



FEBRUARY 17 1988

L-88-83

11:00:52

Dr. J. Nelson Grace
Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta Street, N. W., Suite 2900
Atlanta, Georgia 30323

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Management-on-Shift Weekly Report

Dear Dr. Grace:

Pursuant to the Nuclear Regulatory Commission Order dated October 19, 1987, the attached summary of Management-on-Shift (MOS) reports is submitted.

Should there be any questions on this information, please contact us.

Very truly yours,


C. O. Woody
Executive Vice President

COW/SDF/pw
Attachment

cc: J. Lieberman, Director, Office of Enforcement, USNRC
Dr. G. E. Edison, Project Manager, NRR, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant
R. E. Tallon, President, FPL

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 AUTH. NAME AUTHOR AFFILIATION
 WOODY, C. O. Florida Power & Light Co
 RECIP. NAME RECIPIENT AFFILIATION
 GRACE, J. N. Region 2, Ofc of the Director

SUBJECT: Forwards summary of mgt on shift reports as ordered by NRC
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MANAGEMENT ON SHIFT (MOS)

WEEK STARTING: 2/08/88

WEEKLY SUMMARY REPORT

PAGE 1 OF 2

Four MOS observers were on shift; Robert E. Dawson, St. Lucie Nuclear Plant Electrical Maintenance Supervisor (02/08-02/14/88, Days); L. K. Heffelfinger, St. Lucie Nuclear Plant Training Department (02/08-02/15/88, Nights); Daniel E. Meils, Turkey Point Nuclear Plant Chemistry Supervisor (02/08-02/10/88, Nights) and John E. Crockford, Turkey Point Nuclear Operations Training Supervisor (02/10-02/15/88, Nights); Mr. Robinson J. Earl, Turkey Point Nuclear Plant Quality Control Department Supervisor assumed the MOS observer duties for four hours on February 12, 1988 when Mr. Dawson became ill.

During this reporting period, Unit 3 continued in the startup process reaching Mode 3. Unit 4 remained shutdown in Mode 5 for maintenance.

One MOS observer identified one issue as an Immediate Safety Problem. The issue concerned a postulated failure of a Volume Control Tank level transmitter which could result in the loss of suction to the charging pumps. Because of this concern Plant Management took prudent actions (i.e. operator information tags were placed in control room, a training brief was issued, and procedure changes were approved) to provide the operators with information on how to respond to this concern while it is being evaluated by our Engineering Department for applicability. Upon completion of this evaluation, appropriate actions will be taken.

The following questionable work practices were observed:

1. The backup nitrogen bottles for the Main Steam Isolation Valve closure system were observed to be required at 2300 psig while the safety valves on this system are set at 2250 psig.
2. File cabinets located behind the control/protection instrument racks were observed to restrict access to the area for maintenance, surveillance and/or off normal activities.
3. A concern was raised about the method by which outage related Plant Work Orders (two) are identified and worked during unscheduled plant outages.

In addition, if conditions do not permit working on an outage related PWO, some method of identification of this fact or the PWO tag in the field should be explored.

ATTACHMENT: MOS DAILY REPORTS

WEEK STARTING: 2/8/88

WEEKLY SUMMARY REPORT

PAGE 2 OF 2

During this period MOS observers made comments on areas of concern or suggestions for improvement including:

- o Several suggestions for improving procedures and logs in the areas of acceptance criteria for log sheet values, use of operator aids index, human factor improvements to the surveillance control document, tracking of post maintenance testing and additional steps for the Standby Feedwater System Procedure.
- o Two industrial safety issues concerning hearing protection and handrails on a staircase.
- o Two training items concerning the Volume Control Tank level transmitter postulated failure and consistent methods for reading flow rotameters.
- o Five improvements for plant component systems associated with the Gas Decay Tanks, 3C Moisture Separator Reheater purge valve, turbine trip lever interferences, Main Steam Isolation Valve backup nitrogen system and Volume Control Tank level system.
- o Several items associated with storage of equipment and more efficiently organizing work on Plant Work Orders.
- o Two suggestions on the control of Switchyard activities and the use of the Equipment Out-of-Service Log.

ATTACHMENT: MOS DAILY REPORTS

To: Operations Superintendent - Nuclear

Date: 02/08/88

From: Bob Dawson
(MOS Observer)Shift: ☒ Day
☐ Night

A. Plant evolutons observed

- Shift briefings
- Planning meetings
- Battery charger placed in/out of service
- RPI calibration (Unit 3) PMI 028.1
- Plant tour

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

None

E. Professionalism, Summary of Shifts, Comments

- Shift communications continue to be a positive influence.
- Reviewed the PWO the repair of the "4A" Battery Charger. Data called for in the Retest section was not present. Electrical Maintenance personnel ensured that the data was taken and included with the package prior to returning the charger to service.
- Observed the "4A" charger being returned to service. Operations personnel used the procedure- including the recent OTSC to control the evolution. The whole evolution went well.
- Observed I&C PWO troubleshooting the Unit 3 RPI input to the turbine runback circuitry using PMI-028.1. I&C technicians were controlling their work with this procedure. Expected results were not obtained. Voltages recorded were outside of the tolerance given in the note at the top of page 40. I&C Technicians correctly stopped and called their supervision for direction. They were then told to discontinue their efforts until the procedure could be examined and/or changed although this action seems overly conservative, it demonstrates the proper regard for procedure compliance (Good job by I&C in the adherence area).

