

Reviewed By: _____

Date: 3/11/96

MSS Review/Date: _____

MSS #: _____

Manager - PBNP Approval: _____

Date: _____

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approvals are not necessary for a determination of non-applicability.)

Section 1

Screening - Determination if Safety Evaluation is Required

- A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions.

Revised the procedure for the following: Change required cooldown rate limit from 50 deg/hr to 100 deg/hr until RCS temp. is 160 degrees. Added cautions to inform the operator of the pressurizer cooldown limits. Changed the steam generator soak temperatures Required testing of the "Potential Dilution in Progress" alarm prior to cold shutdown. Limited boron difference between the Pressurizer and the RCS to 50 ppm. Other minor changes were also made and will be discussed in part D.

- B. Does the change, test or experiment involve a change in the Technical Specification?
If a change is required, briefly describe what the change should be and why it is required.
NOTE: NRC approval is required prior to implementation.

☐ Yes ☒ No

- C. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

- a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures, be altered? (Refer to NP 10.3.1, step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.) ☐ Yes ☒ No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.) ☐ Yes ☒ No
- c. Will any procedure described in the PBNP FSAR be altered? (Refer to NP 10.3.1, Attachment A, Part E, for guidance.) ☐ Yes ☒ No
- d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ☐ Yes ☒ No

**NUCLEAR POWER DEPARTMENT
SAFETY EVALUATION REPORT**

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Section 1 - Continuation

e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ☐ Yes ☒ No

f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? ☐ Yes ☒ No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis document, including its figures, be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) ☐ Yes ☒ No

b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) ☐ Yes ☒ No

c. Will any procedures described in the ISFSI Licensing Basis documents be altered? ☐ Yes ☒ No

d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ☐ Yes ☒ No

e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ☐ Yes ☒ No

f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)? ☐ Yes ☒ No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

**NUCLEAR POWER DEPARTMENT
SAFETY EVALUATION REPORT**

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Page 3

Section 1 - Continuation

D. Basis for determination that a safety evaluation is not required:

1) Potential Dilution in Progress Alarm: Tech Spec Amendments 158 and 162, Unit 1 and 2 respectively, requires that the potential dilution in progress alarm be tested prior to entering cold shutdown. This test was previously done, but it was located in the procedure after we reached cold shutdown. The step was not changed in any manner, but rather moved to an appropriate location in OP-3C to ensure that we comply with the new Tech Spec Requirement.

2) SOER 94-02: This SOER is concerned about the potential for diluted pockets of RCS water from entering the core and causing positive reactivity excursion. This procedure was revised to address these concerns by the following: limiting pressurizer boron concentration difference to 50 ppm vice 100 ppm. This would limit the reactivity affects due to outsurge in pressurizer. The procedure also requires pressurizer samplings to check on the boron difference and directs the energizing of pressurizer heaters to increase the recirculation of coolant through the pressurizer. A precaution and limitation regarding the reference of having an RHR pump and /or RCP running when changing boron concentration was modified to require a RCP running when changing boron concentrations. This would ensure that we would have adequate mixing in the RCS loops which would not be ensured if only a RHR pump was running. There is a note at the end of the procedure which checks to ensure the RCS is borated to proper concentrations prior to securing the last RCP.

3) Maintenance items. Reference to performing IT-530 (535), Leakage reduction and preventative maintenance program test of the RHR system and IT-300 (305), Main Feed Line Check Valves, due to these inservice tests are now performed before and after OP-3C implementation. IT-290(295), Auxiliary Feedwater system Check Valves and Flow indicators was also deleted due to it now being performed on a quarterly basis to comply with ASME Section XI.

4) Pressurizer cooldown: Cautions were added to remind the operator of this 200 degree per cooldown requirement. Steps that were previously in to procedure were rearranged to limit the rate at which the pressurizer was cooldowned. When the RCS is borated to cold shutdown levels, the procedure directs the operator to commence filling the pressurizer to a level not to exceed 70%. This will allow the PZR heaters time to heat the water to saturation and limit the necessary volume of water to take the pressurizer solid, therefore limiting the cooldown when taking the pressurizer solid. The position of this step will not interfere with the cooldown evolution. The FSAR requires that "Should the letdown line be out of service during operation, sufficient volume exists in the pressurizer to accept into the RCS the amount of borated water necessary for cold shutdown. A caution has been added to ensure the RCS is borated to cold shutdown levels prior to filling the pressurizer. This is verified via an RCS sample and will ensure compliance with the FSAR. The procedure now requires that the pressurizer be taken solid prior to continuing cooldown when on RHR. In the past, we have approached the cooldown limit of 200 degrees per hour when going solid and cooling down the RCS at rate of 50 degrees/hour. Notes are also added to remind operators to maintain available pressurizer heaters on to heat the insurge to limit cooldown. The pressure band given to maintain when cooling down to 400 degrees was changed from 1200 - 1400 # to 900 - 1100#. This will also more evenly distribute the pressurizer cooldown. This pressure band maintains adequate subcooling and also sets the operator to the approximate pressure for performance of IT 240(245), Inservice test of SI accumulator valves. This pressure is above the injection pressure for the SI accumulators.

5) Steam Generator Soak Requirements. OP-3C originally required that the Steam Generator Soak be performed at 400 degrees. Based on the results from previous cooldowns, it was noted that the most efficient times for hideout return was during the cooldown process. EPRI recommended that a hold at 350 degrees will enhance this process. A new temperature of 375 degrees was selected to incorporate EPRI recommendations (as close as possible) and lengthen the time the cooldown. The deletion of IT-530(535) and IT-300(305) eliminated the need for holding at 400 degrees. The overall effect of this change should increase the efficiency of the S/G soak and decrease the necessary hold time.

6) Danger Tags: Changed reference of red tags to danger tags, new nomenclature. Added danger tag requirements to the attachments to require that the S/G channel head vents be danger tagged when the S/G tubes are not to be burped. This will place a administrative measure to ensure that these valves are not opened and cause the S/G tubes to drain. Use of these valves are not required if the S/G tubers are not burped.

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SAFETY EVALUATION REPORT**

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Section 1 - Continuation

7) RCS Cooldown limit change: The admin limit for heatup/cooldown were established in 1985. The change sheet stated change heatup and cooldown rate to an administrative maximum of 50 degrees/hr when less than 354 degrees so that a wider operating pressure band for RCP operation can be realized than that permitted at 100 degrees/hr. This also is for APL 82-45/03 (PTS consideration). The Tech Spec heatup and cooldown curves applicable in 1985 included corrections for possible instrument inaccuracies (24 degrees temperature correction and 64 psi pressure correction). This resulted in a heatup curve that allowed a maximum pressure of 400# at 100 degrees/hr, and a cooldown curve that allowed a max pressure of 350# at 100 degrees/hr, (Both of the previous values applied at 100 degrees RCS temperature). By limiting the rate of heatup and cooldown, a higher pressure is allowed. This accounts for the statement "A wider band for RCP operation can be realized." APL 82-45/03 was based on an NRC IE information notice #82-45. The NRC document concerned PWR low temperature overpressure protection. The NRC notice had four concerns:

- 1) Operation with both PORV's block valves closed due to leakage.
- 2) Operator error during maintenance.
- 3) Isolation and loss of control of instrument air during an ILRT.
- 4) Low Nitrogen pressure backup to PORVs due to leakage.

In our response to the NRC we included evaluation of the heatup/cooldown curves. The evaluation recommended limiting heatup/cooldown to 50 degrees/hr when < 200 degrees so that the LTOP setpoint of 425# (415# actual) would prevent exceeding the tech spec value during heatups and cooldowns. When this recommendation was implemented, it was applied at less than 354 degrees vs. the recommended <200 degrees. No reason was given for the application at <354 degrees. Using this same logic and present heatup / cooldown curves which allow a higher RCS pressure at the low temperature end of the curve (due to removal of instrument inaccuracies, the admin limit on heatup and cooldown need only apply when <160 degrees. By making this change, we will be in compliance with the evaluation that was performed (using our present curves) and allow more flexibility during heatup/cooldowns. 160 degrees is chosen because this is the temperature at which only one RCP is permitted to be in operation and ~50 degrees above the point at which the 100 degrees/hr line intersects with the LTOP setpoint (cooldown curve only). Also, reference attached NRC IEN 82-45, our response to this, and the Tech spec heatup and cooldown curves (then and now).

None of these changes reduce the margin of safety or create a new safety concern.

These changes do not affect the ISFSI.

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Title of Proposed Modification,
Procedure Change, Test or Experiment:

Reference Document(s) #:

RP-1A Preparation for Refueling
RMP 9002-B

Prepared By: _____

Date: 10/12/96

Reviewed By: _____

Date: 10/12/96

Reviewed by Multidisciplinary Review Team: 1. _____

Date: _____

2. _____

Date: _____

Date: _____

MSS Review/Date: _____

MSS #: _____

Manager - PBNP Approval: _____

Date: _____

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approvals are not necessary for a determination of non-applicability.)

Section 1

Screening - Determination if Safety Evaluation is Required

- A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions.

RP-1A Step 4.30 provides conditions which must be met regarding RCPs prior to filling the cavity. There are 3 options available but RP-1A only references 2 of those. The change to step 4.30 will include the 3rd option which is having the RCP seal drain system installed per RMP 9002-B.

- B. List the FSAR sections or VSC-24-SAR sections where the system, structure, component, procedure, test or experiment is described.

TS 15.6.8.1; FSAR 4.2; 14.3

- C. Does the change, test or experiment involve a change in the Technical Specification?
If a change is required, briefly describe what the change should be and why it is required.
NOTE: NRC approval is required prior to implementation.

☐ Yes ☒ No

- D. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

- a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures, be altered? (Refer to NP 10.3.1, step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.)

☐ Yes ☒ No

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- | | | |
|---|------------------------------|--|
| b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| c. Will any procedure described in the PBNP FSAR be altered? (Refer to NP 10.3.1, Attachment A, Part E, for guidance.) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

- | | | |
|---|------------------------------|--|
| a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis document, including its figures, be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| c. Will any procedures described in the ISFSI Licensing Basis documents be altered? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

D. Basis for determination that a safety evaluation is not required:

RP-9002-B Direct installation of the Drain systems on RCP seal when the pump is uncoupled and shaft is on the backseat. This configuration is acceptable for sealing the RCP during the cavity fill. This method has been used with good. This change does not affect the methodology of RP-1A. RP-1A is not associated with the ISFSI or any of its SSC's. Therefore a 10CFR 72.48 is not required.

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Reference Document(s) #: OP-6A, Rev 17

Title of Proposed Modification, Procedure
Change, Test or Experiment: Operation of Component Cooling System

Prepared By: _____	Date: <u>12-22-95</u>
Reviewed By: _____	Date: <u>12-24-95</u>
MSS Review/Date: _____	MSS #: _____
Manager - PBNP Approval: _____	Date: _____

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approval are not necessary for a determination of non-applicability.)

**Section 1
Screening - Determination if Safety Evaluation is Required**

- A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions.

Add a precaution to address maintaining CC-17 open for at least ¹⁰~~15~~ minutes following addition of chemicals to the CCW surge tank. This is to allow sufficient time for drainage of piping to prevent spilling CCW.

Revised step 3.5 to allow the surge tank vent to be open - as normal practice during cold shutdown periods when fuel changes and chemical addition is most common.

- B. Does the change, test or experiment involve a change in the Technical Specification? If a change is required, briefly describe what the change should be and why it is required.

NOTE: NRC approval is required prior to implementation.

____ Yes x No

- C. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

- | | |
|---|----------------------|
| a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures be altered? (Refer to step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.) | ____ Yes <u>x</u> No |
| b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.) | ____ Yes <u>x</u> No |
| c. Will any procedure described in the PBNP FSAR be altered? | ____ Yes <u>x</u> No |
| d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? | ____ Yes <u>x</u> No |

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- e. Will implementation affect a prior documented technical commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ____ Yes x No
- f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? ____ Yes x No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

- a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis documents, including its figures be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) ____ Yes x No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) ____ Yes x No
- c. Will any procedures described in the ISFSI Licensing Basis documents be altered? ____ Yes x No
- d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ____ Yes x No
- e. Will implementation affect a prior documented technical commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ____ Yes x No
- f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)? ____ Yes x No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

D. Basis for determination that a safety evaluation is not required.

The changes to maintain CC-17 open for at least ¹⁰~~45~~ minutes following chemical addition to the CCW surge tank does not affect system design, function or operation as described by the FSAR. The changes will help prevent spilling chemicals following its addition by allowing sufficient time for the pipes to drain. A 10 CFR 50.59 evaluation is not required.

The changes described do not affect the ISFSI, there for a 10 CFR 70.48 evaluation is not required.

CC-17 for Unit 1 & Unit 2 are normally maintained closed, chemical addition is infrequent, and if a reactor trip/safety injection were to occur when the valve was open, it would be closed as part of the CI check of the EOP's.

wh. 1/11/95

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Reference Document(s) #: AOP-6F, Low Boron Concentration Water Pockets in RCS

Title of Proposed Modification, Procedure New Procedure
Change, Test or Experiment:

Prepared By: _____ Date 12/25/95

Reviewed By: _____ Date 2-8-96

MSS Review/Date: _____ MSS # _____

Manager - PBNP Approval: _____ Date _____

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approval are not necessary for a determination of non-applicability.)

**Section 1
Screening - Determination if Safety Evaluation is Required**

- A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions.

New procedure to provide direction on how to address and outline action on how to mitigate a potential low boron pockets in the RCS. There are four major goals for this AOP:

- 1) Identify the low boron concentration pocket
- 2) Stabilize plant and Reactivity management
- 3) Locate source of low boron water
- 4) Direct the development of a workplan to remove pocket of low boron concentration water

- B. Does the change, test or experiment involve a change in the Technical Specification? If a change is required, briefly describe what the change should be and why it is required.

NOTE: NRC approval is required prior to implementation.

___ Yes X No

- C. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

- a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures be altered? (Refer to step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.)

___ Yes X No

- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.)

___ Yes X No

- c. Will any procedure described in the PBNP FSAR be altered?

___ Yes X No

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- d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ___ Yes X No
- e. Will implementation affect a prior documented technical commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ___ Yes X No
- f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? ___ Yes X No

NOTE: *If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI)

- a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis documents, including its figures be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) ___ Yes X No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) ___ Yes X No
- c. Will any procedures described in the ISFSI Licensing Basis documents be altered? ___ Yes X No
- d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ___ Yes X No
- e. Will implementation affect a prior documented technical commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ___ Yes X No
- f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)? ___ Yes X No

NOTE: *If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

D. Basis for determination that a safety evaluation is not required.

AOP-6F, Low Boron Concentration Water Pockets in the RCS, is a new AOP to provide directions for mitigating problems due to low boron pocket in the RCS. There are four major objectives to be achieved by this procedure:

- 1) Identify the low boron concentration pocket
- 2) Stabilize plant and Reactivity management
- 3) Locate source of low boron water
- 4) Direct the development of a workplan to remove pocket of low boron concentration water

The first objective is satisfied by the symptoms and entry conditions. This is a list of "generic" symptoms that may indicate that a low boron pocket may exist. It incorporates normally checked indications and available alarms.

The second objective is met by actions to secure from any "normal" sources of reactivity changes (heatup, cooldown, dilution). This falls into reactivity management so that there are no controlled reactivity changes occurring in the core. Actions to isolate dilution paths are also directed, this ensures that we do not compound the current conditions. The next phase of this objective is plant stabilization. Actions to

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monitor Source Range counts provides indications for core conditions and if the low boron pockets of water are flowing into the core. If Source range counts are rising and a doubling will occur in 3 minutes (REI 19 requirement of 15 minutes to criticality which is 5 SR count doubling), the operator is directed to commence borating via an SI pump and core deluge. If the RCS is solid, then the operator is directed to utilize AOP 6E, Alternate boration/loss of shutdown margin.

The third objective is to determine source, location, and quantity of the low boron concentration pocket. This is accomplished through the review of active temp mods, sample location of low boron concentration pocket, analyze sample. This will allow the determination of potential effects on the core and also provide information which will allow performance of a shutdown margin calculation if low boron pocket was swept into the core.

The fourth and final objective is the development of a workplan to remove the low boron pocket from the RCS. This procedure requires that the workplan be approved by Reactor Engineering and the Operations Manager prior to implementation. This workplan must also be classified an IPTE based on the nature of the workplan, and include a 50.59 screening or review.

The actions directed by this AOP are generic in nature and also are a composite of actions directed in other procedures. These actions do not place the core in any unanalyzed condition and utilize systems as designed, therefore a 50.59 review is not required. The workplan created to mitigate the low boron concentration pocket does require a 50.59 screening.

This AOP does not affect the ISFSI system in any manner, therefore a 72.48 screening is not required.

Title of Proposed Modification, Procedure
Change, Test or Experiment:

3.3
AM 3.2 At Power Primary to Secondary Leakage Monitoring Program

Reference Document(s) #: VPMPD 87-510 letter dated 11-20-87

Prepared By:

Date: 2-8-96

Reviewed By:

Date: 2-13-96

MSS Review/Date:

MSS #:

Manager - PBNP Approval:

Date:

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approvals are not necessary for a determination of non-applicability.)

Section 1

Screening - Determination if Safety Evaluation is Required

- A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions.

3.3

VPMPD letter 87-510 is a Licensee Commitment that is being proceduralized in AM 3.2 Rev 0.

Paragraph (3) of this letter states that "Data from the failed fuel monitor (RE-109) and the latest reactor coolant total gaseous activity are also trended and reviewed each shift to assess changes in the reactor coolant activity." This part of the licensee commitment will be changed in AM 3.3 from an "each shift" frequency to a "daily" frequency. There will be no interim configurations or conditions. The expected effects of this revision will be to continue the steam generator leakage monitoring program established by Operations Special Order 87-04.

- B. Does the change, test or experiment involve a change in the Technical Specification? If a change is required, briefly describe what the change should be and why it is required.

NOTE: NRC approval is required prior to implementation.

Yes ☒ No

- C. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

- a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures, be altered? (Refer to NP 10.3.1, step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.)
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.)
- c. Will any procedure described in the PBNP FSAR be altered? (Refer to NP 10.3.1, Attachment A, Part E, for guidance.)
- d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR?
- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR?

Yes ☒ No

Yes ☒ No

Yes ☒ No

Yes ☒ No

Yes ☒ No

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- f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)?

___ Yes ☒ No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

- a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis document, including its figures, be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.)
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.)
- c. Will any procedures described in the ISFSI Licensing Basis documents be altered?
- d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis document?
- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents?
- f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)?

___ Yes ☒ No

___ Yes ☒ No

___ Yes ☒ No

___ Yes ☒ No

___ Yes ☒ No

___ Yes ☒ No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

D. Basis for determination that a safety evaluation is not required.

Operations Special Order 87-04, rev 0, dated 11-13-87 was the first written guidance for Operations concerning enhanced primary to secondary leakage monitoring. That guidance appears to be the result of the North Anna steam generator tube failure, the event that prompted this licensee commitment. The frequency of trending and reviewing RE-109 and the latest reactor coolant total gaseous activity in that rev.0 Operations Special Order (now OI-96) was, and remains, daily.

Because this written guidance is dated before the 11-17/18-87 telephone conversations between WE and NRC staff mentioned in VPMPD 87-510, it appears that our intent was to perform this specific review and trending on a daily basis, not each shift. This is consistent with the fact that the RMS system will alert the operators of an increasing RCS activity by way of alert and high alarms on the failed fuel monitor, RE-109, and that the reactor coolant total gaseous activity is sampled and analyzed three times per week. Since the trending and review of RE-109 and the latest reactor coolant total gaseous activity on a daily basis does not conflict with the FSAR or the technical specifications, and appears to be the originally intended frequency for enhanced primary to secondary leak monitoring frequency for these parameters at PBNP, changing this licensee commitment to read "Data from the failed fuel monitor (RE-109) and the latest reactor coolant total gaseous activity are trended and reviewed each day to assess changes in the reactor coolant activity." does not require a 50.59 safety evaluation.

Since this procedure does not effect the ISFSI facility, components, systems, or procedures, a 72.48 safety evaluation is not required.

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Title of Proposed Modification,
Procedure Change, Test or Experiment:

Revise Main Control Board wiring to provide control circuit train separation for Service Water Pump supply breakers 2B52-27C and 2B52-27B.

Reference Document(s) #: Work Order 9609381 and 96099662, MR 96-025*A

Prepared By: Patrick J. Klingert

Date: 11/07/96

Reviewed By: _____

Date: 11/7/96

Reviewed by Multidisciplinary Review Team: _____

Date: _____

2. _____

Date: _____

Date: _____

MSS Review/Date: _____

MSS #: _____

Manager - PBNP Approval: _____

Date: _____

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approvals are not necessary for a determination of non-applicability.)

Section 1

Screening - Determination if Safety Evaluation is Required

- A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions.

Work Orders 9609381 and 9609662 will remove the Service Water supply breakers 2B52-27C and 2B52-27B from service to re-route and replace control board wiring to ensure compliance with separation criteria specified in design guideline DG-E07, revision 1. This will enhance the plant's ability to limit the effects of a single failure to an acceptable level as established in the original PBNP design basis.

- B. List the FSAR sections or VSC-24-SAR sections where the system, structure, component, procedure, test or experiment is described.

FSAR 15.3.3.D.

There is no VSC-24-SAR impact.

- C. Does the change, test or experiment involve a change in the Technical Specification?
If a change is required, briefly describe what the change should be and why it is required.

☐ Yes ☒ No

NOTE: NRC approval is required prior to implementation.

- D. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

- a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures, be altered? (Refer to NP 10.3.1, step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.)

☐ Yes ☒ No

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- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.) ☐ Yes ☒ No
- c. Will any procedure described in the PBNP FSAR be altered? (Refer to NP 10.3.1, Attachment A, Part E, for guidance.) ☐ Yes ☒ No
- d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ☐ Yes ☒ No
- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ☐ Yes ☒ No
- f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? ☐ Yes ☒ No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

- a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis document, including its figures, be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) ☐ Yes ☒ No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) ☐ Yes ☒ No
- c. Will any procedures described in the ISFSI Licensing Basis documents be altered? ☐ Yes ☒ No
- d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ☐ Yes ☒ No
- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ☐ Yes ☒ No
- f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)? ☐ Yes ☒ No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

D. Basis for determination that a safety evaluation is not required:

A 10 CFR 72.48 evaluation is not required because the work associated with the installation and testing activities to be performed under the Work Orders will not affect any SSC's important to safety, procedures, tests, experiments or NRC technical commitments associated with the ISFSI.

Work Orders 9609381 and 9609662 will remove the Service Water supply breakers 2B52-27C and 2B52-27B from service to re-route and replace control board wiring to ensure compliance with separation criteria specified in design guideline DG-E07, revision 1. This will enhance the plant's ability to limit the effects of a single failure to an acceptable level as established in the original PBNP design basis. After the internal wires are re-routed and replaced the associated feed breaker will be verified to provide proper operation (PMT). The two work order will be performed

(one at a time)

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seperately so that the requirements of DCS 3.1.7, revision 8 will be met.

The work plans for the Work Orders specify that the required plant conditions are Duty and Call Superintendent Handbook, DSC 3.1.7, revision 8, regarding service water system operability. As described in DCS 3.1.7, Step 4.4.3 and 4.4.1.a, one service water pump may be inoperable for a period not exceeding seven (7) days. Entry into a seven day LCO is also consistent with Technical Specification Change request 192 (VPNPD-96-081) which states that one of the six required service water pumps may be out of service provided a pump is restored to operable status within 7 days. The actual work duration for each pump which will require a VLCO entry is expected to be 10 hours. This provides substantial margin to complete the work within a 7 day period.

Calculation 96-0239 has been issued to support performance of an evaluation to show that two service water pumps are capable of meeting the requirements of a LCO on Unit 1 with a full Unit 2 core offload. In the unlikely event that one of the work orders could not be completed in 7 days, this calculation would support the requirements of DCS 3.1.7 step 4.4.2.

There are no un-reviewed interim conditions for the Service Water system with the conditions of DCS 3.1.7 being met. No other SSCs are changed or impacted. There are no un-reviewed safety questions and a safety evaluation is not required.

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of Proposed Modification,
ure Change, Test or Experiment:

Safety Injection Checklist Revisions to Position SI-826A, P-15A/B SI Pump Section From
BAST Series Isolation, in the Shut instead of Open Position.

Reference Document(s) #: CL-7A, CL-7B

Prepared By: _____ Date: 4/17/96
Reviewed By: _____ Date: 4/18/96
MSS Review/Date: _____ MSS #: _____
Manager - PBNP Approval: _____ Date: _____

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approvals are not necessary for a determination of non-applicability.)

Section I

Screening - Determination if Safety Evaluation is Required

A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions.

The Safety Injection system checklists will be revised to place SI-826A, P-15A/B SI Pump Section From BAST Series Isolation, in the Shut instead of Open position. This is being done to provide double isolation between the RWST and BAST so an inadvertent valve mispositioning or leakage of a single valve (i.e. SI-826B/C) does not result in a gravity drain of RWST water to the BAST. Refer to Section D for a more complete discussion on the justification for this change.

B. Does the change, test or experiment involve a change in the Technical Specification? ☐ Yes ☒ No
If a change is required, briefly describe what the change should be and why it is required.
NOTE: NRC approval is required prior to implementation.

C. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

- a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures, be altered? (Refer to NP 10.3.1, step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.) ☐ Yes ☒ No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.) ☐ Yes ☒ No
- c. Will any procedure described in the PBNP FSAR be altered? (Refer to NP 10.3.1, Attachment A, Part E, for guidance.) ☐ Yes ☒ No
- d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ☐ Yes ☒ No

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- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ☐ Yes ☒ No
- f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? ☐ Yes ☒ No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

- a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis document, including its figures, be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) ☐ Yes ☒ No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) ☐ Yes ☒ No
- c. Will any procedures described in the ISFSI Licensing Basis documents be altered? ☐ Yes ☒ No
- d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ☐ Yes ☒ No
- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ☐ Yes ☒ No
- f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)? ☐ Yes ☒ No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

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Section I - Continuation

D. Basis for determination that a safety evaluation is not required:

The Safety Injection system checklists will be revised to place SI-826A, P-15A/B SI Pump Suction From BAST Series Isolation, in the Shut instead of Open position. This is being done to provide double isolation between the RWST and BAST so an inadvertent valve mispositioning or leakage of a single valve (i.e. SI-826B/C) does not result in a gravity drain of RWST water to the BAST.

In the past SI-826A was kept open to ensure a single active failure could not prevent BAST flow to the SI pumps. At the time, highly concentrated boric acid was required by the accident analysis during the initial injection phase of an accident. Since then the accident analysis has been revised and injection from the BAST is no longer required. MR 92-089 revised the suction lineup for the SI pumps so that the RWST is the normal flow path to the pump suction and the BAST is no longer used. The automatic signals to the SI-825&826 series valves have been removed.

The BAST suction source to the SI pumps is an alternate boration path during power operation and when shutdown. At times when shutdown this boration path is relied upon as the single available boration path. The BAST to SI pump suction flowpath can still be relied upon to perform these functions even with SI-826A initially shut. In these situations the flowpath is only relied upon as a single boration path and single failure concerns of SI-826A not opening are not applicable. The BAST can still be lined up to the SI pumps from the control room with SI-826A initially shut.

The piping between the SI-826A and SI-826B/C valves is heat traced. To prevent any possible thermal binding or pressure locking concerns these valves have 3/16" holes drilled through the SI pump side of the double disks. In addition, the heat tracing has been tagged out and will be removed by MR 94-088 in the near future. Based on the pressure relief holes there is not a concern with closing SI-826A and isolating this section of piping.

Based on the above discussions, a 10CFR50.59 evaluation is not required. In addition, the change to the SI system checklist in no way impacts the ISFSI and therefore a 10CFR50.72 evaluation is not required.

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Title of Proposed Modification, Procedure
Change, Test or Experiment:

REPLACE 1LC-473F, AND POST-MAINTENANCE TEST

Reference Document(s) #:

WO# 9607176

Prepared By: _____

Date: 7/8/96

Reviewed By: _____

Date: 7/8/96

MSS Review/Date: _____

MSS #: _____

Manager - PBNP Approval: _____

Date: _____

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approvals are not necessary for a determination of non-applicability.)

Section 1

Screening - Determination if Safety Evaluation is Required

- A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions.

REPLACE 1LC-473F WITH LIKE REPLACEMENT FROM SPARES. TEST TO ENSURE PROPER OPERATION.

- B. Does the change, test or experiment involve a change in the Technical Specification? If a change is required, briefly describe what the change should be and why it is required.

NOTE: NRC approval is required prior to implementation.

____ Yes ☒ No

- C. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

- a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures, be altered? (Refer to NP 10.3.1, step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.)
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.)
- c. Will any procedure described in the PBNP FSAR be altered? (Refer to NP 10.3.1, Attachment A, Part E, for guidance.)
- d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR?

____ Yes ☒ No

____ Yes ☒ No

____ Yes ☒ No

____ Yes ☒ No

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Section 1 - Continuation

- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ____ Yes ☒ No
- f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? ____ Yes ☒ No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

- a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis document, including its figures, be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) ____ Yes ☒ No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) ____ Yes ☒ No
- c. Will any procedures described in the ISFSI Licensing Basis documents be altered? ____ Yes ☒ No
- d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ____ Yes ☒ No
- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ____ Yes ☒ No
- f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)? ____ Yes ☒ No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

D. Basis for determination that a safety evaluation is not required.

please see attached determination

This evaluation documents replacement and testing of ILC-473F (steam generator B level controller) per WO 9607176. This module is a controller which compares actual steam generator level to program level, and generates a deviation output. The controller has settings for gain, reset, and filter. The settings of this module are typically set during a unit outage via ICP 5.22. Because of the nature of inputs and outputs, it is not reasonable to check the setting of this controller with the unit on-line. The settings will be made in accordance with the dial markings on the controller potentiometers, and proper controlling operation will be verified by observing response to a level deviation. Settings may be adjusted based upon the observed response. During replacement of ILC-473F, hand controller IHFC-476A will be selected to manual. In this mode of operation, the inputs to it from ILC-473F have no effect, and the output is completely under operator control.

While the steam generator level control function is described in the FSAR (section 10.2, section 7.3, figure 7.2-12), the actual settings of the controller are not described in the FSAR. It should be further understood that the control settings will not be changed from those specified in ICP 5.22. Therefore, no SSC described in the FSAR are being altered. However, it will not be possible to verify that the control settings are set to within the ICP 5.22 tolerances with the unit on-line. Based upon a review of original setpoints contained in WCAP-7116, Precautions, Limitations, and Setpoints, it is apparent that the initial setpoints were a best estimate, and evolved through optimization and confirmation of desired control action to what the setpoints are today. That is the process which will be repeated by this work plan. Settings will be made according to dial markings, and the response of the system to a level deviation will be observed. Further adjustment of the settings may be made based on the initial response. This process meets the intent of achieving proper steam generator level control, as discussed below regarding acceptance criterion, which was the basis for the original settings. The module will be recalibrated at the next scheduled interval, which is the upcoming Unit 1 refueling outage.

A review of the FSAR and Technical Specifications indicate that the steam generator water level control system is not a system important to safety. The safety functions of reactor trip on steam generator lo and lo lo level are independent of the level control system affected by this work order, and are not affected by work performed under this work order. No malfunction in the steam generator level control system due to this work order can disable reactor trip functions.

During post-maintenance testing, steam generator level will be manually raised to approximately 5% above the level program. The controller will then be switched to automatic, and the response observed. Acceptance criteria are that the control system return level to the normal program band with an overdamped or damped oscillatory response. Continued oscillation above what is typical (approximately 1% peak to peak), or response which does not control level, are not acceptable. If the operator raises level too high during testing, automatic feed line isolation at 70% level will occur. If the operator lowers level by mistake, reactor trip on low level with steam flow/feed flow mismatch, or low low level will occur. If the controller does not control properly, the operator will be instructed to return steam generator level control to manual before receiving a trip function. An operator will be instructed to maintain program level $\pm 10\%$ during the post-maintenance test, by taking manual control as necessary. It is expected that any steam generator level variation which occurs during the test will be readily controlled by manual operation, since the effect of level deviation on feed flow is of lesser impact than steam flow/feed flow mismatch, which will not be affected by this work order. The operations crew will be briefed on the impact and extent of this work, as well as required control actions. An operator will be assigned to control steam generator level during controller replacement and post-maintenance testing. A recorder is installed to several test points in the steam generator water control rack, to assist in evaluating the response of the system.

Manual control of steam generator level is an acceptable operating condition. To ensure appropriate attention to steam generator level, an operator will be assigned to monitor and control steam generator level as required.

Since equipment important to safety or described in the FSAR will not be altered, nor are prior documented commitments to the NRC affected by this work order, no 50.59 evaluation is required.

Since there is no effect on the ISFSI, no 72.48 evaluation is required.

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Reference Document(s) #: WO 9411618

Modification, Procedure Change, Test or
Experiment: Nitrogen piping and regulator replacement (RC-00441)

Prepared E _____	Date: <u>Nov. 6, 1995</u>
Reviewed By: _____	Date: <u>11/6/95</u>
MSS Review/Date: <u>///</u>	MSS #: _____
Manager - PBNP Approval: _____	Date: _____

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approval are not necessary for a determination of non-applicability.)

Section 1
Screening - Determination if Safety Evaluation is Required

- A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations and additions.

The T-2 PRT nitrogen regulator (RC-00441) will be replaced and its inlet and outlet piping rerouted. The current position of the regulator requires personnel to climb over other piping to access it. A vent valve will also be added to allow for easier adjustment of the regulator.

- B. Does the change, test or experiment involve a change in the Technical Specification? If a change is required, briefly describe what the change should be and why it is required.

NOTE: NRC approval is required prior to implementation.

____ Yes XXXX No

- C. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

- | | |
|---|-------------------------|
| a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures be altered? (Refer to step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.) | ____ Yes <u>XXXX</u> No |
| b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.) | ____ Yes <u>XXXX</u> No |
| c. Will any procedure described in the PBNP FSAR be altered? | ____ Yes <u>XXXX</u> No |
| d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? | ____ Yes <u>XXXX</u> No |

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Section 1 - Continuation

- e. Will implementation affect a prior documented technical commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ___ Yes XXXX No
- f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? ___ Yes XXXX No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

- a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis documents, including its figures be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) ___ Yes ✓ No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) ___ Yes ✓ No
- c. Will any procedures described in the ISFSI Licensing Basis documents be altered? ___ Yes ✓ No
- d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ___ Yes ✓ No
- e. Will implementation affect a prior documented technical commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ___ Yes ✓ No
- f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)? ___ Yes ✓ No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

D. Basis for determination that a safety evaluation is not required.

The components involved in this work are non-QA, non-SR, and seismic class 3. This work does not affect the Technical Specifications or the FSAR. All the new components meet the pressure requirements. A support will be constructed for the new piping configuration. All new fittings will be checked for leaks.

A safety evaluation is not required.

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Title of Proposed Modification,
Procedure Change, Test or Experiment: MR 96-052 Fuse Installation for Auxiliary Feedwater Motor Operated Valve Control Circuits

Reference Document(s) #: _____

Technical Specification section 15.3.4.C.1

Prepared By: _____ Date: 8/15/96

Reviewed By: _____ Date: 8/15/96

MSS Review/Date: _____ MSS #: _____

Manager - PBNP Approval: _____ Date: _____

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approvals are not necessary for a determination of non-applicability.)

Section 1

Screening - Determination if Safety Evaluation is Required

- A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions.

Fuses will be installed at the local start panels for unit 1 and 2 valves AF-2019, AF-2020, AF-4000, and AF-4001 to provide adequate fault current protection for control circuits associated with 1P-29 and 2P-29, turbine driven auxiliary feedwater (AFW) pumps. The existing circuit breakers do not provide adequate fault protection for down stream wiring in the main control boards. This screening addresses two aspects of the installation. First is the installation process and the second is the final installation configuration.

The installation process will consist of installing fuse holders and Bussmann type FRN-R 15A fuses in the local start panels in the AFW pump areas. Control circuits for the valves listed above will be deenergized at the DC distribution panels to facilitate the installation. The installation of fuses will be completed, including testing, on one unit before starting the modification for the other unit. Unit 1 or 2 P-29 pumps will be inoperable during installation due to the loss of control power to the supply and discharge valves.

The final configuration will change with only the addition of fuses to control circuits for the valves listed above. The addition of fuses has been justified to provide adequate protection for the associated main control board circuits in the final design description for MR 96-052. Circuit functionality will remain the same. No other safety related circuits will be changed. Post installation testing will be accomplished per IT-8A and IT-9A, Cold Start Testing of AFW Pump and Valve Test.

- B. Does the change, test or experiment involve a change in the Technical Specification? ☐ Yes ☒ No
If a change is required, briefly describe what the change should be and why it is required.
NOTE: NRC approval is required prior to implementation.

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Section 1 - Continuation

C. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

- | | | | | |
|--|--------------------------|-----|-------------------------------------|----|
| a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures, be altered? (Refer to NP 10.3.1, step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.) | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.) | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| c. Will any procedure described in the PBNP FSAR be altered? (Refer to NP 10.3.1, Attachment A, Part E, for guidance.) | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

- | | | | | |
|---|--------------------------|-----|-------------------------------------|----|
| a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis document, including its figures, be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| c. Will any procedures described in the ISFSI Licensing Basis documents be altered? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

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D. Basis for determination that a safety evaluation is not required:

The screening addresses two portions of the design change, the installation process and the final design configuration.

During installation the turbine driven AFW pump will be inoperable due to a loss of control power to the supply and discharge valves. Per Technical Specification section 15.3.4.C.1 this pump may be taken out of service for a period of 72 hours. The installation is expected to take no more than 8 hours per unit allowing the AFW pump to be placed back into service well within the time allowed per Technical Specifications. Appropriate precautions including provisions ensuring foreign material exclusion will be included in the work plan to ensure that no other portion of the valve control circuitry is affected by the fuse installation.

The design change only applies to the DC control power for the indicated valves (associated with the steam driven auxiliary feedwater pumps). The additional fuses are justified to provide adequate protection for main control board wiring in the final design description for MR 96-052. The final design configuration will not affect the parameters or the safety function of the AFW system. Post installation testing of the affected steam driven AFW pumps will be accomplished per IT-8A and IT-9A, Cold Start Testing of AFW Pump and Valve Test.

Seismic adequacy of the fuses and fuse blocks will be verified upon installation using SQUG methodologies.

Due to the precautions described above for the fuse installation and since the post installation configuration does not affect the function of any system important to safety, a safety evaluation is not required for this design change.

The scope of work addressed by this 10 CFR 50.59 screening does not involve the ISFI installation or affect ISFI Licensing Basis documents.

DESIGN VERIFICATION NOTICE

Title of Document FUSE INSTALLATION FOR AFW MOTOR OPERATED VALVE CONTROL CIRCUITS
 Document No. MR 96-052 Rev. _____ Date _____
 Design Verification Method: ☒ Design Review ☐ Alternate Calcs ☐ Qualification Testing

REVIEWER CHECKLIST CONSIDERATIONS:

	Yes	No	N/A
1. Were the inputs correctly selected and incorporated into design?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Are assumptions necessary to perform the design activity adequately described and reasonable? Where necessary, are the assumptions identified for subsequent reverifications when the detailed design activities are completed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Are the appropriate quality and quality assurance requirements specified?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Are the applicable codes, standards, and regulatory requirements including issue and addends properly identified and are their requirements for design met?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Have applicable construction and operating experience been considered?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Have the design interface requirements been satisfied?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Was an appropriate design method used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the output reasonable compared to inputs?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Are the specified parts, equipment and processes suitable for the required application?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Are the specified materials compatible with each other and the design environmental conditions to which the material will be exposed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Have adequate maintenance features and requirements been specified?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Are accessibility and other design provisions adequate for performance of needed maintenance and repair?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Has adequate accessibility been provided to perform the in-service inspection expected to be required during the plant life?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Has the design properly considered radiation exposure to the public and plant personnel?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Are the acceptance criteria incorporated in the design documents sufficient to allow verification that design requirements have been satisfactorily accomplished?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Have adequate pre-operational and subsequent periodic test requirements been appropriately specified, including acceptance criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Are adequate handling, storage, cleaning, and shipping requirements specified?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Are adequate identification requirements specified?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Are requirements for records adequately specified?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Will the change remain within the analyzed or specified capabilities of any affected equipment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Has a field inspection been done?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Have impacts on other systems been identified?	<input type="checkbox"/>	<input type="checkbox"/>	<u>NA</u>

COMMENTS: ☒ None ☐ Attached (Use Form QP 17.1-2)

Design Prepared By: _____ Date 8/15/96
 Reviewed By: _____ Date 8/15/96
 Approval By: _____ Date 8/15/96

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- B. Does the change, test or experiment involve a change in the Technical Specification?
If a change is required, briefly describe what the change should be and why it is required.
NOTE: NRC approval is required prior to implementation.
- ☐ Yes ☒ No

C. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

- a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures, be altered? (Refer to NP 10.3.1, step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.) ☐ Yes ☒ No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.) ☐ Yes ☒ No
- c. Will any procedure described in the PBNP FSAR be altered? (Refer to NP 10.3.1, Attachment A, Part E, for guidance.) ☐ Yes ☒ No
- d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ☐ Yes ☒ No
- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ☐ Yes ☒ No
- f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? ☐ Yes ☒ No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

- a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis document, including its figures, be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) ☐ Yes ☒ No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) ☐ Yes ☒ No
- c. Will any procedures described in the ISFSI Licensing Basis documents be altered? ☐ Yes ☒ No
- d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ☐ Yes ☒ No
- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ☐ Yes ☒ No

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- f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)?

☐ Yes ☒ No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

- D. Basis for determination that a safety evaluation is not required:

The screening addresses two portions of the design change, the installation process and the final design configuration.

During installation the turbine driven AFW could be conservatively considered inoperable due to loss of turbine overspeed indication. Per Technical Specification section 15.3.4.C.1 this pump may be taken out of service for a period of 72 hours. The installation is expected to take approximately 1 hour allowing the AFW pump to be placed back into service well within the time allowed per Technical Specifications. The installation will be accomplished with panel D12 energized therefore no other safety related circuits powered from D12 will be taken out of service. Appropriate precautions addressing work in energized panels and foreign material exclusion will be included in the work plan to ensure that none of the other panel D12 safety related circuits are affected during installation.

The design change only applies to the DC control power breakers for the indicated circuits (associated with the steam driven auxiliary feedwater pumps). The replacement breakers have been justified to provide adequate protection in the final design description for MR 96-051. The final design configuration will not affect the parameters or the safety function of the AFW system. Post installation testing of the affected steam driven AFW pumps will be accomplished per IT-8A and IT-9A, Cold Start Testing of AFW Pump and Valve Test.

The scope of work addressed by this 10 CFR 50.59 screening does not involve the ISFI installation or affect ISFI Licensing Basis documents.

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Title of Proposed Modification,
Procedure Change, Test or Experiment: Unit 1 Rod Insertion Limit Computer Replacement

Reference Document(s) #: MR 90-218 & IWP 90-218

Prepared By: _____ Date: 7-17-96
Reviewed By: _____ Date: 7-17-96
MSS Review/Date: (11/11) MSS #: _____
Manager - PBNP Approval: _____ Date: _____

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approvals are not necessary for a determination of non-applicability.)

Section 1
Screening - Determination if Safety Evaluation is Required

- A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions.

This modification will remove all of the Foxboro H-Line components in 1C-108 which perform the Rod Insertion Limit and Delta-T Deviation alarm functions. These systems will be replaced with an Allen Bradley PLC based system. All alarms and outputs will be unchanged with the exception of the removal of the Bank A Low and Bank A Low Low alarms which will be replaced with a single Bank A Not Fully Withdrawn alarm. The QA scoping of this entire system is non-QA, non-SR and only provides the operator with alarm information to aid in keeping the control rods at the most desirable location in the core. The Delta-T inputs are currently and will continue to be put through an E/I converter to establish the boundary between the safety related and non-safety related portions of the system. This work will be performed while the unit is in service. The operators will be required to monitor the RIL status per technical specifications Table 15.4.1-1, Minimum Frequencies for Checks, Calibrations, and Tests of Instrument Channels, which references the rod insertion limit system in note 8 stating "Verify that the associated rod insertion limit is not being violated at least once per 4 hours whenever the rod insertion limit alarm for a control bank is inoperable."

- B. Does the change, test or experiment involve a change in the Technical Specification? ☐ Yes ☒ No
If a change is required, briefly describe what the change should be and why it is required.
NOTE: NRC approval is required prior to implementation.

- C. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

- a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures, be altered? (Refer to NP 10.3.1, step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.) ☐ Yes ☒ No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.) ☐ Yes ☒ No

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- c. Will any procedure described in the PBNP FSAR be altered? (Refer to NP 10.3.1, Attachment A, Part E, for guidance.) ☐ Yes ☒ No
- d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ☐ Yes ☒ No
- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ☐ Yes ☒ No
- f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? ☐ Yes ☒ No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

- a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis document, including its figures, be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) ☐ Yes ☒ No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) ☐ Yes ☒ No
- c. Will any procedures described in the ISFSI Licensing Basis documents be altered? ☐ Yes ☒ No
- d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ☐ Yes ☒ No
- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ☐ Yes ☒ No
- f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)? ☐ Yes ☒ No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

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D. Basis for determination that a safety evaluation is not required:

This modification will remove all of the Foxboro H-Line components in 1C-108 which perform the Rod Insertion Limit and Delta T Deviation alarm functions. These systems will be replaced with an Allen Bradley PLC based system. All alarms and outputs will be unchanged with the exception of the removal of the Bank A Low and Bank A Low Low alarms which will be replaced with a single Bank A Not Fully Withdrawn alarm. The QA scoping of this entire system is non-QA, non-SR and only provides the operator with alarm information to aid in keeping the control rods at the most desirable location in the core. The Delta-T inputs are currently and will continue to be put through an E/I converter to establish the boundary between the safety related and non-safety related portions of the system. This work will be performed while the unit is in use, therefore operators will be required to monitor the status of the RIL system. Technical specifications Table 15.4.1-1, Minimum Frequencies for Checks, Calibrations, and Tests of Instrument Channels, references the rod insertion limit system in note 8 which states "Verify that the associated rod insertion limit is not being violated at least once per 4 hours whenever the rod insertion limit alarm for a control bank is inoperable." If the new PLC system should fail, it is designed to actuate all of the alarms it controls. This information will be discussed in each alarm response book entry for this modification, to indicate to the operators when the system has failed and these 4 hour checks are required. The PLC rack will be mounted below the Delta T defeat switches to address seismic concerns. The installation of this new PLC based system reduces the weight and lowers the center of gravity for 1C-108. The installation will receive a SQUG walkdown prior to acceptance. This change has no impact on the ISFSI. Based on the above information a full 10CFR50.59 safety evaluation is not required.

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Title of Proposed Modification, Procedure Change, Test or Experiment: Install Oil Level Sightglass on HHSl Pumps 1P-15A/B

Reference Document(s) #: MR96-005

Prepared By: _____ Date: 3/11/96
Reviewed By: _____ Date: 3-11-96
MSS Review/Date: _____ MSS #: _____
Manager - PBNP Approval: _____ Date: _____

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approvals are not necessary for a determination of non-applicability.)

**Section 1
Screening - Determination if Safety Evaluation is Required**

- A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions.

The purpose of this modification is to provide indication that the oiler bulbs are maintaining oil level in the 1P-15A/B HHSl pump bearings. This modification will add an oil level sightglass for each bearing, using an existing connection in the pump casing. The sightglass will be threaded into the existing piping which connects an oiler bulb to the pump casing. The oiler bulb is used to maintain a constant oil level for the bearing. The sightglass will give positive indication that the oiler bulb is functioning correctly.

The oil plug to be used is on the side of the pump casing. However, it is below the recommended oil level, thus making the pressure boundary critical. Approximately 5 inches of piping will be added to the pressure boundary area. Standard threaded fittings, carbon steel pipe, and a vented oil sightglass will be used. All materials will be either procured App B, or dedicated in-house. The additional weight of the sightglass and associated fittings will not add any significant loads to the existing piping under seismic conditions. All materials are designed for the post-LOCA radiation levels present during PBNP's design basis accidents. The increased risk of oil reservoir pressure boundary failure due to the added piping is negligible.

The placement of the sightglasses will be such that it does not prevent vibration data from being taken at normal inspection points.

- B. Does the change, test or experiment involve a change in the Technical Specification? ☐ Yes ☒ No
If a change is required, briefly describe what the change should be and why it is required.

NOTE: NRC approval is required prior to implementation.

