

Arizona Public Service Company

P.O. BOX 21666 • PHOENIX, ARIZONA 85036

October 28, 1983
ANPP-28134-BSK/RQT

U. S. Nuclear Regulatory Commission
Region V
Creekside Oaks Office Park
1450 Maria Lane - Suite 210
Walnut Creek, CA 94596-5368

Attention: Mr. T. W. Bishop, Director,
Division of Resident,
Reactor Projects and Engineering Programs

Subject: Interim Report - DER 83-67
A 50.55(e) Potentially Reportable Deficiency Relating to
Ex-Core Detector Enclosures Are Below The Design Basis Flood
Level
File: 83-019-026; D.4.33.2

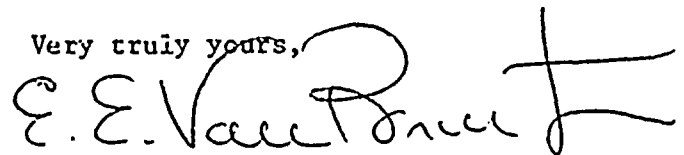
Reference: Telephone Conversation between P. Johnson and R. Tucker
on September 28, 1983

Dear Sir:

The NRC was notified of a potentially reportable deficiency in the
referenced telephone conversation. At that time, it was estimated that a
determination of reportability would be made within thirty (30) days.

Due to the extensive investigation and evaluation required, an Interim
Report is attached. It is now expected that this information will be
finalized by December 16, 1983, at which time a complete report will be
submitted.

Very truly yours,



E. E. Van Brunt, Jr.
APS Vice President,
Nuclear Projects Management
ANPP Project Director

EEVB/RQT:
Attachment

cc: See Page Two

~~831106173~~
308/pdr



177
178

Mr. T. W. Bishop
DER 83-67
Page 2

cc: Richard DeYoung, Director
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

T. G. Woods, Jr.
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D. B. Fasnacht
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W. E. Ide
J. Vorees
J. R. Bynum
D. D. Green/P. P. Klute
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R. W. Welcher
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D. Canady

Records Center
Institute of Nuclear Power Operations
1100 Circle 75 Parkway - Suite 1500
Atlanta, Georgia 30339



44

INTERIM REPORT - DER 83-67
POTENTIAL REPORTABLE DEFICIENCY
ARIZONA PUBLIC SERVICE COMPANY (APS)
PVNGS UNITS 1, 2, & 3

I. Potential Problem

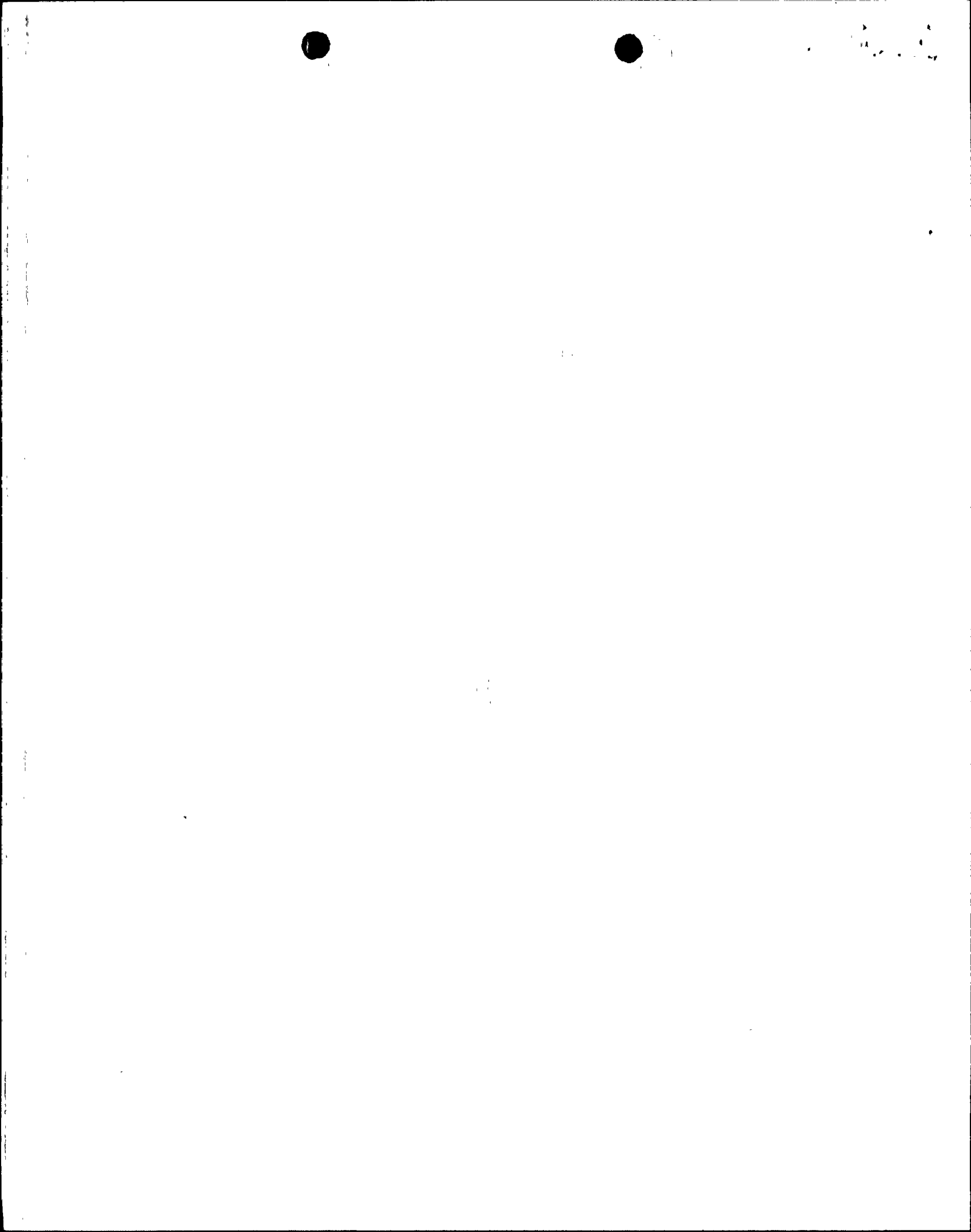
During startup inspection it was discovered that startup and control enclosures for the non-safety related excore detectors were installed in the Containment building below the design basis flood level of 90'-6". The eight common drain lines for the excore detectors allows water to back flow into the safety channel thimbles installed above the design basis flood level of 90'-6". The safety channel detectors are not qualified for submersion.

