

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No.: 50-295/81-29; 50-304/81-27

Docket No.: 50-295; 50-304

License No.: DPR-39, DPR-48

Licensee: Commonwealth Edison Company
P. O. Box 767
Chicago, IL 60690

Facility Name: Zion Nuclear Power Station, Units 1 & 2

Inspection At: Zion, IL

Inspection Conducted: December 1, 1981 through January 15, 1982

Inspector(s): *J.E. Kohler JAW*
J. E. Kohler

1-20-82

J.R. Waters
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1-20-82

Approved By: *D.W. Hayes*
D. W. Hayes, Chief
Reactor Projects Section 1B

1/26/82

Inspection Summary

Inspection on December 1, 1981 through January 15, 1982 (Report No. 50-295/81-29; 50-304/81-27)

Areas Inspected: Routine unannounced resident inspection of licensee action on previous inspection items, reactor trips, removal of battery and charger 112 from service, Fischer Porter transmitters, inadvertent PORV opening, primary to secondary leakage, auxiliary feedpump inoperability, 2B reactor trip breaker, ASCO valve sticking, NUREG-0737 items, operational safety verification, monthly maintenance observation, monthly surveillance observation and Licensee Event Reports. The inspection involved a total of 286 hours onsite by two NRC inspectors including 33 hours onsite during off shifts.

Results: Of the areas inspected one item of noncompliance (battery and charger 112 removed from service paragraph 4) was identified.

1. Persons Contacted

*K. Graesser, Station Superintendent
*E. Fuerst, Assistant Station Superintendent, Operations
*G. Pliml, Assistant Station Superintendent, Administrative and Support Services
R. Budowle, Unit 1 Operating Engineer
J. Gilmore, Unit 2 Operating Engineer
L. Pruett, Assistant Technical Staff Supervisor
P. LeBlond, Assistant Technical Staff Supervisor
*A. Miosi, Technical Staff Supervisor
B. Schramer, Station Chemist
F. Ost, Health Physics Engineer
C. Silich, Technical Staff Engineer, ISI
*B. Harl, Quality Assurance Engineer
T. Lukens, Quality Control Engineer
*B. Kurth, Master Instrument Mechanic

*Denotes those present at the exit of January 15, 1982

2. Summary of Operations

Unit 1 operated at power levels up to 100% throughout the inspection interval. No reactor trips were experienced.

Unit 2

The following reactor trips occurred during the inspection interval:

<u>Date/Time</u>	<u>Power Level</u>	<u>Occurrence</u>
December 1, 1981 3:20 AM	28%	Unit 2 was tied to the grid at 12:20 AM December 1, 1981 for the first time since commencing a refueling outage September 11, 1981. At 3:20 AM the same day the unit tripped from 28% power. The trip resulted from the rupture of the 2D feedwater regulating valve operating diaphragm. This caused a steam flow/feed flow mismatch coincident with low level in the Steam Generator. The valve was repaired, the unit made critical and re-stored to the grid at 1:25 PM December 1, 1981.
December 6, 1981 3:55 AM	90%	The reactor tripped on low low steam generator 2C level. The low low level condition was initiated when a motor control center that supplies power to the E.H.C. oil pump tripped. This caused the turbine governor valves to drift closed causing a shrink condition in the steam generators. The redundant E. H. C. oil pump