- C. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

- a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures, be altered? (Refer to NP 10.3 1, step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.) ☐ Yes ☒ No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.) ☐ Yes ☒ No

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|--|--------------------------|-----|-------------------------------------|----|
| c. Will any procedure described in the PBNP FSAR be altered? (Refer to NP 10.3.1, Attachment A, Part E, for guidance.) | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |

NOTE: *If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

- | | | | | |
|---|--------------------------|-----|-------------------------------------|----|
| a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis document, including its figures, be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| c. Will any procedures described in the ISFSI Licensing Basis documents be altered? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |

NOTE: *If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

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D. Basis for determination that a safety evaluation is not required:

This modification will not affect the design or operation of the HHSI pumps as described in the FSAR Licensing Basis documents. Oil is required for the pump to perform its safety-related function: Providing high-head safety injection water to the core during a design basis accident, and also providing recirculation of spilled coolant, injected water, and containment spray system drainage back to the reactor from the containment sump after a small break LOCA.

Therefore, the oil reservoir pressure boundary is considered QA/SR. This modification does not alter the design of the oil reservoir pressure boundary. It uses an existing threaded connection, and extends the total pressure boundary area by approximately 5 inches.

The materials will either be procured App B, or dedicated on-site. The oil reservoir is vented, thus at atmospheric pressure. The piping performs the same function as the pump casing oil plug, acting as a static fluid boundary.

The additional weight of the sightglass and associated fittings will not add any significant loads to the existing piping under seismic conditions. All materials are designed for the post-LOCA radiation levels present during PBNP's design basis accidents. The increased risk of oil reservoir pressure boundary failure due to the added piping is negligible. The reliability of the pump will be improved by providing assurance that the oiler bulbs are functioning correctly.

The HHSI pumps, 1P-15A/B are described in the FSAR. However, the specifics of the pump bearing oil reservoir are not described. The changes proposed under modification MR96-005 do not alter the design as described in the FSAR.

The project is in no way connected with the ISFSI and will have no effect on the systems, structures, or components described in the ISFSI Licensing Basis Documents.

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Title of Proposed Modification,

Procedure Change, Test or Experiment: Blowdown Evaporator Piping Replacement

Reference Document(s) #: MR 96-039, WO# 9604376

Prepared By: _____

Date: 5/9/96

Reviewed By: _____

Date: 5-9-96

MSS Review/Date: _____

MSS #: _____

Manager - PBNP Approval: _____

Date: _____

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approvals are not necessary for a determination of non-applicability.)

Section 1

Screening - Determination if Safety Evaluation is Required

- A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions.

The Blowdown Evaporator (BDE) is currently used for processing Steam Generator Blowdown, and radioactive liquids. The BDE and its associated piping and components are classified as QA code 29, Augmented Quality. This is for, "Systems or portions of systems containing radioactive materials whose failure could result in significant radiological releases (but less than 10CFR100 limits.)"

A section of 3/4" piping which runs from the Blowdown Evaporator (BDE) bottoms cooler out to the PAB truck bay has become fouled with boric acid crystals. This piping section includes a recirc loop which provides a flowpath through the Bottoms Filter, F-65, located in the PAB truck bay. This filter is no longer used.

New 3/4" pipe will be run from the Bottoms Cooler to the PAB truck bay. The existing piping will be abandoned in place, except for a section from the Bottoms Cooler through the BDE building penetration. The recirc piping section will be modified to bypass the Bottoms Filter. This will allow the recirc piping to remain inside the BDE building, eliminating several hundred feet of heat-traced piping and eight associated valves. Cleanout connections will be added to the new piping to facilitate flushing of the system. Heat tracing will be installed on all new piping.

- B. Does the change, test or experiment involve a change in the Technical Specification?
If a change is required, briefly describe what the change should be and why it is required.
NOTE: NRC approval is required prior to implementation.

☐ Yes ☒ No

- C. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

- a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures, be altered? (Refer to NP 10.3.1, step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.)

☐ Yes ☒ No

P&ID PBM-225 details the piping configuration for the BDE. However, the FSAR does not go into specifics detailing pipe routing. The Bottoms Filter and its function are not discussed in the FSAR.

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- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.) ☐ Yes x No
- c. Will any procedure described in the PBNP FSAR be altered? (Refer to NP 10.3.1, Attachment A, Part E, for guidance.) ☐ Yes x No
- d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ☐ Yes x No
- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ☐ Yes x No
- f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? ☐ Yes x No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

- a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis document, including its figures, be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) ☐ Yes x No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) ☐ Yes x No
- c. Will any procedures described in the ISFSI Licensing Basis documents be altered? ☐ Yes x No
- d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ☐ Yes x No
- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ☐ Yes x No
- f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)? ☐ Yes x No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

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Section 1 - Continuation

Basis for determination that a safety evaluation is not required:

The FSAR discusses the liquid radwaste system when analyzing for an accidental release of waste liquid. The modifications to the piping will not affect this analysis. Any potential leakage from the new 3/4" pipe and fittings would be negligible when compared to the analyzed failure of the largest waste tank in the PAB. The piping changes will not affect the collection and/or containment of waste liquid following an accidental release within the PAB.

P&ID PBM-225 details the piping configuration for the BDE. However, the FSAR does not go into specifics detailing pipe routing. The Bottoms Filter and its function are not discussed in the FSAR.

The pipe routing outside the BDE building has not been changed. Bypassing the Bottoms Filter will allow the recirc loop to remain inside the BDE building. This will decrease the total amount of piping required to operate the system. This will decrease the chances for an accidental release of waste liquid.

This modification will not affect the ISFSI or the ISFSI Licensing Basis.

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Reference Document(s) # FSAR

Title of Proposed Modification,
Procedure Change, Test or Experiment Deletion from FSAR of Large Pieces of Pipe as Potential Missiles

Prepared by _____ Date 3-24-95

Reviewed by _____ Date 03/24/95

MSS Review/Date _____ MSS # _____

Manager - PBNP Approval _____ Date _____

In lieu of MSS and Manager signature, attached PBF-0026d if serial review has been conducted. (MSS and manager approval are not necessary for a determination of non-applicability.)

Section 1

Screening - Determination if Safety Evaluation is Required

- A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions.

This documents the deletion in the FSAR of "Large pieces of pipe up to 10 inches in diameter" as a class of potential missiles for which protection is provided inside containment. This deletion removes Item 6 on page 5.1-42 under Missile Protection Criteria in FSAR Subsection 5.1.2.2.

- B. Does the change, test or experiment involve a change in the Technical Specification? ____ Yes x No
If a change is required, briefly describe what the change should be and why it is required.
NOTE: NRC approval is required prior to implementation.

- C. 1. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures be altered? (Refer to step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.) ____ Yes x No
2. Could, within reasonable possibility, the proposed change affect the intended design, operation, function or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.) ____ Yes x No
3. Will any procedure described in the PBNP FSAR be altered? ____ Yes x No
4. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function or method of function, of an SSC important to safety which is described in the PBNP FSAR? ____ Yes x No
5. Will implementation affect a prior documented technical commitment to the NRC pertaining to the design, operation, function or method of function, of an SSC important to safety which is described in the PBNP FSAR? ____ Yes x No

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6. Is an evaluation required (are any of the above questions answered yes)? ____ Yes x No

NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.

- D. Basis for determination that a safety evaluation is not required.

Missile protection criteria inside containment for PBNP was originally provided by Westinghouse to Bechtel in a document attached to letter PBW-B-200, dated 5/2/67. In the list of potential sources of missiles inside containment for which Bechtel had to provide protection, no mention is made of large pieces of pipe (otherwise the list is identical to that in the FSAR). However, somehow this appeared in the list of potential missile sources inside containment in the Unit 2 PSAR, which was submitted to the NRC on 8/3/67. It continued to appear in corresponding list in the FFDSAR and all revisions of the FSAR.

However, correspondence and meeting notes after PBW-B-200 continued to explicitly show that this was not a valid source of potential missiles for PBNP, as indicated below:

1. In letter PBW-B-2882, dated 11/24/69, Westinghouse further clarified for Bechtel the criteria for the restraint of piping. Westinghouse stated in part, "It is not considered credible that a whipping line will part at the hinge point and generate a missile."
2. In conference notes between Westinghouse and Bechtel, dated 12/4/69, the following is stated: "D. Rinald asked if Bechtel had taken cognizance of the Westinghouse missile shielding criteria for pipe fragmentation. Bechtel attendees replied that they had not considered this criteria in the plant design. Both Westinghouse and Bechtel agreed that this was the proper course of action for Point Beach."
3. In January 1970, Westinghouse issued a preliminary version of "Protection Criteria Against Dynamic Effects Resulting From Pipe Rupture." Although Bechtel was not required to "backfit" the pipe restraint and missile shielding design to this document, Westinghouse continued to express this philosophy of missile protection by clearly stating, "Sections of piping are not credible missiles, however, consideration is to be given to whipping of pressurized piping as discussed elsewhere in this document."

Note that whip restraints were designed and installed by Bechtel as appropriate to accommodate pipe whip, but this is different from designing for pipe missiles.

Thus, although there is some uncertainty regarding the origin of the FSAR statement, it is clear that designing for large pieces of pipe as missiles inside containment is not part of our design basis.

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Title of Proposed Modification, Procedure Change, Test or Experiment: Boric Acid and Reactor Make-up Water Flow Transmitter Replacement (Mechanical and I&W Work)

Reference Document(s) #: MR 90-047*A, WO# 9507503, WO# 9507504, WO# 9600186, WO# 9600192, WO# 9600200

Prepared By: _____ Date: 2/22/96

Reviewed By: _____ Date: 2/22/96

MSS Review/Date: _____ MSS # _____

Manager - PBNP Approval: _____ Date _____

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approvals are not necessary for a determination of non-applicability.)

**Section 1
Screening - Determination if Safety Evaluation is Required**

- A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions.

This modification will replace the existing Unit 1 Boric Acid Flow Transmitter (FT-00110) and the existing Reactor Makeup Water Flow Transmitter (FT-00111). The need for replacement of these flow transmitters was evaluated and it was found that the BA/RMW system does not provide accurate and reliable control of the boric acid and reactor makeup water blend required for injection into the reactor coolant system to compensate for fuel consumption and plant leakage during normal operation.

The existing Boric Acid Flow Transmitter is a Foxboro Magnetic Flow Transmitter Model 1801SATS. This flow transmitter will be replaced with a Rosemount Magnetic Flowmeter Flowtube Model 8701 and a Magnetic Flowmeter Transmitter Model 8712C. The flow range will be the same, 0-50 GPM. Instrument loop, F 00110, will be changed to accept a 4-20 ma input by connecting a Foxboro, model #M/66BC, I/I current repeater between the transmitter loop and the control loop in 1C126.

The existing Reactor Makeup Water Flow Transmitter is a Brooks Rotameter Model 3621-5523. This flow transmitter will be replaced with a Ketema McCrometer V-cone Differential Pressure Flow Element and a Rosemount Differential Pressure Transmitter Model 3051C. The new Reactor Make-up Water Flow Transmitter system will be determining flow via differential pressure supplied by the Ketema McCrometer V-Cone Differential Pressure Flow Element instead of a mechanical inprocess float. Figure 9.2-1 in the FSAR will be changed to reflect this. A new power supply for FT-00111 will be installed at the transmitter location and be powered by the existing transmitter 120VAC supply. The flow range will remain the same 0-150 GPM. Instrument loop, F 00111, will be changed to accept a 4-20 ma input by connecting a Foxboro, model #M/66BC, I/I current repeater between the transmitter loop and the control loop in 1C126.

The new transmitter installations will provide significantly more accurate and repeatable measurements compared to the existing transmitters.

This modification will be installed during a refueling outage. Both the boric acid and reactor makeup water lines will be properly isolated while this work is being performed. The transmitter loops will be electrically isolated while work is performed.

- B. Does the change, test or experiment involve a change in the Technical Specification? If a change is required, briefly describe what the change should be and why it is required.

NOTE: NRC approval is required prior to implementation.

____ Yes X No

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C. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

- a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures, be altered? (Refer to NP 10.3.1, step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.) ___ Yes X No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.) ___ Yes X No
- c. Will any procedure described in the PBNP FSAR be altered? (Refer to NP 10.3.1, Attachment A, Part E, for guidance.) ___ Yes X No
- d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ___ Yes X No
- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ___ Yes X No
- f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? ___ Yes X No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

- a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis document, including its figures, be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) ___ Yes X No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) ___ Yes X No
- c. Will any procedures described in the ISFSI Licensing Basis documents be altered? ___ Yes X No
- d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ___ Yes X No
- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ___ Yes X No

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- f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)?

____ Yes X No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

- D. Basis for determination that a safety evaluation is not required.

Modification MR 90-047*A replaces the existing Unit 1 Boric Acid Flow Transmitter (FT-00110) and the Reactor Make-up Water Flow Transmitter (FT-00111). The existing Boric Acid Flow Transmitter, a Foxboro Model 1801SATS Magnetic Flowtube will be replaced with a Rosemount Model 8701 Magnetic Flowmeter Flowtube and a Rosemount Model 8712C Magnetic Flowmeter Transmitter. The new installation will have the same range (0-50 GPM). The new Rosemount transmitter will have a 4-20 ma output instead of 10-50 ma which will require a Foxboro, model #M/66BC, I/I current repeater to be installed in the instrument loop. The new Rosemount Magnetic Flowmeter Transmitter installation will be significantly more accurate and repeatable compared to the existing installation.

The existing Reactor Makeup Water Flow Transmitter is a Brooks Model 3621-5523 Rotameter will be replaced with a Ketema McCrometer V-cone Differential Pressure Flow Element and a Rosemount Model 3051C Differential Pressure Transmitter. The new installation will determine flow via differential pressure supplied by the inline V-cone Differential Pressure Flow Element instead of a mechanical inprocess float. The new installation will have the same range (0-150 GPM) as the existing installation. The Rosemount transmitter will have a 4-20 ma output instead of 10-50 ma which will require a Foxboro, model #M/66BC, I/I current repeater to be installed in the instrument loop. The new Reactor Make-up Water Flow Transmitter and the Ketema McCrometer V-cone Differential Pressure Flow Element will provide more accurate and repeatable measurement.

The intent of the BA/RMW systems will not be altered by this modification. This mod will only replace existing flow transmitters with more accurate and reliable flow transmitters in similar locations. The instrument loops will be modified by installing I/I current repeaters to change the transmitter outputs from 4-20 ma to 10-50 ma for the operation of the instrument loops. The piping may be modified slightly to make up for differing dimensions between the existing and replacement flow transmitters.

This modification will be scheduled and installed so that it does not affect nuclear safety in any way. The modification will be installed during a refueling outage. Both the boric acid and reactor makeup water lines will be properly isolated while this work is being performed. The IWP allows the Boric Acid and Reactor Makeup Water flow transmitters to be worked at different times during the outage. Flow paths for boric acid and reactor makeup water will be maintained as required per TS 15.3.2.A and FSAR 14.1.4. This modification will not increase the probability or consequences of an accident or malfunction previously evaluated in the PBNP FSAR. It will not increase the probability or consequences of an accident or malfunction of a different type than any previously evaluated in the PBNP FSAR. This modification will not reduce the margin of safety defined in the Technical Specifications. The new transmitters will provide more reliable and accurate flow measurements and therefore will improve the performance of the Boric Acid and Reactor Makeup Water systems.

Calibration procedure ICP 4.14, "Boric Acid Control System", will be performed to document the operation and calibration of the Boric Acid Control System.

There will not be any work performed in connection with the Independent Spent Fuel Storage Installation (ISFSI). There will not be any system, structure or component modified which is associated with the ISFSI. This modification will not affect the intended design or operation of the ISFSI. There are no safety significant issues associated with the ISFSI and this modification.

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Title of Proposed Modification, Procedure Change, Test or Experiment: Additional 120V AC Receptacles and Lighting Inside the Unit 1 Containment

Reference Document(s) #: Modification Request 89-133*C

Prepared By: _____ Date: 4/2/96
Reviewed By: _____ Date: 4-6-96
MSS Review/Date: _____ MSS #: _____
Manager - PBNP Approval: _____ Date: _____

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approvals are not necessary for a determination of non-applicability.)

**Section 1
Screening - Determination if Safety Evaluation is Required**

- A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions.

This design package will install several new 120V AC receptacles and incandescent lights inside the unit 1 containment. The new hardware will be installed in the containment general areas. Portions of this installation will be in accordance with specification PB-546 and design guideline DG-E02. These documents define the requirements for seismic installation of electrical components. The remainder of this installation will be in accordance with the requirements of drawing BECH E-27 sheet 23. This drawing defines the requirements for seismic installation of Electro-Mechanical Tubing (EMT) outside of containment. The testing and acceptance of this installation will ensure that seismic II over I criteria requirements are fulfilled. This will be ensured by a SQUG walkdown of all portions of the installation by a qualified Seismic Review Team. The testing and acceptance requirements are specified in section 8 of the SQUG guidelines.

- B. Does the change, test or experiment involve a change in the Technical Specification? ☐ Yes ☒ No
If a change is required, briefly describe what the change should be and why it is required.
NOTE: NRC approval is required prior to implementation.

- C. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

- a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures, be altered? (Refer to NP 10.3.1, step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.) ☐ Yes ☒ No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.) ☐ Yes ☒ No
- c. Will any procedure described in the PBNP FSAR be altered? (Refer to NP 10.3.1, Attachment A, Part E, for guidance.) ☐ Yes ☒ No

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- d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ☐ Yes ☒ No
- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ☐ Yes ☒ No
- f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? ☐ Yes ☒ No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

- a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis document, including its figures, be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) ☐ Yes ☒ No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) ☐ Yes ☒ No
- c. Will any procedures described in the ISFSI Licensing Basis documents be altered? ☐ Yes ☒ No
- d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ☐ Yes ☒ No
- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ☐ Yes ☒ No
- f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)? ☐ Yes ☒ No

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

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D. Basis for determination that a safety evaluation is not required:

(Note that this Safety Evaluation Screening is a revision to a similar document prepared on January 15, 1996. This screening addresses a new issue, that of the interim configuration resulting from the installation of non-seismic EMT in containment while decay heat removal is required.) Procedure NP 10.3.1 "Authorization of Changes, Tests and Experiments (10 CFR 50.59 and 72.48 Reviews)" states that "Some facility structures, systems or components (SSCs) described in the FSAR and licensing documents... clearly do not affect the safe operation of PBNP or the ISFSI. Examples... include... normal lighting." Therefore, the 120V AC portions of this design and installation do not require a safety evaluation. Other portions of this design and installation, such as the materials selected and their installation, have considered nuclear safety. Specifically, the materials selected are compatible with the containment post-DBA atmosphere and their installation will not affect any other SSCs that are important-to-safety. (Seismic class II over I criteria will be applied to the installation of this equipment.) The installation of this design will present an interim configuration in which non-seismic components (specifically, EMT) will be installed in containment while decay heat removal is needed. There will be no non-seismic components installed in any location in which they could impact any SSCs that are important-to-safety while the plant is in a mode when decay heat removal is necessary. (This was verified by a field walkdown at the start of UIR23 that included the Project Manager, Installation Supervisor and Contractor Foreman.) The final configuration of this installation (prior to returning unit 1 to service) will be verified to be adequate by members of a qualified Seismic Review Team.

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Section 2

Determination if a 10 CFR 50.59 Unreviewed Safety Question is Involved

- A. List the licensing basis documents (FSAR, SER, etc.) and sections where the system, structure, component, procedure, test, or experiment is described.

Normal 120V AC lighting power is not described in the FSAR or other licensing document. However, Appendix "A" of the FSAR does identify the requirements for installing equipment that must not affect important-to-safety SSCs.

- B. 1. Does the proposed activity increase the probability of occurrence of an accident previously evaluated in the PBNP FSAR? ☐ Yes ☒ No

A seismic event could become the initiator of many of the FSAR-analyzed accidents. This installation, including its interim configuration (before its approval by a Seismic Review Team (SRT)), will protect all important-to-safety Structures, Systems and Components (SSCs). Many portions of the installation will be in accordance with the requirements of design guideline DG-E02 "Seismic Conduit Support Design Manual". Other portions of this installation will be in accordance with permanent drawing BECH E-27 sheet 23 "Lighting and Communications Conduit Support Details". All portions of this installation, including those that meet E-27 sheet 23, will adequately protect important-to-safety SSCs during all plant operational or accident phases.

2. Does the proposed activity increase the consequences of an accident previously evaluated in the PBNP FSAR? ☐ Yes ☒ No

The only possible negative affect of this installation would be due to seismic interactions. Adequate consideration was given to seismic design of components to ensure that this installation will not adversely affect any previously-evaluated accidents.

3. Does the proposed activity increase the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the PBNP FSAR? ☐ Yes ☒ No

Seismic II over I criteria was applied. All operational phases, including plant phases that require functional decay heat removal SSCs, was considered. E-27 sheet 23's requirements will adequately protect all plant SSCs during installation. A SRT will verify that the entire installation is acceptable before the plant starts up.

4. Does the proposed activity increase the consequences of a malfunction of equipment important to safety previously evaluated in the PBNP FSAR? ☐ Yes ☒ No

A walkdown of all SSCs in the vicinity of this installation was conducted at the start of U1R23. There are no important-to-safety SSCs (that would be required for decay heat removal) in the vicinity of this installation that could be affected by this installation prior to startup. The results of the SQUG walkdown will ensure that no important-to-safety SSCs could be impacted by this installation during any other plant operational or accident condition.

5. Does the proposed activity create the possibility of an accident of a different type than any previously evaluated in the PBNP FSAR? ☐ Yes ☒ No

All applicable (to this installation) accidents have been evaluated in the FSAR. Any accident that could possibly be affected by this installation would be initiated by a seismic event. This design provides for adequate protection from seismic events and seismic interactions.

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6. Does the proposed activity create the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the FBNP FSAR? ☐ Yes ☒ No

Equipment malfunctions that could possibly be caused by this installation would be initiated by a seismic event. The design of this installation has adequately accounted for the seismic accelerations expected from a Design Basis Earthquake. In addition, the installation provides for adequate clearance between this installation's components and other SSCs.

7. Does the proposed activity reduce the margin of safety defined in the Basis for any Technical Specification? ☐ Yes ☒ No

Installed SSCs will not be affected by any portion of this installation, as adequate provisions are made to preclude any effects of seismic events or interactions. For this reason there will be no effects upon the margin of safety defined in the Basis of any Technical Specifications.

DOES THE CHANGE, TEST, OR EXPERIMENT INVOLVE A 10 CFR 50.59 UNREVIEWED SAFETY QUESTION? (IS THE ANSWER TO ANY OF THE ABOVE QUESTIONS YES?) ☐ Yes ☒ No

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Section 3
10 CFR 50.59 Evaluation Summary

(This summary must be sufficiently complete [summary of description in Section 1, summary of the answers to the questions in Section 2, and a concise conclusion] to submit to the NRC for review.)

Procedure NP 10.3.1 "Authorization of Changes, Tests and Experiments (10 CFR 50.59 and 72.48)" states that "Some facility structures, systems or components (SSCs) described in the FSAR and licensing documents... clearly do not affect the safe operation of PBNP or the ISFSI. Examples... include... normal lighting." Therefore, the 120V ac portions of this design and installation do not require a safety evaluation.

Other portions of this design and installation, such as the materials selected and their installation, have considered nuclear safety. Specifically, the materials selected are compatible with the containment post-DBA atmosphere and their installation will not affect any SSCs that are important-to-safety.

One portion of this installation bears special attention. The interim configuration that will exist during the installation, before it has been evaluated by a qualified Seismic Review Team, merits special seismic consideration. This design and installation provides protection for important-to-safety SSCs in three ways.

1. A walkdown was performed at the beginning of U1R23 to verify that no SSCs exist in the area of this installation that are important-to-safety during the time period when decay heat removal requirements are in effect.
2. Components will be installed in accordance with approved seismic guidelines. All components will meet, at a minimum, the requirements of permanent drawing BECH E-27 sheet 23 "Lighting and Communications Conduit Support Details."
3. All portions of this installation will be inspected and evaluated for acceptance by a qualified Seismic Review Team before the plant returns to power operation.

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Section 4

Determination if a 10 CFR 72.48 Unreviewed Safety Question is Involved

- A. List the licensing basis documents (Cask SAR, SER, Certificate of Compliance, etc.) and sections where the system, structure, component, procedure, test, or experiment is described.

Normal 120V AC lighting power is not described in any licensing document. However, Appendix "A" of the FSAR does identify the requirements for installation of equipment that must not be allowed to impact important-to-safety equipment.

- B. 1. Does the proposed activity increase the probability of occurrence of an accident previously evaluated in the ISFSI Licensing Basis documents? ☐ Yes ☒ No

This installation takes place inside the unit 1 containment building. Therefore, this installation cannot affect the ISFSI, any of its licensing documents or any accidents analyzed in those documents.

2. Does the proposed activity increase the consequences of an accident previously evaluated in the ISFSI Licensing Basis documents? ☐ Yes ☒ No

The consequences of an accident analyzed in the ISFSI will not be affected by this installation. The only safety-related concerns related to this installation are from potential seismic interactions with SSCs installed within the unit 1 containment building. This design has adequate provisions to protect against potential seismic interactions and therefore will not affect the consequences of any previously-analyzed accident.

3. Does the proposed activity increase the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the ISFSI Licensing Basis documents? ☐ Yes ☒ No

This design will be installed within the unit 1 containment building. There are no electrical or instrumentation ties between this design and the ISFSI. Other potential affects upon ISFSI important-to-safety equipment will be precluded due to the physical separation of this installation and the ISFSI.

4. Does the proposed activity increase the consequences of a malfunction of equipment important to safety previously evaluated in the ISFSI Licensing Basis documents? ☐ Yes ☒ No

This installation will have no affect upon ISFSI important-to-safety equipment due to the physical, electrical and instrumentation separations between it and the ISFSI. The consequences of malfunctioning ISFSI equipment are completely independent from this installation.

5. Does the proposed activity create the possibility of an accident of a different type than any previously evaluated in the ISFSI Licensing Basis documents? ☐ Yes ☒ No

The only potential affects from this installation upon nuclear safety are confined to SSCs within the unit 1 containment; these affects would be due to seismic interactions. The ISFSI is completely isolated from those affects by physical separation.

**NUCLEAR POWER DEPARTMENT
SAFETY EVALUATION REPORT**

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Section 4 - Continuation

6. Does the proposed activity create the possibility of a malfunction of equipment important to safety of a different type than any previously evaluated in the ISFSI Licensing Basis documents? ☐ Yes ☒ No

ISFSI important-to-safety equipment is completely independent of this design and installation. This installation cannot, due to its location and separation from the ISFSI, cause any ISFSI important-to-safety equipment to malfunction.

7. Does the proposed activity reduce the margin of safety defined in the ISFSI licensing basis documents or change the license conditions as contained in the certificate of compliance? ☐ Yes ☒ No

The ISFSI's margin of safety is not affected by designs similar to this which are installed within the unit 1 containment building. There will be no affect upon the ISFSI license documents, license conditions or certificate of compliance from this installation within the unit 1 containment building.

8. Does the proposed activity create the possibility of a significant increase in occupational exposure than previously evaluated in the ISFSI Licensing Basis documents? ☐ Yes ☒ No

This design will be installed within the unit 1 containment building. The ISFSI and all activities associated with dry fuel cask fabrication, handling, loading, transport, storage, and unloading are completely isolated from this design.

9. Does the proposed activity create the possibility of a significant unreviewed environmental impact other than any previously evaluated in the ISFSI Licensing Basis documents? ☐ Yes ☒ No

This design will be isolated from the ISFSI's site and from all activities associated with the ISFSI. The installation, located within the unit 1 containment building, will not affect any environmental assessments associated with the ISFSI.

DOES THE CHANGE, TEST, OR EXPERIMENT INVOLVE A 10 CFR 72.48 UNREVIEWED SAFETY QUESTION, SIGNIFICANTLY INCREASE OCCUPATIONAL EXPOSURE, CREATE A SIGNIFICANT UNREVIEWED ENVIRONMENTAL IMPACT, OR CHANGE THE LICENSE CONDITIONS AS CONTAINED IN THE CERTIFICATE OF COMPLIANCE? (IS THE ANSWER TO ANY OF THE ABOVE QUESTIONS YES?) ☐ Yes ☒ No

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Section 5
10 CFR 50.59 Evaluation Summary

(This summary must be sufficiently complete [summary of description in Section 1, summary of the answers to the questions in Section 4, and a concise conclusion] to submit to the NRC for review.)

Procedure NP 10.3.1 "Authorization of Changes, Tests and Experiments (10 CFR 50.59 and 72.48)" states that "Some facility structures, systems or components (SSCs) described in the FSAR and licensing documents... clearly do not affect the safe operation of PBNP or the ISFSI. Examples... include... normal lighting." Therefore, the 120V ac portions of this design and installation do not require a safety evaluation.

Other portions of this design must consider potential affects upon the ISFSI. Those potential affects are negated due to complete electrical instrumentation and physical separation between this installation and the ISFSI.

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Modification,
Test or Experiment:

Temp change to IT-08A, Rev 14, Cold Start Testing of Turbine Driven Aux Feed Pump and Valve Test

Reference Document(s) #: IT-08A, Rev 14, Cold Start Testing of Turbine Driven Aux Feed Pump and Valve Test

Prepared By: _____	Date: _____
Reviewed By: _____	Date: _____
Reviewed by Multidisciplinary Review Team: 1. _____	Date: _____
2. _____	Date: _____
_____	Date: _____
MSS Review/Date: _____	MSS #: _____
Manager - PBNP Approval: _____	Date: _____

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approvals are not necessary for a determination of non-applicability.)

Section 1
Screening - Determination if Safety Evaluation is Required

- A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions.

A temporary change is being made to IT-08A, Rev 14 in order to perform the quarterly shut test of check valves 1AF-102 and 1AF-104. Any leakage from these valves will be routed to the respective chemical addition tank (T-47A and T-47B) drain line in lieu of the Unit 2 steam generators. This change is necessary due to the Unit 2 steam generators not being able to accept flow because of current Unit 2 refueling conditions. Any check valve seat leakage will be quantified using the normal method of taking the difference between flow indicators IFI-4002 and IFI-4036 while feeding forward to the respective steam generator utilizing 1P-29. All of the piping and valves from the tested check valves to the chemical addition tank drain line are rated for auxiliary feedwater pressure and temperatures. A level 1 dedicated operator will be assigned to valve 1AF-87 while 1AF-102 is being tested, and at 1AF-76 while 1AF-104 is being tested. The dedicated operator will be used to close 1AF-87, or 1AF-76, in the case that either of the motor driven auxiliary feed pumps are called upon to deliver flow to either of the Unit 1 steam generators. This temporary change only alters the flow path of any check valve leakage and does not affect the design, operation or function of any SSC described in the FSAR or ISFSI Licensing Basis documents.

- B. List the FSAR sections or VSC-24-SAR sections where the system, structure, component, procedure test or experiment is described.

FSAR 4.14.1.11, 14.1.10, TS 15.3.4, TS 15.4.8
FSAR 10.2

- C. Does the change, test or experiment involve a change in the Technical Specification? ☐ Yes ☒ No
If a change is required, briefly describe what the change should be and why it is required.

NOTE: NRC approval is required prior to implementation.

- D. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

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- | | | | | |
|--|--------------------------|-----|-------------------------------------|----|
| a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures, be altered? (Refer to NP 10.3.1, step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.) | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.) | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| c. Will any procedure described in the PBNP FSAR be altered? (Refer to NP 10.3.1, Attachment A, Part E, for guidance.) | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

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|---|--------------------------|-----|-------------------------------------|----|
| a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis document, including its figures, be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| c. Will any procedures described in the ISFSI Licensing Basis documents be altered? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |
| f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)? | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No |

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

- D. Basis for determination that a safety evaluation is not required:
The temporary change to IT-08, Rev 14 as described in Section 1.A only alters the flow path of any check valve leakage and does not affect the design, operation or function of any SSC described in the FSAR or ISFSI Licensing Basis documents. Therefore, a safety evaluation is not required.

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Title of Proposed Modification,
Procedure Change, Test or Experiment: Replacement of the existing oil sightglass on G04's EGB-13P governor

Reference Document(s) #: QAR 12136, EMD-PS Owners group information bulletin MTS-2242, Woodward Governor Company fa to Southern California Edison dtd. 3/20/95, WO Tag #101208, TS-84

Prepared By: [Signature] Date: 9/25/96

Reviewed By: _____ Date: 9/25/96

MSS Review/Date: 9/1/96 MSS #: _____

Manager - PBNP Approval: _____ Date: _____

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approvals are not necessary for a determination of non-applicability.)

Section 1
Screening - Determination if Safety Evaluation is Required

- A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions.

The specified governor oil sightglass range in TS-84 is being changed to reflect the newly installed sightglass. The previously installed sightglass on the EGB-13P governor on G-04 was not large enough to correctly indicate the governor oil level. The oil level on the EGB-13P varies significantly from rest to its normal operating condition. TS-84 currently state that the governor oil level is to be maintained in the sightglass and above the scribe mark. This required the oil level to be maintained at the very top of the sightglass nearly out of its indicating range. The newly installed sightglass is 1" taller then the previous sightglass and allows the oil level to be maintained within the sightglass under all conditions. This change to TS-84 states that the oil level in the governor is maintained below the scribe mark on the sightglass. The actual oil level range of the governor sightglass is now:
Maximum - on the scribe mark
Minimum - no oil visible in the sightglass
Diesel operability is maintained as long as oil level is below the scribe mark and visible in the sightglass.

- B. Does the change, test or experiment involve a change in the Technical Specification? ☐ Yes ☒ No
If a change is required, briefly describe what the change should be and why it is required.

NOTE: NRC approval is required prior to implementation.

TS 15.3.7, FSAR 5.2.5.1 revision
TS 15.4.6
[Signature]
10/12/96

- C. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

- a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures, be altered? (Refer to NP 10.3.1, step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.) ☐ Yes ☒ No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.) ☐ Yes ☒ No

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|--|--------------------------|-----|---|----|
| c. Will any procedure described in the PBNP FSAR be altered? (Refer to NP 10.3.1, Attachment A, Part E, for guidance.) | <input type="checkbox"/> | Yes | X | No |
| d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? | <input type="checkbox"/> | Yes | X | No |
| e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? | <input type="checkbox"/> | Yes | X | No |
| f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? | <input type="checkbox"/> | Yes | X | No |

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

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|---|--------------------------|-----|---|----|
| a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis document, including its figures, be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) | <input type="checkbox"/> | Yes | X | No |
| b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) | <input type="checkbox"/> | Yes | X | No |
| c. Will any procedures described in the ISFSI Licensing Basis documents be altered? | <input type="checkbox"/> | Yes | X | No |
| d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? | <input type="checkbox"/> | Yes | X | No |
| e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? | <input type="checkbox"/> | Yes | X | No |
| f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)? | <input type="checkbox"/> | Yes | X | No |

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

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SAFETY EVALUATION REPORT

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Section 1 - Continuation

D. Basis for determination that a safety evaluation is not required:

The WO associated with Tag # 101208 replaced the oil sightglass on G-04's EGB-13P governor. The new sightglass is approximately 1" longer than the previously installed model. The new taller sightglass is the "standard" sightglass supplied on all new and remanufactured EGB-13P's. The increased length allows the oil level to be maintained in the sightglass at all times and will not force the operators to maintain the oil level at the extreme upper end of the sightglass while the engine is at rest.

TS-84 is being changed to reflect the newly installed sightglass. The new sightglass changes the "operability" requirement for the governor oil level. **Diesel operability is maintained as long as oil level is below the scribe mark and visible in the sightglass.**

The replacement sightglass installation does not represent a test or experiment, it will not affect the intended design, operation, function or method of function of the emergency diesel generator or its governor. Due to this a 50.59 evaluation is not required.

This change to G-04's governor does not impact the ISFSI therefore no 10CFR 72.48 evaluation is required.

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Title of Proposed Modification,
Procedure Change, Test or Experiment:

AOP-8H, (MAJOR), "Hydrogen Ignition In MSB", rev. 0

Reference Document(s) #:

Prepared By:

Date: 10-7-96

Reviewed By:

Date: 10/8/96

Reviewed by Multidisciplinary Review Team: 1. N/A

Date:

2. N/A

Date:

Date:

MSS Review/Date: N/A

MSS #:

Manager - PBNP Approval: N/A

Date:

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approvals are not necessary for a determination of non-applicability.)

Section 1

Screening - Determination if Safety Evaluation is Required

- A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions.

Issue new procedure to provide guidance in the unlikely event of a hydrogen ignition occurring during loading or unloading of a multi-assembly sealed basket.

- B. List the FSAR sections or VSC-24-SAR sections where the system, structure, component, procedure, test or experiment is described.

- C. Does the change, test or experiment involve a change in the Technical Specification?
If a change is required, briefly describe what the change should be and why it is required.
NOTE: NRC approval is required prior to implementation.

☐ Yes ☒ No

- D. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

- a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures, be altered? (Refer to NP 10.3.1, step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.)

☐ Yes ☒ No

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- | | |
|---|---|
| b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.) | <input type="checkbox"/> Yes X No |
| c. Will any procedure described in the PBNP FSAR be altered? (Refer to NP 10.3.1, Attachment A, Part E, for guidance.) | <input type="checkbox"/> Yes X No |
| d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? | <input type="checkbox"/> Yes X No |
| e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? | <input type="checkbox"/> Yes X No |
| f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? | <input type="checkbox"/> Yes X No |

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

- | | |
|---|---|
| a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis document, including its figures, be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) | <input type="checkbox"/> Yes X No |
| b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) | <input type="checkbox"/> Yes X No |
| c. Will any procedures described in the ISFSI Licensing Basis documents be altered? | <input type="checkbox"/> Yes X No |
| d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? | <input type="checkbox"/> Yes X No |
| e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? | <input type="checkbox"/> Yes X No |
| f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)? | <input type="checkbox"/> Yes X No |

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Section 1 - Continuation

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

D. Basis for determination that a safety evaluation is not required:

Guidance provided in this procedure formalizes the actions expected in the unlikely event that a hydrogen ignition would occur. This guidance is being provided in response to the hydrogen ignition that occurred during the loading of a multi-assembly sealed basket in May 1996. References are made to direct usage of ISFSI procedures RP-7 Part 6 and RP-8 Part 3, but in no way does this procedure affect the actions taken in those procedures. Additional actions are in progress to ensure a hydrogen ignition will be a remote possibility for future loadings.

Since the operability, function and configuration of systems listed in the FSAR, and Technical Specifications will not be altered in any way by this procedure, a safety evaluation is not required.

Since this new procedure provides contingency actions beyond expected conditions in the ISFSI system no evaluation is required.



POST-MAINTENANCE TESTING

1.0 PURPOSE

The purpose of this procedure is to provide criteria for the determination, selection, and documentation of post-maintenance tests to be conducted by plant and/or contractor personnel. The program provides assurance that equipment will perform its intended function when returned to service following Maintenance activities, the original deficiency is corrected, and a new deficiency has not been created.

2.0 SCOPE

This procedure describes the PBNP post-maintenance testing program. The following elements are addressed in this program:

- 2.1 Assignment of responsibility for determining post-maintenance test requirements, conducting the tests, and reviewing test results.
- 2.2 Determination of the scope of the post-maintenance testing.
- 2.3 Determination of typical tests for specific maintenance actions.
- 2.4 Control and documentation of post-maintenance testing activities.
- 2.5 Post-maintenance test procedures.

3.0 REFERENCES

INPO 87-028, "Post-Maintenance Testing"

EPRI NP-7213, "Post-Maintenance Testing: A Reference Guide"

4.0 DEFINITIONS

- 4.1 Corrective Maintenance - Repair and restoration of equipment that has failed or is malfunctioning, without changing factors that affect design criteria.
- 4.2 Preventive Maintenance Work - Routine maintenance work performed on a regular, prescheduled basis, in accordance with established group procedures which attempts to eliminate equipment failure. This work uses a controlling document other than an MWR.
- 4.3 Deficiency - Any condition that deviates from the design of a system or component of equipment and results in a degraded ability to accomplish its intended function.



POST-MAINTENANCE TESTING

- 4.4 Post-Maintenance Test - Testing which is performed during and/or upon completion of maintenance work and demonstrates with a high degree of confidence that the deficiency reported has been repaired and that the system affected by the repair is left in an operable condition.
- 4.5 Surveillance Test - A functional test of installed equipment and/or systems to satisfy operability requirements.
- 4.6 Non-Operational Equipment - Equipment which is associated with the power plant facility but not meeting the criteria of operational equipment.
- 4.7 Operational Equipment - Equipment which is necessary to produce power from a unit or maintain a unit in a shutdown condition in compliance with all Technical Specifications and FSAR requirements. This includes all equipment which the DSS needs to be cognizant of for plant operation.

5.0 RESPONSIBILITIES

- 5.1 The Maintenance manager and I&C manager are responsible for implementing the post-maintenance testing program as described herein when returning equipment to service. The post-maintenance testing requirements as set forth herein are intended to satisfy the following objectives.
 - 5.1.1 Ensuring that post-maintenance testing requirements are properly specified and consistent with the scope of work.
 - 5.1.2 Ensuring that test procedures and in-shop testing required by this procedure are properly performed, reviewed, and documented by qualified personnel.
 - 5.1.3 Ensuring the Operations group is appropriately notified when maintenance is required on equipment included in the ASME Section XI Inservice Testing Program.
 - 5.1.4 Ensure the ISE group is appropriately notified when repairs to or replacement of ASME Class 1, 2, or 3 piping components takes place.
 - 5.1.5 Monitoring the overall effectiveness of the post-maintenance testing program and incorporating program changes based on plant history and performance or industry experience.
 - 5.1.6 Ensuring that testing performed following maintenance is adequate.
 - 5.1.7 Ensuring that results of post-maintenance testing are recorded and are easily retrievable.



POST-MAINTENANCE TESTING

- 5.1.8 Ensuring that post-maintenance testing is coordinated with Operations or other groups responsible for operation of affected equipment.
 - 5.2 The Operations manager is responsible for ensuring that the performance of required post-maintenance testing is accomplished, as noted below:
 - 5.2.1 Ensuring that post-maintenance testing is properly authorized, performed, reviewed, and documented prior to returning the equipment to service.
 - 5.2.2 Ensuring that all delayed tests are performed prior to or in conjunction with returning the equipment to service.
 - 5.2.3 Making the final equipment operability determination prior to returning the equipment to service.
 - 5.2.4 Specifying operational testing required for each MWR and assisting Maintenance and I&C as required in specifying the scope of other testing required.
 - 5.2.5 Restoring systems and components to correct operating or standby modes following testing.
 - 5.3 The Security supervisor has the responsibilities of Section 5.2 for security equipment.
 - 5.4 Health Physics is responsible for source checks and calibrations of the radiation monitoring systems, radiation survey instruments, and portal monitors with I&C assistance, as required.
 - 5.5 Other plant groups are responsible for ensuring equipment under their control is properly tested after maintenance, prior to returning the equipment to service.
 - 5.6 Engineering support may be required in the preparation and performance of the recommended post-maintenance testing, based on design bases, vendor recommendations, standards, codes, and engineering analyses.
- 6.0 POST-MAINTENANCE TESTING INSTRUCTIONS
- 6.1 Scope
 - 6.1.1 This procedure is applicable to operational equipment. Utilization of this procedure for non-operational equipment is discretionary.



POST-MAINTENANCE TESTING

6.1.2 The operability of equipment that has undergone maintenance is determined by post-maintenance testing or in-process controls that ensure that the work performed did not negatively impact the equipment. The scope of post-maintenance testing is based on the extent of preventative and/or corrective maintenance performed, the consequences associated with the failure of the maintained equipment, and the extent of the in-process controls utilized during the maintenance. Where the consequences of failure cannot be considered insignificant and in-process controls do not completely ensure that the work performed did not negatively impact the equipment, post-maintenance testing, which satisfactorily demonstrates that equipment is capable of performing its intended function, must be performed. Additionally, satisfactory post-maintenance testing will also demonstrate that any original deficiencies have been corrected, and that no new or related problems have been created by the maintenance activity.

6.1.3 The need for post-maintenance testing should be considered for all corrective maintenance activities. In addition, post-maintenance testing should be considered for preventive maintenance and troubleshooting activities that might have impaired proper functioning of the component. Test requirements for PM tasks should be specified on the task sheet, in procedures used to perform the maintenance, or on an attached post-maintenance test matrix. PMT Matrix list attached as Attachment B.

When practical, tests should be conducted under conditions that represent normal operating parameters, such as flow, differential pressure, temperature, input signal values, and fluid type.

6.1.4 Tests should be conducted in accordance with MWR work plans, PM task sheets, instructions, or procedures, as appropriate. The instructions/procedures should measure performance and allow for documentation and review of test data for the equipment and/or system. The data may become baseline data, depending on the extent of the repair. The post-maintenance testing should verify satisfactory completion of maintenance and the Technical Specification operability of the equipment, if applicable.

6.1.5 The following are examples of types of maintenance activities requiring post-maintenance testing:

- a. Maintenance that affects the integrity or operation of a fluid or gas system or components within those systems.
- b. Maintenance that affects the wall thickness of pressure boundaries or affects mechanical strength of components or fittings.



POST-MAINTENANCE TESTING

- c. Maintenance that affects electrical distribution equipment and/or protection thereof.
- d. Maintenance that affects electrical control circuitry or electronic components.
- e. Maintenance that affects instrument detectors or components in an instrument loop.

6.1.6 The following activities are representative of common post-maintenance tests:

- a. Visual or dimensional inspections and nondestructive tests specified by code.
- b. Voltage, current, integrity, or continuity checks.
- c. Operational test of the component (including vibration, pressure, flow, temperature, distance of travel, and other measurements, where applicable).
- d. Calibration or alignment of a component or instrument loop.
- e. Leak rate testing.
- f. Closure and response times, stroke times, etc.
- g. Pressure test, if a pressure boundary was affected.
- h. Manual or automatic cycling of valves, breakers, etc.

6.1.7 Post-maintenance test requirements should be selective to separately test all pertinent redundant or duplicate devices or functions which may have been affected by the maintenance activities, for example, separately test all trip attachment on breakers equipped with multiple trip attachments.

6.2 Control of Post-Maintenance Testing

6.2.1 It should be understood that Operability testing, to be performed after maintenance, may not be an adequate post-maintenance test. It is the responsibility of Maintenance Planning and Supervision to verify that post-maintenance testing addresses the maintenance performed.



POST-MAINTENANCE TESTING

- 6.2.2 A Supervisor/Maintenance Planner or other designated individual will determine additional testing required, using guidance in Attachments A and B, and other resources, as necessary, such as machinery history, vendor manuals, and consultation with operating personnel. Individuals who change work plans, after issuance, must verify the adequacy of previously identified post-maintenance testing.
- 6.2.3 Inservice inspection program requirements:
 - a. If maintenance is required for components within the scope of the ASME Section XI inservice testing program, the Operations group should be notified to verify that test requirements are accurately specified.
 - b. If maintenance is required for components in the ASME Section XI Inservice Inspection Program, the ISI group should be notified to verify that preservice inspection requirements are being met.
- 6.2.4 Individuals who prescribe post-maintenance testing requirements must recognize their limitations. Assistance from Operations, technical support, or other groups should be obtained as needed to ensure that all testing requirements and acceptance criteria are specified.
- 6.2.5 The duty shift superintendent reviews maintenance work requests per the MWR procedure. During this review, the adequacy of specified Operability testing should be verified or amended as needed. Changes to work plans must also be brought to the attention of the DSS, such that previously identified Operability Testing is verified to be appropriate. The primary purpose of the DSS review is to ensure that testing restores Technical Specification operability and imposes no adverse effects on the system or equipment. Prior to start of testing, dated (time limited) procedure steps should be reviewed for adequacy prior to test operations. For example, "lube oil tank level is normal" may be incorrect if significant time has elapsed since it was signed off as complete.
- 6.2.6 Post-maintenance tests should be performed according to instructions provided in the MWR or task sheet. If the scope of work expands beyond the original maintenance request, a new MWR should be initiated or a revision of the MWR and work plan be made with appropriate reviews and authorization.
- 6.2.7 If more than one group is involved in testing, the responsible work group or group responsible for equipment operation should coordinate the performance of the post-maintenance tests.