II. Approach To and Status of Proposed Resolutions

Bechtel engineering is reviewing this condition to determine the modifications required.

III. Projected Completion of Corrective Action and Submittal of the Final Report

Evaluation of this condition and submittal of the Final Report is forecast to be completed by December 16, 1983.



ATTACHMENT 2

SURVEILLANCE PROCEDURES FOR

- (1) CONAX ELECTRICAL PENETRATION
Tag No. 1-E-PHB-Z41
- (2) RELIANCE ELECTRIC MOTOR
Tag No. 1-M-SIA-P05
- (3) ASCO SOLENOID VALVE
Tag No. 1-J-CHA-507

1

ARIZONA PUBLIC SERVICE
P V N G S WORK ORDER
FACSIMILE

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WO#: Sys: PH
Issued Date:
Eq: 1EPHBZ41
Eq Desc: ELECT PENTRTN (BLANK)

Work Center: MNTC
Task#: 015768
PENETR
Loc: AZM-120D-E113

Priority: 03
Due:

Plant Mode: 123456X890
Eq Mode: INS
Eq List: N
Eq Sr: Y
Tech Spec:
Past Acc:
Plan Rqrd: N
Approved: N
Perf Int: 1 M

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Crew Sz
Man Hrs

CREW SIZE/MAN HR ESTIMATES	
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TS Late Date:

Est Dur Hrs: 4

Work Desc: INSPECT COMPONENT
PERFORM PERIODIC MAINTENANCE PER THE APPLICABLE
PORTIONS OF THE ATTACHED INSTRUCTIONS.

Clear Rqrd: N	Secty Rqrd: N	Procedure#:
Clear#:	Secty Prm:	Drawing#:
Clear#:	Void Rqrd: N	
Clear#:	Void Prm:	
REP Rqrd: Y	Q/C Rqrd: N	Tech Man#:
REP#:	Retest Rqrd: N	Matls Rqrd: N Safety Rqrd:

Technical Approval / Date:

Discipline Supervisor / Date:

QA / Date:

CALL SS AT WORK START___COMP___

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THE UNIVERSITY OF CHICAGO
LIBRARY
540 EAST 57TH STREET
CHICAGO, ILL. 60637
TEL: 773-936-3000
WWW.CHICAGO.EDU

Task# 015768

ATTACHMENT _____ OF _____

Work Desc INSPECT COMPONENT

PERFORM PERIODIC MAINTENANCE PER THE APPLICABLE

PORTIONS OF THE ATTACHED INSTRUCTIONS

Eq 1EPHBZ41

PENETR

Eq Desc ELECT PENTRTN (BLANK)

Loc AZM-1205-F11

Work Type PM

NON-ROTATING ELECTRICAL EQUIPMENT
VISUAL INSPECTION CHECKLIST

1.0 GENERAL NOTES:

- 1.1 CONTACT THE SHIFT SUPERVISOR BEFORE BEGINNING AND AFTER COMPLETING WORK.
 - 1.1.1 INFORM OPS. QC BEFORE BEGINNING WORK ON ANY SAFETY RELATED OR QUALITY RELATED PIECE OF EQUIPMENT OR SYSTEM.
- 1.2 HOUSEKEEPING AND AREA CLEANLINESS SHALL BE IN ACCORDANCE WITH 30AC-9ZZ04.
- 1.3 ANY PERSONNEL SAFETY GROUNDING SHALL BE IN ACCORDANCE WITH 32MT-9ZZ81.
- 1.4 GENERAL WORK PRACTICES SHALL BE IN ACCORDANCE WITH PVNGS SAFETY MANUAL.
- 1.5 DISCREPANCIES, ACTIONS TAKEN, AND WORK PERFORMED SHALL BE DOCUMENTED IN THE COMMENT SECTION.
- 1.6 MINOR MAINTENANCE THAT FALLS WITHIN THE SCOPE OF THIS PM SHALL BE ADDRESSED ON THIS PM. MAJOR MAINTENANCE SHALL BE ADDRESSED BY THE INITIATION OF A WORK REQUEST OR AN ADDENDUM TO THIS PM.

2.0 VISUALLY INSPECT EQUIPMENT FOR THE FOLLOWING ITEMS. INDICATE INSPECTION RESULTS IN SECTION 3.0 OF ATTACHMENT.

- 2.1 LOCALLY INSTALLED METERS, SWITCHES, FUSE HOLDERS, INDICATING LIGHTS, AND PLASTIC COVERS ARE NOT DAMAGED.
- 2.2 CONDITION OF INTERIOR AND EXTERIOR FINISH IS SATISFACTORY.

NOTE
ANY REPAIR OR TOUCHUP OF THE EQUIPMENT FINISH SHALL BE MADE WITH APPROVED MATERIALS.
- 2.3 NO EVIDENCE OF MOISTURE, OIL, GREASE, CORROSION OR OVERHEATING ON EQUIPMENT.
- 2.4 UNUSED CONDUITS OR CONDUIT AND CABLE ENTRANCES ARE SEALED OR BLANKED.
- 2.5 SUPPORTS, BRACING, LOCKING OR LATCHING DEVICES ARE INSTALLED AND IN GOOD CONDITION.

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ARIZONA PUBLIC SERVICE
SIMS WORK ORDER ATTACHMENT
THIS DOCUMENT IS PART OF A WORK CONTROL
PACKAGE AND IS NOT TO BE SEPARATED FROM IT
FACSIMILE

PAGE: 2

Task# 015768

ATTACHMENT ____ OF ____

Work Desc INSPECT COMPONENT
PERFORM PERIODIC MAINTENANCE PER THE APPLICABLE
PORTIONS OF THE ATTACHED INSTRUCTIONS.

Eq 1EPHBZ41

PENETR

Eq Desc ELECT PENTRTN (BLANK)

Loc AZM-120D-E113

Work Type PM

- 2.6 NO LOOSE OR MISSING PANEL COVERS.
- 2.7 DOOR/COVER GASKETS ARE INSTALLED AND IN GOOD CONDITION.
- 2.8 VENTILATION LOUVERS AND FILTERS ARE CLEAN AND FREE FROM OBSTRUCTION.
- 2.9 CABLE AND CONDUIT ENTRANCES ARE FREE FROM DAMAGE.
- 2.10 EQUIPMENT GROUNDS ARE INSTALLED.
- 2.11 UTILITY LIGHTING WITHIN EQUIPMENT IS OPERABLE.