02/08/88

F. Recommendations

None

Completed By:

Bob Dawson

MOS Observer

Date: 02/08/88

Reviewed By:

[Signature]

Operations Superintendent- Nuclear

Date: 2/9/88Management
Review By:2/15
PM-N12/4/88
Date(173)
SVP12/8/88
Date[Signature]
VP2/9/88
Date

MANAGEMENT INITIAL RESPONSE

MOS DAILY REPORT

To: Operations Superintendent - Nuclear

Date: 02/08-09/88

From: L.K. Heffelfinger
(MOS Observer)Shift: ☐ Day
☒ Night

A. Plant evolutions observed

- End of shift/beginning of shift meetings
- PSN and APSN shift turnover
- Unit 4 cooldown to Mode 5
- In plant equipment clearance order temporary lift
- Secondary plant tour

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

ANPO logsheet acceptable ranges for ICW pump discharge pressure and lube water flow are inconsistent with the ICW System Operability Review Package (SORP).

E. Professionalism, Summary of Shift, Comments

- PSN, APSN, and NWE conducted thorough shift meetings by identifying all the jobs assigned to the shift then setting priorities. PSN provided additional specific information concerning the role of the battery chargers in causing Unit 4 shutdown and the Control Room door replacement. Good communications and shift planning were evident.
- Operators performed Unit 4 cooldown smoothly following all procedural steps. RCO trainees on shift were involved and gained "hands-on" experience under direct supervision.
- Temporary lift of clearance 4-88-2-017 was observed. Operators were knowledgeable of the procedural controls and executed the steps competently.

F. Recommendations

Ensure ICW. system operability can be accurately determined using routine logged readings and observations.

Completed By: L.K. Heffelfinger
MOS Observer

Date: 02/09/88

Reviewed By: [Signature]
Operations Superintendent- Nuclear

Date: 2/9/88

Management
Review By:

6/13 12/9/88 [Signature] 12/9/88 [Signature] 2/7/88
PM/N Date SVP Date VP Date

MANAGEMENT INITIAL RESPONSE

To: Operations Superintendent - Nuclear

Date: 02/08-09/88

From: Daniel E. Meils
(MOS Observer)Shift: ☐ Day
☒ Night

A. Plant evolutions observed

- Unit 4 mode change (from mode 4 to mode 5)
- Secondary system tour
- RCA tour
- End of shift, PSN turnover and beginning of shift meetings
- Unit "4B" CCW heat exchanger cleaning
- Gas Decay Tank "D" release (GDT #88-009)
- Unit 3 rod stepping/CRDM test

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

1. The use of Operating Procedures to perform maintenance testing.

E. Professionalism, Summary of Shift, Comments

1. The shift turnover meeting established what should be the priority jobs for this shift while Unit 4 was going on RHR. 4-GOP-305 was utilized and referenced frequently to get Unit 4 to Mode 5 prior to the LCO expiration. "4B" CCW heat exchanger cleaning and Gas Decay Tank release GDT#88-009 were uneventful.
2. During the trouble shooting of control bank indication, a question was raised about the validity of using OP-1604.9 "Reactor Full Length Control Rod System (CRDM) Test" procedure (See D.1). This procedure is generally used to move individual rods, after refueling, to check Rod Position Indications (RPI). However, during this test the whole control bank was being manipulated. The validity of the operator sign offs in this procedure was questioned as well as the appropriateness of using this procedure at all. This question was unanswered, with much discussion, by the I&C supervision on shift. He assured the MOS that this copy of OP-1604.9 would only be used for trouble shooting and not as part of any final Inservice Testing.

F. Recommendations

Evaluate the use and control of operating procedures for maintenance testing.
Promulgate the appropriate guidelines as necessary.

Completed By: Daniel E. Meils
MOS Observer

Date: 02/09/88

Reviewed By: *[Signature]*
Operations Superintendent- Nuclear

Date: 2/9/88

Management
Review By:

[Signature] 12/4/88 *[Signature]* 12/4/88 *[Signature]* 2/9/88
PM-N Date SVP Date VP Date

MANAGEMENT INITIAL RESPONSE

To: Operations Superintendent - Nuclear

Date: 2/09/88

From: Bob Dawson
(MOS Observer)Shift: ☒ Day
☐ Night

A. Plant evolutions observed

- Plant coordination meetings
- Shift briefings
- Shift turnover
- PMM 022.1 D/G Quarterly PM
- PMM 022.2 D/G Monthly PM
- OP 41.1 RCP Start
- GOP 305 Hot to Cold
- Purge Hydrogen from RCS
- Plant tour(s)

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

None

02/09/88

E. Professionalism, Summary of Shift, Comments

1. Shift briefings/communications handled well.
2. Observed mechanical maintenance in performing PMM 022.1 & 2 on the B Diesel Generator.
 - The PWO package contained a good set of instructions including retest requirements.
 - The instructions/procedures were used efficiently by the mechanical maintenance personnel. The journeymen were actually performing both procedures at the same time-both evolutions were controlled; journeymen were not bothered by performing 2 at the same time.
 - The foreman was present at the jobsite. Good use of supervision in the field.
3. Observed construction working on the 4B2 Circ water motor space heater. Journeymen had instructions with them and they were using the instructions to govern their work. I later verified that they were working under an existing, proper clearance.
4. Observed OP 41.1 - RCP starts. All RCO's involved utilized the procedure to start/stop RCPs.
5. Observed the start of purging hydrogen from the RCS on Unit 4. This evolution didn't get very far due to full Gas Decay Tanks. Operations did proceed with removing hydrogen from the VCT cover gas. Chemistry personnel informed the control room of "high" oxygen concentration in a Gas Decay Tank.
6. Discussed Intake Cooling Water Pump Lube water flowraters with non-licensed operator training personnel. Opinions varied as to where (on the float) the flow is to be read. Training material did not specify how to read flowraters. Walk thrus have been conducted giving out conflicting information. Ametek technical manual gives the proper instruction.