POST-MAINTENANCE TESTING

- 6.2.8 Following maintenance, permission to begin testing, which may affect operating equipment, shall be obtained from the DSS.
- 6.2.9 At the completion of post-maintenance testing, acceptability of the equipment shall be based on satisfactory completion of all post-maintenance tests specified by the MWR, PM task sheet, or procedure. Where PMT matrices are used, the group responsible for performing the PMT should annotate successful completion of circled PMT matrix items by initialing each item.
- 6.2.10 Restoring systems and components to a correct operating or standby mode following testing should be the responsibility of Operations or other group responsible for equipment operation. This may be accomplished by instructions in the test procedure, by conducting specific system lineups, or by other normal methods. Independent verification may be appropriate.
- 6.2.11 For troubleshooting type of maintenance work requests, the test requirements normally cannot be determined until the troubleshooting is complete.
 - a. The supervisor or planner responsible for the troubleshooting maintenance request should expand the work plan once the problem has been determined or generate a new maintenance request if other equipment is involved.
 - b. Work performed during troubleshooting should be clearly documented to ensure that post-maintenance and operability testing can be appropriately scoped.
 - c. Maintenance supervision or planning must review the work performed and prescribe post-maintenance testing.
 - d. Operations must review the work performed and revise the originally prescribed operability testing, as necessary.
- 6.2.12 If the test cannot be completed immediately after maintenance is performed, the maintenance work request should be held as an open maintenance work request until such time as the component can be tested.

As plant conditions allow, testing can be performed and the maintenance requests closed out. Examples of delayed testing would include steam system components repaired during unit outage periods that cannot be tested until normal operating plant conditions exist.



POST-MAINTENANCE TESTING

- 6.2.13 If the test is unsatisfactory, deficiencies identified during testing should be documented, corrected, and retests performed, as necessary. Procedures, work plans, or MWRs should be used as appropriate to control this work.
- 6.2.14 If a test is unsatisfactory, the DSS may declare the equipment inoperable; or, depending on the test results and significance of the existing deficiency, may return it to service with the documented deficiency. Engineering evaluation may be needed to declare a component operable with a deficiency.

6.3 Use of Procedures for Post-Maintenance Testing

The various classifications of equipment required to ensure safe and reliable plant operation will require different levels of instruction/procedural support for post-maintenance testing activities. Available sources of post-maintenance testing instruction/procedures should include (but are not limited to) surveillance test procedures, PM task sheets, maintenance procedures, calibration procedures, and MWR work plans.

- 6.3.1 If an applicable surveillance test procedure exists, then that procedure may be used to verify operability of the equipment. A surveillance test used for post-maintenance testing should not only prove system operability, but it also should test components and features either directly or potentially affected by the maintenance activity, verify that maintenance was performed properly, and ensure that the initial deficiency was corrected.
- 6.3.2 If only applicable sections of a procedure are used, caution must be used to ensure that previous sections are reviewed for system status, lineups, or prerequisites.
- 6.3.3 If a surveillance test, calibration, or special procedure does not exist to test particular equipment following maintenance, a special test procedure may be written, or the test may be performed in accordance with instructions written for the maintenance work request. With any of these procedure methods, the required and actual testing performed should be described, data recorded, applicable acceptance criteria specified and appropriate reviews and approvals performed and documented.
- 6.3.4 Test instructions may include details such as initial conditions and prerequisites, hold points, cautions, personnel safety requirements, acceptance criteria, and post-test restoration.
- 6.3.5 MT&E identification numbers shall be documented on the MWR or task sheet.



POST-MAINTENANCE TESTING

ATTACHMENT A
SELECTED MAINTENANCE ACTIVITIES AND POST-MAINTENANCE TESTS

NOTE 1: *This list of activities and tests is a guide and is not meant to be all inclusive. The selection of testing should depend on the scope of completed maintenance and requirements of applicable codes, standards, technical specifications, and vendor recommendations.*

NOTE 2: *As a minimum, an appropriate test for nearly all mechanical work would be a general leakage inspection and any testing required by ASME codes.*

Maintenance Activity

Recommended Test

Repair of electric motor

1. Perform insulation resistance checks, winding resistance, polarization index.
2. Verify proper direction of rotation and proper phase relationships.
3. Operate the equipment and verify there are no abnormal noises.
4. Obtain baseline vibration analysis data (depends on motor size.)
5. Measure bearing temperatures, if practical.
6. Measure starting and running current for each phase.
7. Check oil level.
8. Check air filter cleanliness, if applicable.
9. Manually rotate and check for freedom of rotation and clearance from any obstructions or interferences during rotation.

Repair of circuit breaker

1. Verify adjustment of circuit breaker trips.
2. Perform trip shaft torque measurements, if applicable.
3. Measure phase-to-phase and phase-to-ground insulation resistances.



POST-MAINTENANCE TESTING

Attachment A (Cont.)

Maintenance Activity

Recommended Test

Adjust packing or repack air-operated or motor-operated valve

4. Measure micro-ohms across each main contact.
5. Perform auto functional test on the breaker (open and close on required signals).
6. Measure breaker response time.
7. Verify operation of auxiliary trip devices and relays.
8. Perform manual operation check on the breaker.
9. Breaker parameter check (e.g., breaker operating voltage, current, control power, status lights).
1. Using air or motor operator, verify full stroke of valve to ensure freedom of movement.
2. Stroke timing test.
3. Check for leakage at normal operating pressure.
4. Leak rate test, if required.
5. Measure packing drag using MOV or AOV test rig. (Motor-operated valve packing drag measurement may not be required if engineering evaluation determines that a sufficient stem thrust margin exists.)

Repair internals of air-operated or motor-operated valve

1. Leak test valve if required by Technical Specifications or surveillance procedures.
2. Perform retesting required for adjusting packing.
3. Verify position indications (remote and local).



POST-MAINTENANCE TESTING

Attachment A (Cont.)

<u>Maintenance Activity</u>	<u>Recommended Test</u>
	<ol style="list-style-type: none">4. Check stroking pressures and precompression.5. Perform signature testing for MOV internals work.
Repack manual valve or adjust packing	<ol style="list-style-type: none">1. Verify valve stem will move freely without binding.2. Check for leakage at operating pressure.
MOV motor operator repair or replacement	<ol style="list-style-type: none">1. Full-stroke exercising check (2 strokes) done at normal system flow, pressure, temperature, if practical.2. Stroke timing test.3. Measure running and starting current of motor.4. Verify torque and limit switch settings.5. Automatic function test.6. Position verification check.7. Packing leakage, check at operating pressure.8. Perform appropriate diagnostic tests to establish a new baseline.
Air-operated valve repair or replacement	<ol style="list-style-type: none">1. Full-stroke exercising check at normal system parameters.2. Seat leakage test, if practical.3. Stroke timing test.4. Automatic function test.5. Position verification check.

POST-MAINTENANCE TESTING

Attachment A (Cont.)

<u>Maintenance Activity</u>	<u>Recommended Test</u>
	<ol style="list-style-type: none"> Control valve loop alignment verification. Packing leakage, check at operating pressure. Positioner and I/P converter calibration. Check stroke pressures and precompression. Regulator setting.
Solenoid valve repair or replacement	<ol style="list-style-type: none"> Full-stroke exercising check. Seat leakage test. Automatic function test. Position indication verification check. Stroke timing check.
Repair or replacement of containment isolation valve	<ol style="list-style-type: none"> Perform any code-required strength or seat tightness testing. Perform Technical Specification required leak rate and operability testing. Verify position indication.
Pressure regulating valve repair or replacement	<ol style="list-style-type: none"> Setpoint calibration check. Valve seat leakage test.
Safety valve/relief valve repairs	<ol style="list-style-type: none"> Relief setpoint test (bench test or in-place test). Valve seat leakage test. Position indications proper, check for chatter, packing leakage.



POST-MAINTENANCE TESTING

Attachment A (Cont.)

Maintenance Activity

Recommended Test

Repair or replacement of pumps

1. Test in accordance with ASME code, as required.
2. Perform appropriate surveillance test.
3. Check direction of rotation if motor leads were disconnected.
4. Inspect suction filters, oil level, cooling flows, suction and discharge pressures, bearing temperatures, packing or seal leakage.
5. Run baseline vibration analysis.
6. Measure applicable pump and motor performance data.

Ventilation system fan/filter unit maintenance

1. Functional tests and manual start.
2. Dynamic balance checks.
3. Check bearing temperatures, vibration levels, abnormal noise, air flows.
4. Measure running current.
5. Filter inspections and tests.

Manual, motor-, and air-operated damper repair or replacement

1. Full-stroke check.
2. Damper leakage check.
3. Automatic function and interlock checks.
4. Stroke timing check.
5. Position indication checks.

Air compressor rebuild or repair

1. Check for leakage at operating pressures.
2. Bearing temperature measurement.



POST-MAINTENANCE TESTING

Attachment A (Cont.)

Maintenance Activity

Recommended Test

Turbine maintenance

3. Measure baseline vibration levels.
4. Check for unusual noise.
5. Check parameters (discharge pressure, cooling flow, oil level, air temperatures).
1. Auto start functional test.
2. Turbine (pump) performance check (flow, speed, bearing temperature, and vibration amplitude).
3. Turbine protective feature test.
4. Manual start test.
5. Check oil levels.
6. Check for fluid leakage at normal system parameters.
7. Measure baseline vibration data.
8. Check for rotor grounds.
9. Auxiliaries for heating and cooling.

Maintenance of emergency diesel generator (EDG) and related components

1. Auto start functional test.
2. EDG fluid parameter checks (e.g., lube oil level, cooling water temperature and flow, governor control oil system, fuel oil sampling).
3. EDG protective features auto test (overspeed, low lube oil pressure, high crank case pressure, etc.).
4. EDG synchronization and load test.
5. EDG manual start test.



POST-MAINTENANCE TESTING

Attachment A (Cont.)

Maintenance Activity

Recommended Test

Heat exchanger maintenance

6. For internal generator repairs, perform a manual jacking of the rotor at least one complete revolution to ensure freedom from interference and obstruction between rotating and stationary elements and wiring. Ensure internal elements are rigidly fixed.

1. Heat exchanger parameter check (temperature, flow, external leakage, etc.)
2. Heat exchanger performance test (heat balance).
3. Hydrostatic or operational test for tube and tube sheet leakage test.

Piping system maintenance

1. System flushed.
2. ASME code requirements.
3. Pressure test.
4. Integrity check of mechanical joints.
5. Cleanliness check, system filled and vented.
6. Verify correct fluid chemical parameters.
7. Piping supports, heat tracing, insulation are restored.
8. Review for unusual pipe displacement.
9. Ensure instrumentation lines attached to pipe are properly refilled.
10. RCS leak test following opening Technical Specification requirement.



POST-MAINTENANCE TESTING

Attachment A (Cont.)

<u>Maintenance Activity</u>	<u>Recommended Test</u>
New or repair weld	<ol style="list-style-type: none">1. Testing in accordance with the ASME code is required for systems covered by the Code.2. RCS welds require NDE per Technical Specifications.
Replace component in instrument loop	<ol style="list-style-type: none">1. Calibrate replaced component.2. Ensure component is installed properly.3. Inspect mechanical joints under normal operating or hydrostatic test pressure to verify no leakage.4. Verify proper operation of instrument loop by comparing with:<ol style="list-style-type: none">a. Other readings of the same parameter on different instrument channels.b. Readings between channels that monitor the same variable and bear a known relationship to each other.c. Readings between channels that monitor different variables and bear a known relationship to one another.5. Measure a loop response time if there is a specified time constant required for instrument response.6. Operational check on process.
Replace switch devices (pressure, flow temperature level)	<ol style="list-style-type: none">1. Calibrate switch and verify actuation and reset points.2. Inspect mechanical joints under normal operating or hydrostatic test pressure to verify no leakage.



POST-MAINTENANCE TESTING

Attachment A (Cont.)

Maintenance Activity

Recommended Test

- | | |
|---|---|
| | <ul style="list-style-type: none">3. Verify that environmental qualification requirements have not been degraded by installation or maintenance.4. Ensure switch is valved in after maintenance and that indication is as expected. |
| Instrumentation transmitter channel maintenance | <ul style="list-style-type: none">1. Channel check.2. Channel calibration (all channel components except sensor).3. Channel sensor calibration (complete channel).4. Trip actuating device operational test.5. Compare output against redundant channel indication. |
| Temperature channel maintenance | <ul style="list-style-type: none">1. Channel check.2. Channel calibration (all channel components except sensor).3. Channel sensor calibration (bench check sensor against a reference standard).4. Trip actuating device operational test. |
| Nuclear instrumentation maintenance | <ul style="list-style-type: none">1. Channel check.2. Power range detector calibration (using incore detector system). Source range detector calibration (using plotted response curve).3. Bistable trip test.4. For all NIS detectors, verify proper response to neutron flux. For power range only, verify proper axial flux difference. |



POST-MAINTENANCE TESTING

Attachment A (Cont.)

Maintenance Activity

Recommended Test

NOTE: During channel calibration, verify that all auto actuation interlock setpoints and resets function properly.

Incore detector maintenance:

5. Channel calibration (all channel components except sensor).
1. Incore detector channel calibration (normalization).
2. Incore detector drive operational test.

Radiation monitor maintenance

1. Channel check.
2. Source check.
3. Auto function test.
4. Channel calibration.

Transformer maintenance

1. Transformer parameter checks (oil temperature, oil level, oil pressure, tap settings, cooling fan status).
2. Transformer operability test (primary/secondary voltage and current).
3. Insulation resistance checks, hi-pot, polarization index.

Static inverter repair or replacement

1. Verify voltage and currents.
2. Inverter load check.
3. Transfer test, if applicable.

Load center and distribution panel electrical maintenance

1. Verify voltage and load current.
2. Visual check for fastener tightness, cleanliness.



POST-MAINTENANCE TESTING

Attachment A (Cont.)

Maintenance Activity

Recommended Test

Control rod drive mechanism (CRDM)

1. CRDM group step counters (or other position indication) performance maintenance checks.
2. CRDM rod drop time check.
3. CRDM operability rod speed check.
4. RPI channel check, functional test and calibration.
5. Current trace to verify timing and power level supplied to coil.

Crane and hoist repairs

1. Load test (if structural integrity affected).
2. Limit switch operability check.
3. Brake/clutch operability.

Battery maintenance

1. Battery parameter checks (specific gravity, electrolyte level, cell voltage, electrolyte temperature, battery terminal voltage).
2. Battery inspection (cells, cell plates, terminals, and connectors are free of corrosion).
3. Battery service discharge test.
4. Battery performance discharge test.

Tank/pressure vessel repairs or replacement

1. Tank/vessel integrity checks for leakage.
2. Tank parameter checks (proper level, pressure, temperature indications).
3. Tank content checks (e.g., boron concentration, radiation level, viscosity, particulate contamination, other).
4. Cleanliness checks.



POST-MAINTENANCE TESTING

Attachment A (Cont.)

Maintenance Activity

Recommended Test

Pump Lubrication
(Greasing/Oil Changes)

5. ASME code requirements, as appropriate.
6. Condition of internal coatings.
1. Pump Test Run
 - a. If possible, coordinate pump test run with a regularly scheduled inservice test for those cases where an inservice test procedure exists.
 - b. If coordination with a scheduled inservice test is not possible, test run pump for at least 5 minutes.
2. Perform visual check during test run to verify that no problems were created as a result of lubricating pump, documenting test run inspection on appropriate MWR or Task sheet.

Sealant Injection for Valves
(Leak Repair)

1. For valves where use of the injectant could affect freedom of movement of mechanical apparatus, and where the valve will be required to operate following use of sealant injection:
 - a. Verify full stroke of the valve, at normal system parameters if possible, to ensure freedom of movement. If possible, measure the stroke distance of the valve to ensure that the injectant has not interfered with any working components.
 - b. Valves covered under the Inservice Testing Program shall be tested in accordance with that program.



POST-MAINTENANCE TESTING

Attachment A (Cont.)

Maintenance Activity

Recommended Test

2. For valves where use of the injectant cannot possibly affect freedom of movement of mechanical apparatus due to valve design and/or location and method of injectant application:
 - a. Post-Maintenance testing is not specifically required as long as in-process controls are sufficient to ensure injectant application cannot affect the movement of any mechanical apparatus.
 - b. The installation document (temp mod) for the sealant injection must demonstrate that injectant application cannot affect the movement of any mechanical apparatus.
3. For situations where the valve will not be required to operate following use of sealant injection, no post-maintenance testing is required provided the valve is declared and maintained inoperable until permanently repaired, tested, and returned to service.



POST-MAINTENANCE TESTING

ATTACHMENT B
POST-MAINTENANCE TEST MATRICES AVAILABLE

1. PBF-9068, "Post-Maintenance Test for Solenoid Valves"
2. PBF-9072, "Post-Maintenance Test for Pumps in IST Program"
3. PBF-9081, "Post-Maintenance Test for Non-IST Program"
4. PBF-9084, "Post-Maintenance Test for Miscellaneous Equipment"
5. PBF-9085, "Post-Maintenance Test for Valves in IST Program"
6. PBF-9110, "Post-Maintenance Test for Motor Operated Valves"
7. PBF-9134, "Post-Maintenance Test for Non-IST Valves"

TEMPORARY CHANGE REVIEW AND APPROVAL

36

Page 1

REFER TO PROCEDURE NP 1.2.3 FOR GUIDANCE TO COMPLETE THIS FORM.

DCC NUMBER/TITLE NP 8.1.1
WORK ORDER PROCESSING
 Revision Number/Date 4 1 JANUARY 24, 1997
 UNIT: ☐ PBI ☐ PB2 ☒ PBO

Form Designation

NOTE: Copy original TCRA form prior to completing designation.

NOTE: See back for routing information.

Form No	Use
1.	Review and Approval
2.	Group Tracking
3.	Work/Record
4.	Nuclear Information Management
5.	Owner

Temporary Change Initiated By: 1-24-97
 If the procedure is of a non-signoff type, list affected manual locations on form PBF-0026b and attach. List the changes, including step number, change, and reason. This shall be done on form PBF-0026c (Procedure Review and Approval Continuation Sheet). Attach the changes to this form.

REQUIREMENTS

The procedure changes initiated by this form do not change the intent of the procedure. Is screening for 10 CFR 50.59 or 72.48 applicability required in accordance with NP 10.3.1. If YES, attach applicable portions of item PBF-1515.

If NO, explain: ADMIN ONLY

Temporary Change Valid Until U2 R22 COMPLETED

Temporary change duration greater than 7 days?

NOTE: Tracking not required for special test procedures such as PETPr, IWPPr, SMPPr, ICP II Series. Operations 40-second tests and 10-year tests are also special test procedures. ☒ Yes ☐ No

If yes, then temporary change tracking has been placed into effect.

If this procedure change implements a temporary change/modification to the facility, then a temporary modification form PBF-1545 shall be completed as described in NP-7.3.1.

If other groups have procedures which may be affected by these changes, then notification shall be made. Groups/Individuals notified:

☐ Yes ☒ No

APPROVAL PRIOR TO USE

- NOTES: (1) The initiator and the approver shall not be the same person.
 (2) If a 10CFR 50.59 screening determines that a safety evaluation is required, then this temporary change shall not be used until the subsequent review and approvals have been obtained.

Date 1/24/97

Officer/Head of Unit/Division MAJOR PROCEDURES
 Supervisor for non-Operations MINOR PROCEDURES
 for all OPERATIONS PROCEDURES
 Security Supervisor for SECURITY PLAN IMPLEMENTING PROCEDURES

Duty & Call Supervision (For MAJOR Procedures ONLY)
 Plant Manager (For SECURITY PLAN IMPLEMENTING Procedures ONLY)

SUBSEQUENT REVIEW AND APPROVAL

MAJOR	Manager's Supervisory Staff Review**	MSSM
	Date _____ (For the MSS)	Date _____ PBNP Manager Approval
**Form PBF-0026d shall accompany this sheet if serial review and approval was conducted.		
MINOR	Cognizant Group Head	Date _____
VNSR, SPECIAL PROCESS, ADMIN SECURITY CONTROLLED REFERENCE	Cognizant Group Head	Date _____
	PBNP Manager Approval (If Required)	Date _____
	Other Approval (If Required)	Date _____

NUCLEAR POWER DEPARTMENT
PROCEDURE REVIEW AND APPROVAL CONTINUATION SHEET

PROCEDURE NP 8.1.1 WORK ORDER PROCESSING

Revision 4

Date JANUARY 24, 1997

DESCRIBE CHANGES (Continued)

Step Change/Reason

- SUPERCEDES TEMPORARY CHANGE TO PREVIOUS REVISION
- 6.10 ADD A NEW ^{NOTE} DEFINING THE DSS WORK ORDER RELEASE SIGNATURE FOR U2R22
SGRP PROJECT WORK PLANS. / ADMINISTRATIVE
- 6.12 ADD A NEW NOTE DEFINING THE DSS WORK ORDER RELEASE
SIGNATURE FOR U2R22 SGRP PROJECT WORK PLANS. / ADMINISTRATIVE

DESCRIBE DESIRED TRAINING OR REQUIRED READING, INCLUDING RESPONSIBLE GROUP (if applicable):

TRAINING CONTACT: _____

(Contact training representative if formal training or required reading is checked on PBF-0026a).

Initials _____

WORK ORDER PROCESSING

1.0 PURPOSE AND APPLICABILITY

1.1 Purpose

Provide instructions for Work Order processing.

1.2 Applicability

All Work Orders other than those items exempted in Attachment C.

2.0 REFERENCES

- 2.1 DCS 2.1.1, Immediate Notification Guidance
- 2.2 HP 2.5, Radiation Work Permits
- 2.3 HP 2.5.3, RWP Request Review
- 2.4 MI 32.5, Maintenance Instruction for Installation, Adjustment, or Replacement of Live-Loaded Valve Packing.
- 2.5 NP 1.6.4, Verbal Communication Procedure
- 2.6 NP 1.9.4, Confined Spaces Procedure
- 2.7 NP 1.9.9, Transient Combustible Control
- 2.8 NP 1.9.13, Ignition Control Procedure
- 2.9 NP 1.9.15, Danger Tag Procedure
- 2.10 NP 4.2.3, ALARA Review Process
- 2.11 NP 5.2.9, NPRDS Reporting
- 2.12 NP 5.3.1, Condition Reporting System
- 2.13 NP 7.1.1, Engineering Work Requests
- 2.14 NP 7.2.1, Modification Requests
- 2.15 NP 7.2.5, Repair/Replacement Program
- 2.16 NP 7.3.1, Temporary Modifications

WORK ORDER PROCESSING

- 2.17 NP 7.4.1, PBNP Pressure Test Program
- 2.18 NP 8.1.3, Post Maintenance Testing
- 2.19 NP 8.4.1, Use of Quality Control Hold and Inspection Points
- 2.20 NP 8.4.2, Maintenance QC Implementation
- 2.21 NP 8.4.3, I&C QC Implementation
- 2.22 NP 8.4.4, Quality Control Inspector Profiles and Certifications
- 2.23 NP 8.4.10, Foreign Materials Exclusion
- 2.24 NP 8.4.11, Penetrating Barriers
- 2.25 NP 8.4.12, Equipment, Job Site and Plant Cleanliness Practices and Plant Storage Requirements
- 2.26 NP 8.5.2, CHAMPS Equipment Database Control
- 2.27 NP 8.6.1, Maintenance Job Performance Aids
- 2.28 NP 8.7.1, Maintenance - Control of Measuring and Test Equipment
- 2.29 NP 8.7.2, Calibration and Control of M&TE
- 2.30 NP 9.3.3, Spare Parts Equivalency Evaluation
- 2.31 NP 9.5.1, QA Scope Material Disbursement and Return to Stores
- 2.32 NP 10.3.1, Authorization of Changes, Tests, and Experiments
- 2.33 Forms
 - 2.33.1 PBF-0040e, PBNP WO Initiation Tag
 - 2.33.2 PBF-0040g, Minor Maintenance Work Form
 - 2.33.3 PBF-1517, SPEED Form (Spare Parts Equivalency Evaluation Document)
 - 2.33.4 PBF-1554, R/R/M Form (Repair/Replacement/Modification)
 - 2.33.5 PBF-2113, SRO Procedure and Non-Operations Work Plan Review

WORK ORDER PROCESSING

- 2.33.6 PBF-2114, Return to Service Testing Reviews
- 2.33.7 PBF-4194a, Pre-Job Briefing Checklist
- 2.33.8 PBF-4194b, Pre-Job Briefing Attendance Record
- 2.33.9 PBF-9923c, RWP Request Form
- 2.33.10 PBF-9923d, PBNP Unforeseen WO Form
- 2.33.11 PBF-9925, CHAMPS Equipment Record Data Form

3.0 DEFINITIONS

- 3.1 CHAMPS - Computerized History And Maintenance Planning System. This is the PBNP computer database that maintains the records of work performed on PBNP equipment. See NP 8.5.2 for definitions of terms used in CHAMPS.
- 3.2 Design Change - Any change that results in changes to the information that identifies: the specific functions to be performed by a Structure, System, or Component (SSC), or the specific values or ranges of values chosen for controlling parameters as reference bounds for design.
- 3.3 Maintenance Work - Work which is necessary to repair defective components, systems, or structures and return them to an operable condition.
 - 3.3.1 Minor Maintenance Work - Maintenance work that does not require implementation of all work controls specified by this procedure. Refer to Attachment C for details on the minor maintenance program.
 - 3.3.2 Preventive Work - Work performed on a regular, prescheduled basis, in accordance with established group procedures which attempts to eliminate equipment failure.
 - 3.3.3 Corrective Work - Work performed to equipment to address a deficiency. This work is performed under a WO.
 - 3.3.4 Unforeseen Work - Work which, at the discretion of the work group first line supervisor or the DSS, should be expedited and normal WO processing is impractical, not available, or the time lag for normal processing would impede the progress of the work.
 - 3.3.5 Project Work - Work performed as part of a large project, usually a modification. See NP 7.2.1.

WORK ORDER PROCESSING

- 3.4 Work Order (WO) - The document used for controlling and recording specific work to be performed in accordance with the provisions of this procedure. This document is a combination of computerized screen images and paper for routine WO processing, and paper only for unforeseen WO processing (PBF-9923d). The paper form will control the process after it is printed.
- 3.5 May - Used to denote permission; neither a requirement nor a recommendation.
- 3.6 Measuring and Test Equipment (MTE) - Tools, gauges, and other instruments used in performing measuring and testing in QA scope activities. These instruments are properly controlled, calibrated, and adjusted at specific intervals to maintain accuracy within necessary limits.
- 3.7 WO Defect Sticker - A sticker which is used when it is impractical to utilize the WO initiation form and defect tag (PBF-0040e).
- 3.8 WO Initiation Tag - A two-part paper tag/form (PBF-0040e). The paper form is used to initiate a WO in CHAMPS. The tag is attached to (or near) the equipment to identify the existence of a defect and to serve notice that a WO has been requested.
- 3.9 WO Priority - A classification normally assigned by the Originator. The CHAMPS Coordinator or Operations Planner may make this assignment for work of an urgent nature. The assigned priority is used to establish the urgency of requested maintenance or work activity. Refer to Attachment D for a definition of the corrective work order priorities.
- 3.10 Nonmaintenance Work - Work which does not involve equipment repair activities.
- 3.11 Nonoperational Equipment - Equipment which is associated with the facility but does not meet the criteria of operational equipment.
- 3.12 Operational Equipment - All equipment which is under the jurisdiction of the DSS, or can affect the equipment which is under his jurisdiction. This includes equipment related to plant generation.
- 3.13 ANI Hold Point - A predesignated step in the work document where work must stop until an inspection or other designated requirement has been completed and an acceptance of work signature is obtained from an Authorized Nuclear Inspector.
- 3.14 QC Hold Point - A predesignated step in the work document where work must stop until an inspection or other designated requirement has been completed and an acceptance of work signature is obtained from a QC inspector.

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- 3.15 QC Inspection Point - A predesignated step in the work document where a verification must be performed. Work may progress beyond this point after the QC inspector is notified that the inspection point has been reached. The verification, indicated by a QC inspector signature, must be obtained prior to returning the affected equipment to service.
- 3.16 A QC Certified Inspector has demonstrated skill, training, knowledge and experience required to properly perform the activities required by QC hold and QC inspection points. This certification is described in NP 8.4.4, "Quality Control Inspector Profiles and Certifications."
- 3.17 Repair - Restore equipment to originally-designed condition by replacing with equivalent part(s) or restoration of original part(s) to a like-original condition.
- 3.18 Return to Service Testing Review - A process review performed on all Maintenance Rule scoped equipment at a minimum. The review consists of the Work Group, Operations Group, and Engineering Group reviews that document required Post Maintenance Testing (PMT), Operability Testing, Inservice Testing, Section XI Testing, and any other required testing deemed necessary as a result of these reviews.
- 3.19 RWP Request Form - The form (PBF-9923C) used in conjunction with the WO Continuation Form to obtain a Radiation Work Permit (RWP) and pre-job ALARA review of the work plan.
- 3.20 Security Equipment - Equipment which is under the jurisdiction of the security supervisor or can affect the equipment which is under his jurisdiction.
- 3.21 Shall - Used to denote a mandatory requirement.
- 3.22 Should - Used to denote a recommendation.
- 3.23 Sign - Write a legible and identifiable signature or initials on hard copy, or apply an electronic signature to a specific field on a computerized screen.
- 3.24 SRO Procedure and Non-Operations Work Plan Review - A review performed by an SRO on all ITs, TSs, and Non-Operations work plans on Maintenance Rule or Safety Related or DSS Notification required work orders, to ensure they adequately establish initial conditions, equipment recovery actions (for example: valve line-ups), and independent verification of recovery actions.
- 3.25 Troubleshoot - Locate or identify the specific problem with the affected equipment.

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- 3.26 Post-Maintenance Testing (PMT) - Testing that verifies that the maintenance performed either (refer to NP 8.1.3 for further discussion):
 - 3.26.1 Restored the operating capabilities of the equipment to exceed minimum requirements or
 - 3.26.2 Did not degrade operating capabilities of the equipment such that performance is less than minimum requirements.
- 3.27 Operability Testing - Testing that verifies that the equipment maintained is in compliance with the requirements of Plant Technical Specifications. Note that Operability Testing in some situations may be adequate PMT.
- 3.28 Inservice (Preservice) Inspection - Non- destructive testing used to document the baseline condition of the item (or weld) to be used as a reference condition for subsequent non-destructive inservice inspections.
- 3.29 SPEED - A determination that an evaluated part is equal to or better than the existing part regarding form, fit and function. Refer to NP 9.3.3, for further discussion.

4.0 SCOPE

This procedure shall be used to accomplish work as defined in Section 3.0 on structures, systems, components (SSC), and grounds of Point Beach Nuclear Plant as follows:

- 4.1 It shall be applied to unforeseen and routine work.
- 4.2 It shall be applied to control work performed by contractors.
- 4.3 It may be applied to minor maintenance work for the benefit of tracking the work activities and/or documenting the results.
- 4.4 It may be applied to non-maintenance work to implement a work request from one plant group to another or an internal group work request. In those cases where Engineering support may be needed, an Engineering Work Request (EWR) may be more appropriate. Refer to NP 7.1.1 for EWR guidance.
- 4.5 It shall be applied to control or coordinate work which is necessary to install a plant modification approved under the provisions of NP 7.2.1, "Modification Requests," or NP 7.3.1, "Temporary Modifications."

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5.0 DISCUSSION

- 5.1 WO processing, and the associated work accomplishment, as delineated by this procedure, is shown on the Work Order Flow Chart, Attachment A.
- 5.2 Security-related WOs shall be processed utilizing a close relationship between the work group and Security.
- 5.3 WO processing shall be accomplished in accordance with the provisions of this procedure. Unforeseen work document processing must be accomplished in an expeditious manner, as follows:
 - 5.3.1 The duty shift superintendent (DSS) and the work group first line supervisor have the authority to implement unforeseen work.
 - 5.3.2 The supervisor who authorizes issuance of an unforeseen WO has the responsibility to ensure that the intent of the pre-work and post-work steps of this procedure are met and appropriately documented on the Unforeseen WO form. He shall assure that the Unforeseen WO is logged in the Control Room Unforeseen WO Log.
 - 5.3.3 The DSS or Work Control Center (WCC) Manager with DSS approval, shall release the equipment for repair or classify it as nonoperational equipment as may be appropriate prior to the start of the work.
 - 5.3.4 Unforeseen WOs are initiated bypassing the normal control and tracking mechanisms associated with the WO. The initiator's ID appears on all stages of approvals. Therefore, it is his responsibility to ensure that all steps of this procedure are followed.
- 5.4 Unforeseen WOs are identified as type "U", priority "1" initially and having a blank WO tag number.
- 5.5 WOs which temporarily repair a component should be closed and a new WO issued to cause the permanent repair. An example of this is a valve repaired by the pressure sealant process until final repair or replacement can be done during a refueling outage.
- 5.6 Post-maintenance testing shall be approved and its performance appropriately documented on the WO in accordance with NP 8.1.3 "Post Maintenance Testing."

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- 5.7 Pre-maintenance and/or Post-maintenance Operability Testing may have to be performed depending on Technical Specification requirements. It should be noted that Post-Maintenance Testing and Operability Testing address different issues. Identification of Post Maintenance Testing is the responsibility of the work group, while Post Maintenance Operability Testing is the responsibility of Operations. Work group personnel must recognize that deviation from a defined work plan may require changes in Post-Maintenance Testing and/or Post-Maintenance Operability Testing.
- 5.8 Return to Service Testing Reviews shall be performed on all Maintenance Rule Scope Equipment at a minimum, and these reviews shall be documented on Form PBF-2114, Return to Service Testing Reviews.
- 5.9 Any required Return to Service Test(s), as indicated on the attached PBF-2114, shall be approved, and the performance(s) documented on the WO in accordance with this procedure.
- 5.10 All ITs, TSs, and Non-Operations Work Plans on Maintenance Rule or Safety Related or DSS Notification required work orders, require a Senior Reactor Operator review for adequately established initial conditions, equipment recovery actions (for example: valve line-ups), and independent verification of recovery actions. This review is to be performed by an SRO cognizant of plant conditions and shall be documented on Form PBF-2113, SRO Procedure and Non-Operations Work Plan Review.
- 5.11 Numbering of WO Initiation Tag and WOs
- 5.11.1 WO Initiation Tags are prenumbered. The preprinted "tag number" should not be confused with computer-generated "WO numbers".
- 5.11.2 Numbers for WOs are electronically assigned by CHAMPS. These WO numbers are sequential by year.
- 5.12 WOs which are issued to perform the installation of a modification request, temporary modification, SPEED, or ECR should not be issued until the governing design document is released for installation. However, a WO may be issued to perform shop fabrications or other preparation-type work prior to approval of the governing design document, provided that no physical installation occurs until the design is approved.
- 5.13 Work may be performed within the scope of this procedure on an emergency basis. The DSS shall assure that the intent of the pre-work steps has been met prior to the work being performed. The DSS shall also assure that the work performed is documented as an unforeseen WO as soon as practicable. This provision may only be used under the authority of the DSS when personnel are not available to support the normal WO process in an expedient manner.

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6.0 PROCEDURE

6.1 Responsibilities of the Originator

Maintenance work shall be requested by any NPD individual desiring to have work performed on specific equipment with an equipment number and within the scope of this procedure.

- 6.1.1 A request for routine work shall be initiated by using a WO Initiation Tag PBF-0040e. The originator should verify that a tag is not already hung for the same reason. The WO Initiation Tag is used as the source of information for creating a WO in CHAMPS.

A request for unforeseen work may be initiated by using an unforeseen work request form (PBF-9923d) or electronically in CHAMPS. If PBF-9923d is used to initiate work, a WO for that work will be created in CHAMPS following normal procedures.

The originator shall legibly write and accurately complete all requested information. To verify equipment IDs, the CHAMPS "EQ" option may be used.

WO Initiation Tag forms (PBF-0040e) shall be completed as follows:

- a. Unit MTE PB0 PB1 PB2. Circle as appropriate.
- b. Discovery Date.
- c. Equipment ID. This is found by using CHAMPS option "EQ" and shall be entered on the initiation form. NIMS Specialists can be used to look up the correct CHAMPS Equipment ID. If a CHAMPS Equipment ID is not available for the affected equipment, a new ID may be created by using PBF-9925.
- d. Location is sourced within CHAMPS for valid equipment ID's. Location for generic equipment ID's like lighting or piping needs to be provided.

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NOTE: *To ensure accurate communication of the problem, consequences, special conditions, urgency, etc., it is important for the initiator to be complete with the description and ensure the key information is conveyed.*

- e. Problem Description. Concise description of defect, corrective action expected, or work desired. The description must include sufficient information so that pre-work reviews and work scoping may be done without undue delays. Sketches or supplementary information should be identified with the WO initiation form and defect tag number and attached to the form for forwarding to the responsible work group. Sending information to the work group directly may result in lost material. The problem description should also include any pertinent information regarding WO urgency. If equipment problem involves operational problems of Technical Specification and/or safety-related equipment, indicate this to ensure appropriate attention is devoted to the WO. Also, any commitments should be indicated on the WO. That is, work is to be completed by (date), or next equipment outage or prior to return to service.

If the problem description is lengthy and will not fit in the computer field (288 characters), then a key word description should be utilized with attached detail.

- f. Tag/Sticker - Circle the TAG if a tag was hung, ST if a sticker was placed, BOTH or NONE and indicate location (Lctn:) if Tag/Sticker is not on the actual equipment.
- g. Originator shall enter employee number (NP, PB or WE ####) and Name/initials (required).

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- h. The following items should be filled in if known:
Assign the job type to the work order. The job types are:
- C - Corrective Maintenance
 - J - Non-Corrective, Service Oriented
 - M - Modification or Engineering Project
 - P - Preventive Maintenance Callups
 - S - Technical Specification Callups
 - U - Unforeseen
 - X - Supplemental History
- i. Determine if the problem or defect described on the WO initiation tag potentially requires a condition report. Reference NP 5.3.1. If a condition report is written, note it on the problem description area.
- j. Ensure the appropriate plant conditions required for the work are circled.

Examples of plant conditions are:

FP = Full Power	HSD = Hot Shut-Down	GTO = Gas Turbine Outage
OL = Off Line	CSD = Cold Shut-Down	VCO = Vacuum Out
RF = Refueling	SEE = See Work Plan	ANY = Any Condition.

Note that "ANY" indicates any condition is acceptable. If specific equipment conditions are not listed, circle "other" and write in the required conditions.

"SEE" is used when the problem description or work plan contain steps may need multiple plant conditions.

- k. Determine the appropriate priority (see Attachment D) and record on the WO initiation Tag. If a priority 1, 2, 3, 4, or 5 is assigned, deliver the WO initiation Tag to the DSS for concurrence.
- l. If the proposed WO is being written to perform the work for an approved modification, ensure that the "Problem Description" reflects it, and enter the MR number and account numbers for reference.

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- 6.1.2 Tagging the equipment is important to convey the problems to others to eliminate duplicate WOs. Attach the tag to the defective equipment. Security equipment and equipment in containment shall not be tagged. If a tag is impractical to attach to the equipment, or if appropriate to have a sticker at a location remote from the tagged equipment, fill in the information required on a defect sticker, and place it as required. If the tag will not be used, leave it attached to the paper form.
 - 6.1.3 Forward the WO initiation Tag to the WO Review Group, for review prior to electronic WO system input.
 - 6.1.4 If notified by a subsequent reviewer that a design change is involved, ensure that an Engineering Work Request is initiated (Refer to NP 7.1.1).
 - 6.1.5 If the originator is notified by the WO Review Group that the requested work is being canceled, the originator shall assure that all tags and stickers are removed from the associated equipment.
 - 6.1.6 After completion of the WO, the originator may be routed a feedback form indicating the WO is complete and what has been done. The originator should verify that the WO addressed his original concern as nearly as possible, or that the justification for cancellation is adequate.
- 6.2 Responsibilities of the WO Review Group
- 6.2.1 Review the WO Initiation Tag for necessity, completeness, accuracy, and clarity.
 - a. Equipment ID and name.
 - b. Problem Description.
 - c. Plant conditions necessary for the work.
 - 6.2.2 Ensure that the WO is not redundant to one already in CHAMPS. If the WO is not necessary, indicate the reason and return the WO initiation tag to the originator for disposal. (Defective equipment tags and/or stickers must be removed in this case.)
 - 6.2.3 Determine if the work desired is within the scope of Section 4.0 of this procedure. If it is not, indicate the reason and return the WO input form to the originator for disposal. (Defective equipment tags and/or stickers must be removed in this case.)

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- 6.2.4 Review the problem or defect on the WO initiation tag to determine if it requires a condition report. Generate a condition report as necessary.
- 6.2.5 Evaluate if the work requested by the WO may involve an unproved design change which is within the scope of NP 7.2.1, "Modification Requests." If it does, return to originator with instructions to initiate an EWR.
- 6.2.6 Review the assigned priority of the work order (see Attachment D). If the assigned priority is incorrect, notify the originator and reassign the priority.
- 6.2.7 Determine the work group to which the WO is to be assigned. Enter the appropriate code.
- 6.2.8 Determine if the work affects operational equipment. Enter a "Y" or "N" in the DSS Field.
- 6.2.9 If the DSS Field is "N," release of nonoperational equipment for work occurs when the WO is electronically initiated.
- 6.3 Responsibilities of the CHAMPS Coordinator - WO Electronic Initiation
 - 6.3.1 Review the WO initiation tag for completeness and legibility. If sufficient information has not been presented, return the initiation form to the originator.
 - 6.3.2 WO Review Group review may be bypassed due to urgency:
 - a. If the work is of an urgent nature and the Responsible Work Group is easily identified.
 - b. If the Responsible Work Group is easily identified and the work does not affect operational equipment.
 - 6.3.3 If Step 6.2 is being bypassed, determine and enter the WO priority.
 - 6.3.4 Follow established input procedures to create the electronic WO.
 - 6.3.5 If CHAMPS is not available, fill out form PBF-9923d.
 - 6.3.6 If the WO initiation tag contains more data than can be entered into the electronic system, or includes sketches, write the WO number on the initiation form and forward it to the responsible work group. Initiation forms not forwarded to the responsible work group may be destroyed.
 - 6.3.7 If Data Base changes are required, initiate the change(s) in accordance with NP 8.5.2 (CHAMPS Equipment Database Control).

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6.4 Responsibilities of Site Quality Assurance - Before Work is Started

For WOs which have an asterisk (*) in the QA scope field, determine if the WO is QA scope, or non-QA scope. Enter a "Y" or "N" in the QA scope field, as appropriate.

6.5 Responsibilities of the PSE Group Head - WOs Involving Design Change

- 6.5.1 When notified that a WO requires an engineering review, perform the review and determine whether or not a design change is involved, which falls within the scope of NP 7.2.1, "Modification Requests."
- 6.5.2 If a design change is not involved, enter NA (not applicable) for "Mod Request Approved." Also enter a "N" following "Mod Review Required." This will allow continued processing of the WO.
- 6.5.3 If a design change is involved and a modification request must be used, notify the originator and close the WO appropriately. Route the paper copy of the closed WO to the CHAMPS coordinator. The WO should be annotated as to the reason for closing it, including reference to any applicable existing modification request.

6.6 Work Group Administration/Planning

NOTE: *The steps within this section may be performed by work group planners or by other personnel within the work group. In addition, assistance may be provided by other work groups.*

- 6.6.1 Review the WO for completeness and accuracy of previous reviewers. This review includes:
 - a. Equipment ID and name.
 - b. Plant conditions necessary for the work.
 - c. QA scope determination. Any changes to this must be justified and documented on the WO.
 - d. ASME Section XI scope determination.
 - e. Pre-Maintenance and/or Post-Maintenance Operability testing or inspection requirements designated.
 - f. Evaluation of work effects on environmentally qualified equipment or seismically-qualified equipment.

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- g. An Engineering Evaluation of contractor procedures for temporary repairs by injection sealant processes are required and a 10 CFR 50.59 review may be necessary. Refer to NP 10.3.1, "Authorization of Changes, Tests, and Experiments (10 CFR 50.59 review)." The NRC Resident Inspector must be informed of intent to use an injection sealant process.
 - h. Requirement for RMP, SMP, ICP, IWP, or other written instructions.
 - i. Worker qualification requirements.
- 6.6.2 Evaluate if the work requested by the WO may involve an unapproved design change which is within the scope of NP 7.2.1, "Modification Requests." Contact the WO Originator to resolve any concerns in this area prior to further processing of the WO. The Originator may have to initiate an Engineering Work Request (NP 7.1.1).
- 6.6.3 Investigate and evaluate the problem or defective equipment as necessary. If maintenance is unnecessary, provide justification in the "Work Performed" section of the WO and submit for closeout. To accomplish this, a radiation work permit (RWP) may be required or special plant conditions may be necessary.
- 6.6.4 Evaluate the priority of the WO to ensure appropriate attention is given to the WO to correct or resolve the deficiency in a timely manner commensurate with the importance of the equipment. Safety-related equipment deficiencies may require prompt attention to address safety or regulatory issues.
- 6.6.5 Identify special work controls required to perform work. Refer to the following procedures as necessary and mark the WO appropriately.
 - a. HP 2.5, "Radiation Work Permits," complete an ALARA review as required by NP 4.2.3, "ALARA Review Procedure,"
 - b. NP 1.9.15, "Danger Tag Procedure,"
 - c. NP 1.9.13, "Ignition Control Procedure,"
 - d. NP 1.9.9, "Transient Combustible Control,"
 - e. NP 8.4.11, "Penetrating Barriers," and
 - f. NP 8.4.10, "Foreign Material Exclusion."

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- 6.6.6 Work on ASME Class 1, 2 or 3 systems is within the scope of NP 7.2.5. "Repair/Replacement Program." A Qualified Individual (Cognizant Engineer) shall be assigned to complete a R/R/M Form (PBF-1554) for the ASME Section XI scope portion of the work. The work plan shall incorporate the requirements identified on the R/R/M Form. The work plan writer shall enter the work plan number onto the R/R/M Form then sign and date the associated R/R/M Form.
- 6.6.7 Prepare a work plan based on the qualifications of the worker(s) who will be assigned, the level of supervisor involvement that will be available, and the following guidelines. (For safety related equipment a work plan is required regardless of task complexity, or worker qualifications.)
- a. The work plan may consist of an RMP, SMP, ICP, IWP, or other approved plant procedure. Use of any special procedure as the work plan must be referenced on the WO. Special procedures should include applicable QC hold and QC inspection points in accordance with NP 8.4.1. The initiator of the procedure is responsible for including appropriate QC hold and QC inspection points.
 - b. The work plan shall at least define the scope or extent of the work activities expected, and major steps in the work process, such that the worker understands what work he is authorized to perform.
 - c. If an RWP is required, the work plan shall contain sufficient detail to allow Health Physics to evaluate radiological concerns and/or hold points.
 - d. WOs which require troubleshooting activities, i.e., determining source of problem, shall have a defined scope to eliminate adverse impacts on related equipment or plant operation.
 - e. The author of the work plan shall be identified on the WO. If the initiator is QC certified, only a signature in the "QC Review" block is necessary.

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- 6.6.8 The following considerations shall be included in the work plan if applicable:
- a. Equipment isolation. In some cases, certain work steps must be completed prior to equipment isolation. The work plan must clearly identify the point at which work must stop until the equipment is isolated per NP 1.9.15. Consider adding a Supervisory Hold Point to ensure proper equipment isolation. Be as specific as possible when providing suggested equipment isolation boundaries. Provide marked up "information only" copies of applicable drawings and schematics when possible. This is especially requested when the suggested equipment isolation is difficult to discern with ordinary effort (for example: when the isolation requires the use of Sliders for isolation points).
 - b. Radiation Work Permit (RWP)
 - c. Ignition Control Permit
 - d. Transient Combustible Control Permit
 - e. Fire Barrier Penetration Permit
 - f. Special security measures if the work might affect the operability of a plant security feature. Vital area walls, doors, and ventilation duct integrity shall be considered as well as intrusion detection devices. Inform the Security Supervisor of any plant security features which may be affected. If the Security Supervisor requires compensatory actions, note on the WO that security must be informed before the work begins.
 - g. Flooding contingency plans, where the risk of flooding is recognized. The work plan should include the possible use of mechanical blocks or flanges to prevent flooding.
 - h. QA, environmentally, or seismically-qualified spare parts.
 - i. Precautions and special procedures necessary when working on environmentally or seismically qualified components.
 - j. Safety precautions of particular concern such as entry into a confined space. (See NP 1.9.4)
 - k. Basic work steps. (These should be adequate to define the scope of the work expected.)
 - l. MTE necessary. (MTE which is controlled under NP 8.7.1, "MTE" or NP 8.7.2, "Calibration and Control of M&TE").