3.0	EQUIPMENT INSPECTED	SATISFACTORY	UNSATISFACTORY
	1EPHBZ41	_____	_____

4.0 COMMENTS: _____

5.0 PERFORMED BY _____ DATE _____

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ARIZONA PUBLIC SERVICE
P V N G S WORK ORDER
FACSIMILE

EST

WO#: Sys: PH
Issued Date:
Eq: 1EPHBZ41
Eq Desc: LOW VOLTAGE ELECTRIC
 PENETRATION

Work Center: MNTC
Task#: 015556
 PENETR
Loc: E2942N0960

Priority: 01
Due:

Plant Mode: 123456X890
Eq Mode: OOS
Eq List: N Discp
Eq Sr: Y
Tech Spec: SEC. 3, 4.6.1.2 Crew Sz
Past Acc:
Plan Rqrd: N Man Hrs
Approved: N
Perf Int: 2 A TS Late Date:

CREW SIZE/MAN HR ESTIMATES	
ELEC	
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Est Dur Hrs: 1

Work Desc: LEAK TEST PRESSURE
PERFORM PERIODIC SURVEILLANCE TESTING PER APPLICABLE PORTIONS OF
THE REFERENCED PROCEDURE. *THIS IS FOR DEMONSTRATION ONLY.*

Clear Rqrd: Y	Secty Rqrd: N	Procedure#: 73ST-9CL01
Clear#:	Secty Prm:	Drawing#:
Clear#:	Void Rqrd: N	
Clear#:	Void Prm:	
REP Rqrd: Y	Q/C Rqrd: Y	Tech Man#: E035A-36
REP#:	Retest Rqrd: N	Matls Rqrd: N Safety Rqrd:

Technical Approval / Date:

Discipline Supervisor / Date:

QA / Date:

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Task# 015556

ATTACHMENT _____ OF _____

Work Desc LEAK TEST PRESSURE

PERFORM PERIODIC SURVEILLANCE TESTING PER APPLICABLE PORTIONS OF
THE REFERENCED PROCEDURE. *THIS IS FOR DEMONSTRATION ONLY.*

Eq 1EPHBZ41

PENETR

Eq Desc LOW VOLTAGE ELECTRIC
PENETRATION

Loc E2942N0960
Work Type SURV

GENERAL MAINTENANCE NOTES

- 1.0 CONTACT THE SHIFT SUPERVISOR BEFORE BEGINNING AND AFTER COMPLETING WORK.
 - 1.1 INFORM OPS QC BEFORE BEGINNING WORK ON ANY SAFETY RELATED OR QUALITY RELATED EQUIPMENT OR SYSTEM.
- 2.0 HOUSEKEEPING AND AREA CLEANLINESS SHALL BE IN ACCORDANCE WITH 30AC-9ZZ04.
- 3.0 ANY PERSONNEL SAFETY GROUNDING SHALL BE IN ACCORDANCE WITH 32MT-9ZZ81.
- 4.0 GENERAL WORK PRACTICES SHALL BE IN ACCORDANCE WITH PVNGS SAFETY MANUAL.
- 5.0 DISCREPANCIES, ACTIONS TAKEN, AND WORK PERFORMED SHALL BE DOCUMENTED IN THE COMMENTS SECTION.

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1

ARIZONA PUBLIC SERVICE
P V N G S WORK ORDER
FACSIMILE

P M

WO#: Sys: SI
Issued Date:
Eq: IMSIAP05
Eq Desc: SPRAY CHEMICAL ADDITION
PUMP 1 MOTOR

Work Center: MNTC
Task#: 005648
MOTORX
Loc: 06EAG03NA09120

Priority: 03
Due:

Plant Mode: 123456X890
Eq Mode: OOS
Eq List:
Eq Sr: Y
Tech Spec:
Past Acc:
Plan Rqrd: N
Approved: N
Perf Int: 1 R

Discp
Crew Sz
Man Hrs

CREW SIZE/MAN HR ESTIMATES	
ELEC	
1	
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Est Dur Hrs: 1

Work Desc: CHECK COMPONENT
PERFORM PERIODIC MAINTENANCE PER THE APPLICABLE PORTIONS OF THE
REFERENCED PROCEDURE.

Clear Rqrd: Y	Secty Rqrd: N	Procedure#: 32MT-9ZZ41
Clear#:	Secty Prm:	Drawing#: 13ESIB036
Clear#:	Void Rqrd: N	
Clear#:	Void Prm:	
REP Rqrd: Y	Q/C Rqrd: N	Tech Man#: N-990-16
REP#:	Retest Rqrd: N	Matls Rqrd: N Safety Rqrd:

Technical Approval / Date:

Discipline Supervisor / Date:

QA / Date:

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DATE 11/19/01 BY 60322 UCBAW

ARIZONA PUBLIC SERVICE
SIMS SUGGESTED CLEARANCE LIST
FACSIMILE

PAGE: 1

Task# 005648

Work Desc CHECK COMPONENT

PERFORM PERIODIC MAINTENANCE PER THE APPLICABLE PORTIONS OF THE
REFERENCED PROCEDURE.

Eq 1MSIAP05

MOTORX

Eq Desc SPRAY CHEMICAL ADDITION

Loc 06EAG03NA09120

Plant Mode 123456X890

PUMP 1 MOTOR

Work Type PM

Eq Mode 00S

Cond/Pos	Eq	Eq Desc	Loc	Comments
OPEN	1EPHAM3324	52	CKTBRK	CKTBRK FOR SPRAY CHEMICAL ADD PMP SIA-P05 13-E-SIB-036
STOP	1JSIAHS0060	SI SPRAY CHEMICAL ADD	CR-B02	CKTBRK PUMP A 13-E-SIB-036

FOR INFORMATION ONLY

PALO VERDE NUCLEAR GENERATING STATION MANUAL	PROCEDURE NO. 32MT-9ZZ41	
PREVENTATIVE MAINTENANCE PROCEDURE AC INDUCTION MOTORS, 600 VOLTS AND LESS	REVISION 0	Page 1 of 9

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APPROVED BY: _____ DATE _____

DATE EFFECTIVE _____

DN-0119V/0007V

1950

PALO VERDE NUCLEAR GENERATING STATION MANUAL	PROCEDURE NO. 32MT-9ZZ41	
PREVENTATIVE MAINTENANCE PROCEDURE AC INDUCTION MOTORS, 600 VOLTS AND LESS	REVISION 0	Page 2 of 9

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APPENDICES

Appendix A - Test Record - AC Induction Motors
(600 Volts and Less)

7

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WASHINGTON, D.C.