F Recommendations

1. Reduce oxygen to the Gas Decay tanks. Operations and chemistry personnel gave reasonable answers as to the most probable sources-these sources should be verified and reduced.
2. Incorporate instructions on taking readings from flowraters in the NLO training material. (use the Ametek technical manual as a reference) Provide this material to NLO training instructors to ensure consistent walk thrus.

Completed By: Bob Dawson
MOS ObserverDate: 02/09/88Reviewed By: Richard J. Wende
Operations Superintendent-NuclearDate: 2-10-88Management
Review By:

0/3 1/13/88 003 12/10/88 VP 1 2/10/88
 PM/N Date SVP Date VP Date

To: Operations Superintendent - Nuclear

Date: 02/09-10/88

From: L.K. Heffelfinger
(MOS Observer)Shift: ☐ Day
☒ Night

A. Plant evolutions observed

- End/beginning of shift meetings
- "B" D/G surveillance
- Unit 3 step counter change - reviewed PWO
- Unit 4 Rod stepping (J-11) OTSC
- Plant tour

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

None

E. Professionalism, Summary of Shift, Comments

1. Shift meetings were informative and productive; all observed shift communications were performed in a professional manner.
2. Preparations for "B" Emergency Diesel Generator Operability Test revealed several problems:
 - a) While performing O-OP-023 section 5.2.2.3.C lube oil cooler outlet oil temperature (TI442B) was found to be less than the 115°F required. However, the "ready for service" light was lit; considerable discussion followed and the system engineer was consulted. An OTSC (#5722) was made to O-OP-023 and the Operability Test was satisfactorily performed.
 - b) Since the "B" EDG Operability Test was delayed several hours, the question came up as to whether or not an operability test of the in-service "A" EDG was required. Technical Specifications and Interim Technical Specifications were consulted. Interpretations based on having both units in Mode 5 resulted in some confusion. Operators expressed frustration that this same problem has arisen previously and interpretations were not available for them to review. "A" EDG Operability Test was not performed.
3. Review of PWO 6206/63 on Unit 3 Control Rod drive system step counters revealed no deficiencies; this PWO is still open. The 3 subject step counters will be replaced when parts are available.
4. Reactor Full Length Control Rod System Test OP-1604.9 was performed on Unit 4 rod J-11 under the control of "One time only" OTSC #5720. Rod control performed normally and the test was completed.
5. A plant tour including accessible areas of Unit 3 containment was conducted. No deficiencies were noted and housekeeping was generally good.

F. Recommendations

None

Completed By: L.K. Heffelfinger
MOS ObserverDate: 02/10/88Reviewed By: Richard A. Mendenhall
Operations Superintendent - NuclearDate: 2-10-88Management
Review By:

<u>CJB</u>	<u>12/10/88</u>	<u>CJB</u>	<u>12/10/88</u>	<u>VP</u>	<u>12/10/88</u>
PM-N	Date	SVP	Date	VP	Date

To: Operations Superintendent - Nuclear

Date: 02/09-10/88

From: Daniel E. Meils
(MOS Observer)Shift: ☐ Day
☒ Night

A. Plant evolutions observed

- "B" Diesel test run
- Replacement of Control Group B 1 and 2 and A 2 step counters
- Tour of Unit 3 containment
- Review of AP-0103.36 "Operator Aid and Temporary Information Tags"

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

None

E. Professionalism, Summary of Shift, Comments

1. During the observation of the "B" Diesel test run preparations, a discrepancy was noted between the required Lube Oil Cooler outlet temperature and the observed Lube Oil Cooler outlet temperature. Upon further investigation, it was discovered that the required Lube Oil Cooler outlet temperature had been changed to a lower value several years ago. However, this change had not been reflected in the Operating Procedures or the Piping and Instrument Diagram. Subsequently the low value was verified as correct and an OTSC was submitted to change the temperature required of the Lube Oil cooler outlet temperature in the operating procedure.
2. Review of the Operator Aid and Temporary Information Tag Procedure revealed several Temporary Information Tags that had not been removed from the index even though they were not visible in the field.
3. A tour of Unit 3 containment was conducted uneventfully.

9. Recommendations

1. Update Operator Aid and Temporary Information Tag Index (i.e. A Monitor Tank 1/26/88, #5GDT 1/14/88, #4GDT 1/4/88 and others).

Completed By:

Daniel E. MeilsMOS ObserverDate: 02/10/88

Reviewed By:

Richard J. Weide
Operations Superintendent- NuclearDate: 2-10-88Management
Review By:CJB 12/10/88 CJB 12/10/88 JTB 2/10/88
PM-N Date SVP Date VP Date

MANAGEMENT INITIAL RESPONSE

To: Operations Superintendent - Nuclear

Date: 02/10/88

From: Bob Dawson
(MOS Observer)Shift: ☒ Day
☐ Night

A. Plant evolutions observed

- Plant tours
- SI pump surveillance 062.2
- Shift briefings
- Shift turnover
- Plan of the day meeting
- Steam generator wet layup
- 4A battery charger PWO/DEEP

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

None

E. Professionalism, Summary of Shift, Comments

1. Shift control of activities was good
2. Communications during evolutions was good
3. Observed 4A Battery charger PWO/DEEP
 - Procedure was used to control the replacement of the firing cards. The procedure was in the form of process sheets attached to the PWO, and made good use of the tech manual which was also present at the jobsite.
 - Many levels of supervision were in the field to supervise this job.
 - When problems occurred that went outside the process sheets, the Troubleshoot and Repair procedure was used to document all work.
 - Problems developed early in the post maintenance test concerning the proper hook up of the dummy load. The guidance in section 6.2 of SME-003.5-Charger Annual Maintenance could have avoided some of the confusion.