<u>Date/Time</u>	<u>Power Level</u>	<u>Occurrence</u>
December 6, 1981 (con't)		did not auto-start and was started manually. However, it failed to develop sufficient E.H.C. oil pressure due to a problem with the unloader valve setting. After the trip was received, the 2B auxiliary feedwater pump failed to start automatically as designed. Subsequent maintenance investigation found nothing that would indicate the cause of the starting problems and the pump successfully passed a surveillance test to prove operability (See paragraph 9 for details regarding auxiliary feedwater pump starting problems).
December 11, 1981	90%	<p>The unit returned to power on December 7, 1981. Reactor tripped due to a main generator trip-turbine trip. The generator tripped on a ground fault which resulted from a tube leak in a hydrogen cooler. The tube leak introduced water into the main generator which caused a current path to ground to develop in the T-1 bushing.</p> <p>After the reactor trip was received, neither the 2B or 2C motor driven auxiliary feedwater pumps (AFW) started automatically as designed. The 2A AFW pump was out of service at the time. Both 2B and 2C pumps were able to be started manually from the control room.</p> <p>Because the failure of AFW pumps to start as designed following a reactor trip was a repetitive occurrence (See Unit 2 reactor trip of December 6, 1981), the NRC issued a confirmatory letter which required Unit 2 to remain shutdown until a definitive resolution of the AFW pump starting problems could be achieved (See paragraph 9 for details of AFW pump starting problems).</p> <p>The confirmatory shutdown letter was lifted by the NRC on December 21, 1981 after repairs were made and the unit was on-line at 2:35 AM on December 22, 1981.</p>
December 22, 1981 2:35 AM	50%	Reactor trip from low low Steam Generator C level. The low low level condition was caused by a blown diaphragm in the 2C feedwater regulating valve.

<u>Date/Time</u>	<u>Power Level</u>	<u>Occurrence</u>
		After the trip was received, the AFW pumps started as designed after repairs were made as a result of the reactor trip on December 11, 1981.
		Upon resetting safeguards following recovery from the reactor trip, the 2B reactor trip breaker opened for unknown reasons and would not close immediately. The breaker was removed and inspected but nothing was found and a surveillance test to prove operability was successfully passed.
		The unit was returned to power at 6:25 PM on December 22, 1981.
December 22, 1981 8:33 PM	50%	Reactor trip from opening of train B reactor trip breaker at power. The opening of the trip breaker was related to the reactor trip of December 22, 1981 (See paragraph 10 for details of reactor trip caused opening of 2B reactor trip breaker).
		The unit was placed back on line at 6:15 AM on December 23, 1981.
January 4, 1982 1:30 AM	22%	On January 1, 1982 a shutdown on Unit 2 was commenced to repair condenser tube leaks. When the unit had been ramped down to zero percent power as indicated by the EHC system the generator was still producing 49 MW. The operators tripped the turbine knowing that a turbine trip/reactor trip would result. On January 3, 1982 the unit was taken to hot standby in anticipation of the completion of condenser repairs.
January 5, 1982 1:25 PM	< 2%	On January 5, 1982 at 1:25 PM the reactor tripped from hot standby when instrument mechanics tripped the P-13 bistable thus enabling the at power trips. The trip signal came from the reactor trip/turbine trip logic. The reactor was made critical again at 4:45 PM January 5, 1982.
January 6, 1982 12:39 AM	< 2%	On January 6, 1982 at 12:39 AM, the reactor tripped on low low level in the D Steam Generator. The MSIV's were being open in preparation for placing the unit on line. When the

<u>Date/Time</u>	<u>Power Level</u>	<u>Occurrence</u>
January 6, 1982 4:54 AM	< 2%	<p>D MSIV was opened the downstream drain valve failed to close automatically. The resultant steam off dropped the Steam Generator level below the trip point. The reactor was made critical again at 4:05 January 6, 1982.</p> <p>At 4:53 AM January 6, 1982 the unit tripped on steam flow/feed flow mismatch coincident with low level in the A Steam Generator. The trip resulted from an excessive rod pull which caused Steam Generator relief valves to open at the same time the operator was opening the MSIV bypass valves. The condition was aggravated by a steam flow set point which was high by 0.4×10^6 pph and an initial Steam generator level near the low level point. The reactor was made critical again at 12:45 PM and tied to the grid at 10:15 PM on January 6, 1982.</p>

3. Licensee Action on Previous Inspection Items

(Closed) Unresolved Item (50-304/81-16-01) Slow Closure of Containment Isolation Valves. The licensee submitted an updated LER which attributed the slow valve closing time to an ASCO solenoid valve in the instrument line which failed to vent. The failure to vent was attributed to oil in the instrument air lines (See paragraph 11 for details regarding containment isolation valves sticking due to oil in the instrument air lines).