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- m. Post-maintenance testing and inservice inspection that must be performed during and/or upon conclusion of the work. Other plant procedures may be referenced. Refer to NP 7.4.1, "Pressure Test Program and/or "NP 8.1.3, "Post-Maintenance Testing," to determine required testing.
- n. ASME Section XI requirements, including AHI Hold points, for ASME Section XI scope work. Refer to NP 7.2.5 for the required information.
- o. Attach Form PBF-2114, Return to Service Testing Reviews, for Maintenance Rule Scope Equipment, and document work group pre-release PMT requirements on the form.
- p. Steps that may require assistance from other groups or work accomplished by contractors.
- q. Designation of worker qualification level required to perform the work. Specific steps of the work plan may require that unique qualifications, for example, a qualified welder would be required to perform welding.
- r. QC hold and QC inspection points shall be included in accordance with NF 8.4.1, "Use of Quality Control Hold and Inspection Points."
- s. If Foreign Material Exclusion is a consideration then review NP 8.4.10 for applicability.
- t. Any necessary references such as drawings, technical manuals, etc.
- u. When the work is controlled by an RWP, a list of tools, materials, and equipment may be helpful.
- v. Anticipated spare parts.

Ensure that those Lot Numbered items needing to be added to the CHAMPS Bill of Materials are clearly flagged for CHAMPS entry during WO close-out.

Parts marked "N" in the CHAMPS "QA REQD" field of the "BROWSE EQUIP PARTS LIST BY EQUIP ID" screen (screen # CH5650), may be used on that particular equipment, even though the WO is scoped as QA. The "QA REQD" field designators are described as follows:

"N" designates that the part is not critical to the QA or safety related function of the piece of equipment. Non-QA parts may be used for this designation.

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"Y" designates the part has been evaluated and performs a critical function. QA spare parts are required for this designation. Parts flagged with this designation have been evaluated to be acceptable for the associated application.

" " designates the part has not been evaluated. QA spare parts are required for this designation until an evaluation is performed to indicate otherwise. An evaluation can be performed by contacting the Procurement Engineering Group. Items covered under Maintenance Instruction 32.5 are not included in this designation.

ASME Section XI replacement parts shall be used on ASME Section XI code class 1, 2 or 3 components. Exceptions are those parts with an "E" or "N" in the CHAMPS "ASME REQD" field on the "BROWSE EQUIP PARTS BY EQUIP ID" screen. These parts may be used on the equipment indicated, even though the WO is scoped as ASME Section XI. "ASME REQD" field designators are described as follows:

"Y" designates that the part has been evaluated and performs a pressure boundary function or was constructed in accordance with a construction code or code case. ASME Section XI replacement parts are required for this designation. Parts flagged with this designation have been evaluated to be acceptable for the associated application.

"N" designates that the part has been evaluated and does not perform a pressure boundary function within the item. Non-ASME Section XI replacement parts may be used for this designation.

"E" designates that the part has been evaluated and meets one of the exclusion criteria identified in NP 7.2.5 within the item. Non-ASME Section XI replacement parts may be used for this designation.

"*" designates that the part is being evaluated, but possible discrepancies exist for this item. This part cannot be used in this item until an evaluation has been completed. An evaluation can be performed by contacting the Component Engineer or the Procurement Engineering Group.

" " designates that the part has not been evaluated. ASME Section XI replacement parts are required for this designation, if associated to any ASME Section XI code class items, until an evaluation is performed to indicate otherwise. An evaluation can be performed by contacting the Component Engineer or the Procurement Engineering Group. Items covered under MI 32.5 are not included in this designation.

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- w. Cleanliness requirements per NP 8.4.12, "Equipment, Job Site and Plant Cleanliness Practices and Plant Storage Requirements."
- x. Consider the impact that altering room ventilation, blocking or restricting flow through panel ventilation openings may have on electronic or Safety Related equipment.

6.6.9 Assure that any work plan within the scope of NP 8.4.1 has received a QC review in accordance with Section 6.7.

6.6.10 Schedule the work, taking into account:

- a. Group workload and priority of the work. Safety-related and Technical Specification equipment should not remain out of service longer than necessary to effectively and efficiently affect repairs.
- b. Plant conditions necessary to perform the work.
- c. Support required from other groups - early notification must be provided to ensure other groups can support the work on the specified date. Also, all groups involved must be informed when work schedules are changed.
- d. Availability of spare parts.

NOTE: *Since radiation exposure is received while performing the survey for the RWP, only work that can be performed on the scheduled date should be submitted for an RWP.*

6.6.11 Obtain RWP if necessary. Forward the CHAMPS generated RWP Request form to HP or complete an RWP Request Form, PBF-9923c, in accordance with HP 2.5.3 and forward to the coordinator - Health Physics or his designee. Normally, 20 hours are required to process the RWP.

NOTE: *Since the equipment isolation procedure takes equipment out of service, only work that can be performed on the scheduled date should be submitted for equipment isolation.*

6.6.12 Obtain equipment release for work if equipment has been classified operational and/or equipment isolation is required. Forward the WO to the Work Control Center. If an IWP, SMP, RMP, ICP, or special procedure is used, attach it to the WO. Normally one full working shift is required to process the equipment isolation procedure or prepare to release operational equipment for work.

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6.7 Responsibilities of the QC Inspector

NOTE: Different QC inspectors may perform the QC Review and the QC inspection.

6.7.1 Review the work plan before work begins for adequacy of QC activities. Refer to NP 8.4.1, "Use of Quality Control Hold and Inspection Points" and NP 8.4.3 and NP 8.4.2 for guidance for use of QC hold and QC inspection points.

6.7.2 Perform QC activities as required by the work plan. All QC hold and QC inspection points shall be signed and dated by a QC inspector, when appropriate, during performance of the WO. Document any other QC activities performed. Document all M&TE used to perform any inspections.

6.8 Responsibilities of the Coordinator - Health Physics

6.8.1 Review the RWP request and work plan for completeness. Obtain clarification from the initiator when necessary.

6.8.2 The coordinator - Health Physics or designee will review the dose estimate and sign as reviewer. Forward for Level II ALARA review, as necessary.

6.8.3 Coordinate HRA scheduled activities and resolve work conflicts with applicable groups.

6.9 Responsibilities of the Health Physics Supervisor - WOs Requiring an RWP

6.9.1 Review the RWP Request Form and determine what RWP requirements are necessary. Refer to HP 2.5, "Radiation Work Permits."

6.9.2 Obtain appropriate radiological surveys necessary to write the RWP. If appropriate, mark any hot spots in the work area.

6.9.3 If requested, provide the RWP request initiator with survey information to aid in completing the estimated exposures block on the RWP request form.

6.9.4 Prepare an RWP for the work specified.

6.9.5 Inform the coordinator - Health Physics or his designee if conditions do not allow the work to be performed as scheduled. The first line supervisor will then be informed of the delay.

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- 6.9.6 Before the work begins, when an integrated pre-job briefing is required, brief the worker(s) and Health Physics personnel involved about the radiological aspects of the job. This should include RWP requirements, radiological hold points, hot spots, staging area, ALARA review details, and special health physics instructions.
- 6.9.7 Ensure the RWP Request Form, and work plan are posted along with the RWP.

6.10 Responsibilities of Work Control Center (WCC) Manager during outage periods - Before Work is Started

NOTE: *For equipment which is non-operational or which does not require DSS Notification to work, the equipment release performed in this section shall be performed by a supervisor in the equipment user group instead of the DSS or WCC Manager with DSS concurrence.*

NOTE: *SEE NEXT PAGE*

- 6.10.1 Review the WO, including:
- Work plan described.
 - Equipment isolation requirements.
 - Technical Specifications, LCO, and pre-work surveillance requirements.
 - Plant conditions necessary to perform work. Verify Form PBF-2113, SRO Procedure and Non-Operations Work Plan Review, is attached and signed after proper review.
 - Post-maintenance testing or inspection requirements. Verify Form PBF-2114, Return to Service Testing Reviews, is attached and properly completed for pre-release reviews.
 - Determination if the affected equipment can be removed from service.
- 6.10.2 If equipment isolation is required, have the danger tags and associated paperwork prepared.
- 6.10.3 Check that plant conditions necessary to remove the affected equipment from service are established. Have any pre-work required surveillance performed. If the plant conditions cannot be established when requested, inform first line supervisor of the delay.
- 6.10.4 Check affected equipment is removed from service and have danger tags installed as required.

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(see previous page, section 6.10)

NOTE: During U2R22 refueling outage for all Steam Generator Team (SGT) work orders and work plans, the DSS release signature indicates that the DSS is delegating the responsibility for verifying requisite conditions exist to perform work to designated WE SGRP team members. As work progresses and work plan steps require verifying initial conditions, one of the designated team members will contact the DSS to verify the required initial conditions exist, then sign that verification step.

The designated WE SGRP team members will put the date, time, and initials of the DSS they communicated with next to their signature at the verification step.

The designated team members are:

Todd Mielke	Kevin Crowley	Chris Norton	John Guilford
Doug Johnson	Tim Desotelle	Steve St. Amour	

WORK ORDER PROCESSING

- 6.10.5 Release operational equipment for work with DSS concurrence by properly annotating the WO. This may be performed using the equipment isolation procedure. When this is done the WO number shall be annotated on the danger tag location sheet.
- 6.10.6 Return the WO and, if used, the Danger Tag Location Sheet to first line supervisor.
- 6.11 Responsibilities of Engineering (all disciplines) - Before Work is Started
- 6.11.1 Provide sufficient manpower to support engineering reviews of work plans as indicated on Form PBF-2114, Return to Service Testing Reviews.
- 6.12 Responsibilities of the Duty Shift Superintendent (DSS) - Before Work is Started
- NOTE:** *For equipment which is non-operational or which does not require DSS Notification to work, the equipment release performed in this section shall be performed by a supervisor in the equipment user group instead of the DSS or WCC Manager with DSS concurrence.*
- NOTE:** *SEE NEXT PAGE*
- 6.12.1 Review the WO, including:
- Work plan described.
 - Equipment isolation requirements.
 - Technical Specifications, LCO, and pre-work surveillance requirements.
 - Plant conditions necessary to perform work. Verify Form PBF-2113, SRO Procedure and Non-Operations Work Plan Review, is attached and signed after proper review.
 - Post-maintenance testing or inspection requirements. Verify Form PBF-2114, Return to Service Testing Reviews, is attached and properly completed for pre-release reviews.
 - Determination if the affected equipment can be removed from service.
- 6.12.2 If equipment isolation is required, have the danger tags and associated paperwork prepared.
- 6.12.3 Establish plant conditions necessary to remove the affected equipment from service. Perform any pre-work surveillance required. If the plant conditions cannot be established when requested, inform first line supervisor of the delay.

(see previous page, section 6.12)

NOTE: During U2R22 refueling outage for all Steam Generator Team (SGT) work orders and work plans, the DSS release signature indicates that the DSS is delegating the responsibility for verifying requisite conditions exist to perform work to designated WE SGRP team members. As work progresses and work plan steps require verifying initial conditions, one of the designated team members will contact the DSS to verify the required initial conditions exist, then sign that verification step.

The designated WE SGRP team members will put the date, time, and initials of the DSS they communicated with next to their signature at the verification step.

The designated team members are:

Todd Mielke	Kevin Crowley	Chris Norton	John Guilford
Doug Johnson	Tim Desotelle	Steve St. Amour	

WORK ORDER PROCESSING

- 6.12.4 Remove affected equipment from service and install danger tags as required.
- 6.12.5 Release operational equipment for work by properly annotating the WO. This may be performed using the equipment isolation procedure. When this is done the WO number shall be annotated on the danger tag location sheet.
- 6.12.6 Return the WO and, if used, the Danger Tag Location Sheet to first line supervisor.
- 6.13 Responsibilities of the First Line Supervisor - Prior to and while work is ongoing.
 - 6.13.1 Review the WO for completeness and accuracy of previous reviewers. This review includes:
 - a. Equipment ID and name.
 - b. Plant conditions necessary for the work.
 - c. QA scope determination. Any changes to this must be justified and documented on the WO.
 - d. ASME Section XI scope determination.
 - e. Post-maintenance testing or inspection requirements designated and determination of additional post-maintenance test requirements in accordance with NP 8.1.3, "Post- Maintenance Testing."
 - f. Evaluation of work effects on environmentally-qualified equipment or seismically-qualified equipment.
 - g. For a temporary repair by an injection sealant process, the requirement for a technical evaluation, contractor procedure, and a 10 CFR 50.59 review may be required by NP 10.3.1, "Authorization of Changes, Tests, and Experiments (10 CFR 50.59 review)."
 - h. Requirement for RMP, SMP, ICP, IWP, or other written instructions.
 - i. Worker qualification requirements.
 - j. Foreign Material Exclusion requirements, including equipment closeout inspections. Refer to NP 8.4.10 as necessary.
 - k. All aspects of the work plan.
 - l. Evaluation of required work permits.

WORK ORDER PROCESSING

- 6.13.2 Evaluate if the work requested by the WO may involve an unapproved design change which is within the scope of NP 7.2.1, "Modification Requests." Contact the WO Originator to resolve any concerns in this area prior to further processing of the WO. The Originator may have to initiate an Engineering Work Request (NP 7.1.1).
- 6.13.3 Investigate the problem or defective equipment as necessary. To accomplish this, a radiation work permit (RWP) may be required or special plant conditions may be necessary.
- 6.13.4 Make worker assignments considering qualifications required.
- 6.13.5 Obtain ignition control, transient combustible control and/or fire barrier penetration permits, as required.
- 6.13.6 Sign and date the WO hard copy. Electrical and Mechanical Maintenance Supervision will normally Sign & Date the WO for release for work after the equipment has been isolated for work by Operations. I&C Maintenance Supervision will normally Sign & Date the WO for release for work prior to equipment isolation by Operations. I&C craftsmen are expected to obtain their own equipment isolations as necessary.
- 6.13.7 Forward the WO and any necessary permits or danger tag location sheets to the worker. In a pre-job briefing, discuss the following:
- QC Hold and/or QC Inspection Points.
 - ANI Hold Points.
 - If radiological work is involved, ways to minimize exposure. If an RWP is required, prejob briefing checklists PBF-4194a/b will be implemented.
 - Work controls and the work plan so that the worker(s) understand the scope of work expected to be performed.

WORK ORDER PROCESSING

6.13.8 First line supervision may change the work scope provided the new scope:

- Remains within the equipment isolation boundary.
- Remains within the bounds of the definition of a repair.
- The change has no impact on requirements or conditions already established for the planned work scope, including QA scope, QC scope, ASME Section XI scope, Pre- or Post-Maintenance Operability Testing, etc.

DSS shall initial the revised work plan if the new scope is outside of these criteria. Changes shall be reviewed to ensure:

- Associated permits are valid.
- Other reviews and approvals are obtained which would be appropriate for a WO of the new scope. A QC inspector review of the revised work plan is required for QA or Safety Related scope WO's.
- Previously identified Post Maintenance Testing is amended as necessary such that the equipment is verified to function as designed.

6.13.9 The actual repair work being performed must be evaluated to ensure that a design change is not being made.

6.13.10 A design change evaluation is necessary if replacement parts are not identical to those removed. If applicable, modification, temporary modification, or SPEED documentation shall be approved prior to returning the equipment/system to service.

6.14 Responsibilities of the Worker

6.14.1 Review the WO work plan and any SMP, RMP, ICP or other approved plant procedure associated with the WO. Obtain amplifying instructions from the first line supervisor as necessary.

6.14.2 If tag out is required, obtain the Danger Tag Location Sheet and ensure adequacy of equipment isolation based on work scope.

6.14.3 Post necessary permits (Ignition Control Permit, Transient Combustible Control Permit, and/or Barrier Penetration Permit) at the job site as appropriate. If the work affects the operability of a plant security feature (e.g., vital area walls, doors, ventilation duct integrity and/or intrusion detection devices), inform security before work begins.

WORK ORDER PROCESSING

- 6.14.4 If applicable, review and sign the RWP. Obtain amplifying instructions from the job leader and/or Health Physics individual assigned to the job before beginning work, as needed. Post the copy of the RWP at the job site as required.
- 6.14.5 Obtain spare parts and complete paperwork as delineated by NP 9.5.1, "QA-Scope Material Disbursement And Return To Stores". The WO number shall be provided to storeroom personnel. To assure traceability, regardless of the QA or non-QA scope of the WO, the QAR number and Lot Number of all parts used, including those parts used on Modification Requests, shall be recorded on the WO, or the pink copy of the "Plant Storeroom Requisition" may be attached to the WO, (identifying only the parts actually used). The WO should note that a list of parts used is attached.
- 6.14.6 Perform work in accordance with the requirements of the WO.
- 6.14.7 If MTE is used to complete the work or testing or inspection, record the MTE identification on the WO for entry into a tool usage file. Ensure any MTE used is within its calibration interval.
- 6.14.8 Obtain work release at QC hold and QC inspection points if delineated in the work plan.
- 6.14.9 Obtain work release at ANI Hold points if required in the work plan.
- 6.14.10 Obtain a health physics work release at radiological hold points if delineated in the work plan.

WORK ORDER PROCESSING

- NOTE: Steps shown with a double asterisk (**) may occur at any time during the repair process.*
- NOTE: If a change in work scope possibly affects requirements for ignition control, transient combustible control and/or barrier penetration control, it may be necessary to obtain an appropriate permit.*
- NOTE: If a change in work scope possibly affects the radiological conditions at the job site, RWP requirements may have to be changed or an RWP may have to be issued.*

- **6.14.11** Stop the work and inform the first line supervisor if scope of work changes. Do not proceed with the work until the change in scope is approved by the first line supervisor. If a change of scope requires work on another piece of equipment with an equipment number different than the item being worked under the existing WO, then another WO should be issued to control, document, and close out the work activity.
- **6.14.12** Stop the work and inform the first line supervisor if the work cannot be completed without a design change. Replacement parts are to be identical to those removed from the equipment or the difference recognized in the work control or reference documents. If not, stop work and inform the first line supervisor of the differences. Work may continue if no design change is considered necessary or while modification or SPEED paperwork is being processed. The equipment shall not be returned to service until supporting modification or SPEED paperwork is approved.
- 6.14.13 Upon completion of the work, write a description of the work performed, including parts used and the possible reason the problem occurred.
- 6.14.14 Advise first line supervisor of any problems encountered during work. Record actual man-hours on the WO.
- 6.14.15 Advise first line supervisor that preservice inspection, if required in the work plan, can be performed.
- 6.14.16 Perform and document any post-maintenance testing, as directed by the first line supervisor or as delineated in the work plan, on the Work Order. This may require the temporary removal of danger tags, but does not return the equipment to service. Document results of any post-maintenance testing or inspection performed in the description of work performed. Report any unsatisfactory results to the first line supervisor for resolution.

WORK ORDER PROCESSING

- 6.14.17 Remove the WO initiation tag and/or sticker, if used, when work is complete. A tag/sticker(s) may be located separately and the WO identifies these with a prefix on the tag number. (T, S, B, N for tag, sticker, both or none respectively.) It is important to ensure the tags are removed since the WO will be closed and an old tag could cause someone else to ignore a subsequent problem.
- 6.14.18 If requesting individual, authorize clearance of danger tag location sheet.
- 6.14.19 When used, remove any permits (RWP, Ignition Control Permit and Transient Combustible Control Permit and/or Fire Barrier Penetration Permit) from the job site when the job is complete or the permit is expired.
- 6.14.20 If the work affected the operability of any plant security feature, when that feature is again operable, inform Security so that operability can be verified and compensatory actions may be discontinued.
- 6.14.21 Sign and date the WO. If more than one worker is involved in the work, the lead person shall sign the WO and should list others involved if desired to document work performed. Forward the WO to the first line supervisor.
- 6.14.22 In the WORK COMPLETED section perform the following:
 - a. If the work performed involved equipment repair, using Attachment B, record "Cause Failure Code" on the WO. Document the root cause of the problem, using the applicable acronym from Attachment B. If the root cause is unknown, enter "UNK." Use the more specific secondary root causes on Attachment B (Continued) whenever possible. Use "AM" if Corrective Maintenance was required due to previous maintenance.
 - b. Use the "As Found-Out of Spec" area to indicate whether equipment parameters were acceptable, if checked.
 - c. If parts are replaced, indicate the "Failed Component".
 - d. Indicate "Corrective Action"; NA = Not Applicable, RP = Repair, RE = Replacement, CAL = Calibrate, RCAL = Re-Calibrate
- 6.15 Responsibilities of the First Line Supervisor - After Work is Completed
 - 6.15.1 Review the description of the work performed for accuracy and completeness.
 - 6.15.2 Conduct a Post-Job Closeout discussion. Ensure that worker comments and experience are fed back to the work plan author.

WORK ORDER PROCESSING

- 6.15.3 If applicable, authorize clearance of the Danger Tag Series, Ignition Control Permit, Transient Combustible Control Permit, and/or Barrier Penetration Permit, as necessary. Ensure affected plant security features have been restored to service and Security has been informed.
- 6.15.4 When necessary, coordinate groups involved in the performance of post-maintenance testing and inservice (preservice) inspection. This may require the removal of red tags. The type of post maintenance test (e.g., hydro, load test, inservice test) should be discussed with the DSS or WCC Manager so they can return the equipment to service appropriately. When performing pressure testing, NP 7.4.1, "Pressure Test Program," should be used as guidance by the test director. Reference NP 8.1.3, "Post-Maintenance Testing," as necessary.
- 6.15.5 Verify adequacy of the equipment repair and any post-maintenance testing or inspection performed. Document and resolve any concerns. Document all PMTs and inspections on the Work Order. This is particularly important for WOs where the scope of work is troubleshooting in nature. In these cases, it may be difficult to determine the scope of post-maintenance testing prior to completion of the work. When the post-maintenance testing or inspection has been successfully completed, return nonoperational equipment to service and properly document this on the WO.
- 6.15.6 If security equipment is involved, the Security supervisor shall be involved in returning the equipment to service and will annotate on the WO that equipment is returned to service.
- 6.15.7 Verify that the "Cause Failure Code", "As Found-Out of Spec", "Failed Component" and "Corrective Action" fields in the WORK COMPLETED section have been filled in with the proper information.
- 6.15.8 If it is necessary to inspect a repair after a period of operation to determine its adequacy, prepare and submit a new WO to perform the inspection at a future date.
- 6.15.9 Review the WO for completeness and accuracy including:
- a. Record of MTE used with MTE identification numbers.
 - b. Record of QA parts used and associated QAR and lot numbers.
 - c. Record of non-QA parts used and associated lot numbers.

WORK ORDER PROCESSING

- d. Ensure that those Lot Numbered items needing to be added to the CHAMPS Bill of Materials are clearly flagged for CHAMPS entry during WO close-out.
 - e. Worker identification.
 - f. Record of QC inspections performed including equipment closeout inspections by the QC inspector. This includes documentation of qualitative and quantitative results, where applicable.
 - g. Adequate description of work performed along with appropriate summary for machinery history.
 - h. Ensure any Conditional Releases of Parts are cleared or adequate instructions or course of action is identified to obtain the release prior to returning the equipment to service.
- 6.15.10 Review and process the SMP, RMP, ICP, or special procedure as necessary.
- 6.15.11 Sign and date the WO.
- 6.15.12 If operational equipment is involved, ensure the DSS or WCC Manager is informed that it is ready to be returned to service. Return the WO to the WCC or control room as soon as possible for review by the WCC Manager or DSS. The WCC Manager or DSS will properly document the WO, and the DSS will return the equipment to service in the sequence appropriate for the equipment that has been maintained.
- 6.15.13 Forward the WO to the group head if DSS return to service is not necessary.
- 6.15.14 Ensure that the repairer has removed the WO initiation form and defect tag. Tags left in place could impede WO initiation on equipment with subsequent problems.
- 6.16 Responsibilities of Engineering (all disciplines) After the Work is Completed
- 6.16.1 Ensure pre- and or post-return to service testing reviews are completed and documented on Form PBF-21.4, Return to Service Testing Reviews.

WORK ORDER PROCESSING

6.17 Responsibilities of the WCC (during outage periods) - After the Work is Completed

NOTE: *When the effected equipment is non-operational or which does not require DSS Notification to work, the return to service performed in this section shall be performed by a supervisor in the equipment user group instead of the DSS or WCC Manager with DSS concurrence.*

- 6.17.1 Verify pre- and or post-return to service testing reviews are completed and documented on Form PBF-2114, Return to Service Testing Reviews.
- 6.17.2 Have danger tags removed, as required per NP 1.9.15, "Danger Tag Procedure." The WO may have to be returned to the work group for post-maintenance testing or to coordinate inservice (preservice) inspection before the DSS can return the equipment to service.
- 6.17.3 If post-maintenance testing or inservice (preservice) inspection is required, document testing requirements on Form PBF-2114, Return to Service Testing Reviews, and have the testing performed. For operational equipment, the DSS or WCC Manager with DSS concurrence is responsible for determining adequacy of post-maintenance testing in accordance with NP 8.1.3, "Post-Maintenance Testing." Consult with the test director for pressure tests performed in accordance with NP 7.4.1, "Pressure Test Program."
- 6.17.4 When appropriate, request clearance of the danger tag series in accordance with NP 1.9.15, "Danger Tag Procedure."
- 6.17.5 Ensure that the defective equipment tag and/or sticker has been removed after completion of the Post Maintenance Testing and/or Inservice Testing.
- 6.17.6 Clear applicable work control permits (Ignition Control Permit, Transient Combustible Control Permit, and/or Barrier Penetration Permit).

6.18 Responsibilities of the Duty Shift Superintendent - After the Work is Completed

NOTE: *When the effected equipment is non-operational or which does not require DSS Notification to work, the return to service performed in this section shall be performed by a supervisor in the equipment user group instead of the DSS or WCC Manager with DSS concurrence.*

- 6.18.1 Remove danger tags, as required per NP 1.9.15, "Danger Tag Procedure." The WO may have to be returned to the work group for post-maintenance testing or to coordinate inservice (preservice) inspection before the DSS can return the equipment to service.

WORK ORDER PROCESSING

- 6.18.2 Pre and Post Return to Service Testing Reviews per Form PBF-2114 need NOT be completed by the review team for the DSS to safely return the equipment to service. Although the preferred practice is to have these reviews done first, the DSS shall perform these reviews prior to returning the equipment to service in lieu of the team. However, these reviews should be completed by the review team as soon as practicable after return to service, and any testing deficiencies promptly completed.
- 6.18.3 If post-maintenance testing or inservice (preservice) inspection is required, as indicated on Form PBF-2114, Return to Service Testing Reviews, document and perform the post-maintenance testing and return the equipment to service. For operational equipment, the DSS is responsible for determining adequacy of post-maintenance testing in accordance with NP 8.1.3, "Post-Maintenance Testing." Consult with the test director for pressure tests performed in accordance with NP 7.4.1, "Pressure Test Program."
- 6.18.4 When appropriate, clear the danger tag series in accordance with NP 1.9.15, "Danger Tag Procedure."
- 6.18.5 Ensure that the defective equipment tag and/or sticker has been removed after completion of the Post Maintenance Testing and/or Inservice Testing.
- 6.18.6 Clear applicable work control permits (Ignition Control Permit, Transient Combustible Control Permit, and/or Barrier Penetration Permit).
- 6.19 Responsibilities of Group Head (or Designee) - After Work is Complete
 - 6.19.1 Review WO for completeness and accuracy of the description of work performed including QA and QC documentation. Resolve any concerns.
 - 6.19.2 Evaluate the work performed for any reportable issues. Issue a CR in accordance with NP 5.3.1, "Condition Reporting System," if appropriate.
 - 6.19.3 Review the adequacy of post-maintenance testing and inservice inspection performed and resolve any concerns.
 - 6.19.4 Determine if machinery history for entrance into the computer are appropriate with regard to computer space available for history. The history must be terse or contain key word histories, referencing additional text when history is extensive.
 - 6.19.5 Review failure cause evaluation and documentation using Attachment B for reference. Resolve any concerns.

WORK ORDER PROCESSING

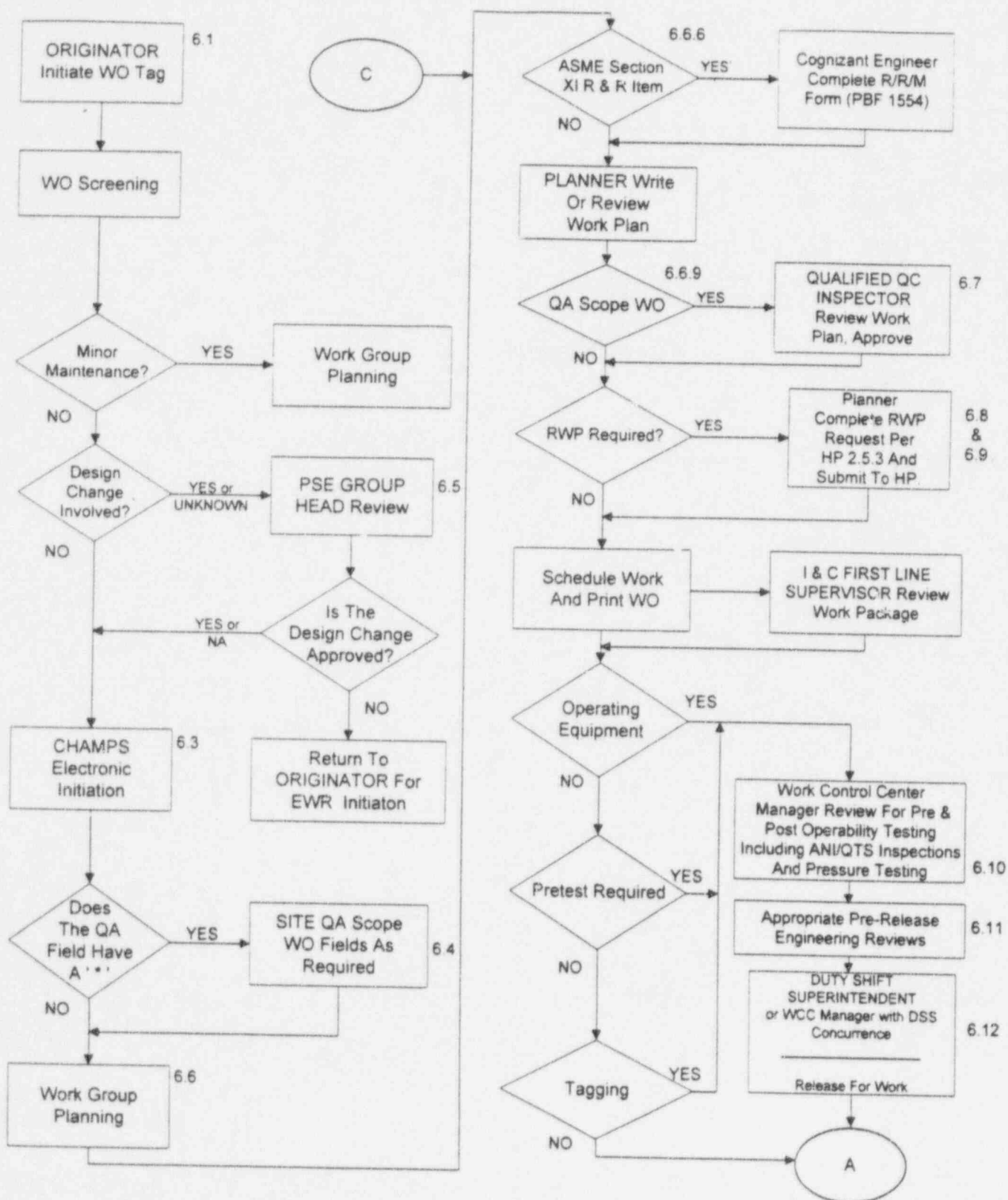
- 6.19.6 Ensure that those Lot Numbered items needing to be added to the CHAMPS Bill of Materials are submitted to CHAMPS via a Parts Association form (PBF-9925) during WO close-out. Some Work Groups may add parts to the BOM themselves.
- 6.19.7 Sign and date the WO after a determination has been made that the work has been satisfactorily completed and documented.
- 6.19.8 If an R/R/M is associated with the WO, forward a copy of the entire package to the NIM Specialist of Reactor Engineering.
- 6.19.9 Forward the WO to the CHAMPS group.
- 6.20 Responsibilities of the CHAMPS Coordinator - After Work Is Complete
 - 6.20.1 Input WO hard copy data relating to work performed, MTE, QAR numbers, approvals, dates, etc. to the electronic WO, and create other records as appropriate.
 - 6.20.2 Forward hard copy WO to the NPRDS reporter.
- 6.21 Responsibilities of Operations Planning - After Work is Completed

NOTE: Operations Planning review may be waived for non-operational equipment.

 - 6.21.1 Verify that any Operability testing requirements have been properly addressed. Ensure appropriate documentation of testing has been made.
 - 6.21.2 Sign and date the WO by entering the date and your signature will be applied electronically.
- 6.22 Responsibilities of NPRDS Reporter - After Work is Completed
 - 6.22.1 Evaluate the WO for Nuclear Plant Reliability Data System (NPRDS) reporting applicability as delineated in NP 5.2.9, "NPRDS Reporting." Perform any necessary reporting and annotate the WO accordingly.
 - 6.22.2 Forward the hard copy WO to NIM Clerk for microfilming and filing.
- 6.23 Responsibilities of the CHAMPS Coordinator - WO Electronic Closeout
 - 6.23.1 Follow established input group procedures to close out each completed WO to history.
 - 6.23.2 When requested, provide a report of root cause history to SQA for evaluation.
 - 6.23.3 Provide reports as requested on the status of WO's in CHAMPS.

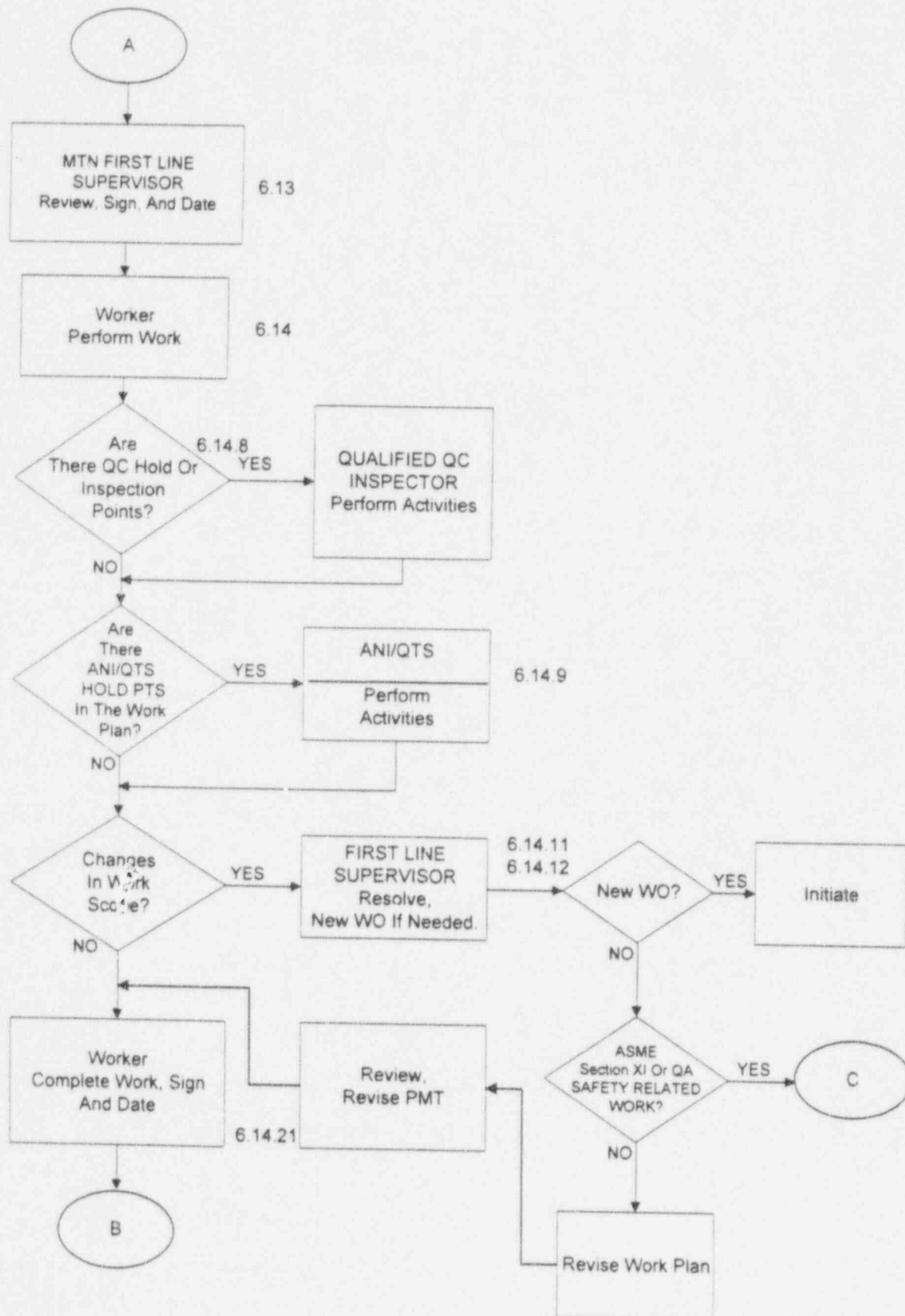
WORK ORDER PROCESSING

ATTACHMENT A
WO FLOW CHART



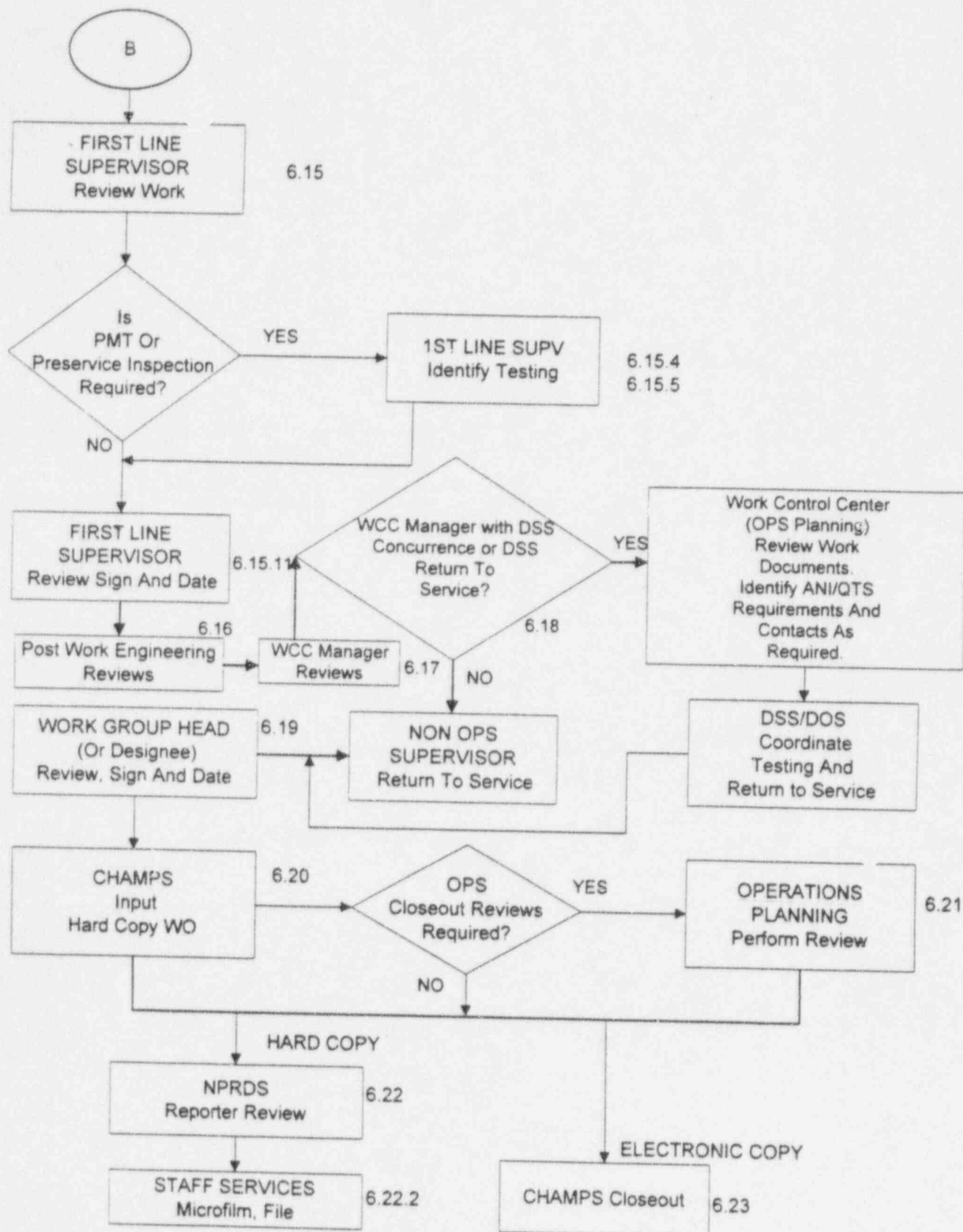
WORK ORDER PROCESSING

Attachment A



WORK ORDER PROCESSING

Attachment A



WORK ORDER PROCESSING

ATTACHMENT B

GUIDELINES FOR THE USE OF FAILURE CAUSE CODES

Below are guidelines for using the attached failure cause code list. It is recognized that the list is not all inclusive and that differences of opinion will exist on the identification of the failure cause of deficiency. The list can be modified as experience in failure cause analysis expands or to reflect concerns of the supervisors making the determination. In each case, choose the best code - the code which most appropriately describes the cause of the breakdown. Best judgment is to be used in choosing a code.

There are thirteen "primary" codes ranging from Normal Wear to Unknown. The use of this list can be flexible. If a combination of items acts to cause a component failure, both failure codes can be utilized.

1. NRM: Normal Wear or Wearout.
2. ABN: Abnormal Wear or Wearout.
3. PRO: Improper Procedure or Work Plan.
4. DES: Design/Engineering.
5. ENV: Environment Related.
6. MFG: Manufacturing Defect.
7. MTN: Improper Corrective Maintenance.
8. NST: Improper Installation.
9. PRV: Improper or Inadequate Preventive Maintenance.
10. OPS: Improper Operation.
11. OTH: Failure due to Other Component Failure.
12. SVC: Service Request, Surveillance or Tech. Spec. Test.
13. UNK: Unknown.

WORK ORDER PROCESSING

Attachment B

Human Performance

AM - Previous Work/Repair
AN - Incorrect Procedure
BJ - Incorrect action

Mechanical Causes

AA - Wrong Part
AB - Foreign Material/Substance
AC - Particulate Contamination
AD - Normal Wear
AE - Lubrication Problem
AF - Welding Process
AG - Abnormal Stress
AH - Abnormal Wear
AJ - Incorrect Material
AK - Valve Seat Condition
AL - Setpoint Drift
AV - Loose Parts
AZ - Material Defect
BB - Mechanical Damage
BC - Out of Mechanical Adjustment
BD - Aging/Cyclic Fatigue
(Mechanical)
BE - Dirty
BF - Flow Obstruction
BG - Corrosion
BK - Mechanical Binding/Sticking
BM - Mechanical Interference
BP - Environmental Condition
BR - Gasket/O-ring/seal failure
BS - Bearing Failure
BX - Other

Electrical /Electronic Causes

AA - Wrong Part
AL - Setpoint Drift
AP - Defective Electrical Connection
AQ - Abnormal Stress (Electrical)
AR - Insulation Breakdown
AS - Shorted/Ground
AT - Open Circuit
AU - Electrical Contact Degradation
AW - Circuit Defective
AX - Burned/Burned Out
AY - Electrical Overload
AZ - Material Defect
BE - Dirty
BH - Out of Calibration
BL - Aging/Cyclic Fatigue
(Electrical)
BP - Environmental Condition
BT - Software
BV - Circuit Card
BX - Other

WORK ORDER PROCESSING

ATTACHMENT C

MINOR MAINTENANCE PROGRAM

1.0 INTRODUCTION

Some maintenance activities may be performed on components and equipment at PBNP without invoking the Administrative Controls of the Work Order Procedure.

2.0 CRITERIA

Maintenance activities to be worked on as Minor Maintenance must meet ALL of the following criteria:

- 2.1 Component/equipment is scoped as non-QA and non-Safety Related.
- 2.2 Activity does not affect the operation or operability of in-service equipment essential for plant operation.
- 2.3 Activity does not affect Main Control Boards or Local Control Panel indications.
- 2.4 Component/equipment does not require Operability testing.
- 2.5 Component/equipment does not require a detailed machinery history entry for equipment trending or tracking.
- 2.6 Activity can be worked by skill of the craft and/or is supported by the training program.

3.0 INSTRUCTIONS

- 3.1 A WO Initiation Tag is originated and reviewed as specified in sections 6.1 and 6.2 of the WO procedure.
- 3.2 Work Group administration/planning reviews the initiation form and determines if the work meets the requirements for Minor Maintenance. If not, the WO Initiation Tag is processed into the CHAMPS system.
- 3.3 The WO initiation tag is attached to PBF-0040g and forwarded to the responsible work group. The Minor Maintenance is tracked internally by the responsible Work Group.
- 3.4 Following completion of the work, PBF-0040g is forwarded to the CHAMPS Coordinator for entry of time and materials against the applicable Work Order.

WORK ORDER PROCESSING

Attachment C

3.5 ELECTRICAL, MECHANICAL AND BUILDING MAINTENANCE (MTN) MINOR MAINTENANCE CATEGORIES.

- 3.5.1 Lighting Repairs (120 V and EL)
- 3.5.2 Gaitronics Repairs
- 3.5.3 Motor Vehicle Maintenance
- 3.5.4 Repair Maintenance shop equipment and portable tools
- 3.5.5 Receptacle Repairs
- 3.5.6 Snow Removal Equipment and Lawn Cutting Equipment Repairs
- 3.5.7 Elevator Repairs
- 3.5.8 Plumbing
- 3.5.9 HP Portable Air Sampler Repairs
- 3.5.10 Non-Security and Non-Fire Door Repairs
- 3.5.11 Building and structure Maintenance
- 3.5.12 Transformer Gels/Oil Addition and Samples
- 3.5.13 Welding for Welder Qualification
- 3.5.14 Material Inspection Support
- 3.5.15 Fabricate
- 3.5.16 Service
- 3.5.17 Painting
- 3.5.18 Miscellaneous

WORK ORDER PROCESSING

ATTACHMENT D

WORK ORDER PRIORITIES

NOTES:

1. The priority of each category is absolute, e.g. a priority 5 work order can not be more important to the plant than a priority 2 work order.
2. Each work order should be placed in the lowest category possible, e.g., a steam leak that is a personnel safety issue should be isolated if possible and reduced to a production issue.
3. Priorities 3 and 4 have the same scheduling and work guidelines. Separate priority categories exist to allow tracking outstanding personnel safety concerns.
4. The scheduling and work guidelines are goals. Failure to complete a work order within these guidelines in and of itself is not a reportable condition.

Priority 1

- a. Immediate Threat to Nuclear Safety
 - Clear and immediate danger to the health and safety of the public may or does exist.
 - Continued operation without corrective action will result or is likely to result in a plant trip (turbine or reactor) or safety system actuation.
 - Requires entry into a Technical Specifications LCO with a duration of 72 hours or less.
 - Requires activation of the E-Plan at an emergency classification of Alert or higher.
- b. Immediate Threat to Personnel Safety
 - Clear and immediately danger to personnel in the course of their normal duties **AND** there is no way to isolate, divert or otherwise mitigate the situation and reduce the severity to a lower category.

Priority 1 Scheduling & Work Guidelines

- a. Requires immediate attention. Corrective actions shall begin upon notification of the problem. Support for this job shall take priority over all other work.
- b. Continuous work effort, including overtime as necessary, to provide effective and timely resolution of the problem is mandatory.

WORK ORDER PROCESSING

Attachment D

- c. Work may be started under direct supervisory oversight, i.e. written work plan and printed work order are not required prior to commencing repair efforts. Documentation may be generated "after the fact".

Priority 2

- a. Threatens a Plant Shutdown or Power Reduction >5 MWE
- Continued operation without corrective action will result or is likely to result in a forced outage or power reduction >5 MWE.
 - Requires entry into a Technical Specifications LCO with an LCO duration greater than 72 hours AND which requires a plant shutdown at the end of the LCO period.
- b. Threatens Vital Equipment
- Equipment that must be operated to maintain a unit at power or to meet Technical Specifications or other regulatory requirement is degraded to the point where continued operation may cause serious damage to the equipment.
 - Reactor coolant leakage and/or boric acid buildup on reactor coolant system pressure boundary components with known or potential pressure boundary concerns.
- c. Uncontained Radioactive or Hazardous Material Leak to the Environment
- Radioactive or hazardous waste leaks that are not isolable and cannot be contained.
 - Refrigerant leaks that are not isolated (EPA Concern)
- d. Duty Shift Superintendent Prerogative
- Based on plant conditions and needs the Duty Shift Superintendent may assign a priority 2 to any work order that he/she feels must be done in an expeditious manner.

