WO WORK PLAN

Change Wiring of Flow Controllers 2YIC-926B For Spray Additive Tank System on C01 In The Control Room
UNIT 2

IWP 95-035-02
May 30, 1996

1. **SCOPE**

1.1 The scope of this work plan is to implement wiring changes to correct indication on the spray additive tank flow controller 2YIC-926B on C01 in the control room and also to eliminate excess current of 145mA from flowing through the output meter and R72, exceeding the power rating of the resistor, which would damage the resistor.

1.2 The purpose of this modification is to eliminate excess current of 145mA flowing through the output meter and R72 and provide improved indications on the controller 2YIC-926B.

1.3 This approach of this installation is to remove 2YIC-926B from C01 and perform wiring changes within the controller. The work will be directed by this work plan.

1.4 This work is QA Scope.

1.5 Support Requirements

1.5.1 Operations: Equipment isolation, tagouts

1.5.2 I & C: Modification installation and testing

2. **PRE-INSTALLATION REQUIREMENTS**

2.1 References:

2.1.1 Working Drawings:

A. Foxboro Alpha WE-5362, SH. 1, Rev. 5A

2.1.2 Permanent Drawings:

A. P&ID Westinghouse 110E035 SH. 3, Rev. 36

2.1.3 Component Instruction Manual 8.4

Foxboro Composite Book 4 00623A4

Responsible engineer has assured that all references listed above are approved and are either with the installation group or attached and assigned to the installation group.

R.E. _____ Date 9/27/96

2.2 Installation Preparation Activities:

2.2.1 In this installation, no material is required. If any additional wiring is needed, use wiring similar to the existing wiring in the controller. Record Quality Assurance Release(QAR) numbers on the work orders.

2.3 Identification of Permits Required

2.3.1 The work order for this work plan has been written and subitted to CHAMPS. The WO number is 9604770.

2.4 Operational Installation Prerequisites:

2.4.1 The plant condition required is cold shutdown or refueling.

2.4.2 The spray additive tank outlet valve, 2SI-831A must be tagged shut as the spray additive tank suction valve, 2SI-836A/B will be stroked following the installation of the modification per Operating Procedure 3C(OP-3C) "Hot Shutdown To Cold Shutdown."

TYP
10/10/96

2.4.3 Release For Installation

All of the above operational installation prerequisites have been met and it is acceptable to proceed with the installation.

DSS _____ Date 10/16/96 Time 2245

2.4.4 All other installation prerequisites have been met.

R.E. _____ Date 10-17-96

3. **INSTALLATION**

3.1 QC Requirements

QC will be satisfied by the independent wire verification that will be performed at the completion of the installation.

3.2 Installation Description:

NOTE: ***The following is a detailed step-by-step listing of the actions necessary to perform this IWP. These steps can be completed in any logical order. If any of the steps cannot be completed as written or a change is necessary to complete the task, work must stop and the situation must be discussed with the responsible engineer or the installation supervisor.***

3.2.1 Verify 2SI-831A is danger tagged shut.

222-25 tag 18 ok

OPS

3.2.2 Isolate power to the controller by unplugging the power at the controller.

I & C

3.2.3 Remove flow controller, 2YIC-926B, from C01, located in the control room.

I & C

3.2.4 Remove normal/off switch S7 from terminal board positions 6 and the negative side of the power supply, the parallel connection.

I & C

3.2.5 Place the switch in series with output point 6 as shown per working drawing Foxboro WE-5362, SH. 1, Rev. 5A1.

I & C

3.2.6 Verify that wires listed in 3.2.4 and 3.2.5 have been moved.

Verifier 's Initials ____ ____ Date 10-24-96 Time 1300

3.2.7 Refurbish box capacitors with QA'd capacitors if necessary

CAPACITORS NOT REPLACED IN NEW YIC-926B ALREADY REPLACED AS FOUND. I & C

3.2.8 QC inspector to perform a visual inspection of module internals for quality of work. Inspect for solder bridges and cold solder joints.

QC's Initials ____ Date 10-21-96 Time 1700

PMT- 3.2.9 Bench test controller to verify proper wiring installation.

I & C

3.2.10 Insert flow controller 2YIC-926B into the control board, C01 then reconnect power to the controller.

I & C

FME- 3.2.11 Check to make sure debris is cleaned up around location of work, then installation is complete.

R.E./I.S.

3.3 As-Built Description

This IWP was installed by:____ ____ Date 11/26/96

The installation was performed in accordance with this IWP and working drawing Foxboro WE-5362, SH. 1, Rev. 5A1

Attach any additional documentation of this as-built description to this IWP.

3.3.1 The installation of this IWP is complete.

R.E. __ _____ Date 11-26-96
I.S. ____ _____ Date 11/26/96

4. **TESTING**

4.1 Testing Prerequisites:

4.1.1 A stopwatch is needed for valve stroke testing.

4.2 Testing Information:

4.2.1 The intent of this testing is to verify the indicator on the controller indicates open when the switch is off. Also these wiring changes completed above should now eliminates excess current flowing through the R72 resistor.