4. Removal of Battery and Charger 112 from Service

On December 12, 1981 modification work on Unit 1 that required isolation of Battery 112 and Charger 112 from D.C. bus 112 was presented to shift management (shift engineer S.E. and shift control room engineer S.C.R.E.). Management reviewed Technical Specification Section 3.15.2.E and 3.15.2.F and determined that the battery and charger isolation were permitted by the above referenced Technical Specification as long as the work was completed within twenty-four hours. They noted that the isolation should be acceptable since the temporary configuration would be the same as that presently authorized procedurally to place a battery on routine equalizing charge, whereby both battery and charger are also divorced from the D.C. bus. Management did not realize that such an isolation was in violation of Technical Specification 3.15.2.H when performed on an operating unit.

As a final check prior to making the battery isolation, the Operating Engineer (O.E.) was consulted, but he erroneously thought the work was being performed on Unit 2 which was in hot shutdown, and agreed with the shift management's conclusion to initiate the isolation. The work was authorized, bus 112 and 212 cross connected, and the 112 battery and charger isolated at about 10:20 AM December 12, 1981. The work was completed and the lineup returned to normal about 6:30 PM December 12, 1981. The Operating Engineer realized the next day that the work had been done on the operating unit in violation of Technical

Specification 3.15.2.H and initiated a deviation report. The senior resident inspector was notified about 6 AM December 14, 1981 and a telegram sent to Region III at 11:30 AM December 14, 1981.

The safety significance of the occurrence was that a degree of independence between units was lost. P 112 remained energized from a power source that was as reliable as its normal source.

Technical Specification Sections 3.15.2.E and 3.15.2.F describe operation with an inoperable battery and battery charger respectively. Technical Specification Section 3.15.2.H states: If more than one of the conditions specified in 3.15.2.A, 3.15.2.B, 3.15.2.C, 3.15.2.D, 3.15.2.E, 3.15.2.F and 3.15.2.G occur concurrently, the reactor of the affected unit shall be brought to the hot shutdown condition immediately.

Contrary to the above, from 10:20 AM to 6:30 PM December 12, 1981 Unit 1 was operated with both the 112 battery and 112 battery charger isolated from bus 112 in violation of Technical Specification 3.15.2.H. This violation was licensee identified and is considered an item of noncompliance.

The resident inspectors consider the cause of this event to be personnel error due to difficulties encountered in comprehending Technical Specification 3.25.2 and its eight subsection. The inspectors noted that the written structure of the specification is complex and has lead to items of noncompliance in the past (NRC Inspection Report 295/79-01; 304/79-01 and 295/79-08; 304/79-09). The licensee was requested to submit a revision to Technical Specification 3.15.2 which would clarify its meaning, particularly with respect to Technical Specification 3.15.2.H. The change should include a provision to allow both battery and charger to be isolated from a D.C. bus provided that bus was supplied power from the opposite unit.

This item is open pending completion of corrective action and is designated 295/81-29-01 and 304/81-27-01.

5. Investigation

The senior resident inspector interviewed licensed personnel regarding Commonwealth Edison Management Director 1-0-17 as part of a separate NRC investigation.

No items of noncompliance were identified.

6. Zero Shift of Fischer Porter Transmitters

LER 304/81-26 identifies a repetitive problem involving zero shift on Fischer-Porter transmitters resulting in nonconservative safety settings. The licensee has undertaken a program to improve transmitter setpoint stability by replacing transmitters used in environmentally qualified applications with transmitters of another manufacturer. The replacement program will be ongoing.

For transmitters that do not require environmental qualification, a setpoint change study has been prepared with the intent of introducing a conservative bias into the setpoint to offset any drift. The setpoint change study is under review.

No items of noncompliance were identified.

7. Inadvertant PORV's Opening

The resident inspector was requested by NRC Headquarters to reinspect NUREG 0737 requirement II.K.3.9 regarding the P.I.D. controller for the power operated relief valves (PORV's). The re-inspection only concerned plants using Foxboro type controllers for the PORV's. The inspector determined that Zion Station does not use Foxboro type equipment in the P.I.D. application.