F. Recommendations

None

Completed By: Bob Dawson
MOS ObserverDate: 02/10/88Reviewed By: Richard L. Meade *RM*
Operations Superintendent - NuclearDate: 2-11-88Management
Review By:CPN 12/11/87 SM 12/11/87 1
PM-N Date SVP Date VP Date

MANAGEMENT INITIAL RESPONSE

02/10/88

To: Operations Superintendent - Nuclear

Date: 02/10-11/88

From: L.K. Heffelfinger
(MOS Observer)Shift: ☐ Day
☒ Night

A. Plant evolutions observed

- Shift meetings
- Shift turnover
- Plant tour
- Battery charger "3B" clearance and PWO
- "3A" RCP start
- "4B" CCW heat exchanger maintenance

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

None

E. Professionalism, Summary of Shift, Comments

1. Shift meetings and routing communications within the Control Room continue to be well done.
2. Battery charger repairs to "4S" and "3B" were completed on this shift. Observed operators removed "3B" battery charger from service and hung clearance prior to repair (O-OP-003.1).
 - RCO trainee assisted in removal of battery charger from service, procedural steps were discussed prior to performance.
 - Procedure performed with attention to detail.
 - Clearance hung and independently verified as required.
 - "3B" charger PWO reviewed; GME used to document troubleshooting and parts replacement step.
3. Reviewed 02/08/88 revisions to procedures controlling PWO work practices. Discussed implications of post maintenance testing requirements on equipment operability; details of how GEMS will notify Operations of tests required prior to mode change may require further attention.
4. Clearance issued for backfit cable pull associated with Unit 3 N32 Nuclear Instrumentation Channel.
5. Unit 3 RCP start; good communication among operators and use of procedure. RCP subsequently stopped due to unit heatup.

F. Recommendations

None

Completed By: L.K. Heffelfinger
MOS ObserverDate: 02/11/88Reviewed By: Richard J. Hende for
Operations Superintendent- NuclearDate: 2-11-88Management
Review By:CJS 1.2/11/88 CJS 1.2/11/88 1
PM/N Date SVP Date VP Date

MANAGEMENT INITIAL RESPONSE

To: Operations Superintendent - Nuclear

Date: 02/10-11/88

From: John Crockford
(MOS Observer)Shift: ☐ Day
☒ Night

A. Plant evolutions observed

- Start of "3A" RCP
- Shift turnover in the Control Room and NPO shelter
- Monitored repairs of battery charger "4A" and "3B"
- Monitored activity on turbine stub shaft Unit 4
- Walked down secondary side for overall status of plant PWO status while preparations for a plant startup were being made.

B. Immediate safety problems

Boric acid blender station for neither unit is not working in AUTO. A failure of LT-115 high would result in a full divert of letdown and blocking of low level transfer of charging pump section to Refueling Water Storage Tank (RWST). Makeup is blocked by the malfunctioning automatic mode and no Control Room indication would show other than the high level resulting from the failure of LT-115. Thus, the loss of charging pump suction can only be prevented by manual action to a masked condition.

C. Questionable work practices

1. Backup nitrogen bottles for the Main Steam Isolation Valve closure system are required to be 2300 psig which is greater than the safety setting of 2250 psig.
2. The number of cabinets currently located behind the control boards are restricting access to the instrument racks to perform routine maintenance, surveillances and could limit emergency access.
3. Several PWO's observed have the potential to cause equipment damage (i.e. turbine trip levers rubbing against housing may preclude a trip, "3C" Moisture Separator Reheater purge valve is not connected electrically and water box priming jets are not functioning).

D. Area(s) for improvement

1. Improve method of insuring PWO's that can have an impact on plant operations, but require an unit outage, are worked during extended outages.
2. Numerous PWO's that were workable still exist after extended periods without evidence of any work being done.
3. During the shift turnover, discussions relating to the determination of completion of delayed post maintenance testing indicates a potential problem area exists in aiding operability determination.

E. Professionalism, Summary of Shift, Comments

1. The shift turnover and observed work was conducted in a professional manner.
2. Communications show improvement and indicate efforts for improvements are working.

F. Recommendations

- (See B) Issue needs to be addressed due to the potential problem that exist in the two out of two logic. Westinghouse may have recommended a one out of two logic to preclude the event mentioned, however if PTN made change 'it is not shown in drawings' need to correct situation or drawing.
- (See C.1) Correct bottle pressure or safety valve setting to preclude the lifting of this safety when the spare bottle is valved in.
- (See C.2) Removal of cabinets should be expedited or the areas re-organized to allow better access to the control/protection racks.
- (See C.3, D.1, D.2) Work in organizing work activities has been conducted, however, methods for improved output, parallel tasking and expediting work need to be investigated and where appropriate adopted. Many PWO's were in place on system/components which were overhauled during the last outage, but the items on these PWO's were not worked.
- (See D.3) The method of tracking, testing identification and completion needs to be given to the PSN's. The concern is over delayed testing of equipment not carried in the Equipment Out of Service (EOOS) log, yet which requires post maintenance testing prior to being operable.

Completed By: John Crockford
MOS Observer

Date: 02/11/88

Reviewed By: Richard L. Wanda for
Operations Superintendent-Nuclear

Date: 2-11-88

Management
Review By:

CJB 12/11/88 CJB 12/11/88 1
PM/N Date SVP Date VP Date

MANAGEMENT INITIAL RESPONSE

In reponse to the item identified in C. the following actions were initiated at the Morning Management Meeting.