NOTE 1: ***The valve stroke open time is defined as the elapsed time when the valve controller is positioned to the maximum open speed position in the manual mode and the time that the valve open light is received on the active status board.***

NOTE 2: ***The valve stroke closed time is defined as the elapsed time when the valve controller is positioned to the maximum closed speed position in the manual mode and the time that the valve ceases motion in the closed direction by local observation.***

WO WORK PLAN

Change Wiring of Flow Controllers 2YIC-926B For Spray Additive Tank System on C01 In The Control Room
UNIT 2

IWP 95-035-02
May 30, 1996

4.2.2 Place the switch in the manual position, and open 2SI-836B.
Record the time to open. 6.49
Check Local VPI that it indicates full open ✓
Check 2SI-836B active status panel light is on. ✓

✓
OPS

4.2.3 Close 2SI-836B.
Record the time to close. ~~8.61~~ ~~2.72~~ 8.61 ①
Check Local VPI that it indicates full close ✓
Check 2SI-836B active status panel light is off. ✓

① AFTER 1ST TIMING (8.61), THE OPERATOR SUSPECTED HE HAD INCORRECTLY CLOSED VALVE IN "MANUAL" INSTEAD OF PLACING CONTROLLER IN "AUTO" TO SHUT VALVE. 2ND TIMING (2.72) WAS CONDUCTED IN "AUTO" BEFORE FURTHER INVESTIGATION AND READING OF IT-06 REVEALED THAT FIRST TIMING WAS CORRECT.

✓
OPS

4.2.4 Place the switch in the auto position, or as directed by the DSS.

✓
OPS

4.2.5 Check valve operability by comparing the valve data with the limits in the IST Acceptance Criteria binder.

OPS

4.2.6 Place 2SI-836B controller's normal/off switch to the off position. Verify that the valve goes open and the controller indication reads open as well.

✓
OPS

4.2.7 Place 2SI-836B controller's normal/off switch to the normal position. Verify that the valve goes closed and the controller indication reads closed as well.

* SM
OPS

* WITH CONTROLLER IN MANUAL PER DSS DIRECTION, WHEN SWITCH WAS PLACED IN "NORMAL", VALVE BOUNCED OFF OF SHUT POSITION (LOCALLY AND CONTROLLER) AND RETURNED TO ~30% OPEN POSITION. WHEN TEST WAS REPEATED WITH CONTROLLER IN AUTO, VALVE WENT TO

FULL SHUT WHEN SWITCH WAS PLACED IN "NORMAL". (THIS WAS FOUND TO BE NORMAL WHEN CHECKED BY T.S.

4.3 Testing Results:

4.3.1 The testing of the installation has been completed and the results are described below:

Testing completed satisfactorily in all areas.

4.3.2 The testing is completed and adequately tests the modification and the associated installation:

Testing Supervisor _____ Date 11-30-96
R.E _____ Date 11-30-96

5.0 Restoration:

5.1 Pre-Acceptance:

5.1.1 The following items need to be completed prior to acceptance:

A. All ECRs have final approvals.

All items that need to be completed prior to acceptance have been completed.

R.E. _____ Date 12/3/96

5.2 System Restoration:

5.2.1 Realign system as required for normal operations/per DSS. System ready for release.

DSS _____ Date 12-15-96 Time 1756

6.0 Restoration:

6.1 Conditional Acceptance

6.1.1 The following items cannot be accepted and require resolution of the listed conditions. Interim operating conditions are also listed below(attach additional documentation as necessary).

_____
_____
_____
_____

6.1.2 Concurrence with Conditional Acceptance

Mgr of Acceptance Group/DSS _____ Date 12-16-96

6.2 Final Acceptance

5.2.1 Realign system as required for normal operations/per DSS. System ready for release.

Mgr of Acceptance Group/D.. Date 12-15-96

RETURN THE COMPLETED IWP AND MODIFICATION REQUEST TO RESPONSIBLE ENGINEER

WO WORK PLAN

(#55)

Change Wiring of Flow Controllers 2YIC-926A For Spray Additive Tank System on C01 In The Control Room
UNIT 2

IWP 95-035-01
May 30, 1996

6.0 Restoration:

6.1 Conditional Acceptance

6.1.1 The following items cannot be accepted and require resolution of the listed conditions. Interim operating conditions are also listed below(attach additional documentation as necessary).