WORK ORDER PROCESSING

Attachment D

Priority 2 Scheduling and Work Guidelines

NOTE: *If in an LCO of a duration shorter than the guidelines, the work order shall be worked as necessary to complete the repairs prior to the expiration of the LCO duration.*

- a. Requires expeditious attention. Corrective actions shall begin as soon as possible using the normal work control process, i.e. printed work order and a written work plan or procedure with ALL required reviews and approvals.
- b. Work orders should be completed as soon as possible, consider working two shifts.
- c. Parts procurement shall be expedited.

Priority 3

- a. Personnel Safety Concerns
 - Industrial safety concerns.
 - Equipment degradation or failures resulting in undue increase in radiation exposure.
 - Radioactive or hazardous waste leaks that have been isolated or contained.

Priority 3 Scheduling & Work Guidelines

- a. Requires prompt attention. Corrective actions should begin or be scheduled within two weeks of receipt of the work requests.
- b. Work orders should be completed within one month, pending parts availability.

Priority 4

- a. Regulatory concern
 - Equipment failures that require compensatory measures **AND** must be reported to the NRC.
 - Required to meet a regulatory commitment, which if not met, must be reported to the NRC.
 - Security related items as defined by Security.

WORK ORDER PROCESSING

Attachment D

- b. Increased Complexity of Operation during Casualty Response (Work arounds)
 - Equipment problems that complicate or inhibit an operator's ability to monitor or control the plant during off-normal or transient condition, i.e. equipment problems that would lead to a response not obtained (RNO) action in an Abnormal Operating Procedure (AOP), Emergency Operating Procedure (EOP) or Critical Safety procedure (CSP).
- c. Threatens to Diminish Production
 - Operation in this condition has or is likely to result in >1 MWE net loss of output.

Priority 4 Scheduling and Work Guidelines

- a. Requires prompt attention. Corrective actions should begin or be scheduled within two weeks of receipt of the work request.
- b. Work orders should be completed within one month, pending parts availability.

Priority 5

- a. Threatens Redundancy of Vital Components
 - Removes redundant component from service such that failure of the operable component(s) could create a shutdown, power reduction or unacceptable plant condition.
 - Results in Technical Specification required action that will not require a plant shutdown if the problem is not corrected.
 - Equipment failures that require compensatory measures and are **NOT** reportable to the NRC.
- b. High Impact on Core Damage Frequency
 - Equipment problems impacting the functional capability of equipment or systems of "high" importance for preventing core damage or fission product release based on the PBNP PSA.
- c. Increased Complexity of Operation During Normal Operations
 - Creates opportunity for personnel error through abnormal lineups or non routine operation/manipulation.
 - Loss of instrumentation normally used to monitor a critical plant parameter that has no backup means of monitoring.

WORK ORDER PROCESSING

Attachment D

d. Increased Cost of Generation

- Operation in this condition has or is likely to result in a net loss of output of <1 MWE.

Priority 5 Scheduling and Work Guidelines

- a. Corrective actions should be scheduled within four weeks of receipt of the work order.
- b. Work orders should be worked within two months, pending parts availability.

Priority 6

Corrective maintenance items that do not meet the requirements of a higher priority.

Priority 6 Scheduling and Work Guidelines

- a. Schedule and work dates should be based on available personnel resources and scheduled system weeks.
- b. Work orders should be packaged with higher priority work orders to minimize out of service time for plant equipment.

Priority 9

A priority 9 is assigned to those work orders that due to cost or unacceptable risks in creating the necessary work conditions will not be scheduled or worked within the scheduling and work guidelines.

Priority 9 work orders will be periodically reviewed by System Engineering to ensure that the assigned priority is acceptable.

POINT BEACH UNIT 2 RESTART COMMITMENT
INDEPENDENT REVIEW RESULTS

Commitment ID Number 42

Commitment Description

The following modification will be in an accepted status (i.e., the applicable physical work completed, post-maintenance and return to service testing completed satisfactorily, and the associated component/system being declared operable) prior to being required to be operable per Technical Specifications: Modification 96-073 - seismically upgrade CCW, SI, RHR, and RHR/letdown piping supports and remove an AFW snubber.

Review Methodology

Review modification with Responsible Engineer.

Review modification scope, and if scope was changed, determine change rationale and if there is any safety impact.

Review modification design and installation documents against scope. Identify and review documentation acceptance items.

Verify that the documentation is adequate and that the documentation acceptance items have been completed and documented.

Review the modification tests to verify that the test are appropriate and were successfully completed.

Determine if Condition Reports (CRs) were generated in performance of this modification and verify that they are documented/tracked.

Review Results

Discussed modification with the Responsible Engineer (RE). No issues or concerns regarding installation of the modification were identified by the RE. The RE has completed a walkdown of the modification changes, verified ECRs and has accepted the installation.

The modification package (MR 96-073), 50 CFR Safety Evaluation, and Installation Work Plan was reviewed. The safety evaluation matched the modification final design (both in scope and content) with the exception of the description of the number of supports being modified. The final design description identified that 6 supports would be replaced and the safety evaluation identified 5 supports to be replaced. The IWP detailed the replacement of 5 supports which is consistent with the safety evaluation. Therefore, this does not represent a significant issue and the RE was notified to make the necessary pen and ink change to the final design description. The scope of the modification was not changed during installation.

The modification package, safety evaluation and Installation Work Plan were adequate.

POINT BEACH UNIT 2 RESTART COMMITMENT
INDEPENDENT REVIEW RESULTS

Commitment ID Number 42

The modification has been satisfactorily installed. Four ECRs were generated in support of this modification. The ECRs represented minor changes to the support design and did not impact the scope of the modification. All ECRs are approved.

Other than ECR approvals (which is complete), no documentation acceptance items are required to be completed.

Non-Destructive Examinations (VT-III and Visual Exams on supports or PT on pipe) were conducted for Post-Maintenance Testing of this modification and have been satisfactorily completed. The NDE testing completed for this modification are appropriate for the installation work performed under the scope of MR 96-073.

Work Orders 9612596, 9613263, 9612604, and 9611256 and the IWP for MR 96-073 are completed and have been signed by the DSS indicating that the modification is at an accepted status.

No Condition Reports have been generated in performance of MR 96-073. This was concluded based on an interview with the Responsible Engineer and performing an electronic search of the NUTRK system using the Modification number and Work Order numbers.

Conclusion

Based on this independent review, there are no items involved with Restart Commitment #42 which would impede Unit 2 start up.

POINT BEACH UNIT 2 RESTART COMMITMENT
INDEPENDENT REVIEW RESULTS

Commitment ID Number 46

Commitment Description

The following modification will be in an accepted status (i.e., the applicable physical work completed, post-maintenance and return to service testing completed satisfactorily, and the associated component/system being declared operable) prior to being required to be operable per Technical Specifications: Modification 96-022 - install a new 125 VDC feed (for DC Control Power) to 480V safeguards bus 2B03.

This supports the effort to align DC systems which supply DC control power to the 480 V buses, 4160 V buses, and the normally aligned EDGs.

Review Methodology

Review modification with Responsible Engineer.

Review modification scope, and if scope was changed, determine change rationale and if there is any safety impact.

Review modification design and installation documents against scope. Identify and review documentation acceptance items.

Verify that the documentation is adequate and that the documentation acceptance items have been completed and documented.

Review the modification tests to verify that the tests are appropriate and were successfully completed.

Determine if Condition Reports (CRs) were generated in performance of this modification and verify that they are documented/tracked.

Review Results

Discussed modification with the Responsible Engineer (RE). The RE identified an issue regarding an anticipated alarm response that did not occur during testing. This issue was documented under CR 96-1153. The lack of an alarm was not a result of an errant installation rather it was a deficient installation procedure. The Condition Report evaluated the deficient procedural step and raised the question if the current method of visual monitoring and shift logs are the most appropriate way to monitor the DC Control power to the 480 V safeguards bus. As a result of CR 96-1153, site engineering is initiating an EWR to install a modification which will install a loss of power relay/alarm to the 1(2) 86X/B03 and B04 circuits. This change is an enhancement to the current method of monitoring the power to the safeguards bus and does not represent an unresolved open item with respect to the restart of Unit 2.

The modification package (MR 96-022), 50.59 Safety Evaluations, and IWP 96-022-2 were reviewed. The safety evaluation matched the modification final design (both in scope and content). The scope of the modification was not changed during installation. Although the Documentation Update Sheet (DUS) identified that changes to 499 series

POINT BEACH UNIT 2 RESTART COMMITMENT
INDEPENDENT REVIEW RESULTS

Commitment ID Number 46

elementaries, MDB, etc were required as an acceptance item, no sign off of completion was provided. The RE noted that since the modification package was written for both the Unit 1 and Unit 2 work scopes, this item could not be signed off until the Unit 1 installation was complete. To avoid confusion, it was agreed with the RE that items completed for Unit 2 would be signed off with a note stating that the signature indicates completion of the Unit 2 scope only.

Verification of the changes to the electrical drawings and MDB was performed using the controlled copies in the WCC and Control Room. Drawing updates associated with MR 96-022 were incorporated into the controlled copies (Note: At the time of this review, the DCNs associated with MR 96-022 were already incorporated into the permanent drawings)

The 50.59 safety evaluation and Document Update Sheet (DUS) identified that changes to the AOPs are required. The DUS however identified that the procedure changes and training to the procedures are a closeout item. The 50.59 identified that a change to the Abnormal Operating Procedure is required to prevent spurious operation of equipment during an Appendix R fire scenario. The change to the AOP would provide direction to de-energize the new DC Control power supplies to the 2B03 bus. This appears to be an acceptance item rather than a closeout item. Discussion with the Operations group identified that the changes to the AOPs and associated training should be classified as an acceptance item for the modification. The DUS identified that AOP-0.0 and AOP-10A are impacted by the modification. Upon review of these procedures, AOP-0.0 was revised 10/18/96 to Rev 9 and incorporates changes associated with MR 96-022. AOP-10A has a Temporary Change against the current revision and includes changes associated with MR 96-022. Per discussion with Operations Training, training to the AOPs has been conducted in Plant Status Update Training (LOR 96-06) under Lesson Plan 2500. Therefore, changes to the AOP and training are completed.

The modification has been satisfactorily installed. No ECRs were generated in support of this modification. A procedure temporary change to IWP 96-022-2 was issued to change the method of performing a seismic adequacy check and to designate the PMT steps in the IWP. This change was appropriately reviewed and documented.

Other than critical drawing updates, temporary labeling, procedure changes to AOP-0.0 and 10A and training (which are complete), no other acceptance items are required to be completed.

The verifications and checks performed as PMT steps in the IWP have been satisfactorily completed and signed off. The PMT steps are appropriate for testing this modification installation.

Work Order No. 9607007 and IWP 96-022-2 have been signed off and accepted by the DSS.

An additional Condition Report (in addition to CR 96-1173 addressed above) has been generated in performance of MR 96-022. Condition Report CR 96-1259 was found based on an electronic search of the NUTRK system using the Modification number as a search criteria. CR 96-1259 identified that QC hold points were insufficient for installing new cables/wires where Train Separation must be maintained. As a corrective action to the CR, QC inspectors completed a subsequent walkdown of MR 96-022 to verify the cable routing. CR 96-1259 remains open with the training department since an evaluation is being conducted by training to determine if omitting QC hold points is a training deficiency or procedural deficiency. Regardless of the outcome of this evaluation, the actions

POINT BEACH UNIT 2 RESTART COMMITMENT
INDEPENDENT REVIEW RESULTS

Commitment ID Number 46

taken for MR 96-022 as a result of the CR will allow the modification to be accepted as a restart item without closure of the CR.

Recommendations

The recommendations provided below will not impact the Unit 2 restart. The issues identified are only provided to improve or clarify work which will be performed under the Unit 1 scope of MR 96-022.

The RE should add signatures to the Documentation Update Sheet to identify completion of the Unit 2 items and to note that the sign off does not represent completion of the Unit 1 items.

The RE shall change the DUS to indicate the need for completion of AOP changes and training as an acceptance item for the Unit 1 mod installation.

Conclusion

Based on this independent review, there are no items involved with Restart Commitment #46 which would impede Unit 2 start up.

POINT BEACH UNIT 2 RESTART COMMITMENT
INDEPENDENT REVIEW RESULTS

Commitment ID Number 52

Commitment Description

The following modification will be in an accepted status (i.e., the applicable physical work completed, post-maintenance and return to service testing completed satisfactorily, and the associated component/system being declared operable) prior to being required to be operable per Technical Specifications: Modification 96-058 - move Power Plant Computer System alarms to the exterior of C-20 panels. This will enhance the alarm sound levels.

Review Methodology

Review modification with Responsible Engineer.

Review modification scope, and if scope was changed, determine change rationale and if there is any safety impact.

Review modification design and installation documents against scope. Identify and review documentation acceptance items.

Verify that the documentation is adequate and that the documentation acceptance items have been completed and documented.

Review the modification tests to verify that the tests are appropriate and were successfully completed.

Determine if Condition Reports (CRs) were generated in performance of this modification and verify that they are documented/tracked.

Review Results

Discussed modification with the Responsible Engineer (RE). No issues or concerns regarding installation and acceptance of the modification were identified by the RE.

The modification package (MR 96-058), Safety Evaluation screening, SQUG evaluation and WO Work Plan were reviewed. The safety evaluation matched the modification final design and Work Plan (both in scope and content). The scope of the modification was not changed during installation.

The modification has been satisfactorily installed. No ECRs were generated in support of this modification.

Based on review of the Documentation Update Sheet (DUS), no documentation acceptance items are required to be completed.

POINT BEACH UNIT 2 RESTART COMMITMENT
INDEPENDENT REVIEW RESULTS

Commitment ID Number 52

The SQUG walkdown performed on the ASIP 2C-20 Panel verified that the installation of MR 96-058 did not invalidate the original SQUG qualification of the panel. The Seismic Review Team (SRT) noted in the Screening Evaluation Work Sheet (SEWS) that the alarm was moved 1' from the original location inside the panel. The actual movement was approximately 4'. This difference does not impact the SEWS review since the physically installed configuration was evaluated. The RE and SRT members were notified of the discrepancy and it was agreed that no impact on the SQUG review exist. No action is required to resolved this issue.

Visual inspections, sound level survey, continuity checks and a functional alarm check were conducted on the installation and served as PMT for the modification. The PMT actions have been satisfactorily completed and signed off. Based on the scope of this installation, these test are appropriate for the installation.

The Operations DSS has signed off Work Order No. 9610564 verifying acceptance of MR 96-058.

No Condition Reports have been generated in performance of MR 96-058. This was concluded based on an interview with the Responsible Engineer and performing an electronic search of the NUTRK system using the Modification number and Work Order number as search criteria.

Recommendations

Based on this independent review, there are no items involved with Restart Commitment #52 which would impede Unit 2 start up.

POINT BEACH UNIT 2 COMMITMENT
INDEPENDENT REVIEW RESULTS

Commitment ID Number 60

Commitment Description

The work and testing associated with these work orders will be completed prior to the associated component/system being declared operable: Work Orders 9601506, 9602502, 9603921, 9611267, 9611278, and 9611755 - replace proximity switches and targets with an improved design and overhaul the Fuel Transfer Cart to enhance control system operation.

Review Methodology

Review Work Orders 9601506, 9602502, 9603921, 9611267, 9611278, and 9611755 to verify work complete, PMT's performed satisfactory, and the work accepted by the Plant.

Verify that this work was completed and the equipment declared operable, prior to the reload of fuel. Fuel reload is expected to occur during the week of 2/10/97.

Review Results

The Work Order 9601506 problem description identifies the need to "measure transfer cart track misalignment". The measurements were taken and identified in the work order. No Post Maintenance Test (PMT) was needed. However, WO 9611204 was initiated to repair the transfer cart. The problem description for WO 9611204 identifies that the "cart does not travel fully to containment position. It stops about 1'- 1 1/2" short and must be stopped manually, because it will bounce on the sprocket if allowed to continue". The work performed section identifies that proximity switch, SW-11, reactor side speed switch, would not function and a Temporary Modification (TM 96-024) was installed to provide a manual toggle switch to perform the SW-11 function. The operability post testing for WO 9611204 identifies "modified ORT-15".

The Work Order 9602502 problem description identifies that "3 limit switch cable hold down clamps are missing in the SFP for the speed change and at pool switches. Fabricate new holders and weld to SFP". The work performed section identifies "installed cable mounts". The operability post testing identifies "ORT-15 Ops Check Sat". The welding checklist identifies the need to perform dye penetrant and visual NDE tests. The NDE Examination Record documents that these NDE tests resulted in "no recordable indications".

The Work Order 9603921 problem description identifies that "the idler sprocket was removed for use on Unit 1". The work performed section identifies, "rebuilt and replaced idler sprocket". The operability post testing identifies "ORT-15 check Sat".

The Work Order 9611267 problem description identifies "remove temp mod that installed toggle switch for the non-functional SW-11 after fuel movement complete". The work performed section identifies "Removed temp mod per work plan". The operability post testing identifies "test Sat per work plan & ORT-15".

POINT BEACH UNIT 2 COMMITMENT
INDEPENDENT REVIEW RESULTS

Commitment ID Number 60

The Work Order 9611278 problem description identifies "Fuel transfer cart will only travel as far as the gate valve, when going from the SFP to containment. Then it stops. Cart will return to the SFP position". The work performed section identifies "Replaced idler sprocket bushings and rebuilt sprocket (none available). The operability post testing identifies "inservice & ORT-15".

The Work Order 9611755 problem description identifies "Fuel transfer cart hard stop is too close. Proximity switch targets are not effective, wheel bushings may not be graphite". The work performed section identifies "Removed cart from canal and inspected all wheel bearing and found to be ok. Fabricated and installed new targets per work plan and tested. Chain appeared to be in good condition". The operability post testing identifies "Tested sat per work plan per ORT-15. The welding performed by this job order is identified as non-code and no post weld NDE requirements were identified. Discussions with the MTN supervisor confirmed that while no NDE requirements were necessary, a welder visual would have been performed to verify the strength of the weld from a skill of the trade perspective.

Operations Refueling Tests -15, "Manipulator and Fuel Transfer System Checkout" was confirmed to have been satisfactorily performed on 10/14/96.

Recommendations

The review of these Work Orders and the supporting performance of ORT-15 on 10/14/96 support the assessment that this commitment is complete and satisfactory.

It should be noted that WO 9603921 and WO 9611278 both perform work on the idler sprocket. It appears that there could have been repeat or related maintenance performed on the idler sprocket which may not have been evaluated for lessons learned.

Based on this independent review, there are not items associated with this Commitment # 60 which would impede Unit 2 startup.



INTERNAL
CORRESPONDENCE

32

PBM 97-0115

To:

From:

Date: February 11, 1997

Subject: CORRECTIVE ACTION PROCESS ASSESSMENT

Copy To:

File

Several assessments of the condition reporting (CR) and associated processes have been conducted during the latter part of 1996. These assessments include:

1. An internal statistical assessment of a sampling of condition reports initiated in prior years to provide a graphic display of who was participating in the CR process.
2. A benchmarking effort in which members of the operating experience group solicited the corrective action process procedures from several other utilities, compared our process procedures against them, and provided recommendations for improvement.
3. The incident investigation final report following the dry fuel burn event of May 28, 1996.
4. The Waterford 3 "CR Process Improvement Assessment".
5. The first and second quarter 1996 NPBU QA Assessment Summary Reports.
6. The draft of the Operations Assessment performed between October 14, 1996 and October 18, 1996.
7. The final report from the INPO assistance visit from October 21, 1996 through October 24, 1996 whose purpose was to review the CR and corrective action process and provide suggestions for improvement.
8. The "CONDITION REPORTING SEMIANNUAL GENERIC TREND REPORT" dated November 14, 1996.

A review of these assessments was completed and a matrix created (Attachment A) in which recommendations for improvement were cross-matrixed to identify the generic threads as potential suggestions for initial consideration. It was discovered that the results of the INPO assistance visit basically bounded the rest of the assessments. A dialogue began between the Regulatory Services Manager and the PBNP Manager and a draft action plan (Attachment B) for implementation of the recommendations of the INPO assistance visit was created.

To date we have implemented interim actions as indicated on the attachments. The only dated parts of the plan and matrix have been implemented. The balance of the items are being currently assessed for timing of implementation commensurate with current priorities.

The action plan will continue to evolve with the integration of Performance Improvement International efforts in the area of culture change and process improvement and a formal action plan with milestone dates will be established to meet the March 31, 1997 Enforcement Conference due date.

Attachments

ATTACHMENT A

RECOMMENDATION		INPO Assist Visit 11/7/96	Enchmark 9/12/96	QAS Summary 5/20/96	H ₂ Burn Event RCE 8/2/96	(Draft) OPs Assess 10/14 - 10/18/96	ACTION TAKEN
1.0	Increase Sr. Mgt. oversight of the CR and CA process. Engage the staff in implementing the process and hold them and line management accountable.	X				X (Indirect)	1/7/97
2.0	Fully establish line ownership of CR/CA process. Provide guidance/training, as appropriate to properly fill out a CR.	X				X (Indirect)	
3.0	Improve effectiveness of CR/CA process.	X					
3.1	Increase Sr. Mgt. involvement and support for the process.	X				X	
3.2	Clarify initiating criteria for CRs (consisting of use)	X				X	
3.3	Reduce duplication in reporting and tracking CR resolution. e.g. WO/DCN/EWR, etc.	X	X				Implement/2 5/96
3.3.1	CR entered for trending only.	X					Implement 11/25/96
3.4	Establish criteria to assist appropriate staff members in identifying potential adverse performance trends.	X					
3.5	Consider establishing different levels of significance for CRs. All staff to focus on reports requiring corrective action to prevent occurrence. Include guidance for when RCE performed.	X	X				

ATTACHMENT A

RECOMMENDATION	INPO Assist Visit 11/7/96	Benchmark 9/12/96	QAS Summary 5/20/96	H ₂ Burn Event RCE 8/2/96	(Draft) OPs Assess 10/14 - 10/18/96	ACTION TAKEN
3.6 Improve management of station commitments to resolve CAs by strengthening assignment of CAs and due dates, approving due date extensions, and implement SR Mgt. monitor of performance.	X		X Listed as weakness			
4.0 Define supervisory expectation for industry self evaluation to verify corrective action implementation.	X					
5.0 Eliminate group CRs (EPRI, OCR) have one database only.	X (in exit gen. comments)	X				Implement 11/25/96

ATTACHMENT A

RECOMMENDATION			H ₂ Burn Event RCE 8/2/96	Statistical 95/96 CRs	(Draft) OPs Assess 10/14 - 10/18/96	ACTION TAKEN
6.0	Consider ways to improve the CR cause identification process.		X			
7.0	CR process changes should be high priority.				X	
8.0	Improve CR initiation.			X		Aug. 96 continuing

ATTACHMENT B

ACTION PLAN TO RESPOND TO INPO CORRECTIVE ACTION PROCESS ASSIST

Implemented

A. Improve Senior Management Oversight and Accountability

1. Communicate plant manager's expectations at BOD meeting.
2. Work groups assign lead for CR resolution. 02/03/97
3. RES assess CR review meeting scheduling to facilitate line personnel to routinely attend. 01/07/97
4. RES Manager revise priority system to provide tiered approach which also includes timeliness requirements commensurate with nuclear safety significance.
5. Plant Manager establish requirement to provide monthly updates to BOD.
6. RES develops examples of initiating criteria to communicate to work groups.

B. Improve Line Management Ownership

1. Group heads ensure that their lead CR person actively participates with the operating experience group in the CR screening process. 01/07/97
2. Group heads clearly communicate to all members of work group expectation that all workers write condition reports and that it is not just a supervisory responsibility. 08/96*

*Began at Stand Down Day and has been reinforced to present which has resulted in a fivefold increase in the number of CRs initiated as of February 6, 1997 as compared to July 1996.

C. Process Improvement

To be defined and executed following PII cultural survey and targeting of organizational process improvements.

ATTACHMENT B

ACTION PLAN TO RESPOND TO INPO CORRECTIVE ACTION PROCESS ASSIST

Implemented

A. Improve Senior Management Oversight and Accountability

1. Communicate plant manager's expectations at BOD meeting.
2. Work groups assign lead for CR resolution. 02/03/97
3. RES assess CR review meeting scheduling to facilitate line personnel to routinely attend. 01/07/97
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C. Process Improvement

To be defined and executed following PII cultural survey and targeting of organizational process improvements.

ATTACHMENT B

D. Self-Assessment

Line organizations to perform at least one self-assessment during 1997.

In addition, an "Operating Experience Newsletter" was implemented in January 1997 which captures "good catches" by NPBU personnel, highlights the details of the actions taken and emphasizes the excellent behaviors executed. In addition this newsletter includes descriptions of industry events that could apply to our facility. The purpose of this newsletter is to reinforce those excellent behaviors that we need to achieve operational excellence to all employees and provide a link directly to employees that shows the value of the behaviors and participating in the corrective action process. This newsletter is widely distributed in the NPBU and posted in several key locations at the Point Beach Nuclear Plant.

ATTACHMENT C

REFERENCE MATERIALS USED FOR CORRECTIVE ACTION PROCESS ASSESSMENT

1. WE QAS QA Assessment Summary Report, First Quarter 1996.
2. WE QAS QA Assessment Summary Report, Second Quarter 1996.
3. Operations Self-Assessment Report, conducted November 14, 1996 through November 18, 1996.
4. INPO Assistance Visit, conducted October 21, 1996 through October 25, 1996, transmitted via letter dated November 7, 1996.
5. PBM 86-0603, dated November 14, 1996, Condition Reporting Semiannual Generic Trend Report.
6. Memo dated September 12, 1996, Peterson to Guay, review of other plant condition reporting system.
7. Memo dated June 20, 1995, Castell to Koudelka, Incident Investigation 96-01 Final Report.
8. Wolf Creek Nuclear Operating Corporation, AP 28A-001, Performance Improvement Request procedure and forms.
9. Entergy Waterford #3 Condition Report Improvement Process Report.
10. Prairie Island 5AWI 3.15.2, Employee Observation Reporting procedure.
11. Callaway Plant APA-ZZ-00500, Corrective Action Program procedure.
12. C. Cook, PMI-7030, Corrective Action procedure.
13. Supporting Data on PBNP, Identification of Condition Report Initiators by Group.

ORIGINAL

PBNP

WO No: 2611278

81

WD Priority: 2

* UNIT 2 *

MWO

* UNIT 2 *

Resp Group: MTN

HEADER PAGE

Step Print: 10/13/96

Equipment: Z-024C

System: FH

HP Zone:

Equipment Name: FUEL TRANSFER CARRIAGE, RAILS, ETC.

Physical Location: U2C/FUEL XFER CANAL

Discovery Date: 10/13/96

Problem Description:

FUEL TRANSFER CART WILL ONLY TRAVEL AS FAR AS THE GATE VALVE, WHEN GOING FROM THE SFP TO CONTAINMENT. THEN IT STOPS. CART WILL RETURN TO THE SFP POSITION

Originator:

OPS S

Outage ID: U2R22

Tag/Sticker Placed: N No: 98958

Tag/Sticker Lctn:

Job Type: CORRECTIVE MAINTENANCE

Project ID:

Condition Report:

Work Function: WORK ORDER

Mod Req #:

QA: N SEIS: 3 Operability Pre-Test: N Procedures:

SR: N LCO: N

EQ: N PMT: Y Operability Post-Test: N Procedures:

SSA: N CIV: N

A/P: P CACC:

RRN: -

Tech Spec Ref:

QA Codes:

Sect XI Class:

Tools Needed:

Work Plan/Instructions reviewed. Planner:

MTN S

LINE SUPERVISOR: 1

NAME:

DATE: 10/13/96

Plant Conditions: - SEE PROB DESC OR PROCEDURE

Ignition Control Permit: N

Other Conditions:

Transient Combustible Permit: N

Fire Barrier Penetration Permit: N

RWP: Y

Equipment Isolation Required: Y

FME: Y

Isolation Tag Series #: 222-105

Operability Pre-Test Complete. ____

Equipment Isolation as requested. ____

Permission granted to perform Work.

Ops DSS Notification Req: Y Ops DSS Signature: 73/00 Date: 10/13/96

Special Notification:

PP-2 BKR 5

Positive Control of IA2514SA227 Air to Xfer system
to be used for equipment isolation!

Number of Steps: 001

Acct #: 00 - 000000 - 1200141 - 000000

MFG Code: STROG Tech Manual Cntl #: 00556

* WORK ORDER CLOSEOUT *

CHAMPS FINAL INPUT

Group Head Signature: [Signature]

Date: 10/29/96

DEC 10 1996

ORIGINAL ***** PBNP ***** WO No: 9611278001
WO Priority: 2 * UNIT 2 * MWO * UNIT 2 *
Resp Group: MTN ***** STEP DETAIL ***** Step Print: 10/13/96
Equipment: Z-024C System: FH HP Zone:
Equipment Name: FUEL TRANSFER CARRIAGE, RAILS, ETC.
Physical Location: U2C/FUEL XFER CANAL
Sequence No: 01
Short Desc: CART WILL NOT TRAVEL TO CONT. Need Date
Sched Start Date:

PLANNED:

WORK PROCEDURES:

Crew: MM
Shift: 2
Class: 410

Work Plan Description:
REINSTALL CHAIN AND INSPECT PER ATTACHED WORKPLAN.

QC REVIEW REQUIRED: N IDLER SPROCKET

DATE: __/__/__

WORK PERFORMED: Replaced bushings and reinstalled sprocket cone
available.

MTE:

QAR:

1243 LOT # 9018549

ACTUAL USED:

CREW:

SHIFT:

WORKER CLASS:

NUMBER OF WORKERS:

TOTAL HOURS:

TTL EXPOSURE/STEP (MREM):

* WORK COMPLETED *

Cause Failure Code: PM / SVC / NRM / MTN
As Found-Out of Spec: 0 / N / NA Machine History Review Required: Y / N
Failed Component: sprocket
Corrective Action: NA/RP
LINE SUPERVISOR: 1 1 1 1 1 1 NAME: 1 1 DATE: 10/15/96

* EQUIPMENT RETURN TO SERVICE *

Operability Post Testing: Inspection & ORT 15
EQUIP. TAKEN OOS - DATE: 10/13/96 TIME: 1700 RTN DATE: 10/14/96 TIME: 2300
Operability Procs Performed: ORT 15
NON OPS SUPV: 1 1 1 1 1 1 NAME: 1 1 DATE: 10/15/96
DSS: 1 1 1 1 1 1 DATE: 10/15/96

MWR WORK PLAN



Work Control Document: 9611278

2Z-24C

Work Plan Originator:

Date: October 13, 1996

Hold Point	Step No.	Work Plan Description	Worker	Date
		Tool and equipment shall be checked for loose parts and debris and temporary covers should be install for foreign material exclusion (FME) of system/components per Exclusion of Foreign Material from Plant components and Systems, NP 8.4.10.	-	10/13-96
		Remove interference's as needed.	-	10-13-96
		Set up manbasket and crane.	-	10-13-96
		Inspect transfer cart drive chain sprockets, bushings and shafts. <i>ADJUST AS REQUIRED 10/13/96</i>	-	10-13-96
		Reinstall chain and sprockets which have "jumped the sprocket".	-	10/13/96
		Discuss inspection results with Supervisor/ RE.	-	10-13-96
HOLD		If additional work is required have workplan reviewed for QC, FME, and PMT requirements, otherwise N/A this step.	N/A	
FME		Inspect canal for debris and cleanliness prior to final close-out.		496
PMT		Run the cart with canal empty from pool end to gate valve checking for rubbing and jerking motion. (Jumper gate valve interlock per OS-S's)	OPS	10/15/96
PMT		Run the fuel transfer cart from the pool end to the cavity end while watching for binding or "jerking" motion.	OPS	10/15/96
		→ CHAIN JUMPED IDLER SPROCKET		10/15/96
		→ REMOVED IDLER SPROCKET DUE TO BINDING		10-13-96
		REPLACE BUSHINGS ON IDLER SHAFT	RC	10-14
		REBUILD SPROCKET - WELD ^{Reshaped} Worn Areas	RC	
		INSTALL SPROCKET & INSPECT OTHER SPROCKETS	RC	
PMT		TEST - HAVE OPS CHICE AND OBSERVE Chain	RC	
		FINAL FME CLOSEOUT - SATISFACTORY	RC	✓

QC INSP. _____ DATE _____

SRO Procedure and Non-Operations Work Plan Review

Memo PBM 96-0256 of May 3, 1996 requires an SRO review ITs, TSs and Non-operations work plans to ensure they adequately establish initial conditions, equipment recovery actions (e.g. valve line ups), and independent verification of recovery actions. Problems identified are to be corrected before use. This form documents the required review has been completed.

Procedure or non-operations work plan reviewed:

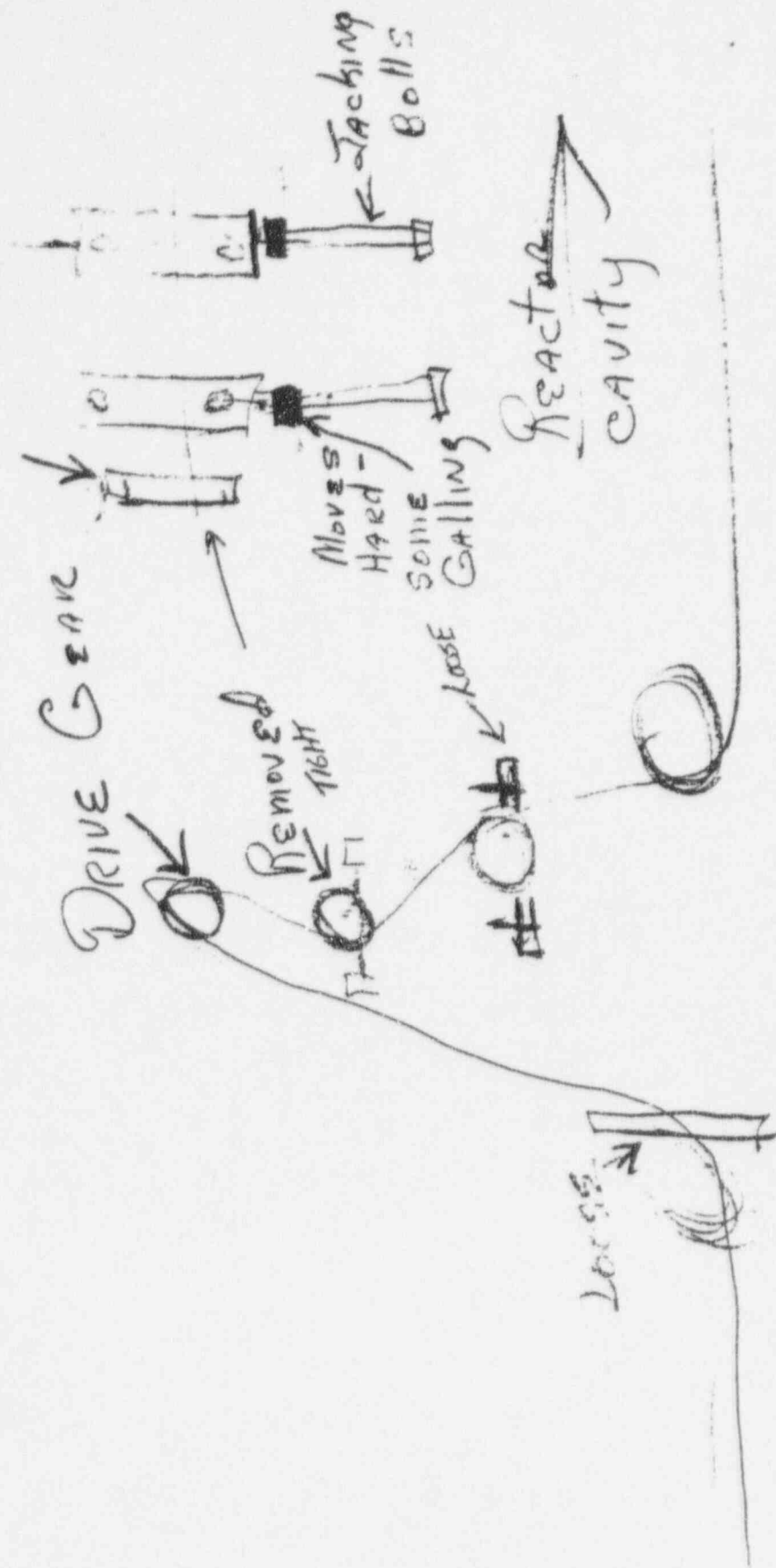
9611278

Approved for use:

SRO (Reviewer)

10/13/96

Date _____



POINT BEACH NUCLEAR PLANT

PERSON LIFTS UTILIZING WORKING PLATFORM
AND OVERHEAD CRANE (SLP 11)

Reference Document 9611278
MWR/SMP/etc.

Description of man lift evolution 22-24C SPENT FUEL POOL CANAL ENTRY
TO WORK ON FUEL TRANSFER SYSTEM.

Working platform and its associated rigging
load tested prior to job.

10/13/96
Supervisor

10/13/96
Supervisor

NOTE: INSPECTION AND OPERATIONAL CHECK TO BE
PERFORMED PRIOR TO EACH LIFT EVOLUTION.

Basket and rigging inspected for degradation. Crane operation checked.

10/13/96

Supervisor Date

AUXILIARY BUILDING CRANE ONLY

Authorization for removal of safety plate.

Warning placard installed on block and on pendant.
on block 10/13/96

Safety plate reinstalled and warning signs removed.

10/13/96

Supervisor Date
10/13/96

Supervisor Date
10/14/96

Supervisor Date

POST THIS FORM AT WORK SITE DURING PERSON LIFT EVOLUTION.

Return this form with work package for microfilming.

WELD CHECKLIST

WO 9611278Date 10-14-96Description of weld or repair (identify applicable code, B31.1, ASME Section IX, AWS D1.1, etc.) NoneRepair 2Z-24C build up sprocket teeth

ISE Engineer Notified For Section XI Scope Repairs

YES ☐NO ☒

Material to be joined

P-8

Filler metal to be used

ER-308

Thickness of weld joint

Build up

Thickness of base metal

1/4"

Preheat Required

70°F

Postweld Heat Treatment

None

Weld Procedure Specification

WP-2

NDE Requirements:

Radiography Test (RT) ☒Magnetic Particle Test (MT) ☐Dye Penetrant Test (PT) ☐~~Visual Test (VT)~~ ☒ ALHydrostatic Test ☐

Review welders performance qualification records and list those welders qualified for the base material and thickness.

Qualified Welders:

LukeLeClairDucanValenteNan Haren

MTN Planner/Supervisor or MPE Engineer

10-14-96

Date

Job completed utilizing the above information and the noted weld procedure and weld information has been recorded in Welders Logbook.

Welder

Date

WO reviewed for documentation of weld rod Lot Numbers and QAP Numbers and successful completion of Indicated NDE

MTN Supervisor

Date

WPA

PROJECT NO.						
XX						

STAGING REQUIRED

[illegible]

FILLED BY:

Form 1633 R2/87 Lot #702-6943

Return to Service Testing Reviews

INITIALS

Pre-Release / Pre or Post-RTS

Work Group Post-Maintenance Testing

Observe cast motion

Section XI Equipment Y/N 2

Operability Testing

none

Inservice Testing

NA

Engineering Review

Section XI Engineering Review

done con

1 K

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—

WCC TRACKING

81

WD Priority: 4 * UNIT 2 * *****
Recd Group: MTN *****
Equipment: Z-0240
Equipment Name: FUEL TRANSFER CARRIAGE, RAILS, ETC.
Physical Location: U2C/FUEL XFER CANAL

CENP *****
MWD *****
HEADER PAGE *****
System: FH
HP Zone:
Discovery Date: 04/07/96

Problem Description:
THE IDLER SPROCKET WAS REMOVED FOR USE ON UNIT 1.

Originator: MTN S Outage ID:
Tag/Sticker Placed: N No: 93668 Tag/Sticker Lctn:
Job Type: CORRECTIVE MAINTENANCE Project ID: Condition Report: N
Work Function: WORK ORDER
Mod Req #: -

=====

QA: N	SEIS: 3	Operability Pre-Test: N	Procedures:
SR: N	LCO: N		
EQ: N	PMT: Y	Operability Post-Test: N	Procedures:
SSA: N	CIV: N		
A/P: P	CACC:		
RRN: -	-	-	Tech Spec Ref:
QA Codes:	Sect XI Class:		
Tools Needed:			

=====

=====

Work Plan/Instructions reviewed.	Planner:	MTN S
LINE SUPERVISOR:	NAME: <u>N. T. [Signature]</u>	DATE: <u>8/5/96</u>

=====

Plant Conditions: ANY CONDITION	Ignition Control Permit: N
Other Conditions:	Transient Combustible Permit: N
Fire Barrier Penetration Permit: N	RWP: Y
Equipment Isolation Required: Y	FME: Y
Isolation Tag Series #: <u>96-520</u>	

=====

Operability Pre-Test Complete. N/A Equipment Isolation as requested. Y
Permission granted to perform work.
Ops DSS Notification Req: Y Ops DSS Signature: [Signature] Date: 8/5/96

Special Notification:

Number of Steps: 001
Acct #: 00 - 00000 - 1200141 - 00000
MFG Code: STROG Tech Manual Cntl #: 00556

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* WORK ORDER CLOSEOUT *

CHAMPS FINAL INPUT

=====

Group Head Signature: _____	Date: <u>10/29/96</u>	<u>NOV-05-1996</u>
-----------------------------	-----------------------	--------------------

=====

ORIGINAL ***** FRNP ***** WD No: 9603921001
WD Priority: 6 * UNIT 2 * MWO * UNIT 2 *
Resp Group: MTN ***** STEP DETAIL ***** Step Print: 07/29/96
Equipment: Z-0240 System: FH HP Zone:
Equipment Name: FUEL TRANSFER CARRIAGE, RAILS, ETC.
Physical Location: U2C/FUEL XFER CANAL
Sequence No: 01
Short Desc: IDLER SPROCKET REMOVED Need Date
Sched Start Date:

PLANNED:

Crew: MM
Shift: 2
Class: 410

WORK PROCEDURES:

Work Plan Description:

INSPECT AND REPAIR IDLER SPROCKET FROM UNIT 1. INSTALL IN UNIT 2 TO
REPLACE THE REMOVED FOR USE IN UNIT1. GENERAL WORK PRACTICES PER NP 8.
4.10. PMT PER ATTACHED MATRIX. CONFINED SPACE ENTRY

QC REVIEW REQUIRED: N

DATE: __/__/__

WORK PERFORMED: *Rebuilt & replaced idler sprocket*

in PM. Last run dry in order to check proper operation. 8/30/96 KPM

MTE: _____ QAR: _____

ACTUAL USED: CREW: _____
SHIFT: _____
WORKER CLASS: *410*
NUMBER OF WORKERS: *5*
TOTAL HOURS: *25*
TTL EXPOSURE/STEP (MREM): _____

PARTS USED LIST ATTACHED: *(Y)* / N

WD TAGS REMOVED: Y / N / *NA*

WORK COMPLETE DATE: *8/7/96*

EMPLOYEE NUMBER: *11212311*

EMPLOYEE NAME: _____

* WORK COMPLETED *

Cause Failure Code: PM / SVC / *(NRM)*
As Found-Out of Spec: Y / N / *NA* Machine History Review Required: Y / N

Failed Component: *Bearing/Sprocket*

Corrective Action: *NA/RE*

Downtime: _____ hrs

LINE SUPERVISOR: *1111*

NAME: _____

DATE: *8/13/96*

* EQUIPMENT RETURN TO SERVICE *

Operability Post Testing: *ORT-15* *check SAT*

EQUIP. TAKEN OOS - DATE: __/__/__ TIME: _____ RTN DATE: __/__/__ TIME: _____

Operability Procs Performed: *ORT-15*

NON OPS SUPV: *11111111*

NAME: _____

DATE: __/__/__

DSS: _____

DATE: *10/13/96*

POST-MAINTENANCE TEST FOR MISCELLANEOUS EQUIPMENT

Equipment ID: 2 Z-24CWork Control Document Number: 9603921

Perform only applicable tests based on work performed as indicated below by Supervisor.

Supervisor Initials: _____

Date: 8/13/96

TEST TO BE COMPLETED

CIRCLE WORK PERFORMED

	General Leak Test	RCS Boundary Leak Test	New Weld Pressure Test	New Weld Hydrostat Test	Diesel Test	Diesel Periodic Run	Other Tests
Strainer/Filter Disassembly	X	Note 5					
Removal - Handholes Manways/Flanges, etc.	X	Note 5					
Component/Piping Repair/Replacement by Welding			X	Note 6			
Diesel: Major Maintenance					X		Note 7 Note 10
Diesel: Minor Maintenance						X	Note 7
Disassembly of Fans, Compressors, etc.							Note 7
Cont. - Personnel Hatch/Equip. Hatch Repair/Adjustment							Note 8
Post-accident Filter, Absorber, or Plenum Repair/Mod.							Note 9
Heat Exchanger Repair/Maintenance	X	Note 5	X	X			Note 7
<u>Repair Z-24C</u>							<u>4 * Op check</u>

Note 5: Possible ISI procedure.

Note 6: If required by applicable code or original specification PBNP 3.2.5.

Note 7: Appropriate tests specified at the discretion of maintenance supervisor or shift superintendent.

Note 8: Leak rate test.

Note 9: Notify technical staff for appropriate testing.

Note 10: Perform ASME XI Preservice NDE as required on ASME Class 1, 2, and 3 piping system components and supports. *1. / 1. / 1.*Reviewed By: [Signature]Date: 8/3/96

*Z-24-C with
security canal at its
minimum level in
case rework is required.
KTB*

WCC TRACKING

81

ORIGINAL ***** FBNP ***** WQ No: 9602502
 WD Priority: 6 * UNIT 2 * MWD * UNIT 2 *
 Resp Group: MTN ***** HEADER PAGE ***** Step Print: 07/30/96
 Equipment: Z-0240 System FH HP Zone:
 Equipment Name: FUEL TRANSFER CARRIAGE, RAILS, ETC.
 Physical Location: U2C/FUEL XFER CANAL Discovery Date: 02/23/96

Problem Description:

3 LIMIT SWITCH CABLE HOLD DOWN CLAMPS ARE MISSING IN THE SFP FOR THE
 SPEED CHANGE AND AT POOL SWITCHES. FABRICATE NEW HOLDERS AND WELD TO
 SFP. M. LONDO HAS SKETCH FOR FABRICATION. *NEED PRIOR TO U2R22*.

Originator: ISE Outage ID:
 Tag/Sticker Placed: N No: 96995 Tag/Sticker Date:
 Job Type: CORRECTIVE MAINTENANCE Project ID: Condition Report: N
 Work Function: WORK ORDER
 Mod Req #: -

QA: N SEIS: 3 Operability Pre-Test: N Procedures:

SR: N LCO: N

EQ: N FMT: Y Operability Post-Test: N Procedures:

SSA: N CIV: N

A/F: F CACC:

RRN: - - - - Tech Spec Ref:

QA Codes: Sect XI Class:

Tools Needed

Work Plan/Instructions reviewed. Planner: MTN S
 LINE SUPERVISOR: [Signature] NAME DATE: 8/5/96

Plant Conditions: ANY CONDITION

Ignition Control Permit: Y

Other Conditions:

Transient Combustible Permit: Y

Fire Barrier Penetration Permit: N

RWF: Y

Equipment Isolation Required: Y

FME: Y

Isolation Tag Series #: 96-520

Operability Pre-Test Complete: N/A

Equipment Isolation as requested: Y

Permission granted to perform Work:

Ops DSS Notification Req: Y Ops DSS Signature: Date: 8/5/96

Special Notification:

Number of Steps: 001

Acct #: 00 - 00000 - 1200141 - 00000

MFG Code: STRDG Tech Manual Cntl #: 00556

* WORK ORDER CLOSEDOUT *

CHAMPS FINAL INPUT

Group Head Signature: [Signature] Date: 8/29/96

NOV 02 1996

ORIGINAL ***** PBNP ***** WD No: 9602502001
NO Priority: 6 * UNIT 2 * MWO * UNIT 2 *
Resp Group: MTN ***** STEP DETAIL ***** Step Print: 07/30/96
Equipment: Z-024C System: FH HF Zone:
Equipment Name: FUEL TRANSFER CARRIAGE, RAILS, ETC.
Physical Location: U2C/FUEL XFER CANAL
Sequence No: 01
Short Desc: CLAMPS ARE MISSING Need Date:
Sched Start Date:

=====

PLANNED: WORK PROCEDURES

Crew: MM MM
Shift: 2 2
Class: 410 430

=====

Work Plan Description:
INSTALL NEW CABLE MOUNTS PER WELDER'S CHECKLIST AND SKETCH. REPLACE ALL
CABLE MOUNTS WITH NEW MOUNTS CLEAN MOUNTING AREA SUFFICIENTLY TO WELD IN
NEW MOUNTS. GENERAL WORK PRACTICES PER NF 8.4.10. FMT PER CHECKLIST.