1. The Operation Supervisor directed that an information tag be placed on the AUTO Divert Valve 115A, to place it in the manual mode for failure (high) of LT-115. The annunciator response procedure and CVCS off-normal procedures will be modified as soon as possible to reflect this change. This action will prevent the scenario described in C from occurring.
2. The Training Superintendent was directed to prepare and issue a training brief covering this subject as soon as possible.
3. The Site Engineering Project Manager was directed to immediately begin a review of this issue to see if equipment changes are necessary or desirable. Engineering will also address any system operability concerns.

To: Operations Superintendent - Nuclear

Date: 02/11/88

From: Bob Dawson

(MOS Observer)

Shift: ☒ Day
☐ Night**A. Plant evolutions observed**

- Shift turnover
- Plan of the day meeting
- Unit 4 Turbine work
- Plant tour
- Degassing Reactor Coolant System
- Turbine runback troubleshooting

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

Improve control/coordination of Switchyard Switching (from 2/10/88)

E. Professionalism, Summary of Shift, Comments

1. Shift objectives were more difficult to measure due to the manner in which Thursdays are staffed in the control room. Some midnight shift people work part of the day shift; some peak shift people come in early to work part of the day shift; others work the entire day shift (as their first rest day).
2. All discrepant items found on the tours had PWO tags.
3. I&C troubleshooting of the turbine runback circuits was controlled by procedures.
4. Training instructors conducted non licensed operator training on switching procedures in the switchyard. The switching order was obtained directly by training from the dispatcher. The training instructor notified the Nuclear Watch Engineer of the planned evolution and notified the Reactor Control Operator immediately prior to starting the switching. The breaker chosen was one of the feeds (MID) from the switchyard to the Unit 4 startup transformer. Control room personnel had no indication as to the status of the other (east) feeder breaker. Control room personnel as well as the training personnel assumed that the Division Dispatcher wouldn't have issued a switching order for the mid breaker if the East breaker was open.
5. Reactor Control Operators had a good knowledge of the reasons annunciators were lit.
6. Ear plug usage has dropped considerably since both units are shut down.

F. Recommendations

1. Improved control of switchyard activities:

- As a minimum, the Assistant Plant Supervisor Nuclear should approve all activities in the switchyard.
- Verify status of other feeds if manipulation of more sensitive breakers are necessary.
- Conduct training on less sensitive breakers (ie, if the plant is shutdown, use the main transformer breakers)
- Plant requested switching orders should be obtained via the control room

2. Remind personnel that the ear protection signs are still in effect and must be followed.

Completed By: Bob Dawson

MOS Observer

Date: 02/11/88Reviewed By: *P. W. Prince*

Operations Superintendent- Nuclear

Date: 2/12/88Management
Review By:CJ3
PMJ-N12/12/88
DateCJ3
SVP12/12/88
Date

VP

Date

To: Operations Superintendent - Nuclear

Date: 02/11-12/88

From: L.K. Heffelfinger
(MOS Observer)Shift: ☐ Day
☒ Night

A. Plant evolutions observed

- Shift meetings
- Shift turnover (PSN)
- Plant tour with APSN
- Unit 4 Engineered Safeguards Test
- "4B" CCW heat exchanger return to service

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

None

E. Professionalism, Summary of Shift, Comments

1. Beginning of shift meeting (midnight shift) provided examples of continuing efforts toward good communication.

- a) PSN described events on day shift which led to lube oil spill, using this example he then encouraged all personnel on shift to be attentive to detail when performing individual jobs. Also he challenged everyone on shift to be active participants by questioning any activities which did not appear to be consistent with plant conditions.

Examples of miscommunication which led to the earlier oil spill were reviewed with suggestions for better performance.

- b) PSN provided an overview of the process involved in the upcoming Unit 4 safeguards test. Maintenance discipline supervisors described the roll their people would play in the test. Last minute instructions were transmitted to ensure all data taken would be ready at the beginning of the test. However, outside operators (NLO's) were not designated for specific functions with Unit 4. This resulted in some operators performing functions on both Unit 3 which was preparing for mode change and on Unit 4 during safeguards test.

E. Professionalism, Summary of Shift, Comments (Continued)

2. Unit 4 safeguards test, Loss-of-Offsite Power (LOOP) section was conducted and well coordinated by the Control Room crew. Deficiencies identified were assigned to specific personnel for research then follow up discussions took place with supervisors to determine the proper course of action. Safeguards test items reviewed:
- a) Breaker 40535 MCC A vital/non-vital tie failed - PWO initiated.
 - b) Bearing oil lift pump failure to start - PWO submitted.
 - c) Breaker 0832 vital/non-vital feed on "D" MCC opened at approximately 40 seconds - assigned to electrical supervisor for research. This time was determined to be appropriate as per sequence recent modification (Good teamwork evident here).
 - d) "4B" sequencer AGASTAT too slow - PWO submitted and timer replaced prior to commencing remainder of the test.

F. Recommendations

None

Completed By: L. K. Heffelfinger
MOS ObserverDate: 02/12/88Reviewed By: [Signature]
Operations Superintendent - NuclearDate: 2/12/88Management Review By: [Signature] 1-10/88 [Signature] 12/12/88
PM-N Date SVP Date VP Date

To: Operations Superintendent - Nuclear

Date: 02/11-12/88

From: John E. Crockford
(MOS Observer)Shift: ☐ Day
☒ Night

A. Plant evolutions observed

- Oil spill clean-up
- Shift turnover
- Preparation for safeguards testing
- Loss of power testing

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

None

E. Professionalism, Summary of Shift, Comments

1. Communications and coordination were very good.
2. Due to the safeguards test, a large number of people were in the Control Room. Noise level were adequately maintained and when too many people were collecting, people were asked to leave.
3. Problems were researched and corrective actions taken as appropriate.
4. Very good discussion during shift turnover that covered the oil spill, what contributed to it, and also what actions may have helped prevent it. Personnel were also briefed on the safeguards test.