No items of noncompliance were identified.

8. Unit 1 Primary to Secondary Leakage

The licensee has continued to monitor the unit primary to secondary leakage. Previous leak test results are documented in Inspection Reports 50-295/81-09, -14, -20 and -26. The leak test results for this inspection period are as follows:

<u>Date</u>	<u>Leak Rate in GPD</u>	
	<u>1B S/G</u>	<u>1 C S/G</u>
December 1, 1981	374	56.1
December 4, 1981	218	10.3
December 11, 1981	300	7.97
December 17, 1981	264	25.5
December 23, 1981	367	37.7
December 30, 1981	375	54.0
January 7, 1982	387	27.5
January 14, 1982	431	12.5

For the December 4, 1981 and subsequent leak rates the licensee used a re-calculated value of 4.65×10^7 cc for the volume of water in the steam generator. Previous leak rates were based on a steam generator volume of 6.13×10^7 cc. The calculated leak rates were thus reduced by a factor of 0.74 using the new value.

The increasing activity in the steam generator has increased the activity of the air ejector exhaust. The set point of the air ejector rad monitor has been raised from 600 cpm to 14,000 cpm. Several areas in the turbine building including the Unit 1 high pressure turbine enclosure, the Unit 1 steam tunnel, the area around the Unit 1 air ejectors, the secondary sample room and the auxiliary boiler room have been roped off due to radioactive contamination.

On December 3, 1981 the licensee held a meeting to discuss the past history, current status and anticipated actions regarding the Unit 1 primary to secondary leakage. The following major conclusions were reached by the licensee:

- a. The probable locations of the leaking tube (s) are row 1 and row 2, and those adjacent to anti-vibration bars.
- b. An early shutdown for refueling is not feasible due to excess reactivity remaining in the undischarged assemblies.
- c. The reduction in leak rate achieved by a load reduction would be small.
- d. Industry data for series 51 Westinghouse steam generators would predict the leakage to be from several faults rather than one large one.
- e. Unit 1 will continue to operate until the 500 gal/day Technical Specification limit is reached or the February 1982 scheduled refueling outage commences.
- f. Leak rate calculations will continue on a weekly basis.

No items of noncompliance were identified.

9. Auxiliary Feed Pumps Inoperability

In recent months the auxiliary feedwater pumps have been subject to three different problems which resulted in their failure to respond to automatic initiation signals.

On September 14, 1981 during a normal cooldown on Unit 2, Steam Generator level was allowed to fall below the 10% low low level resulting in an auto start signal to the auxiliary feedpumps. The operators placed the auxiliary feedpump control switches in the pull-to-lock position as allowed by procedure, to avoid excessive cooldown. The pumps tripped as required. Subsequently the operators were unable to restart either motor driven auxiliary feedpump. After racking out the breaker and then returning it to service, one pump was successfully started. The failure of the motor driven pumps to start was later found to be caused by a "sneak path" resulting from an earlier modification to the Westinghouse W-2 control switches. This occurrence was the subject of a special I.E. Report No. 50-295/81-22, 50-304/81-18 in which one item of noncompliance was issued to the licensee.

On November 26, 1981 the Unit 2 motor driven feedpumps failed to start in response to operator action while the unit was in hot standby. The operators found that by throttling shut the discharge valves, the pumps could be started. Once the pumps were running, the discharge valves could be re-opened to their normal positions and the pump would continue to operate. It was later determined that the pumps were tripping off on low suction pressure. This was the result of an improper set point modification on the suction pressure instrument. The modification had been performed on the 2A, 2B and 2C auxiliary feedpump instruments during the Unit 2 refueling outage of September 11-November 24, 1981. The modification had also been completed on the 1C auxiliary feedpump instrument April 10, 1981. All four instrument set points were returned to their previous setting.

On December 6, 1981 Unit 2 tripped from power Operation. Auxiliary feedpump 2B failed to start in response to an automatic initiation signal. The pump was checked out mechanically and electrically but no cause for the failure to start was found. An operational test was performed satisfactorily on the pump and Unit 2 was returned to operation.