QC REVIEW REQUIRED: N DATE: __/__/__

WORK PERFORMED: Installed cable mounts. PWT By PWR

Ref-3084 901-8557

MTE: QAR: 1814

ACTUAL USED: CREW: _____
SHIFT: _____
WORKER CLASS: 410
NUMBER OF WORKERS: 5
TOTAL HOURS: 125
TTL EXPOSURE/STEP (MREM): _____

PARTS USED LIST ATTACHED: Y / N
NO TAGS REMOVED: Y / N / NA WORK COMPLETE DATE: 8/4/96
EMPLOYEE NUMBER: 1112123 EMPLOYEE NAME: _____

=====

* WORK COMPLETED *

Cause Failure Code: FM / SVD / NRM / _____
As Found-Out of Spec: Y / N / NA Machine History Review Required: Y / N
Failed Component: NA
Corrective Action: NA RP/RE/ _____
LINE SUPERVISOR: 111 NAME: L Wntime: _____ hrs
DATE: 10/13/96

=====

* EQUIPMENT RETURN TO SERVICE *

Operability Post Testing: ORT-15 OPS Check SAT
EQUIP. TAKEN OOS - DATE: __/__/__ TIME: _____ RTN DATE: __/__/__ TIME: _____
Operability Procs Performed: ORT-15
NON OOS SUPV: _____ NAME: _____ DATE: __/__/__
DSS: _____ NAME: _____ DATE: 10/13/96

9602502

Point Beach Nuclear Plant

WELD CHECKLIST

SKP Liner

WO 9602502

Date 7/12/96

Description of weld or repair (identify applicable code, B31.1, ASME Section IX, AWS D1.1, etc.)

TACK SUPPORTS TO SKP LINER

ISE Engineer Notified For Section XI Scope Repairs

YES ☒NO ☒

Material to be joined

PS-PS

Filler metal to be used

308L

Thickness of weld joint

1/8"

Thickness of base metal

1/4"

Preheat Required

N/A

Postweld Heat Treatment

N/A

Weld Procedure Specification

WP 2

NDE Requirements:

Radiography Test (RT)

Magnetic Particle Test (MT)

Dye Penetrant Test (PT)

Visual Test (VT)

Hydrostatic Test

☒☒

Review welders performance qualification records and list those welders qualified for the base material and thickness.

Qualified Welders:

MTN Planner/Supervisor or MPE Engineer

7-29-96

Date

Job completed utilizing the above information and the noted weld procedure and weld information has been recorded in Welders Logbook.

Welder

8-09-96

Date

WO reviewed for documentation of weld rod Lot Numbers and QAP Numbers and successful completion of Indicated NDE

MTN Supervisor

8/09/96

Date



NDE EXAMINATION RECORD

Site / Project: U2 Component Description: 13 SS SUPPORTS TO SPENT FUEL POOL LINER Work Order No.: 9602502



LIQUID PENETRANT EXAMINATION

NDE Procedure/Rev.: NDE 451 Rev 11

Preclean Time: 5 MIN Manufacturer/Brand: MET L CHEK Thermocouple / Temp. 80°
Penetrant Time: 10 MIN
Penetrant Removal Time: 5 MIN Penetrant Type: VP-31A Batch No.: 2241
Development Time: 7 MIN Remover Type: R-501 Batch No.: 3096
Developer Type: O-70 Batch No.: 3050



MAGNETIC PARTICLE (Yoke Only)

NDE Procedure/Rev.:

UNIT Make / Model: _____ DRY POWDER ☐ RED ☐ GREY Batch No.: _____
FLUORESCENT PREMIXED ☐ Batch No.: _____
Lift Test Date: _____ Time: _____ Bar S/N: _____



VISUAL EXAMINATION

NDE Procedure/Rev.: NDE 700 Rev. 2

Equipment Used: FLASH LIGHT DIRECT ☒ REMOTE ☐
JOINT TYPE: BUTT ☐ SOCKET ☐
OTHER FILLET

RESULTS/REMARKS

SKETCH AREA

NO RECORDABLE INDICATIONS
THERE WERE A FEW ARC STRIKES IN AREA OF INTEREST, BUT WERE P.T.ED AND FOUND ACCEPTED

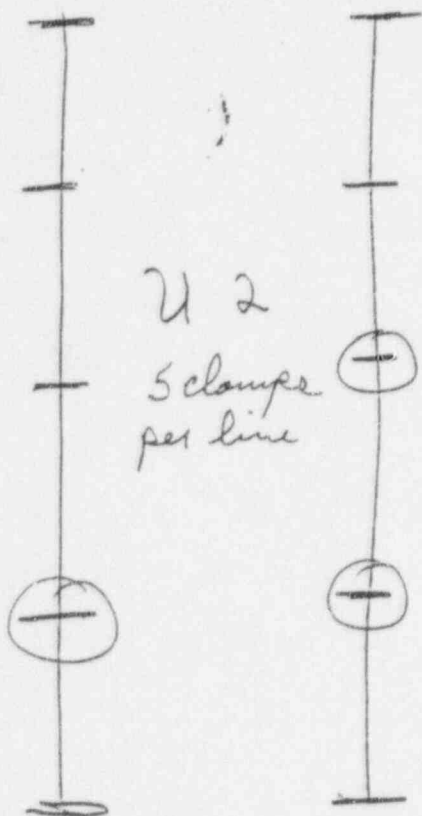
Examination Area Limitations (If None, so state): NONEExaminer / Level / Date: 8996PRINT: Examiner / Level / Date: 8996
1A

9602502

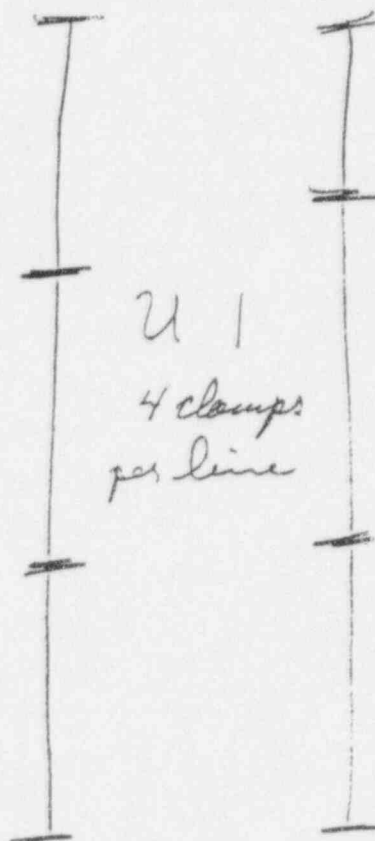
PB2 Z-24C

Replace all mounts on both units

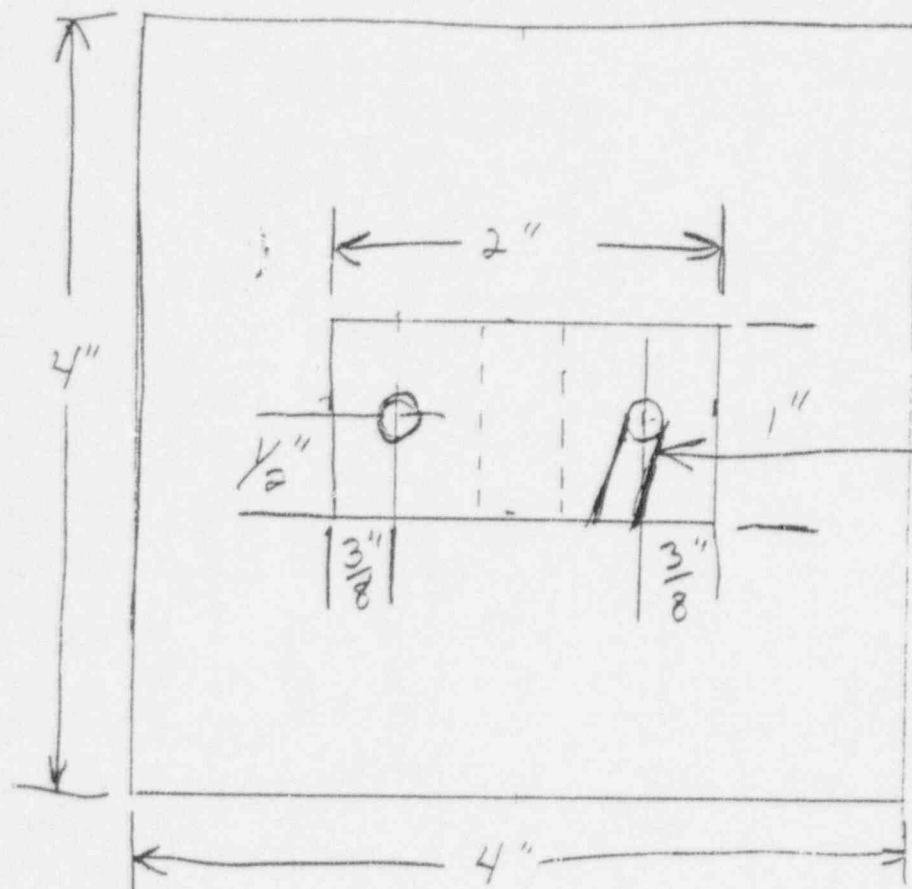
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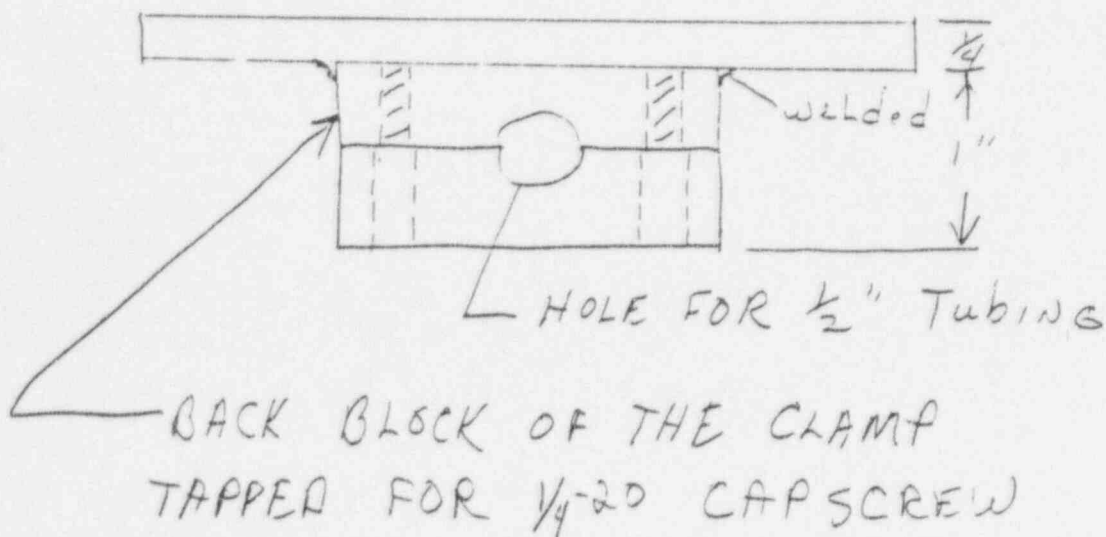
cont →



circled clamps
are missing



FRONT BLOCK OF
CLAMP
SLOTTED FOR
EASE OF CLOSING
CLAMP.



BACK BLOCK OF THE CLAMP
TAPPED FOR $\frac{1}{4}$ -20 CAPSCREW

WCC TRACKING

ISE

18K

ORIGINAL ***** PBNP ***** WD No: 9691506
WD Priority: J * UNIT 2 * MWD * UNIT 2 *
Resp Group: ISE ***** HEADER PAGE ***** Step Print: 10/02/96
Equipment: Z-024C System: FH HP Zone:
Equipment Name: FUEL TRANSFER CARRIAGE, RAILS, ETC.
Physical Location: U2C/FUEL XFER CANAL Discovery Date: 02/10/96

Problem Description:
MEASURE TRANSFER CART TRACK MISALIGNMENT. U2R22 ACTIVITY #4902.

Originator: ISE Outage ID: U2R22
Tag/Sticker Placed: N No: 96982 Tag/Sticker Lctn:
Job Type: BETTERMENT PROJECTS Project ID: Condition Report: N
Work Function: WORK ORDER
Mod Req #: -

=====

QA: N	SEIS: 3	Operability Pre-Test: N	Procedures:
JR: N	LCD: N		
EQ: N	PMT: N	Operability Post-Test: N	Procedures:
SSA: N	CIV: N	MRULE: Y	
A/P: F	CACC:		
RRN:			

QA Codes: Sect XI Class: Tech Spec Ref:
Tools Needed:

=====

Work Plan/Instructions reviewed. Planner: ISE
LINE SUPERVISOR: NAME: DATE: 10/3/96

=====

Plant Conditions: COLD SHUTDOWN Ignition Control Permit: N
Other Conditions: SFP CANAL drained to ~3" Transient Combustible Permit: N
Fire Barrier Penetration Permit: N RWP: Y
Equipment Isolation Required: Y FME: Y
Isolation Tag Series #: ~~222-63~~

Operability Pre-Test Complete. ____ Equipment Isolation as requested. ____
Permission granted to perform Work.
Ops DSS Notification Req: Y Ops DSS Signature: ____ Date: 10/3/96

=====

Special Notification:

Number of Steps: 001
Acct #: 00 - 00000 - 1200141 - 00000
MFG Code: STROG Tech Manual Cntl #: 00556

=====

* WORK ORDER CLOSEOUT *

CHAMPS FINAL INPUT

=====

Group Head Signature: ____ Date: 12/11/96

DEC 13 1996

ORIGINAL ***** PBNP ***** WO No: 960150600:
WO Priority: J * UNIT 2 * MWO * UNIT 2 *
Resp Group: ISE ***** STEP DETAIL ***** Step Print: 10/02/96
Equipment: Z-024C System: FH HP Zone:
Equipment Name: FUEL TRANSFER CARRIAGE, RAILS, ETC.
Physical Location: U2C/FUEL XFER CANAL
Sequence No: 01 Need Date
Short Desc: MEASURE TRANSFER CART TRACK Sched Start Date:

PLANNED:

Crew: X X
Shift: 2 2
Class: 948 420

WORK PROCEDURES:

Work Plan Description:

WORK PLAN BEING WRITTEN & CONTRACTOR. MAINT. SUPPORT FOR
MAN BASKET LIFT IN FAB AND CONTAINMENT.

QC REVIEW REQUIRED: N

DATE: __/__/__

WORK PERFORMED: Entered lower cavity and SEP Transfer canal.
Identified SEP TRACK misalignment to the Transfer tube (1") and
lower cavity track misalignment to the Transfer Tube (1/2").

MTE: _____ QAR: _____

ACTUAL USED:	CREW:	SHIFT:	WORKER CLASS:	NUMBER OF WORKERS:	TOTAL HOURS:	TTL EXPOSURE/STEP (MREM):
	410	421	948	941		
	2	2	2	1		
	10	10	10	6		

PARTS USED LIST ATTACHED: Y / N / NA

WO TAGS REMOVED: Y / N / NA

WORK COMPLETE DATE: 10/8/96

EMPLOYEE NUMBER: _____

EMPLOYEE NAME: _____

* WORK COMPLETED *

Cause Failure Code: EM / SVC / NRM / _____
As Found-Out of Spec: Y / N / NA Machine History Review Required: Y (N)

Failed Component: _____

Corrective Action: NA/RP/RE/_____

LINE SUPERVISOR: _____ 121 NAME: _____ Downtime: _____ hrs
DATE: 10/8/96

* EQUIPMENT RETURN TO SERVICE *

Operability Post Testing: OK 15 N/A per 10/8/96 none required
EQUIP. TAKEN OOS - DATE: ____/____/____ TIME: ____ RTN DATE: ____/____/____ TIME: ____

Operability Procs Performed _____

NON OPS SUPV: _____ E: _____ DATE: 10/8/96
DSS: _____ NAME: _____ DATE: 12/7/96

WCC TRACKING

81

ORIGINAL ***** FENF ***** WD No: 9602502
 WD Priority: 6 * UNIT 2 * MWD * UNIT 2 *
 Resp Group: MTN ***** HEADER PAGE ***** Step Print: 07/30/96
 Equipment: Z-024C System: FH HP Zone:
 Equipment Name: FUEL TRANSFER CARRIAGE, RAILS, ETC.
 Physical Location: U2C/FUEL XFER CANAL Discovery Date: 02/23/96

Problem Description:

3 LIMIT SWITCH CABLE HOLD DOWN CLAMPS ARE MISSING IN THE SFF FOR THE
 SPEED CHANGE AND AT FOOL SWITCHES. FABRICATE NEW HOLDERS AND WELD TO
 SFF. M. LONDO HAS SKETCH FOR FABRICATION. *NEED PRIOR TO U2R22*.

Originator: ISE Outage ID:
 Tag/Sticker Placed: N No: 96995 Tag/Sticker Lcm:
 Job Type: CORRECTIVE MAINTENANCE Project ID: Condition Report: N
 Work Function: WORK ORDER
 Mod Req #: -

QA: N SEIS: 3 Operability Pre-Test: N Procedures:
 SR: N LCO: N
 EQ: N FMT: Y Operability Post-Test: N Procedures:
 SSA: N CIV: N
 A/P: F CACC
 RRW: - - - - - Tech Spec Ref:
 QA Codes: Sect XI Class:
 Tools Needed:

Work Plan/Instructions reviewed. Planner: MTN S
 LINE SUPERVISOR: L. L. 206121 NAME: DATE: 8/5/96

Plant Conditions: ANY CONDITION Ignition Control Permit: Y
 Other Conditions: Transient Combustible Permit: Y
 Fire Barrier Penetration Permit: N RNF: Y
 Equipment Isolation Required: Y FME: Y
 Isolation Tag Series #: 96-520

Operability Pre-Test Complete: N/A Equipment Isolation as requested: Y
 Permission granted to perform Work:
 Ops DSS Notification Req: Y Ops DSS Signature: Date: 8/5/96

Special Notification:

Number of Steps: 001
 Acct #: 00 - 00000 - 1200141 - 00000
 MFG Code: STRDG Tech Manual Cntl #: 00556

* WORK ORDER CLOSEDOUT *

CHAMPS FINAL INPUT

Group Head Signature: Date: 8/29/96 NOV 02 1996

ORIGINAL ***** PBNP ***** WD No: 9602302001
WD Priority: 6 * UNIT 2 * MWO * UNIT 2 *
Resp Group: MTN ***** STEP DETAIL ***** Step Print: 07/30/96
Equipment: Z-024C System: FH HF Zone:
Equipment Name: FUEL TRANSFER CARRIAGE, RAILS, ETC.
Physical Location: U2C/FUEL XFER CANAL
Sequence No: 01
Short Desc: CLAMPS ARE MISSING
Need Date:
Sched Start Date:

PLANNED:

WORK PROCEDURES:

Crew: MM MM
Shift: 2 2
Class: 410 430

Work Plan Description:

INSTALL NEW CABLE MOUNTS PER WELDER'S CHECKLIST AND SKETCH. REPLACE ALL CABLE MOUNTS WITH NEW MOUNTS CLEAN MOUNTING AREA SUFFICIENTLY TO WELD IN NEW MOUNTS. GENERAL WORK PRACTICES PER NF 8.4.10. PMT PER CHECKLIST.

QC REVIEW REQUIRED: N

DATE: __/__/__

WORK PERFORMED: *Installed cable mounts. PMT By PWR*

Red-3084 901-8557

MTE: QAR: *7/18/96*

ACTUAL USED: CREW:
SHIFT:
WORKER CLASS: *410*
NUMBER OF WORKERS: *5*
TOTAL HOURS: *122*
TTL EXPOSURE/STEP (MREM):

PARTS USED LIST ATTACHED: Y / *N*

WD TAGS REMOVED: Y / N / *NA*

WORK COMPLETE DATE: *8/14/96*

EMPLOYEE NUMBER: *1112123*

EMPLOYEE NAME:

* WORK COMPLETED *

Cause Failure Code: FM / *SVD* / NRM /

As Found-Out of Spec: Y / N / *NA* Machine History Review Required: Y / N

Failed Component: *NA*

Corrective Action: *NA/REP/RE/*

LINE SUPERVISOR: NAME: DATE: *10/13/96*

* EQUIPMENT RETURN TO SERVICE *

Operability Post Testing: *ORT-15 OPS Check SAT*

EQUIP. TAKEN OOS - DATE: __/__/__ TIME: RTN DATE: __/__/__ TIME:

Operability Procs Performed: *ORT-15*

NON OPS SUPV: NAME: DATE: *10/13/96*

DSS: NAME: DATE: *10/13/96*

WCC TRACKING

81

***** CHAMP *****
WD Priority: * * UNIT 2 * * MMD * UNIT 2 *
Resp Group: MTN ***** HEADER PAGE ***** Step Print: 07/29/96
Equipment: Z-0240 System: FH HP Zone:
Equipment Name: FUEL TRANSFER CARRIAGE, RAILS, ETC.
Physical Location: U20/FUEL XFER CANAL Discovery Date: 04/07/96

Problem Description:
THE IDLER SPROCKET WAS REMOVED FOR USE ON UNIT 1.

Originator: MTN S Outage ID:
Tag/Sticker Placed: N No: 93668 Tag/Sticker Lctn:
Job Type: CORRECTIVE MAINTENANCE Project ID: Condition Report: N
Work Function: WORK ORDER
Mod Req #: -

=====

QA: N	SEIS: 3	Operability Pre-Test: N	Procedures:
SR: N	LEC: N		
EQ: N	PMT: Y	Operability Post-Test: N	Procedures:
CSA: N	CIV: N		
A/P: P	CACC:		
RRN: -	-	-	-

QA Codes: Sect XI Class: Tech Spec Ref:
Tools Needed:

=====

Work Plan/Instructions reviewed. Planner: MTN S
LINE SUPERVISOR: NAME: DATE: 8/5/96

Plant Conditions: ANY CONDITION Ignition Control Permit: N
Other Conditions: Transient Combustible Permit: N
Fire Barrier Penetration Permit: N RWP: Y
Equipment Isolation Required: Y FME: Y
Isolation Tag Series #: 96-520

Operability Pre-Test Complete. N/A Equipment Isolation as requested. Y
Permission granted to perform Work.
Ops DSS Notification Req: Y Ops DSS Signature: Date: 8/5/96

Special Notification:

Number of Steps: 001
Acct #: 00 - 00000 - 1200141 - 00000
MFG Code: STROG Tech Manual Cntl #: 00556

=====

* WORK ORDER CLOSEOUT *

CHAMPS FINAL INPUT

=====

Group Head Signature: Date: 10/29/96 NOV-05-1996

ORIGINAL ***** PRNF ***** HQ No: 9603921001
WD Priority: 6 * UNIT 2 * MWO * UNIT 2 *
Resp Group: MTN ***** STEP DETAIL ***** Step Print: 07/29/96
Equipment: Z-0240 System: FH HP Zone:
Equipment Name: FUEL TRANSFER CARRIAGE, RAILS, ETC.
Physical Location: U2C/FUEL XFER CANAL
Sequence No: 01 Need Date:
Short Desc: IDLER SPROCKET REMOVED Sched Start Date:

PLANNED: WORK PROCEDURES:
Crew: MM
Shift: 2
Class: 410

Work Plan Description:
INSPECT AND REPAIR IDLER SPROCKET FROM UNIT 1. INSTALL IN UNIT 2 TO
REPLACE THE REMOVED FOR USE IN UNIT1. GENERAL WORK PRACTICES PER NP 8.
4.10. PMT PER ATTACHED MATRIX. CONFINED SPACE ENTRY

QC REVIEW REQUIRED: N DATE: __/__/__

WORK PERFORMED: *Rebuilt & replaced idler sprocket*

10-PMT. Last run dry in order to check proper operation. 9/30/96 JFW

WTE: QAR:

ACTUAL USED: CREW: SHIFT: WORKER CLASS: 410
NUMBER OF WORKERS: 2
TOTAL HOURS: 2.5
TTL EXPOSURE/STEP (MREM):

PARTS USED LIST ATTACHED: *Q* / N
WD TAGS REMOVED: Y / N / *NA* WORK COMPLETE DATE: *8/2/96*
EMPLOYEE NUMBER: 1_1_ EMPLOYEE NAME:

* WORK COMPLETED *
Cause Failure Code: PM / SVC / *NRM* /
As Found-Out of Spec: Y / N / *NA* Machine History Review Required: Y / N
Failed Component: *Bearings/Sprocket*
Corrective Action: NA/BP/RE/ Downtime: __ hrs
LINE SUPERVISOR: 1_ DATE: *8/13/96*

* EQUIPMENT RETURN TO SERVICE *
Operability Post Testing: *ORT-15* *check SAT*
EQUIP. TAKEN OOS - DATE: __/__/__ TIME: __:__:__ RTN DATE: __/__/__ TIME: __:__:__
Operability Procs Performed: *ORT-15*
NON OPS SUPV: 1_1_1_1_1_1_ NAME: *4/DD* DATE: __/__/__
DSS: NAME: DATE: *10/13/96*

UNIT: PB2 >>> WORK ORDER STEP HISTORY - PAGE 1 <<< SYSTEM: FH
-----CH5167M 07/15/95-----
WO NO: 9611278 Desc: REINSTALL CHAIN ON SPROCKETS Text:
Equip ID: Z-024C Phy Lctn: U2C/FUEL XFER CANAL
Equip Name: FUEL TRANSFER CARRIAGE, RAILS, ETC. WOType: C
WO Status: 90 COMPLETE Material Required?:
WO Cause fail code: MTN IMPROPER CORRECTIVE MAINTENANCE
WO Effect fail code:
WO Failed component: MPFF: F
WO Corrective action: RE REPAIRED
Equip taken OOS - DSS date: 10/13/96 TIME: 1700
Machine history review: As found out-of-spec: Y ISO Tag Series #:
Desc: REINSTALL CHAIN ON SPROCKETS % complete: 100

Work performed:
REPLACED BUSHINGS AND REBUILT SPROCKET (NONE AVAILABLE).

Last Updated By: WE0169

Date: 12/03/96

PF3	- EH MENU	PF5	- PREV WO	PF10	- SUMMARY
PF4	- RESET	PF6	- NEXT WO	PF11	- REQUEST
		PF8	- NEXT PAGE	PF23	- TEXT
		PF9	- PREV SCRIN		

□

UNIT: PB2 >>> WORK ORDEP STEP DETAIL - PAGE 2 <<< SYSTEM: FH
-----CH5177M 07/14/95-----

WO NO: 9611278 Desc: CART WILL NOT TRAVEL TO CONT. Text:
Equip ID: Z-024C Physical Lctn: U2C/FUEL XFER CANAL
Equip Name: FUEL TRANSFER CARRIAGE, RAILS, ETC.
Material Required?:

Stat: 90 COMPLETE Complete by: PB2195
Plant Cond: SEE SEE PROB DESC OR Complete date: 10/14/96
Other Cond: Line supv: PB2205
QC Review Req'd: N RWP: Y Line supv date: 10/15/96
Igni Ctl Permit: N Group Review: PB2320
Trans Comb Permit: N Group Review Date: 10/29/96
Fire Bar Permit: N Group: MTN DSS Notif: Y
Equip Isolation: Y Returned To Service - DSS Date: 10/14/96 Time: 2300
Step Instructions: DSS: PB5815
REINSTALL CHAIN AND INSPECT PER ATTACHED WORKPLAN.

Last Updated By: Date:
PF3 - EH MENU PF5 - PREV WO PF7 - PREV PAGE PF10 - SUMMARY
PF4 - RESET PF6 - NEXT WO 3 - NEXT PAGE PF11 - REQUEST
PF9 - PREV SCRPN PF23 - TEXT

□

NUCLEAR POWER DEPARTMENT
PROCEDURE REVIEW AND APPROVAL CONTINUATION SHEET

PROCEDURE ORT 15 Fuel Manipulator and Fuel Transfer System Checkout Unit 2

Revision 15 Date 12/13/96

DESCRIBE CHANGES (Continued)

<u>Step</u>	<u>Change/Reason</u>
<u>various</u>	<u>5.1 - 7.16, 7.20 - 8.5 Delete these steps. Reason: This ORT 15 is being performed for post -</u> <u>maintenance testing of the fuel transfer system only, for work performed under WO's 9611421</u> <u>(fuel transfer tube gate valve work) and 9611755 (fuel transfer cart work). The fuel manipulator will be</u> <u>tested under a separate ORT 15 prior to core load for U2R22.</u>
<u>3.6, 7.20</u>	<u>Delete this step. Reason: Not required for PMT of the fuel transfer system. This step will be completed</u> <u>by a separate ORT 15 prior to core load.</u>
<u>4.2</u>	<u>Add a note to inform the operators that step 4.2.1 is PMT for WO 9611421. Reason: administrative.</u>
<u>4.7, 7.18</u>	<u>Add a note to inform the operators that step 4.7 is PMT for WO 9611755. Reason: administrative.</u>
<u>various</u>	<u>4.2.2 and 7.19.3 Delete these steps. Reason: CL-1E is not in effect while the core is unloaded during</u> <u>U2R22.</u>
<u>7.18</u>	<u>Add substeps a, b, and c to continue with the PMT for WO 9611755, when satisfied with the operation</u> <u>of the conveyor to have maintenance remove the speed change switch per WO 9611267, then complete</u> <u>the PMT for WO's 9611755 and 9611267. Reason: Administrative - these substeps are added to</u> <u>coordinate the maintenance and PMT necessary to return the transfer system to an operable status.</u>

DESCRIBE DESIRED TRAINING OR REQUIRED READING, INCLUDING RESPONSIBLE GROUP (if applicable):

TRAINING CONTACT:

(Contact training representative if formal training or required reading is checked on PBF-0026a).

Initial / /

POINT BEACH NUCLEAR PLANT
TEMPORARY CHANGE REVIEW AND APPROVAL

chg 2

Page 1 of 1

NOTE: REFER TO PROCEDURE NP 1.2.3 FOR GUIDANCE TO COMPLETE THIS FORM.

DOC NUMBER/TITLE ORT 15 FUEL MANIPULATOR AND FUEL TRANSFER SYSTEM CHECKOUT UNIT 2

Revision Number/Date 15 / 10-2-95

UNIT: ☐ PB1 ☒ PB2 ☐ PB0

Temporary Change Initiated By: _____ Date 12-13-96

If the procedure is of a non-signoff type, list affected manual locations on form PBF-0026h and attach. List the changes, including step number, change, and reason. This shall be done on form PBF-0026c (Procedure Review and Approval Continuation Sheet). Attach the changes to this form.

REQUIREMENTS

The procedure changes initiated by this form do not change the intent of the procedure. Is screening for 10 CFR 50.59 or 72.48 applicability required in accordance with NP 10.3.1. If YES, attach applicable portions of form PBF-1515.

If NO, explain: _____

Temporary Change Valid Until ONE TIME USE ☐ Yes ☒ No

NOTE: Temporary change duration greater than 7 days? _____ Tracking not required for special test procedures such as PBTPs, IWP's, SMP's, ICP 11 Series. Operations 40-month tests and 10-year tests are also special test procedures.

If yes, then temporary change tracking has been placed into effect. _____ Initials N/A Date N/A
If this procedure change implements a temporary change/modification to the facility, then a temporary modification form PBF-1545 shall be completed as described in NP-7.3.1.

If other groups have procedures which may be affected by these changes, their notification shall be made. Groups/Individuals notified: _____
Should a Permanent Procedure Change be considered? one time use for transfer system PMT. ☐ Yes ☒ No

APPROVAL PRIOR TO USE

- NOTES: (1) The initiator and the approver shall not be the same person.
(2) If a 10CFR 50.59 screening determines that a safety evaluation is required, then this temporary change shall not be used until the subsequent reviews and approvals have been obtained.

Cognizant Group Head for non-Operations SECURITY MINOR PROCEDURES
Cognizant Supervisor for non-Operations MINOR PROCEDURES
CNS for all OPERATIONS PROCEDURES
Security Supervisor for SECURITY PLAN IMPLEMENTING PROCEDURES

Day & Call Supervisors (For MAJOR Procedures ONLY)
Plant Manager (For SECURITY PLAN IMPLEMENTING Procedures ONLY)

SUBSEQUENT REVIEW AND APPROVAL

MAJOR	Manager's Supp Staff Review** <u>1-30-97</u> (For the MSS) <input checked="" type="checkbox"/>	MSSM <u>97-03</u> Date _____ PBNP Manager Approval
	**Form PBF-0026d shall accompany this sheet if serial review and approval was conducted.	
MINOR	Date _____ Cognizant Group Head	
NNSR, SPECIAL PROCESS, ADMIN SECURITY, CONTROLLED REFERENCE	Date _____ Cognizant Group Head	Date _____ PBNP Manager Approval (If Required)
	Date _____ Other Approval (If Required)	Date _____ Other Approval (If Required)

NUCLEAR POWER DEPARTMENT
SAFETY EVALUATION REPORT

SER _____
Page 1

Title of Proposed Modification,
Procedure Change, Test or Experiment:

ORT 15 Fuel Manipulator & Transfer System Checkout Unit2, Rev 15

Reference Document(s) #:

Prepared By

Date: 12-13-96

Reviewed By:

Date: 12/13/96

Reviewed by Multidisciplinary Review Team:

Date:

2.

Date:

Date:

MSS Review/Date:

MSS #:

Manager - PBNP Approval:

Date:

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approvals are not necessary for a determination of non-applicability.)

Section 1

Screening - Determination if Safety Evaluation is Required

A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions. The purpose of this temporary change to ORT 15 is to provide instructions in performing post maintenance testing of the fuel transfer gate valve for work performed under WO 9611421, and of the fuel transfer cart for work performed under WO 9611755. This PMT consist of stroking the fuel transfer tube gate valve and operating the cart full travel 8 to 10 times. This change also coordinates the removal of the transfer cart speed change switch per WO 9611267 and associated PMT with this post maintenance testing. All steps of ORT 15 that are not required to perform this PMT are deleted. Since a full ORT 15 will be performed prior to U2R22 core load, this temporary change does not result in any interim configuration or condition.

B. List the FSAR sections or VSC-24-SAR sections where the system, structure, component, procedure, test or experiment is described.
1.3,3.2,9.5,11.2,13.2, & 14.2.

C. Does the change, test or experiment involve a change in the Technical Specification?
If a change is required, briefly describe what the change should be and why it is required.
NOTE: NRC approval is required prior to implementation.

☐ Yes ☒ No

D. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

NUCLEAR POWER DEPARTMENT
SAFETY EVALUATION REPORT

SER _____
Page 2

Section 1 - Continuation

- | | |
|--|---|
| a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures, be altered? (Refer to NP 10.3.1, step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.) | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.) | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| c. Will any procedure described in the PBNP FSAR be altered? (Refer to NP 10.3.1, Attachment A, Part E, for guidance.) | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.*

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

- | | |
|---|---|
| a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis document, including its figures, be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| c. Will any procedures described in the ISFSI Licensing Basis documents be altered? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

*NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.*

- D. Basis for determination that a safety evaluation is not required: **ORT 15 was performed in its entirety prior to core off-load for U2R22 and will be performed in its entirety prior to core load, therefore deleting some steps of this procedure will not detract from ensuring the intent of this procedure is met. This temporary change to ORT 15 is to perform post maintenance testing of the fuel transfer cart and the transfer tube gate valve. WO 9611267 for removing the transfer**

NUCLEAR POWER DEPARTMENT
SAFETY EVALUATION REPORT

SER
Page 3

Section 1 - Continuation

cart speed change switch and its associated PMT will be coordinated with the performance of this ORT 15. Since the ORT 15 steps that are applicable to the required PMT will be performed as written, and a complete ORT 15 will be performed prior to core reload, a 10CFR50.59 safety evaluation is not required. This system and procedure is not associated with the ISFSI, therefore a 10CFR72.48 safety evaluation is not required.

TEMPORARY CHANGE REVIEW AND APPROVAL

NOTE: REFER TO PROCEDURE NP 1.2.3 FOR GUIDANCE TO COMPLETE THIS FORM.

DOC NUMBER/TITLE ORT IS FUEL MANIPULATOR AND FUEL TRANSFER SYSTEM CHECKOUT, UNIT 2

Revision Number/Date 15/10-2-95

UNIT: ☐ PBI ☒ PB2 ☐ PBO

Temporary Change Initiated By: _____ Date 9-26-96

If the procedure is of a non-signoff type, list affected manual locations on form PBF-0026h and attach. List the changes, including step number, change, and reason. This shall be done on form PBF-0026c (Procedure Review and Approval Continuation Sheet). Attach the changes to this form.

REQUIREMENTS

- The procedure changes initiated by this form do not change the intent of the procedure.
- Is screening for 10 CFR 50.59 or 72.48 applicability required in accordance with NP 10.3.1. If YES, attach applicable portions of form PBF-1515.

If NO, explain: _____

- Temporary Change Valid Until next revision is issued.

- Temporary change duration greater than 7 days? _____

NOTE: Tracking not required for special test procedures such as PBTPs, IWP's, SMP's, ICP II Series. Operations 40-month tests and 10-year tests are also special test procedures.

If yes, then temporary change tracking has been placed into effect. _____

Initials RIA Date 9/30/96

- If this procedure change implements a temporary change/modification to the facility, then a temporary modification form PBF-1545 shall be completed as described in NP-7.3.1.

If other groups have procedures which may be affected by these changes, then notification shall be made. Groups/Individuals notified: NA

Should a Permanent Procedure Change be considered? ☒ Yes ☐ No

APPROVAL PRIOR TO USE

- NOTES: (1) The initiator and the approver shall not be the same person.
- (2) If a 10CFR 50.59 screening determines that a safety evaluation is required, then this temporary change shall not be used until the subsequent reviews and approvals have been obtained.

Date 9-26-96

Date 9/30/96 Time 1016

Cognizant Group Head for non-Operations MAJOR PROCEDURES

Duty & Call Supervisors (For MAJOR Procedures ONLY)

Cognizant Supervisor for non-Operations MINOR PROCEDURES

Plant Manager (For SECURITY PLAN IMPLEMENTING Procedures ONLY)

DSS for all OPERATIONS PROCEDURES

Security Supervisor for SECURITY PLAN IMPLEMENTING PROCEDURES

** Approved* MSSM 96-12 10/3/96

SUBSEQUENT REVIEW AND APPROVAL

RIA

<u>MAJOR</u>	<p>Manager's Supervisory Staff Review**</p> <p style="text-align: right;">MSSM _____</p> <p style="text-align: center;">Date _____ Date _____</p> <p>(For the MSS) PBNP Manager Approval</p> <p style="text-align: center;">**Form PBF-0026d shall accompany this sheet if serial review and approval was conducted.</p>	
<u>MINOR</u>	<p style="text-align: center;">Date _____</p> <p>Cognizant Group Head</p>	
<u>NNSR, SPECIAL PROCESS, ADMIN SECURITY, CONTROLLED REFERENCE</u>	<p style="text-align: center;">Date _____ Date _____</p> <p>Cognizant Group Head PBNP Manager Approval (If Required)</p> <p style="text-align: center;">Date _____ Date _____</p> <p>Other Approval (If Required) Other Approval (If Required)</p>	

NUCLEAR POWER DEPARTMENT
PROCEDURE REVIEW AND APPROVAL CONTINUATION SHEET

ORT-15
PROCEDURE Fuel MANIPULATOR AND FUEL TRANSFER SYSTEM
CHECKOUT UNIT 2

Revision 15 Date 10-2-95

DESCRIBE CHANGES (Continued)

- | Step | Change/Reason |
|-------------------------------|--|
| 3.4, NOTE, AND 3.5 and 7.19.2 | Change the words "designated" and "assigned" to "level 3 dedicated". Also expand on the operators instructions. Reason: Upgrade these steps to the current requirements of OM 3.26 for the use of dedicated operators. |
| 4.2.1 | Add removal of danger tag. Reason: SP RP-1A tagged this valve shut prior to transfer tube flange removal as a resolution to an SEG 112R22 safety review concern. |
| 7.19.1 | Install danger tag. Reason: same as 4.2.1 above. |

DESCRIBE DESIRED TRAINING OR REQUIRED READING, INCLUDING RESPONSIBLE GROUP (if applicable):

NA - procedure adequate.

TRAINING CONTACT:

NA

(Contact training representative if formal training or required reading is checked on PBF-0026a).

Initials SWH

21) Activity: 8420 - MAIN STEAM - CL-IE WORK

Concern: MS 217 A & B and MS 219 A & B SG BD drains. Replacing valves opens SG. Is the SG drained? Level? Feed isolation is not listed as a predecessor. Industrial safety concern.

Proposed Resolution: Tie this activity to the activity that drains the steam generators.

→ Resolution:

→ Status: Open

22) Activity: 2305 - REMOVE FUEL TRANSFER TUBE FLANGE
4902 - CHECK ALIGNMNT OF RAILS: CANAL/XFER TUBE/CAVITY
2315 - ORT 15 LOWER CAVITY WORK

Ops

Concern: ^{1A} RP-2A removes the flange but there is no safety reference to danger tag the gate valve (if transfer canal is full). No reference to containment closure CL-1E. ORT 15 does not reference containment closure CL-1E, only someone standing by.

Proposed Resolution: Revise RP-2A and ORT-15.

→ Resolution:

→ Status:

Open

RP-1A: Temporary change to RP-1A step 4.9.1 to add danger tag, step 4.49 to remove danger tag. Permanent change to follow. Step 4.49 will already reference CL-1E.

ORT-15: Temp change to reference CL-1E, permanent change to follow. ORT 15 does reference CL-1E at steps 4.2.2 and 7.19.3, each time the gate valve is manipulated.

NUCLEAR POWER DEPARTMENT
SAFETY EVALUATION REPORT

SER _____
Page 1

of Proposed Modification, Procedure
Change, Test or Experiment:

ORT 15 Fuel MANIPULATOR AND FUEL TRANSFER
System CHECKOUT, UNIT 1 (and 2).

Reference Document(s) #:

Prepared By: _____

Date: 9-26-96

Reviewed By: _____

Date: 9-26-96

MSS Review/Date: _____

MSS #: _____

Manager - PBNP Approval: _____

Date: _____

In lieu of MSS and Manager signature, attach PBF-0026d if serial review has been conducted. (MSS and manager approvals are not necessary for a determination of non-applicability.)

Section 1

Screening - Determination if Safety Evaluation is Required

A. Describe the modification, procedure change, test, or experiment and its expected effects. Include interim configurations or conditions. Add and remove danger tags on fuel transfer tube gate valve as the valve is manipulated. Upgrades the procedures to the current requirements of OM 3.26 for the use of dedicated operators. There are no interim conditions or configurations.

B. Does the change, test or experiment involve a change in the Technical Specification? If a change is required, briefly describe what the change should be and why it is required.

NOTE: NRC approval is required prior to implementation.

___ Yes ☒ No

C. Screening for 10 CFR 50.59 and 10 CFR 72.48 Applicability:

1. 10 CFR 50.59 Screening:

a. Will any system, structure or component (SSC) described in the PBNP FSAR, including its figures, be altered? (Refer to NP 10.3.1, step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the PBNP FSAR.)

___ Yes ☒ No

b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? (This includes interim conditions.)

___ Yes ☒ No

c. Will any procedure described in the PBNP FSAR be altered? (Refer to NP 10.3.1, Attachment A, Part E, for guidance.)

___ Yes ☒ No

d. Will a test or experiment be performed which is not described in the PBNP FSAR and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR?

___ Yes ☒ No

NUCLEAR POWER DEPARTMENT
SAFETY EVALUATION REPORT

SER _____
Page 2

Section 1 - Continuation

- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the PBNP FSAR? ___ Yes ☒ No
- f. Is a 10 CFR 50.59 evaluation required (are any of the above questions answered yes)? ___ Yes ☒ No

NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 2 and 3.

2. 10 CFR 72.48 Screening for the Independent Spent Fuel Storage Installation (ISFSI):

- a. Will any system, structure, or component (SSC) described in the ISFSI Licensing Basis document, including its figures, be altered? (Refer to Step 3.1.2 for exception. This question may be answered "no" although the SSC is described in the ISFSI Licensing Basis documents.) ___ Yes ☒ No
- b. Could, within reasonable possibility, the proposed change affect the intended design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? (This includes interim conditions.) ___ Yes ☒ No
- c. Will any procedures described in the ISFSI Licensing Basis documents be altered? ___ Yes ☒ No
- d. Will a test or experiment be performed which is not described in the ISFSI Licensing Basis documents and affects the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ___ Yes ☒ No
- e. Will implementation affect a prior documented regulatory commitment to the NRC pertaining to the design, operation, function, or method of function, of an SSC important to safety which is described in the ISFSI Licensing Basis documents? ___ Yes ☒ No
- f. Is a 10 CFR 72.48 evaluation required (are any of the above questions answered yes)? ___ Yes ☒ No

NOTE: If no, then provide basis for decision in Part D.
If yes, complete Sections 4 and 5.

D. Basis for determination that a safety evaluation is not required.

The danger tag requirements are additional administrative controls to resolve an SEC, U2R22 safety review concern. The "dedicated" operator revisions upgrades these procedures to that of OM 3.26. Since these changes are administrative in nature and do not change the methodology or intent of these procedures, 10 CFR 50.5 and 10 CFR 72.48 safety evaluations are not required.



FUEL MANIPULATOR AND FUEL TRANSFER
SYSTEM CHECKOUT
UNIT 2

Date 1-24-97
DSS ✓

RECORD

PROCEDURE VERIFIED CURRENT AND CHECKED FOR TEMPORARY CHANGES. IF FIELD
COPIES REQUIRED, USE PBF-0026 LAW NP 1.2.4 AND DO NOT COMPLETE THIS BLOCK.

B: _____

DATE: 1/23/97

1.0 PURPOSE

This instruction is used to check out the manipulator and fuel transfer systems prior to refueling. Sections 4.0 through 7.0 commences per RP-1A, "Preparation for Refueling." They check out the fuel transfer system and the initial manipulator checkout using the dummy fuel assembly. Section 8.0 checks out the remainder of the manipulator indexing and interlocks, as required by Technical Specification Table 15.4.1-2, Item 14, and will normally be done at the end of RP-1A prior to actual fuel movement.

2.0 PRECAUTIONS AND LIMITATIONS

- 2.1 An Operations supervisor with a current SRO license will be directly responsible for the performance of this procedure.
- 2.2 Follow established Health Physics administrative control policies and procedures.
- 2.3 Before working from the spent fuel pit bridge or the manipulator bridge, all personal effects should be taped on or secured with a lanyard.
- 2.4 If the cavity-to-vessel seal ring, NIS covers, or sandbox covers are not in place prior to opening the fuel transfer tube gate valve, then a designated operator shall be assigned to move the transfer cart to the spent fuel pit and shut the transfer tube gate valve on the event of a spent fuel pit door seal failure.
- 2.5 Normal readings are as follows, assuming the gripper is lowered to the slack cable interlock:

ENCODER

Assembly fully down in upender	176.0
Gripper fully down in unlatching stand	275.0
Assembly fully down in core	299.0



FUEL MANIPULATOR AND FUEL TRANSFER
SYSTEM CHECKOUT
UNIT 2

3.0 INITIAL CONDITIONS

INITIALS

- 3.1 The dummy assembly with a control rod is in the upender. _____
- 3.2 Water level in transfer canal is above the transfer cart wheels. _____
- 3.3 Verify the condition of the following:

3.3.1 Cavity-to-vessel seal ring in place.

YES ☒ NO _____

3.3.2 NIS covers in place.

YES ☒ NO _____

3.3.3 Sandbox covers in place.

YES ☒ NO _____

- 3.4 If any of the above seals are not in place, then assign a ~~designated~~ ^{level 3 dedicated} operator to shut the fuel transfer tube gate valve in the event of a spent fuel pit gate seal failure. If all seals are in place, this step is N/A. If assigned, instruct the dedicated operator that he/she must remain in the immediate area of the SFP unless the gate valve is shut or he/she has been relieved.

NOTE: ^{a dedicated} The assigned operator may be the same operator for Step 3.4 (if required) and Step 3.5.

- 3.5 Assign ~~an~~ ^{a level 3 dedicated} operator to position the fuel transfer cart at the spent fuel pit and to shut the fuel transfer tube gate valve in the event ^{dedicated} containment closure becomes necessary. Instruct the assigned operator that he/she must remain on the controlled side unless the gate valve is shut or he/she has been relieved.