F. Recommendations

None

Completed By: John E. Crockford
MOS Observer

Date: 02/12/88

Reviewed By: [Signature]
Operations Superintendent - Nuclear

Date: 2/12/88

Management
Review By:

(1/12) 1 2/1/88 (1/12) 1 2/1/88
PM/N Date SVP Date VP Date

To: Operations Superintendent - Nuclear

Date: 02/12/88

From: Bob Dawson

(MOS Observer)

Shift: ☒ Day
☐ Night

A. Plant evolutions observed

- Shift turnover
- Shift briefing
- Plant tour
- Heatup of Reactor Coolant System per GOP-503
- Safeguards Test

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

None

E. Professionalism, Summary of Shift, Comments

◦ A revision to GOP- 503 was issued just as the operating personnel were getting ready to change from Mode 5 to 4. This created a setback and some confusion. Operations personnel reverified prerequisites to Mode 4 were complete using the new revision.

◦ The completion of the Safeguards Test brought a significant number of people to the control room. The noise rose to an unacceptable level. The PSN took control to reduce the number of people as well as the "non-technical" discussions.

F. Recommendations

None

Completed By: Bob Dawson
MOS Observer

Date: 02/12/88

Reviewed By: P. J. Finner
Operations Superintendent - Nuclear

Date: 2/16/88

Management
Review By:

PM-N 12/16/88 SVP 12/16/88 VP 1 Date

To: Operations Superintendent - Nuclear

Date: 02/12/88

From: R. J. Earl
(MOS Observer)Shift: ☒ Day
☐ Night

A. Plant evolutions observed

- Assumed MOS duties at 01305 due to regular scheduled MOS Observer becoming ill and leaving site.
- Plant tour
- Unit 3 Reactor Coolant System heatup
- Reviewed O-OSP-200.2.

B. Immediate safety problems

None

C. Questionable work practices

None.

D. Area(s) for improvement

OSP 200.2 could be looked at from a human factors standpoint. Small print, poor Xerox quality and more than 40 different notes makes it difficult to follow. Step 7.5 says plant mode may change may be made when all required Technical Specifications surveillances are complete but many items listed in following pages are not actual Technical Specifications items.

E. Professionalism, Summary of Shift, Comments

There is an obvious air of professionalism exhibited by the Turbine Operators. They displayed a true interest in the physical condition of their watch station. The operators questioned were very knowledgeable of the condition and limitations of the equipment in their areas.

F. Recommendations

Review human factors concerning OSP 200.2

Completed By: R. J. Earl
MOS Observer

Date: 02/12/88

Reviewed By: [Signature]
Operations Superintendent - Nuclear

Date: 2/16/88

Management Review By: C/1/5 12/14/88 [Signature] 12/16/88
PM-N Date SVP Date VP Date

To: Operations Superintendent - Nuclear

Date: 02/12-13/88

From: L.K. Heffelfinger
(MOS Observer)Shift: ☐ Day
☒ Night

A. Plant evolutions observed

- ° Shift Meetings
- ° Shift turnover (PSN)
- ° Plant tour
- ° 125 V DC System Breaker Alignment Verification (0-OSP-003.1)
- ° Cooldown of Residual Heat Removal System.(3-OP-050, section 6.1.2)
- ° Preparations for Unit 3 transition from Mode 4 to Mode 3

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

- ° GOP- 503 Step 5.19.1 requires Maintenance Supervisors to "verify that all required post maintenance testing for entry into Mode 3 has been completed". These supervisors had questions concerning:
 1. How to identify which post maintenance tests were required for entry into Mode 3
 2. The plant or system conditions which are required before a valid post maintenance test can be performed

E. Professionalism, Summary of Shift, Comments

1. Shift meetings continue to be well used to communicate expectations for the shift and answer any questions concerning priority jobs. Maintenance crews on mid shift seem to be too small to make real progress on all assigned areas when both units are shutdown.
2. Monitored Nuclear Plant Operators performance of "125 Volt DC System Breaker Alignment Verification" (O-OSP-003.1)
 - Operator performed the task competently with attention to detail
 - Procedure was checked for open On-The-Spot Changes as required
 - Deviations from normal breaker alignment (clearance) were properly documented.
3. Residual Heat Removal removed from operation and cooled down according to 3-OP-050 section 6.1.2. Good cooperation among operators was evident.
4. Reviewed missed surveillance log and upcoming scheduled surveillances in O-OSP-200.1. Process of dealing with missed surveillances appears cumbersome but appears to be working well.

F. Recommendations

Item D

Develop a mechanism which identifies the following:

1. Which post maintenance tests are required prior to specific mode changes.
2. The conditions under which each post maintenance tests can be performed.

Possibly this information could be incorporated into the Nuclear Job Planning System or Total Equipment Data Base to ensure it's availability to all concerned.