PALO VERDE NUCLEAR GENERATING STATION MANUAL	PROCEDURE NO. 32MT-9ZZ41	
PREVENTATIVE MAINTENANCE PROCEDURE AC INDUCTION MOTORS, 600 VOLTS AND LESS	REVISION 0	Page 3 of 9

1.0 PURPOSE

This procedure outlines the methods for performing and documenting preventative maintenance on NEMA Frame sizes 143 through 445 AC Induction Motors, 600 volts and less, to maintain a consistent high level of operation.

2.0 REFERENCES

2.1 Implementing References

- 2.1.1 ~~"A STITCH IN TIME" Biddle EIM 163~~
- 2.1.2 #40AC-OZZ03, PVNGS Station Tagging and Clearance Procedure Form
- 2.1.3 Applicable Single Line/Elementary Diagrams
- 2.1.4 60AC-OZZ06, Certification of Inspection and Test Personnel

2.2 Developmental References

- 2.2.1 #E-542, General Electric Technical Services Company Bulletin, "Selective Maintenance for Electrical Rotating Equipment"
- 2.2.2 #B-3622-9, Reliance Electric Instruction Manual
- 2.2.3 #GEH-2301, General Electric Instruction Manual
- 2.2.4 #NFPA 70B, National Fire Protection Association, Incorporated, "Electrical Equipment Maintenance"

3.0 DEFINITIONS AND ABBREVIATIONS

None.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 Verify that power sources to the motor and motor accessory devices are de-energized.
- 4.2 Rotating parts shall be at a standstill.

TOP SECRET INFORMATION ONLY

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U. S. DEPARTMENT OF JUSTICE
WASHINGTON, D. C. 20535
MAY 14 1964

PALO VERDE NUCLEAR GENERATING STATION MANUAL	PROCEDURE NO. 32MT-9ZZ41	
PREVENTATIVE MAINTENANCE PROCEDURE AC INDUCTION MOTORS, 600 VOLTS AND LESS	REVISION 0	Page 4 of 9

- 4.3 Following each Megger Test (insulation resistance), the motor shall be thoroughly grounded to dissipate the accumulated charge.
- 4.4 When the motor space heaters are de-energized, the motor shall be maintained in an ambient temperature above the dew point temperature. }
- 4.5 While the motor is open, conditions shall be such that there is no possibility of contaminating the internals with debris (dust) or liquids (except approved cleaning solvents).

~~4.6 Precautions and limitations called out in the Implementing Procedure References (Paragraph 2.1).~~

5.0 PREREQUISITES/INITIAL CONDITIONS

- 5.1 The appropriate tags have been hung and verified in accordance with PVNGS Station Tagging and Clearance Procedure, 40AC-0ZZ03. Record on Test Record.
- 5.2 Power sources to the motor and motor control circuits have been verified de-energized. Record on Test Record.
- ~~5.3 Personnel performing tests are qualified on the test equipment.~~
- 5.4 The precautions and limitations in Section 4.0 have been read and understood.
- 5.5 Prerequisites and initial conditions called out in the Implementing Procedure References (Paragraph 2.1) have been met.

6.0 RESOURCES REQUIRED

6.1 Manpower

- 6.1.1 One Electrical Technician certified to a Level 60AC-0ZZ06, Certification of Inspection and Test Personnel.

MEMORANDUM
FOR THE RECORD
DATE: 10/10/54
SUBJECT: [Illegible]

PALO VERDE NUCLEAR GENERATING STATION MANUAL	PROCEDURE NO. 32MT-9ZZ41	
PREVENTATIVE MAINTENANCE PROCEDURE AC INDUCTION MOTORS, 600 VOLTS AND LESS	REVISION 0	Page 5 of 9

6.2 Material/Equipment

- 6.2.1 Clamp-on Ammeter (Amprobe ACD-1 or ACD-2)
- 6.2.2 Hand Tools
- 6.2.3 Vacuum Cleaner with Plastic Hose and Nozzle and/or Compressed Air Supply (max. pressure of 30 psig).
- 6.2.4 Approved Solvent

6.2.5 Lint-Free Rags

6.2.6 Psychrometer

What do you use it for in acceptance criteria?

7.0 PERSONNEL ORIENTATION

- 7.1 Personnel performing tests shall be briefed concerning procedure, special precautions, data collection techniques and accuracy, and action to be taken in the event that abnormal and unexpected conditions occur.
- 7.2 Data sheets and tables shall have each data blank filled out or marked "N/A" when not applicable. This includes those referenced data sheets found in an implementing Procedure.
- 7.3 Document unusual occurrences, prolonged lapses, and subsequent re-verification of prerequisites and other significant events which occur during this procedure.

8.0 INSTRUCTIONS

NOTE

Cleaning of motors shall be performed using one or more of the following equipment:

- A. Lint Free Rags
- B. Approved Solvent
- C. Vacuum Cleaner with Plastic Hose and Nozzle and/or Compressed Air (Maximum Pressure of 30 psig)

- 8.1 Inspect the outside of the motor for moisture, rust, grease, oil, and general physical condition. Clean as necessary. Record on Test Record.

INFORMATION ONLY

1957
MAY 15 1957
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MAY 15 1957

PALO VERDE NUCLEAR GENERATING STATION MANUAL	PROCEDURE NO. 32MT-9ZZ41	
PREVENTATIVE MAINTENANCE PROCEDURE AC INDUCTION MOTORS, 600 VOLTS AND LESS	REVISION 0	Page 6 of 9

- 8.2 Inspect the ventilation duct openings for obstructions to air flow. Clean as necessary. Record on Test Record.
- 8.3 Check terminal connections, assembly screws, bolts, and nuts for tightness. Record on Test Record.
- 8.4 Remove inspection covers and check windings and interior of motor for moisture, dust, dirt, grease, oil, and general physical condition. Clean as necessary. Replace inspection covers. Record on Test Record.
- ~~8.5 Lubricate bearings. Record on Test Record.~~

CAUTION

BEFORE PROCEEDING WITH PARAGRAPH 8.6,
COORDINATE WITH OPERATIONS. RE-ENERGIZING OF
ELECTRICAL POWER CIRCUITS MUST BE APPROVED BY
OPERATIONS.