N/A
OPS Supervisor

~~3.6 ICP 10.9 completed (test of Dillon load cell) prior to Step 5.0.~~ _____

- 3.7 Inform reactor engineering ORT-15 is being run and inquire if they want any particular items checked. _____



FUEL MANIPULATOR AND FUEL TRANSFER
SYSTEM CHECKOUT
UNIT 2

INITIALS

3.8 Permission to Perform Test

The conditions required by this test are consistent with required plant conditions, including equipment operability. Permission is granted to perform this test.

DSS _____ TIME 1015 DATE 1.23.97

4.0 Fuel Transfer Checkout

- 4.1 The initial lineup of the spent fuel pit and the containment control panels are as follows:

2C56B Pit Side Fuel Transfer Control Panel - Check all light bulbs operational.

Power supply to upender (2Z24B) and control

panel (2C56B) PP-2 Bkr 5	On	7
Main power (at 2C56B)	On	7
Heater switch (at 2C56B)	Off	9
Frame jog-run switch	Run	
Frame up lamp	On	
Frame down lamp	Off	
Conveyor interlock switch	In	
Conveyor at pit lamp	On	
Conveyor at reactor lamp	Off	
Valve open lamp	Off	
Conveyor control lamp	On	
Frame interlock switch	In	
Service air supply valve	Open	
Instrument air supply valve, IA-251	Shut	



FUEL MANIPULATOR AND FUEL TRANSFER
SYSTEM CHECKOUT
UNIT 2

INITIALS

2C56A Reactor Side fuel Transfer Control Panel - Check all light bulbs operational.

Power supply to upender (2Z24B1) and control panel (2C56A) PP-6 Bkr 3

.....	On	_____
Main power (at 2C56A)	On	_____
Frame jog-run selector switch	Run	_____
Frame up lamp	Off	_____
Frame down lamp	On	_____
Interlock crane selector switch	Crane	_____
Conveyor interlock selector switch	In	_____
Conveyor at reactor lamp	Off	_____
Conveyor control selector switch	On	_____
Heater switch	Off	_____

NOTE: step 4.2.1 is PMR for WO 9611421.

4.2 Fuel transfer tube gate valve

Remove the danger tag (if installed) and

4.2.1 ☒ Open the fuel transfer tube gate valve.

~~4.2.2 Update CL-1E, containment closure checklist.~~

4.3 At the SFP, raise and lower the frame checking;

4.3.1 Condition of the cable for any evidence of damage.

4.3.2 Frame up and down lights operate properly.

4.3.3 Frame speed changes from slow to fast and back to slow in both the up and down directions.

4.3.4 Raise or lower the frame and as the frame is moving, depress the frame stop pushbutton and check that the frame has stopped.

4.3.5 Place the frame RUN/JOG selector switch to the JOG position and check the frame jog operates properly in both the up and down direction.

4.3.6 Return the frame RUN/JOG selector switch to the RUN position and lower the frame.

4.4 Move the fuel transfer conveyor away from the spent fuel pit upender.
Depress the conveyor stop pushbutton and verify the conveyor stops.

4.5 Check that the S.F.P. upender will not RAISE.

4.6 Move the fuel transfer conveyor back to the SFP upender position.

4.7 Timing the conveyor, move it to the containment. Verify it stops at
the proper location and conveyor at reactor lamp is on.

Transfer Time 2 Min 59 Sec

4.8 Move the fuel transfer conveyor away from the containment upender.
Depress the conveyor stop pushbutton and check the conveyor stops.

4.9 Check that the containment upender will not raise.

4.10 Move the fuel transfer conveyor back to the containment upender
position.

4.11 At the containment, raise and lower the frame checking;

4.11.1 Condition of the cable for any evidence of damage.

4.11.2 Frame up and down lights operate properly.

4.11.3 Frame speed changes from slow to fast and back to slow in
both the up and down directions.

4.11.4 Raise or lower the frame and as the frame is moving,
depress the frame stop pushbutton and check that the frame
has stopped.

4.11.5 Place the frame RUN/JOG selector switch to the JOG
position and check the frame jog operates properly in both
the up and down direction.

4.11.6 Return the frame RUN/JOG selector switch to the RUN
position.

INITIALS

REFERENCE USE



FUEL MANIPULATOR AND FUEL TRANSFER
SYSTEM CHECKOUT
UNIT 2

INITIALS

5.0 Fuel Manipulator Checkout

5.1 Preparation

5.1.1 Prior to operating the manipulator, inspect it for loose parts, etc. that could present a FME concern. Identify discrepancies in the remarks.

5.1.2 Verify power to manipulator.

Manipulator Crane 2Z-16, PP-6 Bkr 1 On

Manipulator Crane 2Z-16 disconnect
(located on shield wall) On

5.1.3 Close the main power switch on manipulator and check all breakers in the breaker panel closed.

5.1.4 Open the valve in the air line to the console and check the gauge at 70-100 psig.

5.1.5 Check that all interlock bypass switches are off.

5.1.6 Check breaker closed for the engage/disengage lights. Breaker is located inside the manipulator control console above the interlock bypass switches.

5.1.7 Check that the manual handwheels are not on the drive motors and that all brake release mechanisms are set for normal operation.

5.1.8 Check all indicating lamp bulbs by depressing the lens.

5.1.9 Check that the power switch on the weight indicator is on and that the scale switch is set on "A."

NOTE: *The following step is necessary to compensate for the weight of the dummy assembly and not activate the overload interlock.*

5.1.10 Adjust the "TARE" setting so load cell indicates about 650 pounds.

DELETE

12/13/96



FUEL MANIPULATOR AND FUEL TRANSFER
SYSTEM CHECKOUT
UNIT 2

INITIALS

5.1.11 Check that lamps and controls on the control console are as follows:

Gripper switch	Disengaged
Mast rotation switch	Core
Gripper disengaged lamp	On
Gripper engage lamp	Out
Overload lamp	Out

NOTE: With the gripper tube full up, the encoder should read 0.0 ± 0.1 (set per ICP 10.9).

Tube up lamp	On
Tube down lamp	Out
Slack cable lamp	Out
Interlock bypassed lamps	Out
Slow zone lamps	Out

5.1.12 Check the manipulator to assure any loose parts are removed or secured.

***CAUTION:** DO NOT TRUST THE INDEX SYSTEM AT THIS TIME, AS IT MAY HAVE SLIPPED POSITION.

NOTE 1: There is a scribe mark on the west bridge rail for the upender.

NOTE 2: The index system will be adjusted in Section 8.0 of this procedure.

5.2 Engage and pick up Dummy assembly

5.2.1 Position the mast over the upender.

5.2.2 Check that the fuel assembly is oriented properly in the upender. Reference Attachment A.

5.2.3 Verify the mast rotation switch is in the core position, then check that the mast will not lower.

5.2.4 Place the mast rotation switch to the transfer canal position.



FUEL MANIPULATOR AND FUEL TRANSFER
SYSTEM CHECKOUT
UNIT 2

INITIALS

CAUTION: THE AUTOMATIC SLOW ZONES IN THE
HOIST DRIVE CIRCUIT DO NOT FUNCTION
OVER THE TRANSFER CANAL.

5.2.5 Rotate the hoist control switch to lower.

5.2.6 While lowering the mast, verify the bridge and the trolley
will not move.

5.2.7 Continue lowering the gripper until the upper slow zone
light comes on. Then stop lowering the gripper.

CAUTION: AN OPERATIONS SUPERVISOR OR A
REACTOR ENGINEERING REPRESENTATIVE
MUST BE PRESENT EITHER IN THE LOWER
CAVITY OR ON THE EL. 66' WITH
BINOCULARS TO VERIFY PROPER
ALIGNMENT AS THE GRIPPER IS LOWERED
INTO THE DUMMY ASSEMBLY.

NOTE: A ladder is stored in the lower cavity for access to the
change fixture basket. Ensure the ladder is properly stored
in its mounting brackets after use.

5.2.8 Using the slow zone pushbuttons lower the gripper into the
dummy assembly until the gripper stops and the slack cable
light comes on.

5.2.9 With the gripper fully down in the dummy assembly, check
the encoder reading. It should read ~176.0. Adjust the
encoder as required to read $176.00 \pm .3$.

5.2.10 Turn the gripper control switch to engage. The gripper
disengage light should go out and the gripper engage light
should come on.

5.2.11 Using the slow zone up pushbutton, lift the fuel assembly
from the upender until all the weight is on the mast. The
weight indicator reading should increase to about
1900 pounds and hold steady.



FUEL MANIPULATOR AND FUEL TRANSFER
SYSTEM CHECKOUT
UNIT 2

INITIALS

- 5.2.12 Rotate the hoist control switch to raise the fuel assembly to the full up position.
- 5.2.13 Position the manipulator using the trolley and bridge control switches over the RCC change fixture end basket.
- 5.2.14 Check that the RCC change fixture carriage is in position and ready to receive fuel.
- 5.2.15 Using the hoist control switch, lower the fuel assembly into the RCC change fixture until the slack cable light comes on. Verify that the assembly is fully down.
- 5.2.16 Turn the gripper control switch to disengage. The gripper engage light should go out and the gripper disengage light should come on.
- 5.2.17 Go to raise on the hoist control switch and raise the gripper to the full up position.

DELETE

6.0 RCCA Change Fixture Checkout

NOTE: *This section may be marked N/A as determined by the SRO responsible for directing this procedure.*

6.1 Check the following;

RCC change fixture breaker (PP-6, Bkr No. 5)
RCC change fixture local disconnect
RCC change fixture air supply valve, IA-1364

On
On
Open



FUEL MANIPULATOR AND FUEL TRANSFER
SYSTEM CHECKOUT
UNIT 2

INITIALS

NOTE 1: In aligning the end basket under the fixture, ensure the trolley is against the stop and not the end travel limit. If the stop is not released and raised, the basket will continue to the end travel limit which is one inch from the correct position.

NOTE 2: Do not ram the trolley into the stops. The basket is correctly aligned when the trolley is snug against the associated stop.

6.2 Position the end basket, with the dummy assembly and RCCA, under the change fixture by loosening the locking device and rolling the trolley gently to the appropriate stop.

6.3 Go to disengage, putting air on the gripper.

NOTE: As the gripper is raised and lowered, check the condition of the cable for evidence of damage.

6.4 Lower the gripper while monitoring cable tension. When the cable goes slack, stop downward motion.

NOTE: Slight adjustments to the basket position and/or raising and lowering the gripper may have to be done to get the gripper properly seated in the RCCA hub.

6.5 The SRO responsible for the performance of this procedure shall verify proper insertion of the gripper in the RCCA hub.

6.6 Go to engage, venting air off the gripper.

6.7 While monitoring cable tension, raise the RCCA ~2 to 3 ft.

6.8 Lower the RCCA until it is completely inserted and the cable goes slack.

6.9 Go to disengage, putting air on the gripper.

6.10 Raise the gripper, ensuring it disengages from the RCCA hub. Raise at least one foot so that it is well within the fixture and go engage.

6.11 Reposition the trolley to the end stop.



FUEL MANIPULATOR AND FUEL TRANSFER
SYSTEM CHECKOUT
UNIT 2

INITIALS

- ~~6.12 Shut the change fixture air supply, IA-1364, and open the local disconnect.~~

~~///~~

7.0 Return the Dummy Assembly to the SFP

- 7.1 Position the mast over the RCCA change fixture end basket.
- 7.2 Lower the gripper until the upper slow zone light comes on. Then stop lowering the gripper.
- 7.3 Using the slow zone pushbuttons lower the gripper into the dummy assembly until the gripper stops and the slack cable light comes on.
- 7.4 With the gripper fully down in the dummy assembly, check the encoder reading. It should read ~176.0.
- 7.5 Turn the gripper control switch to engage. The gripper disengage light should go out and the gripper engage light should come on.
- 7.6 Using the slow zone up pushbutton, lift the fuel assembly from the end basket until all the weight is on the mast. The weight indicator reading should increase to about 1900 pounds and hold steady.
- 7.7 Rotate the hoist control switch to raise the fuel assembly to the full up position.
- *CAUTION:*** DO NOT ALLOW THE MAST TO HIT THE UPPER INTERNALS LIFTING STAND IF THE INTERLOCK SHOULD FAIL.
- 7.8 Rotate the trolley control switch to drive the trolley away from the RCC change fixture. Verify the trolley stops when the mast leaves the normal fuel transfer path to the core.
- 7.9 Rotate the mast to the core position and back to the fuel transfer position and verify proper rotation.
- 7.10 Position the mast over the fuel transfer upender.
- 7.11 Lower the fuel assembly into the fuel transfer upender basket.

DELETE

12/13/96



FUEL MANIPULATOR AND FUEL TRANSFER
SYSTEM CHECKOUT
UNIT 2

INITIALS

7.12	Turn the gripper control switch to disengage. The gripper engage light should go out and the gripper disengage light should come on.	
NOTE: The TARE is set so that during slow, smooth, upward travel of the mast hoist without a fuel assembly, indicated weight will be 840 lbs if the mast hoist is in water or 960 lbs if the mast hoist is dry.		
DELETE		
7.13	Reset "TARE" setting to about 840 pounds (wet) 960 pounds (dry)	
7.14	Raise the mast to the full up position.	
7.15	Simultaneously depress the slow zone down pushbutton and turn the hoist control switch toward the down direction, and verify that the hoist remains in slow speed.	
7.16	Raise the mast to the full up position.	

- 7.17 Lower the frame.
NOTE: step 7.18 is PMT for WO 9611755.
- 7.18 Timing the conveyor, move it to the spent fuel pit. Verify it stops at the proper location and conveyor at pit lamp is on.

Transfer Time 3 Min 13 Sec

steps 7.18.a, b, & c - see below.

- 7.19 Fuel transfer tube gate valve:
and danger tag
- 7.19.1 Shut the fuel transfer tube gate valve.
- 7.19.2 Release the ~~designated~~ ^{dedicated} and/or assigned operator(s).
- ~~7.19.3 Update CL-1E, containment closure checklist.~~

7.20 Continue with RP-1A.

- 7.18.a Continue with PMT for WO 9611755.
- 7.18.b When satisfied with the operation of the conveyor, have maintenance remove the manual speed change switch per WO 9611267.
- 7.18.c Complete the PMT for WO 9611755 and WO 9611267.



FUEL MANIPULATOR AND FUEL TRANSFER
SYSTEM CHECKOUT
UNIT 2

INITIALS

8.0 Fuel Manipulator Checkout Over the Core

NOTE: *These steps are done prior to initial fuel transfer and normally are done without a fuel assembly on the mast.*

8.1 Index Check

***CAUTION:** THE FOLLOWING STEPS MUST BE DONE SLOWLY TO ENSURE NO DAMAGE RESULTS TO THE MAST IF THE INTERLOCKS DO NOT WORK.

DELETE

8.1.1 Drive the bridge towards the core until the guide stud limit switch stops movement.

8.1.2 Move the trolley to a mid-position over the core.

8.1.3 Drive the bridge to the index mark scribed on the west rail and verify that it lines up with the G row index on the manipulator console. If it is not lined up, rotate the coarse and/or fine adjustments on the selsyn drive as necessary to correct the index.

8.1.4 Drive the bridge to the opposite side of the core and verify the limit switch stops the bridge.

8.1.5 Reposition the bridge in line with the guide studs and in turn, verify the guide stud limits do, in fact, stop the bridge and trolley.

8.2 While moving the trolley, attempt to move the bridge. It should not move.

8.3 While moving the bridge, attempt to move the trolley. It should not move.

12/13/96



POINT BEACH NUCLEAR PLANT
OPERATIONS REFUELING TESTS

FUEL MANIPULATOR AND FUEL TRANSFER
SYSTEM CHECKOUT
UNIT 2

ORT 15
MAJOR
Revision 15
October 2, 1995

INITIALS

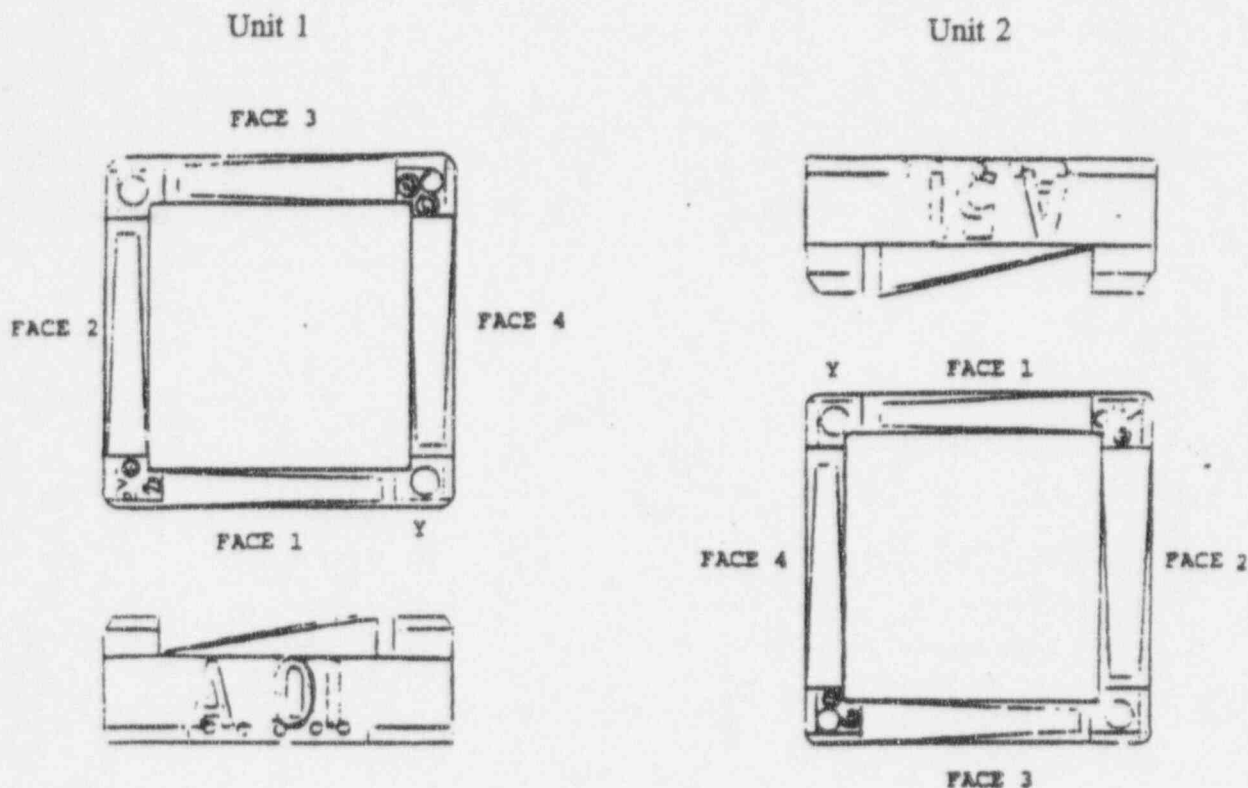
<i>12/13/96</i> DELETE	8.4 Position the manipulator in the area of the upender or as directed by the core loading supervisor.	_____
	8.5 Complete required sections of RF-65, "Refueling Tools Inspection."	_____

Comments:



ATTACHMENT A

FUEL ORIENTATION



TOOL RAD TAPE (COVERING TOOL
ID NUMBER) TO THE WEST (Face 2)

↑
↑
N

TOOL RAD TAPE (COVERING TOOL
ID NUMBER) TO THE EAST (Face 2)

The fuel is located in the fuel storage area in the orientation shown in the figure for the appropriate unit. It should be situated in the vessel in the same orientation. This will be accomplished if the assembly is properly located in the upender with the "long" tool.

The "Y" corner (a Westinghouse designator) is located at the right corner facing Face 1.

ORIGINAL ***** FRNF *****
WD Priority: M * UNIT 2 **WCC TRACKING** WD No: 96-1267
Resp Group: MTN *****
Equipment: Z-024C System: FH HP Zone:
Equipment Name: FUEL TRANSFER CARRIAGE, RAILS, ETC.
Physical Location: U2C/FUEL XFER CANAL Discovery Date: 10/12/96

Problem Description:
REMOVE TEMP MOD THAT INSTALLED TOGGLE SWITCH FOR THE NON-FUNCTIONAL
SW-11 AFTER FUEL MOVEMENT COMPLETE.

Originator: S Outage ID: U2R22 Activity: 8150
Tag/Sticker Placed: N No: 96187 Tag/Sticker Lctn:
Job Type: MODIFICATION SUPPORT Project ID: Condition Report: N
Work Function: WORK ORDER
Mod Req #: -

=====

QA: N	SEIS: 3	Operability Pre-Test: N	Procedures:
SR: N	LCO: N		
EQ: N	PMT: Y	Operability Post-Test: <input checked="" type="checkbox"/>	Procedures: BRT-15 ORT-15 / igk
SSA: N	CIV: N	MRULE: Y	
A/P: F	CACC:		
RRN: -			Tech Spec Ref:
QA Codes:		Sect XI Class:	
Tools Needed:			

=====

Work Plan/Instructions reviewed. Planner: _____ DATE: **1/18/97**
LINE SUPERVISOR: _____ NAME: _____

Plant Conditions: REFUELING Ignition Control Permit: N
Other Conditions: Transient Combustible Permit: N
Fire Barrier Penetration Permit: N **Positive Control of 2C-056 A & B** RWP: N
Equipment Isolation Required: N **to be used for equipment isolation!** FME: Y
Isolation Tag Series #: _____

Operability Pre-Test Complete. _____ Equipment Isolation as requested. _____
Permission granted to perform Work.
Ops DSS Notification Req: Y Ops DSS Signature _____ date: **12/13/96**

Special Notification:

Number of Steps: 001
Acct #: 00 - 00000 - 1200141 - 00000
MFG Code: STROG Tech Manual Cntl #: 00556

=====

* WORK ORDER CLOSEOUT *

=====

Group Head Signature: _____ Date: **1/31/97**

=====

ORIGINAL ***** PBNP ***** WO No: 951257001
WO Priority: M * UNIT 2 * HWO * UNIT 2 *
Resp Group: MTN ***** STEP DETAIL ***** Step Print: 11/22/95
Equipment: Z-024C System FH HP Zone
Equipment Name: FUEL TRANSFER CARRIAGE, RAILS, ETC.
Physical Location: U2C/FUEL XFER CANAL
Sequence No: 01
Short Desc: REMOVE TEMP MOD
Need Date
Sched Start Date:

PLANNED:

WORK PROCEDURES:

Crew: ME
Shift: 2
Class: 420

Work Plan Description:
SEE ATTACHED WORK PLAN.

QC REVIEW REQUIRED: N

DATE

WORK PERFORMED:

Temp Installed & Removed Temp Mod per Work Plan

MTE:

QAR:

ACTUAL USED: CREW:
SHIFT:
WORKER CLASS: 420
NUMBER OF WORKERS: 2
TOTAL HOURS: 6
TTL EXPOSURE/STEP (MREM):

PARTS USED LIST ATTACHED: Y / ☒

WO TAGS REMOVED: Y / N / ☒

EMPLOYEE NUMBER: 1

WORK COMPLETE DATE: 1/24/97

EMPLOYEE NAME: *Carson*

* WORK COMPLETED *

Cause Failure Code: PM / ☒ SVC / ☐ NRM /

As Found-Out of Spec: Y / N / ☒ Machine History Review Required: Y / N

Failed Component: *UA*

Corrective Action: ☒ NA / ☐ RP / ☐ RE /

LINE SUPERVISOR: 1

NAME:

Downtime: hrs
DATE: 1/24/97

* EQUIPMENT RETURN TO SERVICE *

Operability Post Testing: *Test out per work plan 5 OK 15*

EQUIP. TAKEN OOS - DATE: / / TIME: RETURN DATE: / / TIME:

Operability Procs Performed

NON OPS SUPV: 1

NAME: *Watt*
NAME:

DATE: / /
DATE: 1/27/97

DSS:



POINT BEACH NUCLEAR PLANT

MWR WORK PLAN

Work Control Document: 9611267

Removal of Manual Speed Change Switch for the Unit 2 Fuel Transfer System

Work Plan Originator: _____

Date: 11/21/96

NOTE: OPS will inform MTN-E when ready to perform this work order.

11/19/96

Hold Point	Step No.	Work Plan Description	Worker	Date
FME:		General FME work practices in affect per NP 8.4.10. Verify all tools & materials are properly secured to prevent material from entering RV cavity.		
	1	Using Positive Control, OPEN breaker on 2C-056B (pool side control panel), and OPEN breaker on 2C-056A (Reactor side control panel). Radios will need to be used to maintain positive control. * R.T.O.	*	1-18-97
	2	At 2C-056A (Reactor side panel), terminal CS1, remove jumper between the toggle switch and CS1.	-	1-18-97
	3	Remove Temporary Modification tag #1 from the jumper.	-	1-18-97
	4	At 2C-056A (Reactor side panel), terminal X1A, remove jumper between the switch on the door marked "SPARE" and X1A.	-	1-18-97
	5	Remove Temporary Modification tag #2 from the jumper.	-	1-18-97
	6	Remove the "Reactor side speed change" Label on the switch, and install a label "SPARE"		
	7	At 2C-056A (Reactor side panel), land the lifted and taped wires labeled CS1 and X1A going to the reactor side speed change limit switch SW 11. Reference: Stearns Roger Dwg 21617-29 and 21617-31 and WO 9611268	-	1-18-97
	8	Remove Temporary Modification tags #3 and #4 from the leads.	-	1-18-97
PMT:	9	POST MAINTENANCE TESTING: In 2C-056B (SFP side fuel transfer system control cabinet), verify proper continuity across terminals CS1 and X1A while cycling the "Reactor side speed change" toggle switch on 2C-056A. <i>11/21/96</i>	-	1/22/97
	10	Close breakers on 2C-056B (pool side control panel) and on 2C-056A (Reactor side control panel).	-	1/22/97
PMT:	11	POST MAINTENANCE TESTING: Operate the cart and verify the following: 1. The cart will properly change speeds on the reactor and the Spent Fuel Pool side (by the installed limit switches). 2. The "Green" Conveyor at Reactor light is lit when the cart is at the end of travel in the reactor side.		1/24/97
FME:	12	Verify all tools & foreign materials have been removed from work area	-	1/22/97
QC:		No QC hold or inspection points required		

QC INSP. _____ DATE 11-21-96

**MWR WORK PLAN**

FOR INFORMATION ONLY

Work Control Document: **9611267**

Removal of Manual Speed Change Switch for the Unit 2 Fuel Transfer System

Work Plan Originator:

Date: 11/21/96

Hold Point	Step No.	Work Plan Description	Worker	Date
FME:		General FME work practices in affect per NP 8.4.10. Verify all tools & materials are properly secured to prevent material from entering RV cavity.		
	1	Using Positive Control, OPEN breaker on 2C-056B (pool side control panel), and OPEN breaker on 2C-056A (Reactor side control panel). Radios will need to be used to maintain positive control.	JONE	
	2	At 2C-056A (Reactor side panel), terminal CS1, remove jumper between the toggle switch and CS1.		
	3	Remove Temporary Modification tag #1 from the jumper.		
	4	At 2C-056A (Reactor side panel), terminal X1A, remove jumper between the switch on the door marked "SPARE" and X1A.		
	5	Remove Temporary Modification tag #2 from the jumper.		
	6	Remove the "Reactor side speed change" Label on the switch, and install a label "SPARE"		
	7	At 2C-056A (Reactor side panel), land the lifted and taped wires labeled CS1 and X1A going to the reactor side speed change limit switch SW 11. Reference: Stearns Roger Dwg 21617-29 and 21617-31 and WO 9611268		
	8	Remove Temporary Modification tags #3 and #4 from the leads.		
PMT:	9	POST MAINTENANCE TESTING: In 2C-056B (SFP side fuel transfer system control cabinet), verify proper continuity across terminals CS1 and X1A while cycling the "Reactor side speed change" toggle switch on 2C-056A.		1/25/97
	10	Close breakers on 2C-056B (pool side control panel) and on 2C-056A (Reactor side control panel).		1/25/97
PMT:	11	POST MAINTENANCE TESTING: Operate the cart and verify the following: 1. The cart will properly change speeds on the reactor and the Spent Fuel Pool side (by the installed limit switches). 2. The "Green" Conveyor at Reactor light is lit when the cart is at the end of travel in the reactor side.		1/25/97
FME:	12	Verify all tools & foreign materials have been removed from work area.		
QC:		No QC hold or inspection points required.		

FOR INFORMATION ONLY

QC INSP

DATE 11-21-96

WIRE REMOVAL LOG

PSF-0036

DANGER TAG REQUEST

Work Control Document # 9611267

Time/Date of application: <u>11-21-96</u>	Time/Date Tags Required: <u>0700 / 11-20-96</u>
Requesting Individual: <u>-</u>	Requesting Work Group: <u>MAINTENANCE</u>
Responsible Supervisor: <u>MAINTENANCE SUPERVISOR</u>	Estimated Job Completion (Time/Date): <u>2.0 HRS</u>
Equipment ID: <u>Z-024C</u>	Unit: <u>2</u>
Scope of Work: <u>REMOVE TEMP. JUMPER</u>	
Additional Work Control Documents: _____	
Recommended Danger Tagging/Explanation: No Tags Req'd: <input type="checkbox"/> Double Isolation: <input type="checkbox"/> Positive Control: <input checked="" type="checkbox"/> Grounding Req'd: <input type="checkbox"/> Partial Removal Req'd: <input type="checkbox"/> Positive Control of <u>2C56 A & B</u> to be used for equipment isolation!	
NOTE: The RMP/IWP/SMP/Work Order/Work Plan may be referenced above for the recommended danger tagging.	
References: (NOTE: Must include Rev. number for controlled documents used to verify adequacy.) _____ _____	
Information: <u>8/50</u> <u>To be removed 12/13/96 if ops checkout of 2-024C was</u> <u>successful.</u>	
Appendix R: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, attach Fire Round Sheet	Preparer: _____
LCO Req'd: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, attach LCO Tracking Form PBF-9133	Date: _____
Reviewer: _____ Date <u>12-13-96</u> Approver (SRO): _____ Date <u>12/12/96</u>	
NOTE: Additional reviews and approvals req'd for changes or additions to original tagout. Describe changes in information section.	
Reviewer: _____ Date _____ Approver (SRO): _____ Date _____	
Reviewer: _____ Date _____ Approver (SRO): _____ Date _____	
Danger Tags No Longer Required and Protected Worker Log Sign-Offs Complete	Tag Series No. _____
Responsible Supervisor <u>N/A</u> Date _____	_____

Work Order No. 9611267

Return to Service Testing Reviews

INITIALS

Pre-Release / Pre or Post-RTS

Work Group Post-Maintenance Testing

CHECK CONTINUITY

VERIFY PROPER OPERATION / INDICATION

Section XI Equipment Y / N

Operability

None ^{ning} PORT 15, perform
work plan step 11.

Inservice Testing

None

ENGINEERING REVIEW

SECTION XI ENGINEERING REVIEW

N/A

WCC TRACKING

ORT-15
+WP step 14

1

9611755

UNIT 2 *

Expenditure: Z-0240

Physical Location: U20/SUE XFER Cade

Discovery: Jute 10/27/96

Problem Description

FUEL TRANSFER CART HARD STOP IS TOO CLOSE. PROXIMITY SWITCH TARGETS ARE NOT EFFECTIVE. WHEEL BUSHINGS MAY NOT BE GRAPHITE.

Originator: ISE Outage ID: U2R22 Activity: 0717
Tag/Sticker Placed: N No: 100547 Tag/Sticker Loc: N
Job Type: CORRECTIVE MAINTENANCE Project ID: Condition Report: N
Work Function: WORK ORDER
Mod Req #: -

QA: N SEIS: X Operability Pre-Test: N Procedures:

SR: N LCD: N

EP: N PMT: Y Operability Post-Test: N Procedures

CCA: N CIV: N

A/R: P CACC:

RRM: - Test Equip Ref:

QA Codes: Part XZ Class:

Tools Needed:

LINE SUPERVISOR: DE 4233 NAME: DATE: 11/11/96

Plant Conditions: SEE PROP DESC OR PROCEDURE Ignition Control Panel: N

Other Conditions: CAVITY NOT FLOODED Transient Combustible Permit: N

Fire Barrier Penetration Permit: N

Equipment Isolation Required: Y

Isolation Tag Series #: 277211

Operability Pre-Test Complete: Equipment Isolation as requested

Permission granted to perform Work:

Ops DSS Notification Rec: Y Ops DSS Signature: 11/10/96

Special Notification:

Order at Stage: 00

Acct #: 00 - 00000 - 1200141 - 00000

WCC Code: 0700 Tech Manual Cnt: # 0055

* WORK ORDER CLOSURE *

Group Head Signature: Date: 1/30/97



MWR WORK PLAN

Work Control Document: 9611755 2Z-24C Repair Cart

Work Plan Originator:

Date: November 8, 1996

Hold Point	Step No.	Work Plan Description	Worker	Date
		Tool and equipment shall be checked for loose parts and debris and temporary covers should be installed for foreign material exclusion (FME) of system/components per Exclusion of Foreign Material from Plant components and Systems, NP 8.4.10.		
Note		<p>Due to new fuel in vault, an additional rad monitor has been placed in the area & the setpoint for RE-105 was lowered. Setting off these monitors will initiate an EOP.</p> <p>Contact control before radioactive material will be near monitors.</p> <p>Minimize cart movement while canal is dry to reduce potential for bushing damage.</p>		
	1	<p>Set up manbasket and crane for SFP transfer canal entry. PBF-9108</p> <p>Follow HP instruction for entry into the SFP transfer canal.</p> <p>(FME) Material Control Logs shall be used. PBF-9157</p> <p>(FME) Secure all loose objects.</p>		11-12-96
	2	Sign on Protected Worker Log.		11-12-96
	3	<p>Remove U2 Fuel Transfer Cart from SFP</p> <p>Remove retainer clips.</p> <p>Remove masterlink on bottom of cart, located below flange at center of cart.</p> <p>Unbolt the flange connection.</p>		11/12/96
	4	<p>Contact control before radioactive material will be near monitors.</p> <p>* Caution: Do Not set cart on New Fuel Vault *</p> <p>Wash down cart to reduce contamination</p> <p>Move cart to laydown area on 46'.</p>		11/14/96

MWR WORK PLAN



Work Control Document: 9611755 2Z-24C Repair Cart

Work Plan Originator:

Date: November 8, 1996

5	<p>Document location of current targets, utilize attached sketch 1.</p> <p>Containment end:</p> <p>a. Scribe two lines on the cart frame parallel with left & right side of the target.</p> <p>b. Measure from top of frame to bottom of target. DIM: <u>42³/₃₂</u></p> <p>c. Measure from leading face frame to leading edge of target. DIM: <u>9/16</u></p> <p>SFP end:</p> <p>d. Scribe two lines on the cart frame side parallel with left & right of the target.</p> <p>e. Measure from top of frame to bottom of target. DIM: <u>37/8</u></p> <p>f. Measure from trailing face frame to rear edge of target. DIM: <u>1¹/₄</u></p> <p>Reference attached sketch for where dimensions are to be taken and note dimensions on drawing.</p>		
6	<p>Forward sketch 1 with dimensions obtained in step 5 to cognizant engineer. Cognizant engineer develop sketches for target (sketch 2) and mounting bracket (sketch 3), and for cart modifications (sketch 4). Document the dimensions required on attached sketches and forward to MTN.</p>	<p>CE</p>	<p>11/13/96</p>
7	<p>Fabricate 2 new target brackets (sketch 2) and 2 new mounting brackets (sketch 3).</p> <p>Cut/grind existing mounting bracket from both ends of cart, and modify both ends of the cart per sketch 4.</p> <p>Weld new mounting brackets to cart per sketch 4</p> <p>Install target brackets with target to mounting bracket per sketch 5. Insure target is within scribe marks and leading or trailing edge of target matches dimensions obtained in step 5 c and 5 f.</p>		<p>11/16/96</p>



MWR WORK PLAN

Work Control Document: 9611755 2Z-24C Repair Cart

Work Plan Originator:

Date: November 8, 1996

	8	<p>Inspect/replace wheel bushings.</p> <p>Remove each wheel and inspect bushing for wear.</p> <p>Replace bushing if worn or not graphite impregnated. L/N 9012265</p> <p>If new bushings are installed, hone excess graphite from ID of bushing once pressed in wheel.</p> <p><i>Inspected all 18 wheels - graphite impregnated Bushings on all wheels - Little or no wear</i></p>		11/13/96
	9	<p>Inspect/replace drive chain. Replace portion of worn chain if needed L/N 9012567</p> <p><i>Inspected to be OK</i></p>		11/19/96
Note		ON HOLD UNTIL TRACK ALIGNMENT IS COMPLETE.		
	10	<p>Contact control before radioactive material will be near monitors.</p> <p>Return cart to transfer canal.</p>		11-17-96
	11	<p>Reinstall U2 Fuel Transfer Cart in SFP</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Bolt the flange connection. <input checked="" type="checkbox"/> Install retainer clips. <input checked="" type="checkbox"/> Install masterlink on bottom of cart, located below flange at center of cart. <input checked="" type="checkbox"/> Jog cart until "AT POOL" indicator light is lit. <input checked="" type="checkbox"/> Raise upender, using a bubble level verify the upender is plumb. <i>OK</i> <p>If not lower upender.</p> <p>Adjust target and repeat until upender is plumb.</p>		11-19-96
	12	Return all equipment, tools and consumables to proper storage locations.		11-19-96
FME	13	<p>Inspect canal for debris and cleanliness.</p> <p>Check that all items are accounted for on FME Material Control Log.</p>		11/19/96
NOTE		Transfer canal water level should be of sufficient level to cover the air drive motor.		

**MWR WORK PLAN**

Work Control Document: 9611755 22-24C Repair Cart

Work Plan Originator: _____

Date: November 8, 1996

PMT	14	OPS to operate cart to check for smooth operation for full length of travel (Portion of ORT-15). Perform this step 8-10 times <i>Wm</i> Minimize cart movement while canal is dry to reduce potential for bushing damage.	" " OFS	1/24/97
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QC INSP. _____

DATE 11-8-96

MWR WORK PLAN



Work Control Document: 9611755 2Z-24C Repair Cart

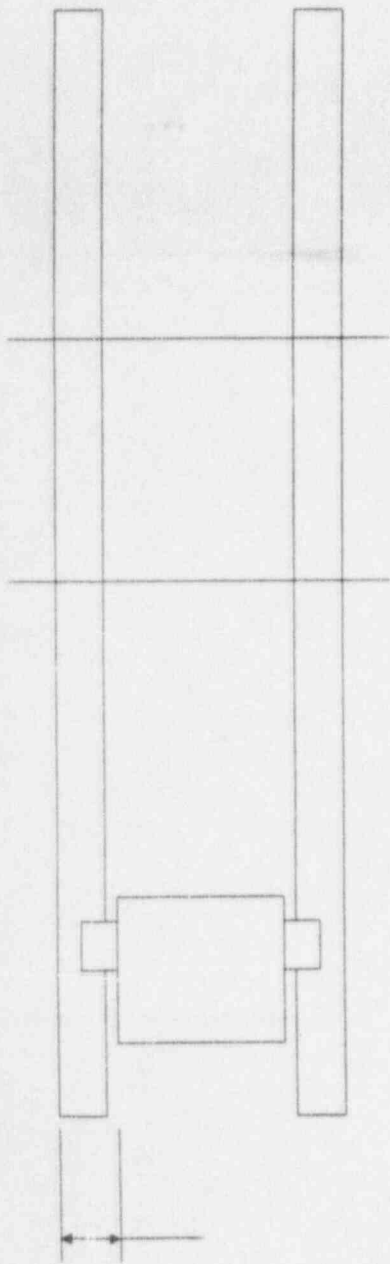
Work Plan Originator: - - - - -

Date: November 18, 1996

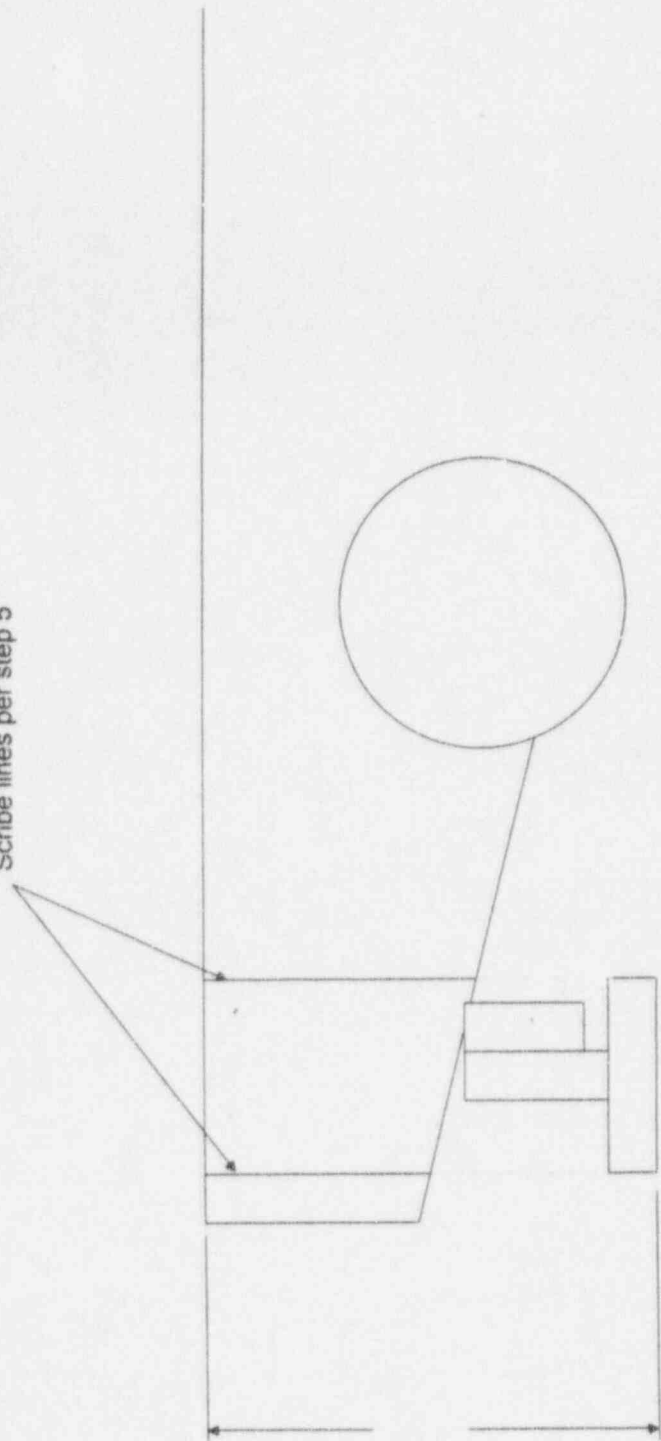
Addenda		<p>Using a yellow Digraph Corp. GP-X marker (Lot# 4305170 approved per NP 3.1.1 Table 2), place a 3" high x 12" long stripe 4'-6" off the SFP floor directly under the North canal door.</p> <p><i>Note: This step was originally part of WO# 9611756, which was unable to be completed. It is now added to WO# 9611755. RFG</i></p>	
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STEP 5 W.O. 9611755

Containment End



Scribe lines per step 5



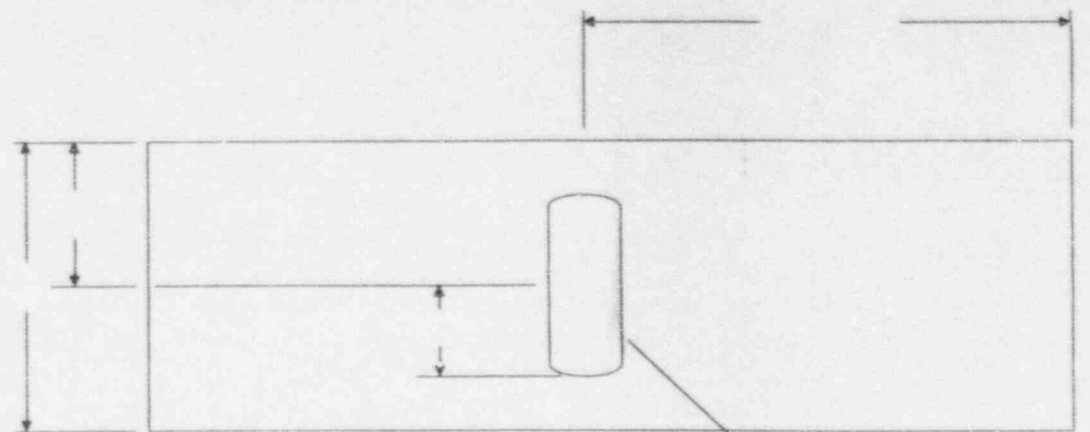
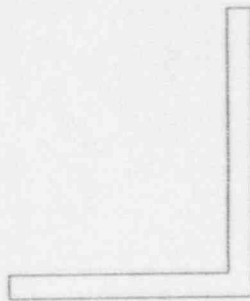
SFP End



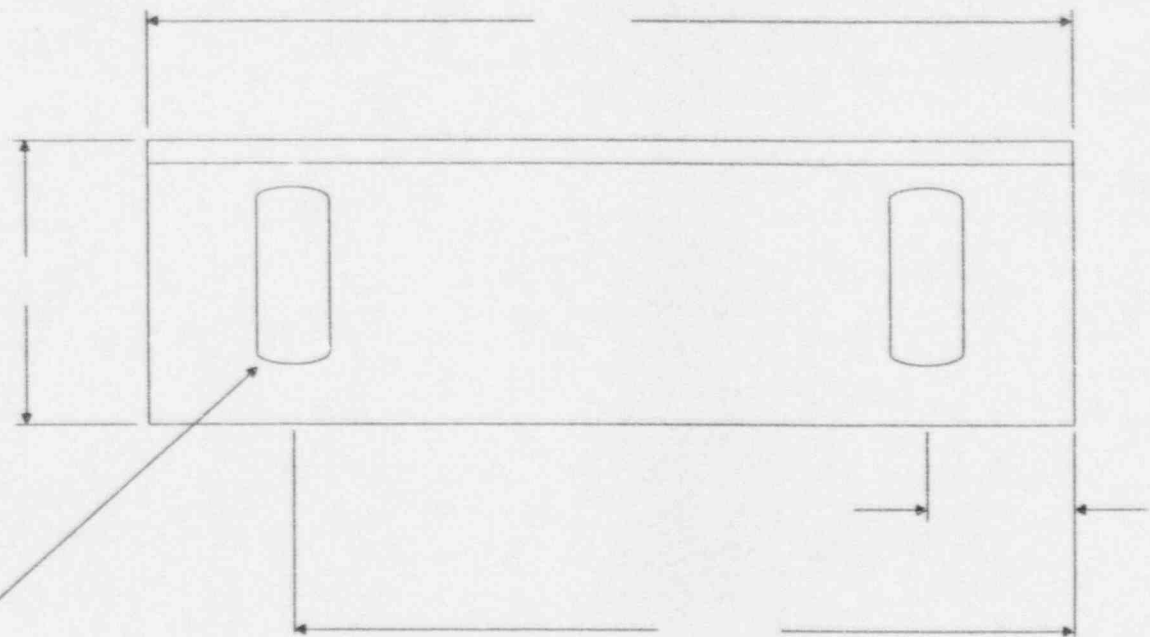
SKETCH 1

Target Bracket W.O. 9611755

Material



Slot for 10-24



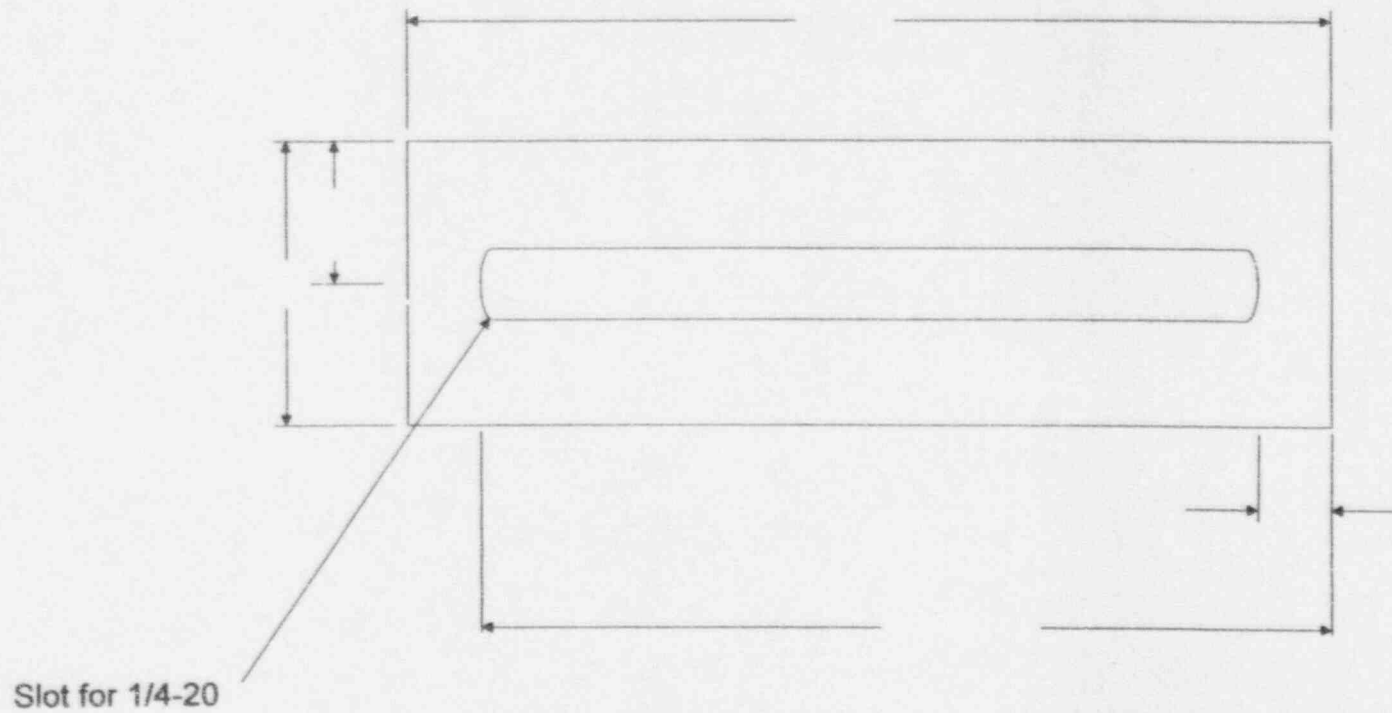
Slot for 1/4-20

Dimensions to be determined by
cognizant engineer in step 6.