Completed By: L.K. Heffelfinger
MOS Observer

Date: 02/12-13/88

Reviewed By: [Signature]
Operations Superintendent- Nuclear

Date: 2/16/88

Management Review By: 6:13 12/16/88 [Signature] 12/16/88
PM Date SVP Date VP Date

To: Operations Superintendent - Nuclear

Date: 02/12-13/88

From: John Crockford
(MOS Observer)Shift: ☐ Day
☒ Night

A. Plant evolutions observed

- Work in condenser pit & continued oil clean-up
- Hanging of clearance on Post Accident Hydrogen Monitoring System
- Shift turnover
- Unit 3 heatup and securing of RHR

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

1. Storage of spare parts in the Turbine lay down area
2. Use of area under Unit 'C' bus pipe cable as a catch-all storage area and location of gang boxes next to 3C Transformer cooling radiators

E. Professionalism, Summary of Shift, Comments

1. Attitudes were good and progress was made towards starting up the unit.
2. Problems were discussed to ensure understanding of the situations were clear and then appropriate actions taken.
3. Overall shift was quiet with only minor issues to deal with.
4. Training Brief for problem identified with CVCS LT-115 was issued to operations.

F. Recommendations

- D 1. Parts that are usable should be catalogued and put back in stores so that they are available when needed and can be located.
- D 2. Area under Unit 3"C" Bus pipe should be cleaned up and gang boxes moved away from the transformers.

Completed By: John Crockford
MOS Observer

Date: 02/12-13/88

Reviewed By: [Signature]
Operations Superintendent- Nuclear

Date: 2/16/88

Management
Review By:

1/13 12/14/88 [Signature] 2/16/88
PM-N Date SVP Date VP Date

To: Operations Superintendent - Nuclear

Date: 02/13/88

From: Bob Dawson
(MOS Observer)Shift: ☒ Day
☐ Night

A. Plant evolutions observed

- ° Plant tour
- ° Shift briefing
- ° Shift turnover
- ° GOP-503 Cold to Hot Shutdown
- ° Filling Accumulators
- ° Preparations for mode change

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

None

E. Professionalism, Summary of Shift, Comments

- ° All evolutions within the cold to hot shutdown procedure were completed in a professional manner.
- ° A question arose from Chemistry concerning the appropriate condition to place an accumulator in service. The Interim Technical Specifications were consulted. The Interim Technical Specifications did not contain section 3/4.5, ECC Systems (This was true for the STA and APSN copy). This section was obtained and the questions were answered.

F. Recommendations

None

Completed By: Bob Dawson
MOS Observer

Date: 02/13/88

Reviewed By: [Signature]
Operations Superintendent - Nuclear

Date: 2/16/88

Management Review By: [Signature] 12/14/88 [Signature] 2/16/88
PM/N Date SVP Date VP Date

To: Operations Superintendent - Nuclear

Date: 02/13-14/88

From: L.K. Heffelfinger
(MOS Observer)Shift: ☐ Day
☒ Night

A. Plant evolutions observed

- Shift meetings
- Shift turnover
- RCS Leak Test following RCS opening (OP-1004.1)
- Standby Steam Generators Feedwater System (O-OP-074.1)
- Review of AP-0190.16

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

1. O-OP-074.1 needs to be revised to make it clear that unless FDWR-004 or FDWR-006 is closed prior to initiating standby feedwater flow to the Steam Generator, this flow may not be available.
2. AP-0190.16 does not provide guidance to declare equipment out of service when a surveillance indicates that acceptance criteria are not met.

E. Professionalism, Summary of Shift, Comments

1. Shift meetings continue to foster good communications.
2. Operators cooperated well in the performance of required evolutions:
 - Feeding Steam Generators with standby feedwater.
 - Performance of RCS Leak Test.
3. Trainees on shift were involved in all shift activities and gained valuable operating experience during the evolutions observed.

MOS DAILY REPORT

F. Professionalism, Summary of Shift, Comments

1. (D.1)
Revise O-OP-074.1 steps 3.6 and 5.1.2. See attachments.
2. (D.2)
AP-0190.16 Revise sections 5.2 and 8.7 to ensure it is clear that equipment must be declared inoperable in cases which are consistent with Technical Specification requirements (Interim Technical Specification 4.0.3 attached) and ASME code section XI requirements (Page 172 of section XI attached). Also, individual surveillance procedures should be reviewed to ensure that adequate guidance exists for cases where surveillance test deviations fall within the "Required Action Range".

Completed By: L.K. Heffelfinger
MOS Observer

Date: 02/14/88

Reviewed By: [Signature]
Operations Superintendent- Nuclear

Date: 2/16/88

Management
Review By:

[Signature] 12/16/87 [Signature] 12/16/88
PM-N Date SVP Date VP Date

MANAGEMENT INITIAL RESPONSE

To: Operations Superintendent - Nuclear

Date: 02/13-14/88

From: John Crockford
(MOS Observer)Shift: ☐ Day
☒ Night

A. Plant evolutions observed

- Completion of heatup and preparation for startup
- Shift turnover
- End of shift meeting
- RCS Overpressure Test
- Startup of the Feedwater Train

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

None

E. Professionalism, Summary of Shift, Comments

- Shift was operated in a professional manner.
- Problems identified and corrected in a timely manner.

F. Recommendations

None

Completed By: John Crockford
MOS Observer

Date: 02/14/88

Reviewed By: [Signature]
Operations Superintendent - Nuclear

Date: 2/16/88

Management
Review By:

6/15 12/16/88 1/2/88 2/16/88
PM/N Date SVP Date VP Date

To: Operations Superintendent - Nuclear

Date: 02/14/88

From: Bob Dawson
(MOS Observer)Shift: ☒ Day
☐ Night

A. Plant evolutions observed

- Plant tour
- Shift turnover
- Shift briefings
- Plan of day meetings
- Maintenance of Component Cooling Water Heat Exchanger
- Repair of Inlet Waterbox
- Surveillance of Alternate Shutdown Panel
- Repair of Nuclear Instrumentation (N-32)

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

None

E. Professionalism, Summary of Shift, Comments

1. Communications during the alternate shutdown test were by radio. All messages were repeated back for clarity.
2. All other evolutions observed were controlled by procedure.