- 8.6 Re-energize the Motor Space Heater Circuit and verify Motor Space Heater operation by using a clamp-on ammeter to check for current flow. If applicable, ensure that the Neon Indicating Light located in the appropriate Motor Control Center (MCC) is operable. Record on Test Record.
 - 8.7 Perform a Megger Test per 32MT-9ZZ67, "Insulation Resistance Test". Record test data on Test Record included with Procedure 32MT-9ZZ67 and attach to this Test Record.
 - 8.8 Verify that all blanks have been filled in Test Record. Record on Test Record.
- 9.0 RESTORATION
- 9.1 Visually check to assure that tools, cleaning aids, etc., have been removed from the area.
 - 9.2 Cancel clearance and remove tags per PVNGS Station Tagging and Clearance Procedure 40AC-0ZZ03.

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PALO VERDE NUCLEAR GENERATING STATION MANUAL	PROCEDURE NO. 32MT-9ZZ41	APPENDIX A Page 1 of 3
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PREVENTATIVE MAINTENANCE PROCEDURE AC INDUCTION MOTORS, 600 VOLTS AND LESS		

AC INDUCTION MOTORS
(600 VOLTS AND LESS)

EQUIPMENT DATA

STATION	UNIT	H.P.	TAG
LOCATION		RPM.	SYSTEM
FRAME SIZE	1Ø 3Ø	FLA	VOLTAGE
S/L DRAWING #	ELEMENTARY DRAWING #		

PREREQUISITES/INITIAL CONDITIONS

INITIAL / DATE

- _____/____ 5.1 Appropriate tags hung.
- _____/____ 5.2 Power sources verified and energized.

INSTRUCTIONS

- _____/____ 8.1 Outside of motor inspected for moisture, rust, grease, oil, and general physical condition. Cleaned as necessary.
- _____/____ 8.2 Ventilation duct openings checked for obstructions.
- _____/____ 8.3 Terminal screws, bolts, and nuts checked for tightness.
- _____/____ 8.4 Windings and interior of motor inspected for moisture, dust, dirt, grease, oil and general physical condition. Cleaned as necessary.
- _____/____ 8.5 Bearings Lubricated
- _____/____ 8.6 Motor Space Heater operation verified and Indicating Lights if applicable.

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MAY 10 1964
U.S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D.C.

PALO VERDE NUCLEAR GENERATING STATION MANUAL	PROCEDURE NO. 32MT-9ZZ41	APPENDIX A Page 2 of 3
PREVENTATIVE MAINTENANCE PROCEDURE AC INDUCTION MOTORS, 600 VOLTS AND LESS	REVISION 0	Page 8 of 9

AC INDUCTION MOTORS
(600 VOLTS AND LESS)

INITIAL / DATE

≥ 400 MΩ

____ / ____

8.7 Megger test performed

accept criteria?

____ / ____

8.8 All blanks on test records filled.

RESTORATION

____ / ____

9.1 Area checked for tools, cleaning aids, etc.

____ / ____

9.2 Clearance cancelled and tags removed.

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COMMUNICATIONS SECTION

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ARIZONA PUBLIC SERVICE
P V N G S WORK ORDER
FACSIMILE

P M

WO#: Sys: SI
Issued Date:
Eq: 1MSIAP05
Eq Desc: SPRAY CHEMICAL ADDITION
PUMP 1 MOTOR

Work Center: MNTC
Task#: 015551
MOTORX
Loc: 06EAG03NA09120

Priority: 03
Due:

Plant Mode: 123456X890
Eq Mode: OOS
Eq List: N
Eq Sr: Y
Tech Spec:
Past Acc:
Plan Rqrd: N
Approved: N
Perf Int: 5 A

Discp
Crew Sz
Man Hrs

CREW SIZE/MAN HR ESTIMATES	
ELEC	
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TS Late Date: Est Dur Hrs: 1

Work Desc: INSPECT GASKET
PERFORM PERIODIC MAINTENANCE PER THE APPLICABLE
PORTIONS OF THE ATTACHED INSTRUCTIONS.

Clear Rqrd: N	Secty Rqrd: N	Procedure#:
Clear#:	Secty Prm:	Drawing#: 13ESIB036
Clear#:	Void Rqrd: N	
Clear#:	Void Prm:	
REP Rqrd: Y	Q/C Rqrd: N	Tech Man#: N001-1506-14
REP#:	Retest Rqrd: N	Matls Rqrd: Y Safety Rqrd:

Technical Approval / Date:

Discipline Supervisor / Date:

QA / Date:

CALL SS AT WORK START _____ COMP _____

FOR INFORMATION ONLY

Task# 015551

ATTACHMENT _____ OF _____

Work Desc INSPECT GASKET

PERFORM PERIODIC MAINTENANCE PER THE APPLICABLE
PORTIONS OF THE ATTACHED INSTRUCTIONS.

Eq 1MSIAP05

MOTORX

Eq Desc SPRAY CHEMICAL ADDITION
PUMP 1 MOTOR

Loc 06EAG03NA09120
Work Type PM

GENERAL MAINTENANCE NOTES

- 1.0 CONTACT THE SHIFT SUPERVISOR BEFORE BEGINNING AND AFTER COMPLETING WORK.
 - 1.1 INFORM OPS QC BEFORE BEGINNING WORK ON ANY SAFETY RELATED OR QUALITY RELATED EQUIPMENT OR SYSTEM.
- 2.0 HOUSEKEEPING AND AREA CLEANLINESS SHALL BE IN ACCORDANCE WITH 30AC-9ZZ04.
- 3.0 ANY PERSONNEL SAFETY GROUNDING SHALL BE IN ACCORDANCE WITH 32MT-9ZZ81.
- 4.0 GENERAL WORK PRACTICES SHALL BE IN ACCORDANCE WITH PVNGS SAFETY MANUAL.
- 5.0 DISCREPANCIES, ACTIONS TAKEN, AND WORK PERFORMED SHALL BE DOCUMENTED IN THE COMMENTS SECTION.
- 6.0 MINOR MAINTENANCE THAT FALLS WITHIN THE SCOPE OF THIS PM SHALL BE ADDRESSED ON THIS PM. MAJOR MAINTENANCE SHALL BE ADDRESSED BY THE INITIATION OF A WORK REQUEST OR AN ADDENDUM TO THIS PM.