On December 11, 1981 Unit 2 again tripped from power operation. The 2A auxiliary feedpump was already out of service and the 2B and 2C auxiliary feedpumps failed to start. The operator was able to start the 2B pump manually on the first attempt but the 2C pump required two tries before it started. A Confirmatory letter was issued by NRC Region III confirming that Unit 2 would not be restarted until the cause of the auxiliary feedpumps failure to operate was found and corrected.

Subsequent investigation determined that the pumps were tripping on momentary low suction pressure which occurred during simultaneous start with each pump lined up to a separate discharge header. This split header arrangement is used whenever the steam driven auxiliary feedpump is out of service. This mode of operation was instituted in September of 1979 in response to an NRC request resulting from the accident at Three Mile Island and required that two separate auxiliary feed flow paths to the steam generators be maintained.

The licensee installed time delays that block the low suction pressure trip for a short time after the pump starts to allow the momentary low suction pressure to clear. This modification has been completed on Unit 2. For Unit 1, a standing order has been issued to alert the operators that the motor driven auxiliary feedpumps may trip during a simultaneous pump start with the discharge headers split. The order instructs them to manually restart the pumps if this occurs. This order will remain in effect until the time delay modification can be completed on Unit 1. The difficulty experienced when starting the 2C auxiliary feedwater pump manually during the event was found to be caused by a problem in the pump switch. That switch was replaced.

Unit 2 tripped from power December 22 and 23, 1981. On both occasions both motor driven auxiliary feedpumps started and operated satisfactorily even though the discharge headers were split. This demonstrated the adequacy of the time delay modification.

The improper setting of the suction pressure trips and the inoperability of the pumps in the split header mode are being inspected by the NRC Region III Division of Engineering and Technical Inspection. A separate report will be issued on these subjects.

This item is open pending completion of the special NRC inspection and is designated Open Item 295/81-29-02; 304/81-27-02.

10. Opening of the 2B Reactor Trip Breaker

Zion Unit 2 was placed on the line at 6:25 PM on December 22, 1981 following startup from a reactor trip of December 21, 1981 due to a blown diaphragm in a feedwater regulating valve. At 8:35 PM on December 22, 1981 Unit 2 tripped from approximately 40% power. The cause of the trip was the opening of train B

reactor trip breaker. All safety systems operated as designed and the unit was placed back on the line at 6:15 AM on December 23, 1981.

The cause of the train B safeguards actuation was a power loss to the undervoltage coil associated with the Westinghouse DB-50 reactor trip breaker.

After recovery from the trip, the 2B reactor trip breaker would not close upon resetting safeguards. This was similar to that experienced after recovery from the reactor trip on December 22, 1981. Upon investigation it was determined that the two parallel reactor trip relays associated with the 2B steam generator low level trip had failed in the safe direction by opening which resulted in opening train B reactor trip breaker and a subsequent reactor trip.

The relays that failed open are BFD type 22S relays, which are similar to relays identified in previous NRC Bulletins on BFD relays (type 48S, 84S). The licensee inspected Unit 1 and found one failed relay. The failed relays in both units were replaced with spare BFD type 22S relays.

As a long range program to improve BFD relay reliability, new relays, type NBFD have been ordered, in addition to improved coils to modify type 22S relays.

No items of noncompliance were identified.

11. ASCO Solenoid Air Valves Sticking Due to Oil in the Instrument Air System.

Zion Station has had a history of air operated valves failing to stroke because the solenoid valve which releases the operating air has stuck. The licensee has determined that oil in the instrument air system interacts with the Buna N seals in the solenoid valve at elevated temperature and causes the valve stem to stick. The source of the oil appears to be the service air system via the cross connect to instrument air. Cross connection of the two systems is necessary when less than two instrument air compressors are operable. The instrument air system is not sampled for oil on a routine basis.