SKETCH 2

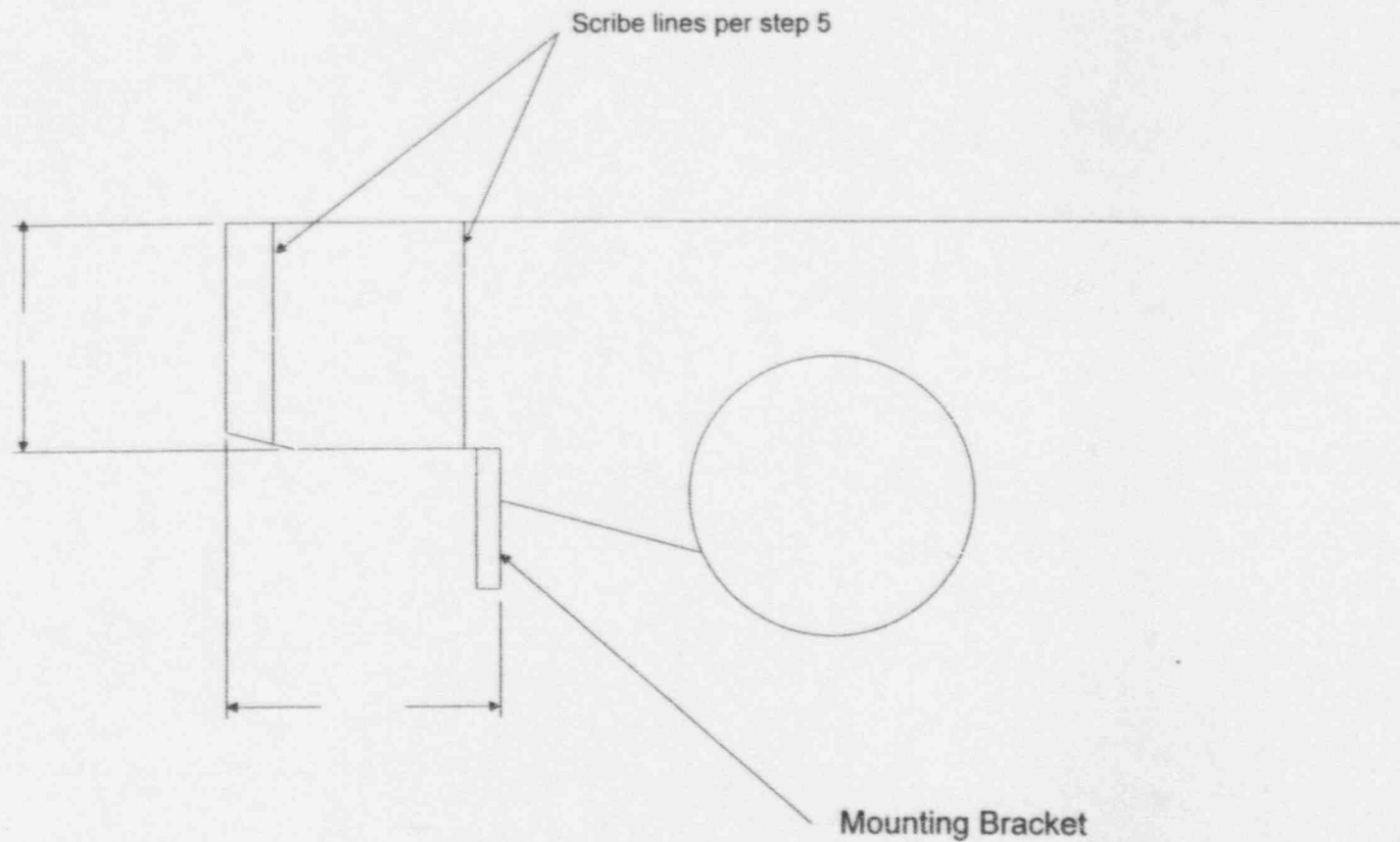
Mounting Bracket W.O. 9611755

Material



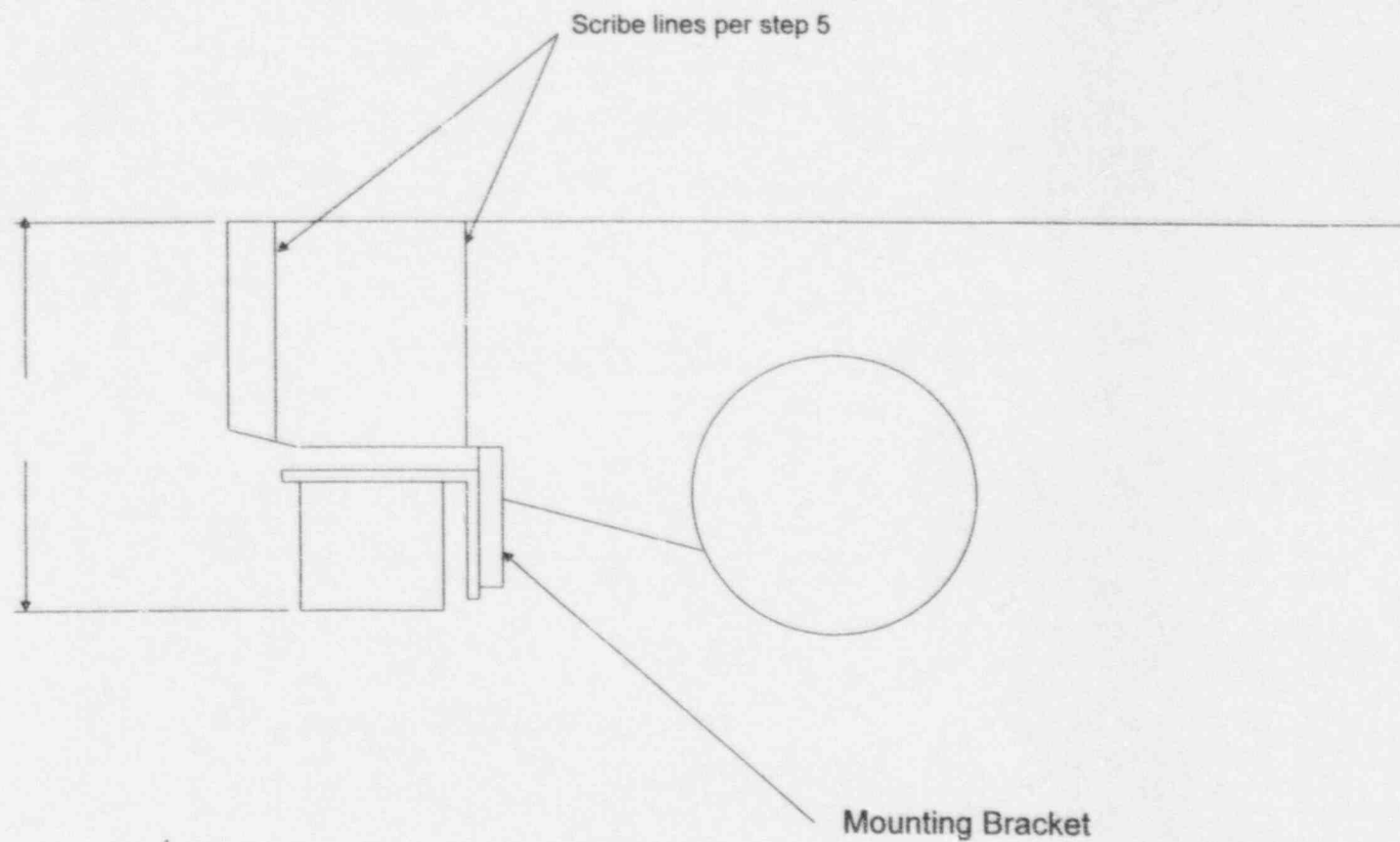
Dimensions to be determined by
cognizant engineer in step 6.

SKETCH 3



Dimensions to be determined by
cognizant engineer in step 6

SKETCH 4



Dimensions to be determined by
cognizant engineer in step 6.

SKETCH 5

SRO Procedure and Non-Operations Work Plan Review

Memo PBM 96-0256 of May 3, 1996 requires an SRO review ITs, TSs and Non-operations work plans to ensure they adequately establish initial conditions, equipment recovery actions (e.g. valve line ups), and independent verification of recovery actions. Problems identified are to be corrected before use. This form documents the required review has been completed.

Procedure or non-operations work plan reviewed:

UO 9611755

Approved for use:✓

SRO (Reviewer)

11-8-96
Date

Work Order No. 9611755

Return to Service Testing Reviews

INITIALS
Pre-Release / Pre or Post-RTS

Work Group Post-Maintenance Testing

Operate cart to verify smooth operation for full length
of travel

PMT ~~RTS~~ WORK PLAN

Section XI Equipment Y/N

Operability Testing ORT-15

Inservice Testing ORT-15

ENGINEERING REVIEW

SECTION XI ENGINEERING REVIEW

11
NA

Nº 496570

PLANT STOREROOM REQUISITION TASK SHEET NO.

WR 961175

1200141

DATE REQUESTED 1-1-

DATE REQUIRED 11/15/96

WHERE USED MAINT/224C

RESP. - DES. - PRIMARY ACCT. - SUB-ACCT. -

PM

PROJECT NO. X X

CHECK BOX

STAGING REQUIRED

UNIT NO. 182

QTY.	UNIT	LOT NUMBER	KEY WORD / DESCRIPTION	BIN LOC.	STOREROOM USE ONLY				QTY. RETURNED	CHARGE OUT NO.
					ORDERED	REC	STAGED	QTY. DISBURSED		
4	EA	903-0368	Bolt							
1	EA	903-0591	Lock washer							
1	EA	903-0566	Nut							
4	EA	903-0475	Scraper							
4	EA	903-0609	Washer							
4	EA	903-0575	Nut							
3	EA	903-7408	Angle							

INSTRUCTIONS / COMMENTS

REQUESTED BY:

FOR:

APPROVED BY:

FILLED BY:

RECEIVED

STAGING REQUIRED

[illegible]

Form 1633 R2/87 Lot #702-6943

WELD CHECKLIST

WO 9611755Date 11-16-96

No. Code

Description of weld or repair (identify applicable code, B31.1, ASME Section IX, AWS D1.1, etc.)

Repair FH Transfer Cont

ISE Engineer Notified For Section XI Scope Repairs

YES ☐NO ☒

Material to be joined

P-8

Filler metal to be used

ER 308 E308

Thickness of weld joint

Full 1/16"

Thickness of base metal

3/4"

Preheat Required

70°

Postweld Heat Treatment

None

Weld Procedure Specification

ref WP-2

NDE Requirements:

Radiography Test (RT) ☐Magnetic Particle Test (MT) ☐Dye Penetrant Test (PT) ☐Visual Test (VT) ☐Hydrostatic Test ☐

Review welders performance qualification records and list those welders qualified for the base material and thickness.

Qualified Welders:

WelderWelderWelder

MTN Planner/Supervisor or MPE Engineer

Date

Job completed utilizing the above information and the noted weld procedure and weld information has been recorded in Welders Logbook.

Welder

Date

11-16-96

WO reviewed for documentation of weld rod Lot Numbers and QAP Numbers and successful completion of Indicated NDE

MTN Supervisor

Date

11/22/96

CONFINED SPACE ANALYSIS

Confined Space Location/Description TRANSFER CANAL

Purpose of Entry Transfer cart and reel repair

MWR Number(s) 9611421, 9611755, 9611755

Red Tag Series 222-211

HAZARDS OF THIS CONFINED SPACE	Init.	ACTION TAKEN TO ELIMINATE HAZARDS *
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Oxygen Content <19.5% or >23.5% <div style="text-align: center; margin-top: 5px;"><u>20.9</u></div>	<u>RB</u>	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Flammable Gases/Vapors >10% of LEL/LFL <u>0</u>	<u>RB</u>	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Toxic Substances (specify w/ CHES #) <div style="height: 40px; border: 1px solid black;"></div>	<u>RB</u>	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Other - Electrical, High Temperature, Physical Hazards, Temperature, Flooding, Biological, etc. (specify) <div style="height: 40px; border: 1px solid black;"></div>	<u>RB</u>	

*NOTE: IF ALL CONFINED SPACE HAZARDS CANNOT BE ELIMINATED, THEN THE CONFINED SPACE ENTRY PERMIT MUST BE USED FOR ENTRY.

CONFINED SPACE RELEASE TO NON-PERMIT STATUS (NPCS)

STATEMENT OF CONFINED SPACE RELEASE TO NON-PERMIT STATUS

I certify that all known hazards in this space have been eliminated.

NOTE: IF CONDITIONS CHANGE, THEN RELEASE TO NON-PERMIT STATUS IS NO LONGER VALID **

AUTHORIZED DURATION:

From

1140

Time

11/11/96

Date

To

1700

Time

11/16/96

Date

Signature (Entry Supervisor)

1140

Time

11/11/96

Date

Print Name (Entry Supervisor)

** DESCRIPTION OF ANY CHANGES IN CONFINED SPACE HAZARD CONDITIONS

Time

Date

POINT BEACH NUCLEAR PLANT

PERSON LIFTS UTILIZING WORKING PLATFORM AND OVERHEAD CRANE (SLP 11)

Reference Document 96 11755
MWR/SMP/etc.

Description of man lift evolution Repair SEP transfer cart

Supervisor

Working platform and its associated rigging
load tested prior to job.

tested 11/11/96 JMK

Supervisor

NOTE: INSPECTION AND OPERATIONAL CHECK TO BE
PERFORMED PRIOR TO EACH LIFT EVOLUTION.

Basket and rigging inspected for degradation. Crane operation checked

[Signature]

11/17/96

Supervisor

Date

AUXILIARY BUILDING CRANE ONLY

Authorization for removal of safety plate.

Warning placard installed on block and on pendant.

Safety plate reinstalled and warning signs removed.

Supervisor

11/17/96

Date

11/17/96

Date

11/18/96

Date

POST THIS FORM AT WORK SITE DURING PERSON LIFT EVOLUTION.

Return this form with work package for microfilming.

POINT BEACH NUCLEAR PLANT

PERSON LIFTS UTILIZING WORKING PLATFORM AND OVERHEAD CRANE (SLP 11)

Reference Document 96 11755
MWR/SMP/etc.

Description of man lift evolution Repair SFP transfer Cart

Working platform and its associated rigging
load tested prior to job.

1 Supervisor tested 11/11/96 gmk
Supervisor

NOTE: INSPECTION AND OPERATIONAL CHECK TO BE
PERFORMED PRIOR TO EACH LIFT EVOLUTION.

Basket and rigging inspected for degradation. Crane operation checked.

1 0 11/18/96
Supervisor Date

AUXILIARY BUILDING CRANE ONLY

Authorization for removal of safety plate.

Warning placard installed on block and on pendant.

Safety plate reinstalled and warning signs removed.

11/18/96 Date
11/18/96 Date
11/18/96 Date
Supervisor
Supervisor
Supervisor

POST THIS FORM AT WORK SITE DURING PERSON LIFT EVOLUTION.

Return this form with work package for microfilming.

POINT BEACH NUCLEAR PLANT

PERSON LIFTS UTILIZING WORKING PLATFORM
AND OVERHEAD CRANE (SLP 11)

Reference Document 9611755
MWR/SMP/etc.

Description of man lift evolution Repair SFP transfer cart

Working platform and its associated rigging
load tested prior to job.

[Signature] Supervisor 0
tested wheelbarrow
Supervisor

NOTE: INSPECTION AND OPERATIONAL CHECK TO BE
PERFORMED PRIOR TO EACH LIFT EVOLUTION.

Basket and rigging inspected for degradation. Crane operation checked.

[Signature] Supervisor 0
11/11/96
Supervisor Date

AUXILIARY BUILDING CRANE ONLY

Authorization for removal of safety plate.

Warning placard installed on block and on pendant.

Safety plate reinstalled and warning signs removed.

11/19/96 Supervisor 0 Date
11/19/96 Supervisor 0 Date
11/19/96 Supervisor 8 Date

POST THIS FORM AT WORK SITE DURING PERSON LIFT EVOLUTION.

Return this form with work package for microfilming.

FME MATERIAL CONTROL LOG

WORK REQUEST NO. 9611755

MATERIAL DESCRIPTION	QTY	IN		OUT		INSTALLED OR USED	FMEM INITIALS
		DATE	TIME	DATE	TIME		
sign Rubber gloves	1	11-17-96	2010	11-17-96	2220		RLB
Lockwire pliers	1	11-18-96	1830	11-18-96	2300		
Wire	1	11-18-96	1830	"	"		
Buckets	2	11-18-96	1830	"	"		
Side cutters	1	11-18-96	1830	"	"		
Gish	1		2137	11-18-96	2141		
Valve Penetrator	1			"	"		
3 diverging sheets	1			"	"		
3 diverging tops	3			"	"		
3 tie ropes	3			"	"		
Grabbler	1	11-18-96	2146	"	2146		
Grinder + 2 wrenches	3	11-18-96	2300	"	2330		
Wrench - Grinder	3	"	"	"	"		
Hammer	1	"	"	"	"		
cord	1	"	"	"	"		
Dual cylinder	1	"	"	"	"		
Bucket	1	"	"	"	"		
REMARKS: Chisel	1	"	"	"	"		

FME MATERIAL CONTROL LOG

WORK REQUEST NO. 4611755

MATERIAL DESCRIPTION	QTY	IN		OUT		INSTALLED OR USED	FMEM INITIALS
		DATE	TIME	DATE	TIME		
Pry bar	1	11-18-96	1830	11-18-96	2300		
Flashlight	1						
Ratchet	1			11-18-96			
3/4 socket	1			" "			
1" socket	1			" "			
Stub screw driver	1			" "			
5/8 allen				" "			
7/16 wrench	2			" "			
3/8 wrench	1			" "			
needle nose	1			" "			
monitor	1			" "			
clip link keeper	3			" "		used	
Best nut wooden	3			" "		used	
level	1			" "			
Phone supply	1			" "			

REMARKS:

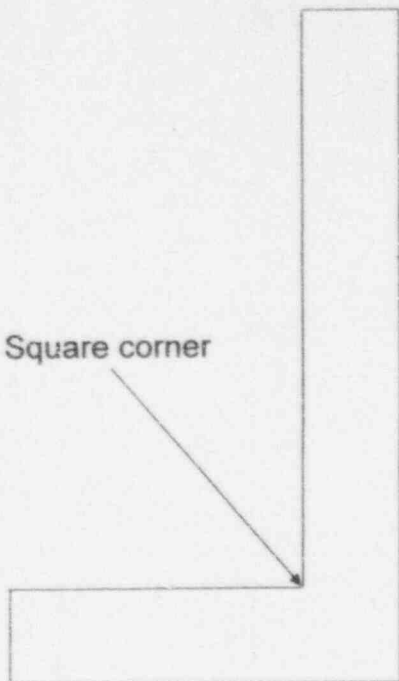
FME MATERIAL CONTROL LOG

WORK REQUEST NO. 4611755

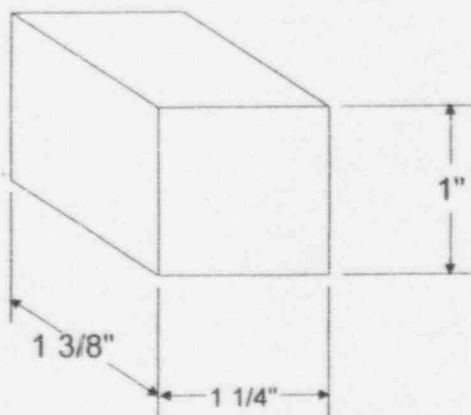
MATERIAL DESCRIPTION	QTY	IN		OUT		INSTALLED OR USED	FME INITIALS
		DATE	TIME	DATE	TIME		
✓ 1/6 wrench	✓ 2	11-14-96	2100	11-14-96	2200		
✓ 3/8 wrench	✓ 1						
✓ Flat screw driver	✓ 1						
✓ Dial Caliper	✓ 1						
✓ 500g of sand	✓ 5						
✓ 1/2" Borax to Pack of paper	✓ 5						
✓ Yellow marker	✓ 2						
✓ HP monitor	✓ 1						
✓ air oxygen sample	✓ 1						
✓ Paul	✓ 1						
✓ Flash light	✓ 2						
✓ Level	✓ 4						
✓ 12 ft Rulers	✓ 1						
✓ sheet of paper	✓ 1						

REMARKS:

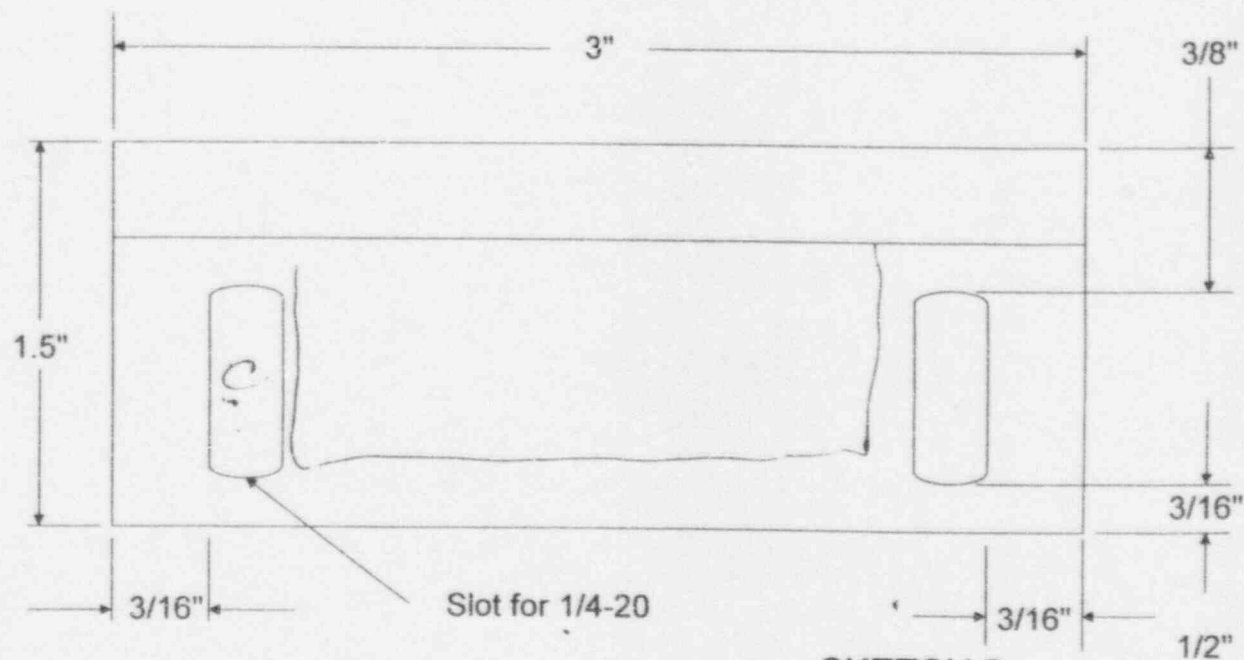
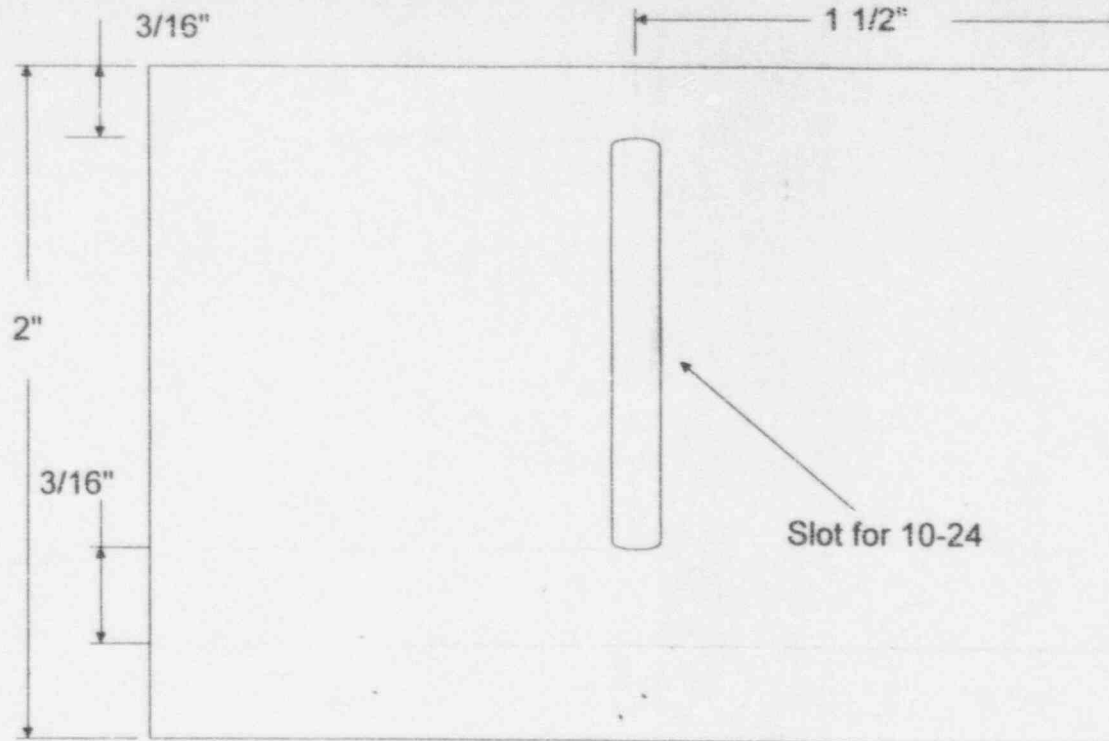
Square corner



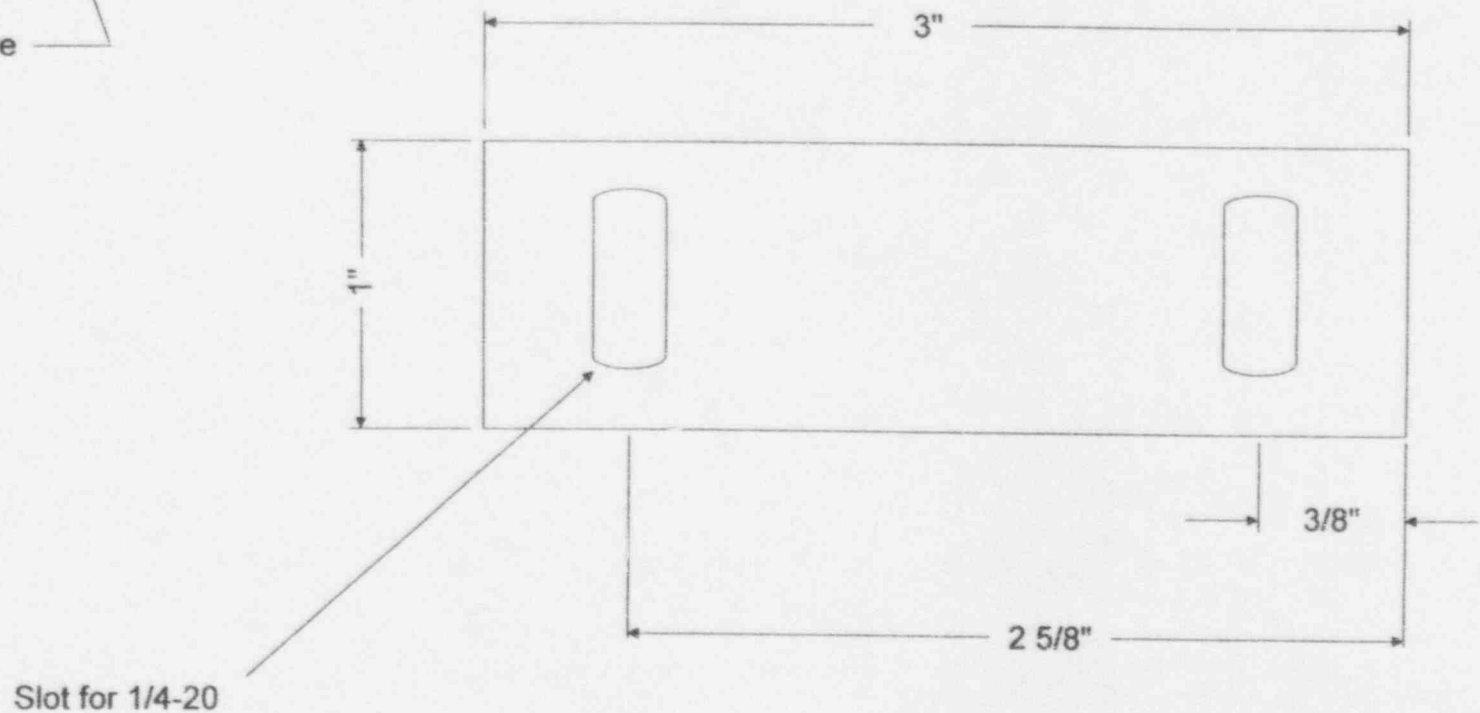
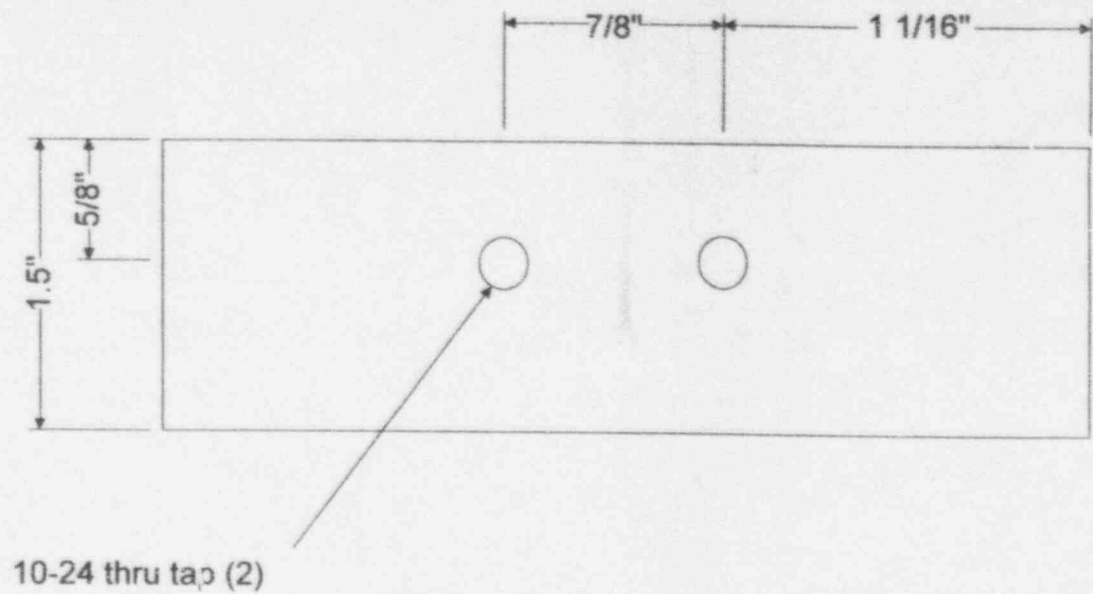
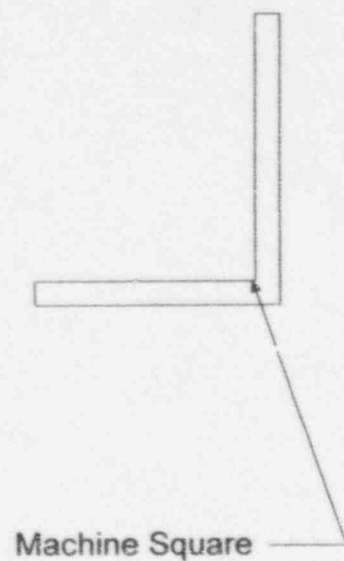
Magnet



Material: 1/4" thick 2" x 2" SS angle,
(machine to size)



SKETCH 2
Target Bracket W.O. 9611755



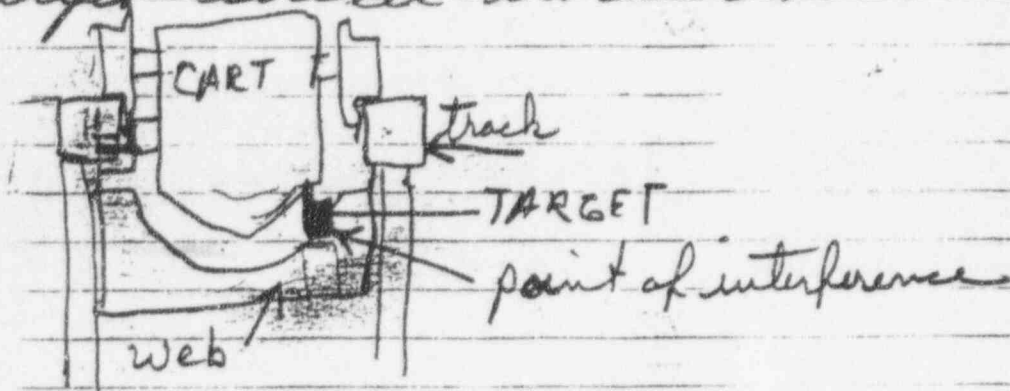
Lot # 9123598 - 1.5 X 1.5 X 3/16 SS angle

U2 TRANSFER CART Pool side Target brk

These are ~~extra~~ sketches
 from Bob Louie's extraordinary
 adventure in the refueling canal ^{at Keesler}
 Findings about Magnetic target installation

Z.Y.I.

Removed target installed magnetic target
 Target strikes track cross web.



APPROX AMOUNT OF CONTACT.



Target can only be mounted on the outboard
 side of the bracket.

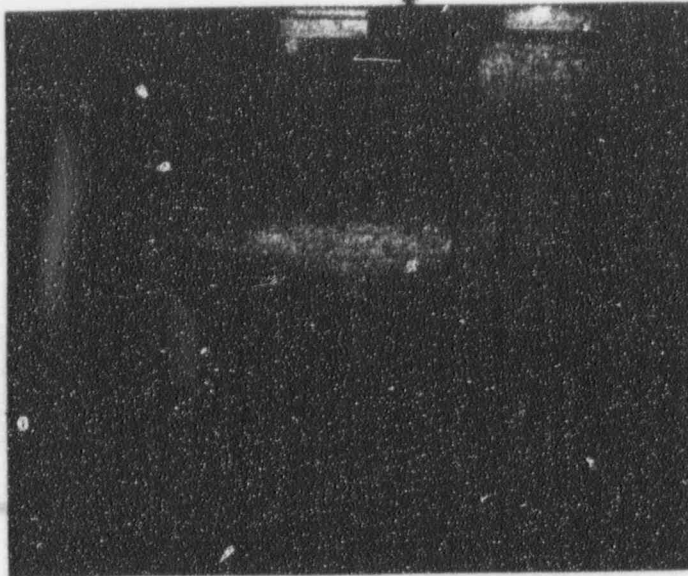
Replaced the original target back on the
 cart.

Test ran the cart and the target was
 in proper position. The upender was

CONTAINMENT ← ~~OFF~~ → SFP / CANAL

103

EMERG.
PULL CABLE



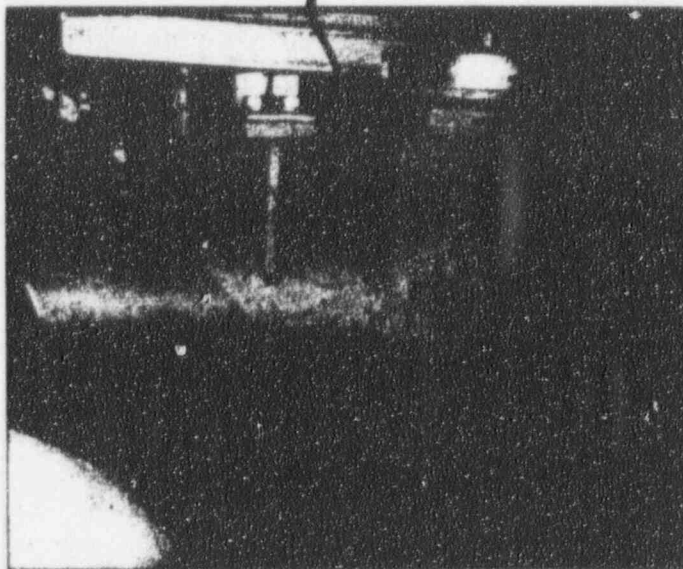
CART ALL
THE WAY IN

CART FRAME
BUTTED UP AGAINST
ITEM 103 CABLE
PIN BLOCK. CART
CAN'T TRAVEL
ANY FURTHER INTO
CONTAINMENT.

UZR22 Z-24C 10/14/96
UZR22 Z-24C 10/10/96

CONT.

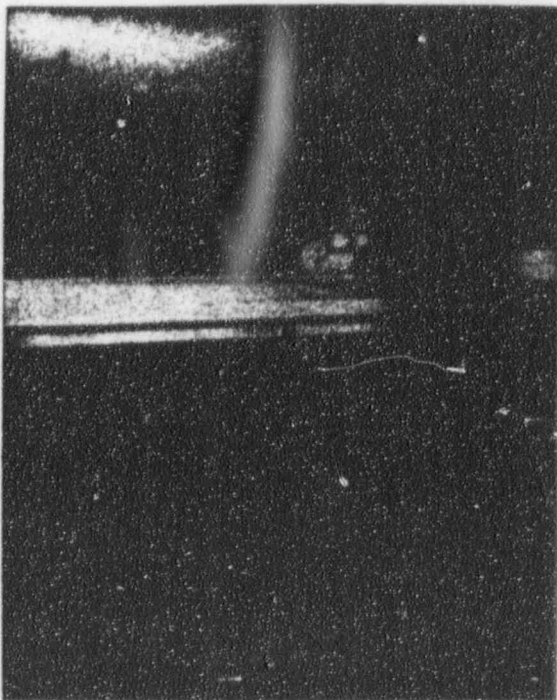
← SFP



CART BACKED OUT
SLIGHTLY TOWARD
SFP / CANAL SIDE

EMERGENCY PULL
CABLE WOULD RIDE
HERE TO PULL CART
IF NEEDED.

UZR22 Z-24C 10/10/96



UZR22 Z-24C
10/10/9C

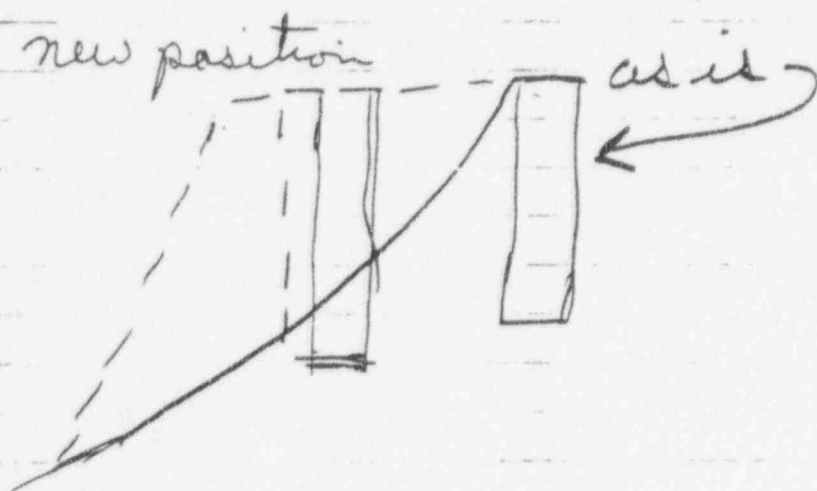
Raised and "Fuel bundle" was checked for vertical trueness. Deemed acceptable.

Remade position marks for visual verification of position.

possible solution.

① mill off corner of magnetic block.

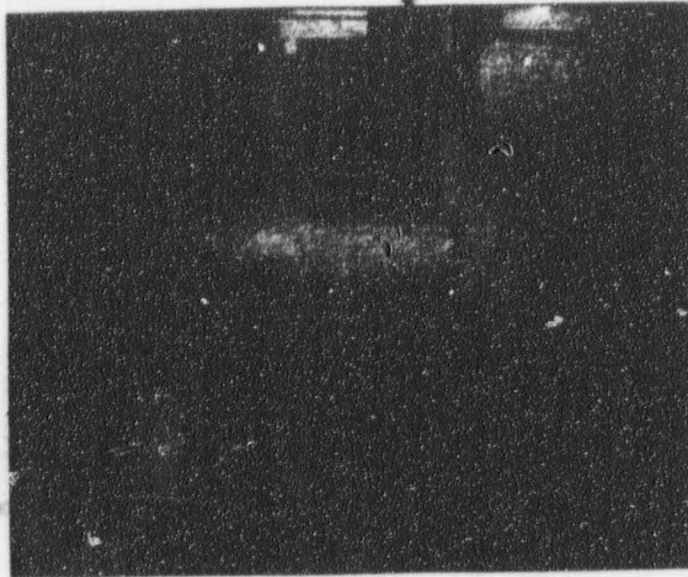
② Reposition mounting bracket on the coil. By notching the structural web and rewelding the bracket to a more inboard position.



CONTAINMENT ← → SFP / CANAL

103

EMERG.
PULL CABLE

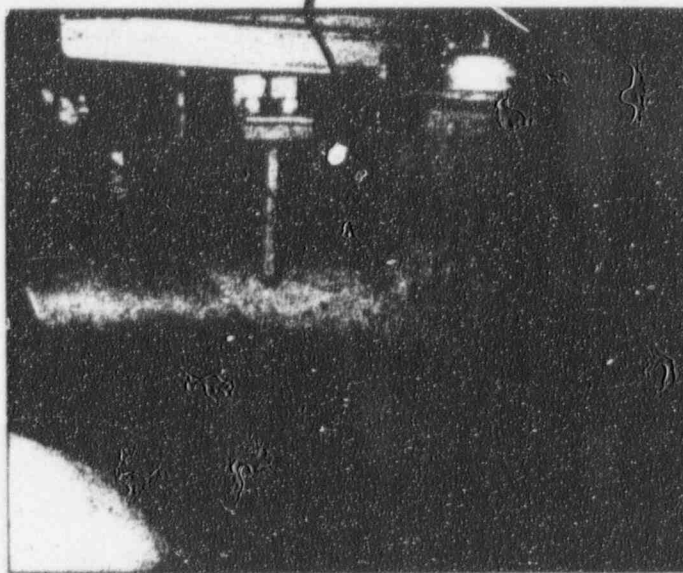


CART ALL
THE WAY IN

CART FRAME
BUTTED UP AGAINST
ITEM 103 CABLE
PIN BLOCK. CART
CAN'T TRAVEL
ANY FURTHER INTO
CONTAINMENT.

UZR22 Z-24C 10/14/96
UZR22 Z-24C 10/10/96

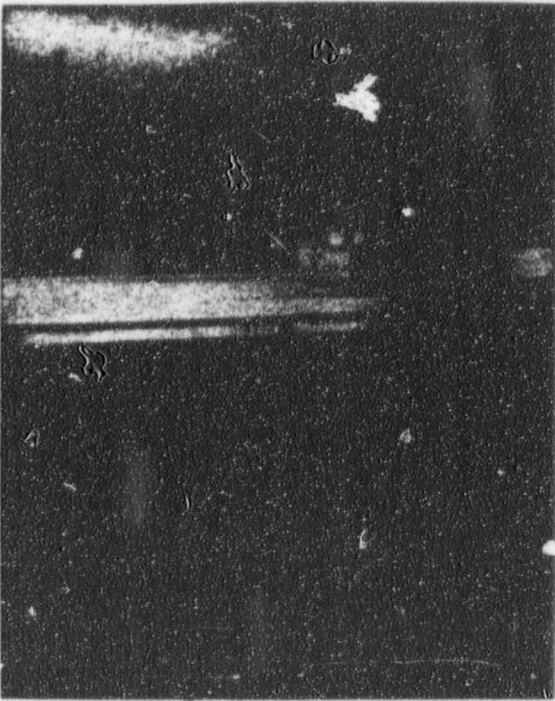
CONT. ← → SFP



CART BACKED OUT
SLIGHTLY TOWARD
SFP / CANAL SIDE

EMERGENCY PULL
CABLE WOULD RIDE
HERE TO PULL CART
IF NEEDED.

UZR22 Z-24C 10/10/96



VZRRZ

10/10/90

Z-24C

* Printed For: CARL.GRAY *

#78

Date: Monday, 13 January 1997 8:57am CT
To:
From:
Subject: AFW expectations

This item is in response to a Unit 2 start-up issue.

We've had a group together for some time to examine our TS and procedures related to AFW. Operability of the P-29 TDAFP has posed a question for many over the years because ability to FULLY test it for flow was not available until after the reactor is critical. That delay in achieving a full flow test has been a confusing point.

Having reviewed the TS and found them adequate in both section 15.3 and 15.4, no changes are needed. See 15.4.0.4, 15.4.8, 15.3.4.

The procedures were also adequate since making revisions requiring more rigorous "close-out" of the valve alignments following testing.

To further aid in determining operability at the various points in the heat-up and reactor startup process, a detailed "fragnet" of the AFW Post Maintenance Testing and Inservice Testing requirements will be produced. That "fragnet" and the Major Item Work List will control the progress, define operability in accordance with the TS, and maintain status control.

The expectation will be that all required PMT will be completed in the proper sequence; that the required Inservice Testing will be completed prior to exceeding the specified "heat-up plateaus" or time at power in accordance with the TS; and that all valve alignments will be maintained as required to support that operability. We will use the MIWL, "fragnet", our procedures, and good Operator awareness to ensure we maintain the required status control.

#78

Date: 2/11/97

Page 1 of 1

NUCLEAR POWER BUSINESS UNIT
OPERATIONS NOTEBOOK

FILE: 97_0211.onb

Subject: Motor Driven Aux Feed Pump flow control

This item is to answer start-up commitment #78.

Most have already attended the training for SOER 96-01 which included an item on applying theory to actual operation. Everyone will receive that training during cycle 97-1.

Maximum flow for each electric driven auxiliary feedwater pump, including recirculation flow, must be limited to 240 GPM or less. Engineering has determined that the electrical current draw required to achieve **250 GPM, very closely approximates the minimum allowable overcurrent trip setpoint for the AFP motor breakers.**

Therefore, assuring that the pumps are limited to 240 GPM or less will ensure they remain in operation at all times. The amount of water the pump moves is directly equatable to the electrical current..... "flow is current". An electronics engineer might argue that there is a little difference, but for our measuring purposes they are the same; current at 60 hertz is the same as current at 63 hertz IF the flow is the same. Procedures are being revised to reflect the new value, allowing 240 GPM total flow, that is 240 GPM indicated maximum flow when the recirc valve is closed and an indicated 150 GPM maximum when the recirc valve is open.

Subject:

Subject:

Approved _____

Initial having read on back

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