FOR INFORMATION ONLY

Task# 015551

ATTACHMENT ____ OF ____

Work Desc INSPECT GASKET

PERFORM PERIODIC MAINTENANCE PER THE APPLICABLE
PORTIONS OF THE ATTACHED INSTRUCTIONS.

Eq IMSIAP05

MOTORX

Eq Desc SPRAY CHEMICAL ADDITION
PUMP 1 MOTOR

Loc 06EAG03NA09120
Work Type PM

INSTRUCTIONS FOR GASKET INSPECTION

- 1.0 THE MOTOR TERMINATION BOX COVER GASKET HAS BEEN IDENTIFIED IN THE WILEY LABORATORIES ENGINEERING REPORT AS A LIFE LIMITING COMPONENT IN ACCORDANCE WITH COMBUSTION ENGINEERING SPECIFICATION NO. 14273-PE-412, REV. #2.
 - 1.1 IF THE REFERENCED GASKET HAS NOT BEEN REQUALIFIED TO EXTEND ITS USEFUL LIFE, REPLACE THE GASKET IN ACCORDANCE WITH SECTION 2.0.
- 2.0 GASKET REPLACEMENT:
 - 2.1 INSPECT THE MOTOR TERMINATION BOX AND COVER FOR NICKS, CRACKS, ROUGH MATING SURFACES, AND/OR ANY OTHER SIGNS OF DEGRADATION.
 - 2.2 REPLACE THE INSTALLED GASKET WITH THE GASKET SUPPLIED WITH THIS WORK PACKAGE.
 - 2.3 REPLACE THE MOTOR TERMINATION BOX COVER.
 - 2.3.1 SNUGGING OF THE TERMINATION BOX COVER BOLTS SHALL BE SUFFICIENT.

3.0 COMMENTS:

FOR INFORMATION ONLY

4.0 PERFORMED BY _____ DATE ____/____/____

Task# 007356 ATTACHMENT _____ OF _____
Work Desc CHANGE MOTOR BEARING GREASE USING ATTACHED GUIDE.
USE SHELL DOLIUM R GREASE OR EQUIVALENT. ALSO CHECK EQUIPMENT
BOLTING TIGHTNESS PER TORQUING ATTACHMENT.
Eq 1MSIAP05 MOTORX
Eq Desc SPRAY CHEMICAL ADDITION Loc 06EAG03NA09120
PUMP 1 MOTOR Work Type PM

LUBRICATION (GREASE)
(MOTOR BEARING)

01. IF CLEARANCE IS REQUIRED, BE SURE IT IS PROPERLY HUNG AND THE EQUIPMENT IS IN A SAFE TO WORK CONDITION. CONTACT QC PRIOR TO WORK.
02. REMOVE GREASE PLUG FROM EACH BEARING AND INSTALL GREASE FITTING IF NONE ARE PRESENT.
03. REMOVE PURGE PLUG AND INSTALL PRESSURE RELIEF PLUG (IF AVAILABLE)
04. WIPE OFF GREASE FITTING AND PUMP NEW GREASE INTO THE BEARING UNTIL NEW GREASE APPEARS AT THE PRESSURE RELIEF PLUG OR THE PURGE PLUG HOLE WHICHEVER IS APPROPRIATE.
05. COMPLETE THE TORQUEING OF THE PUMP HEAD PER TORQUE CHART, AS NECESSARY.
06. RUN MOTOR FOR APPROX.15 MIN. TO BLEED EXCESS GREASE FORM BEARING. (THIS MUST BE DONE IF MOTOR IS NOT EQUIPPED WITH RELIEF). WIPE OFF EXCESS GREASE.
07. LEAVE GREASE FITTING AND PRESSURE RELIEF FITTING INSTALLED.
08. RETURN EQUIPMENT BACK TO OPERATIONS.

FOR INFORMATION ONLY

ARIZONA PUBLIC SERVICE
SIMS WORK ORDER ATTACHMENT
THIS DOCUMENT IS PART OF A WORK CONTROL
PACKAGE AND IS NOT TO BE SEPARATED FROM IT
FACSIMILE

Task# 007356 ATTACHMENT _____ OF _____
 Work Desc CHANGE MOTOR BEARING GREASE USING ATTACHED GUIDE.
 USE SHELL DOLIUM R GREASE OR EQUIVALENT. ALSO CHECK EQUIPMENT
 BOLTING TIGHTNESS PER TORQUING ATTACHMENT.
 Eq IMSIAP05 MOTORX
 Eq Desc SPRAY CHEMICAL ADDITION Loc 06EAG03NA09120
 PUMP 1 MOTOR Work Type PM

TORQUING ATTACHMENT

MATERIAL BOLT SIZE	STEP 1	STEP 2	STEP 3	COMMON LOW	SAE GR.5 FINAL	SAE GR.8 FINAL	SA-193 B7, SA-540-CL.1-5, OR SA-564 GR.630
				CARBON STEEL FINAL			FINAL
1/4-20		2	3	4	6	9	5
5/16-18		3	7	7	12	15	12
3/8-16		5	10	12	22	30	20
7/16-14		5	10	22	35	45	30
1/2-13		10	25	35	45	60	40
5/8-11	20	40	60	65	80	100	75
5/8-18	20	40	70	85	100	140	110
3/4-10	25	50	75	100	150	225	125
7/8-9	50	100	150	150	275	350	250
1-8	50	125	200	225	400	500	300
1-12	50	125	200	250	425	575	370
1-1/8-7	75	200	300	275	450	650	400
1-1/8-8	75	200	300	300	450	675	400
1-1/4-7	75	225	400	325	475	750	425
1-1/4-8	75	225	400	350	475	775	425
1-1/4-12	75	225	425	375	700	900	675
1-3/8-8	75	250	450	425	900	1200	875
1-1/2-8	75	300	500	600	1200	1400	1100

NOTE: ALL TORQUES ARE IN FT-LBS.

NOTE: STEPS 1-3 = +/- 25%

NOTE: FINAL STEP = +/- 10%

NOTE: TIGHTEN ALL BOLTS FINGER TIGHT PRIOR TO APPLYING FIRST TORQUE.

NOTE: TIGHTEN ALL FINAL VALUES A SECOND TIME.

NOTE: IF ANY BOLTS ARE FOUND TO BE LOOSE (OUTSIDE OF NORMAL RANGE), BEFORE RETIGHTENING, CONTACT MCC FOR AN ADDENDUM OF THIS PACKAGE FOR ADDITION OF QC HOLD POINTS TO VERIFY TORQUE.