_____
_____
_____
_____

6.1.2 Concurrence with Conditional Acceptance

Mgr of Acceptance Group/DSS ___✓___ _____ Date 12-12-96

6.2 Final Acceptance

5.2.1 Realign system as required for normal operations/per DSS. System ready for release.

Mgr of Acceptance Group/DSS ___↘___ _____ Date 12/15/96

RETURN THE COMPLETED IWP AND MODIFICATION REQUEST TO RESPONSIBLE ENGINEER

WO WORK PLAN

#55

Change Wiring of Flow Controllers 2YIC-926B For Spray Additive Tank System on C01 In The Control Room
UNIT 2

IWP 95-035-02
May 30, 1996

6.0 Restoration:

6.1 Conditional Acceptance

6.1.1 The following items cannot be accepted and require resolution of the listed conditions. Interim operating conditions are also listed below(attach additional documentation as necessary).

_____
_____
_____
_____

6.1.2 Concurrence with Conditional Acceptance

Mgr of Acceptance Group/DSS _____ Date 12-16-8

6.2 Final Acceptance

5.2.1 Realign system as required for normal operations/per DSS. System ready for release.

Mgr of Acceptance Group/DSS _____ Date 12-15-96

RETURN THE COMPLETED IWP AND MODIFICATION REQUEST TO RESPONSIBLE ENGINEER

12.

~~WCC TRACKING~~ #65 otg 2 80 DSS

ORIGINAL ********** PBNP ********** WO No: 9606626
WO Priority: M * UNIT 0 * MWO * UNIT 0 *
Resp Group: IC ********** HEADER PAGE ********** Step Print: 09/24/96
Equipment: DOOR-235 System: SEC HP Zone:
Equipment Name: DOOR
Physical Location: 26/U2F/U2C AIR LOCK THIRD DOOR Discovery Date: 06/20/96

Problem Description:
DISCONNECT MAGNETIC SWITCH AND REMOVE CONDUIT AFTER FUEL MOTION FOR STEAM GENERATOR INSTALLATION. AFTER STEAM GENERATOR INSTALLATION, INSTALL CONDUIT CONNECT & TEST SWITCH
Originator: EME Outage ID: U2R22
Tag/Sticker Plan: 00089 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: N Procedures:
SSA: N CIV: N MRULE: N
A/P: P CACC:
RRN: - - - - Tech Spec Ref:
QA Codes: Sect XI Class:
Tools Needed:

Work Plan/Instructions reviewed. Planner: IC S
LINE SUPERVISOR: |_|_|_|_|_|_| NAME: DATE: 9/27/96

Plant Conditions: COLD SHUTDOWN Ignition Control Permit: N
Other Conditions: Transient Combustible Permit: N
Fire Barrier Penetration Permit: N RWP: N
Equipment Isolation Required: N 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: 10/17/96

Special Notification:

Number of Steps: 001
Acct #: 00 - 0000N - 9500249 - 00000
MFG Code: Tech Manual Cntl #:

* WORK ORDER CLOSEOUT *

Group Head Signature: _____ Date: 1/14/97

ORIGINAL ********** PBNP ********** WO No: 9606626001
WO Priority: M * UNIT 0 * MWO * UNIT 0 *
Resp Group: IC ********** STEP DETAIL ********** Step Print: 09/24/96
Equipment: DOOR-235 System: SEC HP Zone:
Equipment Name: DOOR
Physical Location: 26/U2F/U2C AIR LOCK THIRD DOOR
Sequence No: 01 Need Date
Short Desc: DISCONNECT MAG SW/REMOVE CONDUIT Sched Start Date:

PLANNED: WORK PROCEDURES:
Crew: I
Shift: 2
Class: 330

Work Plan Description:
SEE ATTACHED WORK PLAN

QC REVIEW REQUIRED: N DATE: __/__/__

WORK PERFORMED: ① Removed [illegible] conduit and cable between hatch and junction box. Stored section of conduit and wire in lower drawer of [illegible] cabinet in I&C controls side shop.

② Restored all cable + conduit previously removed in ① [illegible] security test time out function of door

MTE: DAR:

ACTUAL USED: CREW:	I
SHIFT:	2
WORKER CLASS:	310
NUMBER OF WORKERS:	1
TOTAL HOURS:	3.0
TTL EXPOSURE/STEP (MREM):	0

PARTS USED LIST ATTACHED: Y / (N)
WO TAGS REMOVED: Y / N / (NA) WORK COMPLETE DATE: 1[illegible]/[illegible]/96
EMPLOYEE NUMBER: [illegible] 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: NA
Corrective Action: (NA)/RP/RE/______ Downtime: ____ hrs
LINE SUPERVISOR: [illegible] NAME: [illegible] DATE: 12/19/96

* EQUIPMENT RETURN TO SERVICE *

Operability Post Testing: alarms tested per workplan
EQUIP. TAKEN OOS - DATE: __/__/__ TIME: _____ RTN DATE: __/__/__ TIME: _____
Operability Procs Performed
NON OPS SUPV: [illegible] NAME: [illegible] DATE: __/__/__
DSS: [illegible] NAME: [illegible] DATE: 1/12/97