F. Recommendations

None

Completed By: Bob Dawson
MOS Observer

Date: 02/14/88

Reviewed By: X. W. P. [Signature]
Operations Superintendent - Nuclear

Date: 2/14/88

Management
Review By:

PMAN 12/14/88 [Signature] 12/16/88
Date SVP Date VP Date

To: Operations Superintendent - Nuclear

Date: 02/14-15/88

From: L. K. Heffelfinger
(MOS Observer)Shift: ☐ Day
☒ Night

A. Plant evolutions observed

- Shift meetings
- Shift turnover
- Reactor Coolant System heatup and cooldown temperature verification 4-OSP-041.7
- Review of NCR-88-024 on Unit 4 Control Rod Drive Mechanism cables
- Plant tour
- Repair of Unit 3 Nuclear Instrumentation Channel N32
- Plant tour
- Safeguards surveillance Unit 3

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

None

E. Professionalism, Summary of Shift, Comments

1. Shift meetings and communications continue to be good. Expectations and work assignments exceed the capabilities of the small maintenance staff on back shifts.
2. Operators performed surveillances (ie, safeguards surveillances) and procedures (ie, pressurizer heatup) in preparation for drawing a bubble with competence and good attention to detail.
3. Shift supervisors (operations) and maintenance supervisor stayed in communication on status of priority jobs - good opportunities for information exchange.
4. Problem of determination of 'who' should sign "maint. comp." block on equipment out-of-service log, and when they should sign it, still persists.

F. Recommendations

None

Completed By: L.K. Heffelfinger
MOS ObserverDate: 02/14-15/88Reviewed By: [Signature]
Operations Superintendent-NuclearDate: 2/16/88Management
Review By:6/15 12/15/88 [Signature] 12/16/88
PM/N Date SVR Date VP Date

To: Operations Superintendent - Nuclear

Date: 02/14-15/88

From: John Crockford
(MOS Observer)Shift: ☐ Day
☒ Night

A. Plant evolutions observed

- I&C worked on Nuclear Instrumentation Channels (N-32/36) and Generator Gas System Liquid Detectors.
- End of shift brief
- Shift turnover by APSN and PSN
- Shift meeting
- Safeguards Test

B. Immediate safety problems

None

C. Questionable work practices

None

D. Area(s) for improvement

1. The storage of grounding devices in the "3" and "4C" 4KV switchgear room limits access to the breakers in both normal and emergency operations.
2. Safety handrails for the north steps on "3C" switchgear room have been taken down and not replaced.
3. Paint lockers and equipment being stored under cable trays and close proximity to "4C" switchgear. The only fire equipment in the area was a free standing fire extinguisher.
4. 4KV breakers should be maintained in their appropriate switchgear cubicles and not in the aisleway. "3B" Auxiliary Breaker, "3B" SGFP and "4B" SGFP breakers are not in their cubicles. The "3B" Auxiliary Breaker may require the removal of temporary scaffolding for it to be put in its cubicle.
5. Magic marker is still being used to put information on equipment rather than approved labels or information tags (i.e. back of "3B" bus by PT fuse cubicle).
6. "3C" Moisture Separator Reheater purge valve is not connected electrically preventing proper purge and warm-up prior to being timed into service.
7. Turbine trip levers on Unit 3 appear to be binding as evidenced by PWO, rub marks and chipped paint. Condition may prevent a turbine trip and would make it difficult to perform a turbine trip test.
8. "3F" and "3G" Load Centers are being used to store plastic bags, tools and other materials.

E. Professionalism, Summary of Shift, Comments

1. Team effort and professionalism were evident throughout the night with operators assisting each other in identifying a potential to activate the trip relays prior to the event (work was stopped), timely performance of schedule and startup-related testing and working with I&C to help get the Generator Gas Liquid Monitors back in service (System repairs still working).
2. Some minor potential problems were identified, discussed, and immediate corrective actions were taken to prevent an actual problem from occurring which could have had a safety impact (i.e. some gas bottles were not tied down very well but the action corrected the situation and placed them in procedural and safety compliance).

F. Recommendations

1. (See D.1) A more appropriate location for storing the "C" bus grounding devices should be identified other than the switchgear room. This is a small area being even more restricted by the grounding devices (one of which is on a pallet and cannot be moved).
2. (See D.2) Replace handrails and identify reason rails were left down rather than put back when work requiring their removal was complete. Personnel accountable should be counseled on the importance of properly maintaining this type equipment.
3. (See D.3) Lockers should be moved to a more appropriate location or appropriate fire equipment provided to protect the major cable run.
4. (See D.4) Breakers should be properly stored in their cubicles whenever they can. The event of work being done and a grounding device in use should be the only reason breakers are stored outside of the cubicle.
5. (See D.5) Supervisors need to review the Administrative Procedure dealing with plant information and labeling so that they are made aware of the plant policy and expectations in this area.
6. (See D.6) Valve should be connected to prevent damage to the Moisture Separator Reheater tube bundle.
7. (See D.7) Fix levers so that the testing can be performed with minimum risk and a turbine trip will occur if called upon.
8. (See D.8) Clear up the inside of the "3F" and "3G" load centers.

Completed By: John Crockford
MOS ObserverDate: 02/15/88Reviewed By: D. B. Y. [Signature]
Operations Superintendent- NuclearDate: 2/16/88Management
Review By:[Signature] 12/15/88 [Signature] 12/11/88
PM/N Date SVR Date VP Date