FOR INFORMATION ONLY

ARIZONA PUBLIC SERVICE
SIMS SUGGESTED CLEARANCE LIST
FACSIMILE

Task# 007356

Work Desc CHANGE MOTOR BEARING GREASE USING ATTACHED GUIDE.
USE SHELL DOLIUM R GREASE OR EQUIVALENT. ALSO CHECK EQUIPMENT
BOLTING TIGHTNESS PER TORQUING ATTACHMENT.

Eq 1MSIAP05	MOTORX	Plant Mode	123456X890
Eq Desc SPRAY CHEMICAL ADDITION	Loc 06EAG03NA09120	Eq Mode	00S
PUMP 1 MOTOR	Work Type PM		

Cond/Pos	Eq	Eq Desc	Loc
NA	1EPHAM3324	52	CKTBRK
	CKTBRK FOR SPRAY CHEMICAL 10WAC05NA05125		
	ADD PMP SIA-P05		
	13EPHA003 3/7 BLUE #1		
NA	1JSIAHS0060		CKTBRK
	SI SPRAY CHEMICAL ADD	CR-B02	
	PUMP A		
	13ESIB036 C/5 BLUE #2 (MINI)		

FOR INFORMATION ONLY

1

ARIZONA PUBLIC SERVICE
P V N G S WORK ORDER
FACSIMILE

P M

WO#: Sys: CH
Issued Date:
Eq: 1JCHAHV0507
Eq Desc: RCP BLEED-OFF TO RDT

Work Center: MNTC
Task#: 015576
VALVOP
Loc: E2946N099 083

Priority: 03
Due:

Plant Mode: 1234XX7890
Eq Mode: 00S
Eq List: N
Eq Sr: Y
Tech Spec: N/A
Past Acc:
Plan Rqrd: N
Approved: N
Perf Int: 5 A

Discp
Crew Sz
Man Hrs

CREW SIZE/MAN HR ESTIMATES	
ELEC	
1	
2	

TS Late Date:

Est Dur Hrs: 2

Work Desc: REMOVE/REPLACE COMPONENT
PERFORM PERIODIC MAINTENANCE PER APPLICABLE
PORTIONS OF THE ATTACHED INSTRUCTIONS.

Clear Rqrd: Y	Secty Rqrd: N	Procedure#: 36MT-9ZZ16
Clear#:	Secty Prm:	Drawing#: 13ECHB011
Clear#:	Void Rqrd: N	
Clear#:	Void Prm:	
REP Rqrd: Y	Q/C Rqrd: Y	Tech Man#: N001-1104-214
REP#:	Retest Rqrd: Y	Matls Rqrd: Y Safety Rqrd:

Technical Approval / Date:

Discipline Supervisor / Date:

QA / Date:

CALL SS AT WORK START _____ COMP _____

FOR INFORMATION ONLY

Task# 015576

ATTACHMENT ____ OF ____

Work Desc REMOVE/REPLACE COMPONENT
PERFORM PERIODIC MAINTENANCE PER APPLICABLE
PORTIONS OF THE ATTACHED INSTRUCTIONS.

Eq 1JCHAHV0507

VALVOP

Eq Desc RCP BLEED-OFF TO RDT

Loc E2946N099 083

Work Type PM

GENERAL MAINTENANCE NOTES

- 1.0 CONTACT THE SHIFT SUPERVISOR BEFORE BEGINNING AND AFTER COMPLETING WORK.
 - 1.1 INFORM OPS QC BEFORE BEGINNING WORK ON ANY SAFETY RELATED OR QUALITY RELATED EQUIPMENT OR SYSTEM.
- 2.0 HOUSEKEEPING AND AREA CLEANLINESS SHALL BE IN ACCORDANCE WITH 30AC-9ZZ04.
- 3.0 ANY PERSONNEL SAFETY GROUNDING SHALL BE IN ACCORDANCE WITH 32MT-9ZZ81.
- 4.0 GENERAL WORK PRACTICES SHALL BE IN ACCORDANCE WITH PVNGS SAFETY MANUAL.
- 5.0 DISCREPANCIES, ACTIONS TAKEN, AND WORK PERFORMED SHALL BE DOCUMENTED IN THE COMMENTS SECTION.
- 6.0 MINOR MAINTENANCE THAT FALLS WITHIN THE SCOPE OF THIS PM SHALL BE ADDRESSED ON THIS PM. MAJOR MAINTENANCE SHALL BE ADDRESSED BY THE INITIATION OF A WORK REQUEST OR AN ADDENDUM TO THIS PM.

FOR INFORMATION ONLY

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Task# 015576

ATTACHMENT _____ OF _____

Work Desc REMOVE/REPLACE COMPONENT
PERFORM PERIODIC MAINTENANCE PER APPLICABLE
PORTIONS OF THE ATTACHED INSTRUCTIONS.

Eq 1JCHAHV0507

VALVOP

Eq Desc RCP BLEED-OFF TO RDT

Loc E2946N099 083

Work Type PM

MAINTENANCE INSTRUCTION FOR SOLENOID COIL

1.0 THE SOLENOID COIL FOR VALVE 1JCHAHV0507 HAS BEEN IDENTIFIED IN THE WILEY LABORATORIES ENGINEERING REPORT AS A LIFE LIMITING COMPONENT IN ACCORDANCE WITH COMBUSTION ENGINEERING SPECIFICATION NO. 14273-PE-704, REV. #2.

1.1 IF THE REFERENCED SOLENOID COIL HAS NOT BEEN REQUALIFIED TO EXTEND ITS USEFUL LIFE, REPLACE THE SOLENOID COIL IN ACCORDANCE WITH SECTION 2.0.

2.0 COIL REPLACEMENT:

2.1 RECORD DETERMINATIONS ON THE ATTACHED TERMINATION LOG, APPENDIX #02.0.

2.2 DISASSEMBLE THE SOLENOID COIL ASSEMBLY IN ACCORDANCE WITH THE ATTACHED APPENDIX #05.0, FORM #V-5103.

2.3 REPLACE THE INSTALLED SOLENOID COIL WITH THE SOLENOID COIL SUPPLIED WITH THIS WORK PACKAGE.

2.4 REASSEMBLE THE SOLENOID COIL ASSEMBLY IN ACCORDANCE WITH THE ATTACHED APPENDIX #05.0, FORM #V-5103.

2.5 TERMINATIONS SHALL BE IN ACCORDANCE WITH THE ATTACHED TERMINATION LOG, THE EE-580, AND THE CURRENT REVISION OF 13-EM-306.

2.6 TORQUE THE SOLENOID COIL ASSEMBLY WATERTIGHT COVER TO 130 + 10 INCH LBS.

2.7 Q.C. HOLDPOINT FOR VERIFICATION OF CORRECT TORQUE

NAME: _____ LEVEL: _____ DATE _____

3.0 RETEST:

3.1 INFORM THE I&C DEPARTMENT 1JCHAHV0507 IS READY FOR RETEST

3.2 DELIVER THIS WORK PACKAGE TO THE I&C DEPARTMENT'S CUSTODY FOR THE PERFORMANCE OF THE RETEST.



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1

ARIZONA PUBLIC SERVICE
P V N G S WORK ORDER
FACSIMILE

F M

WO#: Sys: CH
Issued Date:
Eq: 1JCHAHV0507
Eq Desc: RCD BLEED-OFF TO RDT

Work Center: MNTC
Task#: 015773
INSTRU
Loc: E2946N09960083

Priority: 03
Due: 04/08/84

Plant Mode: 123456X890
Eq Mode: OOS
Eq List: ~~Y~~N @ 12/14/83
Eq Sr: Y
Tech Spec:
Past Acc:
Plan Rqrd: N
Approved: N
Perf Int: 2 A

Discp
Crew Sz
Man Hrs
TS Late Date:

CREW SIZE/MAN HR ESTIMATES	
IC1	
Crew Sz	2
Man Hrs	6

Est Dur Hrs: 3

Work Desc: STROKE VALVE PER ATTACHMENTS (2).

Clear Rqrd: Y	Secty Rqrd: N	Procedure#: 36MT-9ZZ16
Clear#:	Secty Prm:	Drawing#: 13-M-CHP-002-8
Clear#:	Void Rqrd: N	13-E-CHB-011-4
Clear#:	Void Prm:	13-M-RCP-002-4
REP Rqrd: Y	Q/C Rqrd: N	Tech Man#: N001-1104-214
REP#:	Retest Rqrd: N	Matls Rqrd: N Safety Rqrd:

Technical Approval / Date: _____

Discipline Supervisor / Date: _____

QA / Date: _____

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SIMS WORK ORDER ATTACHMENT
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FACSIMILE

Task# 015773
Work Desc STROKE VALVE PER ATTACHMENTS (2).

ATTACHMENT ____ OF ____

Eq 1JCHAHV0507
Eq Desc RCD BLEED-OFF TO RDT

INSTRU
Loc E2946N09960083
Work Type PM

SYSTEM: CHEMICAL AND VOLUME CONTROL

INSTRUMENT FUNCTION: PROVIDES ISOLATION IN THE EVENT OF 1JCHNPSV0199 IS STUCK OPEN. PROVIDES VALVE POSITION INDICATION IN MAIN CONTROL ROOM AND REMOTE SHUTDOWN PANEL (ZJA-E01)

PRECAUTIONS & LIMITATIONS:

- 1.) 125 VDC PRESENT AT SWITCH CONTACTS

PREREQUISITES & INITIAL CONDITIONS:

- 1.) NOTIFY Q.C. PRIOR TO WORK START.
- 2.) REFER TO REP.
- 3.) REFER TO SUGGESTED CLEARANCE LIST.

PREREQUISITE CONDITIONS HAVE BEEN MET:

INITIAL _____ DATE _____

SUGGESTED M & T.E.:

- 1.) MULTIMETER
- 2.) PRESSURE SOURCE WITH 3/8 INCH FEMALE SWAGelok FITTING.
- 3.) TEST GAUGE 0-60 PSIG

FOR INFORMATION ONLY

-----REGULATOR-----			
UNITS = PSIG			
REG FOR INSTRU#	SET	AS FND	AS LFT
1JCHNHV0507	30		

1JCHNHV0507			
VALVE STROKE DESIRED	AS FOUND	AS LEFT	FAILED POSITION OPEN
3/4 INCH			VERIFIED BY _____ INITIAL DATE _____
VALVE OPERATION INPUT	POSITION REQUIRED	AS FOUND	AS LEFT
0 PSIG	FULLY OPEN		
30 PSIG	FULLY CLOSED		

1954

ARIZONA PUBLIC SERVICE
SIMS WORK ORDER ATTACHMENT
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Task# 015773
Work Desc STROKE VALVE PER ATTACHMENTS (2).

ATTACHMENT ____ OF ____

Eq 1JCHAHV0507
Eq Desc RCD BLEED-OFF TO RDT

INSTRU
Loc E2946N09960083
Work Type PM

1JCHNZSL0507

CONTACT ACTION	VALVE TRAVEL %				ACTUATED DEVICE				
	MIN	ALLWD	MAX	AS FOUND	AS LEFT	HS-507 RED LIGHT	HS-507-1 RED LIGHT	HS-507-1 RED LIGHT	HS-507-1 RED LIGHT
DECREASING						ON	OFF	ON	OFF
SET (OPEN)	0		10			XXXXXXXX		XXXXXXXX	
RES (CLOSE)	RECORD		VALUE				XXXXXXXX		XXXXXXXXXX

1JCHNZSH0507

CONTACT ACTION	VALVE TRAVEL %				ACTUATED DEVICE				
	MIN	ALLWD	MAX	AS FOUND	AS LEFT	HS-507 GRN LIGHT	HS-507-1 GRN LIGHT	HS-507-1 GRN LIGHT	HS-507-1 GRN LIGHT
INCREASING						ON	OFF	ON	OFF
SET (OPEN)	90		10			XXXXXXXX		XXXXXXXX	
RES (CLOSE)	RECORD		VALUE				XXXXXXXX		XXXXXXXXXX

PERFORMED BY: _____
SIGNATURE DATE

PERFORMED BY: _____
SIGNATURE DATE

RESTORATION:

- 1.) RE-ESTABLISH ALL WIRING TO ORIGINAL CONFIGURATION.
- 2.) OBSERVE INDICATOR LIGHTS ON HANDSWITCH TO VERIFY NORMAL OPERATION.

RESTORED BY: _____
SIGNATURE DATE

INDEPENDENT VERIFICATION
OF RESTORATION:

SIGNATURE DATE

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