The licensee has taken the following actions in response to the sticking solenoid problem:

- a. A third air compressor has been installed in the instrument air system in order to increase the instrument air system reliability and reduce the frequency of cross tie's to the service air system.
- b. A modification has nearly been completed to replace the Buna N seals in the ASCO solenoids with Viton seals. Approximately 99% of the Unit 1 and 95% of the Unit 2 ASCO's have undergone this modification. The modification has been halted in anticipation of a new modification to replace the installed ASCO's with a new environmentally qualified model.
- c. Surveillance of containment isolation valve operability has been increased by instituting Procedure TT-300. This procedure verifies the operability of all (53 per unit) ASCO controlled containment isolation valves monthly. Prior to implementing TT-300 these valves would be tested no more frequently than quarterly.

- d. The licensee has implemented a program to improve the reliability of the instrument air compressors. The program includes application of a vibration analyser and balancing of the compressors. Detailed records are not available, but the licensee believes the instrument-service air cross connect time has been reduced from several days to a few hours per year.

The effectiveness of the licensee's action is illustrated by the reduction in reportable containment isolation valve malfunctions:

<u>Year</u>	<u>No. of Occurrences</u>
1977	7
1978	7
1979	2
1980	1
1981	2

In view of the results achieved by the licensee's actions and the redundancy of the isolation valves, the licensee's response to the sticking ASCO problem appears to be adequate.

No items of noncompliance were identified.

12. NUREG 0737 Items

The following NUREG 0737 Action Items were completed by the licensee for both Unit 1 and Unit 2.

<u>Item</u>	<u>Title</u>
II.B.4	Training for Mitigating Core Damage
II.F.1-4	Containment Pressure
II.F.1-5	Containment Water Level
II.F.2.-3B	Reactor Vessel Level

No items of noncompliance were identified.

13. Operational Safety Verification

The inspector observed control room operations, reviewed applicable logs and conducted discussions with control room operators during the months of December and January. The inspector verified the operability of selected emergency systems, reviewed tagout records and verified proper return to service of affected components. Tours of the auxiliary building and turbine building

were conducted to observe plant equipment conditions, including potential fire hazards, fluid leaks, and excessive vibrations and to verify that maintenance requests had been initiated for equipment in need of maintenance. The inspector by observation and direct interview verified that the physical security plan was being implemented in accordance with the station security plan.

The inspector observed plant housekeeping/cleanliness conditions and verified implementation of radiation protection controls. During the month of December, the inspector walked down the accessible portions of the auxiliary systems to verify operability.

These reviews and observations were conducted to verify that facility operations were in conformance with the requirements established under Technical Specifications, 10 CFR, and administrative procedures.

No items of noncompliance were identified.

14. Monthly Maintenance Observation

Station maintenance activities of safety related systems and components listed below were observed/reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides and industry codes or standards and in conformance with Technical Specifications.

The following items were considered during this review: The limiting conditions for operation were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and were inspected as applicable; functional testing and/or calibrations were performed prior to returning components or systems to service; quality control records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; radiological controls were implemented; and, fire prevention controls were implemented.

Work requests were reviewed to determine status of outstanding jobs and to assure that priority is assigned to safety related equipment maintenance which may affect system performance.

The following maintenance activities were observed/reviewed:

- a. Modification of auxiliary feedpump suction pressure instruments
- b. Following completion of maintenance on the O diesel generator, the inspector verified that these systems had been returned to service properly.

No items of noncompliance were identified.

15. Monthly Surveillance Observation

The inspector observed Technical Specifications required loop functional surveillance testing and verified that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that

limiting conditions for operation were met, that removal and restoration of the affected components were accomplished, that test results conformed with Technical Specifications and procedure requirements and were reviewed by personnel other than the individual directing the test, and that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

No items of noncompliance were identified.

16. Licensee Event Reports Followup

Through direct observations, discussions with licensee personnel, and review of records, the following event reports were reviewed to determine that reportability requirements were fulfilled, immediate corrective action was accomplished, and corrective action to prevent recurrence had been accomplished in accordance with Technical Specifications:

Unit 1

<u>LER NO.</u>	<u>DESCRIPTION</u>
81-46	Non-representative Sample From Off Gas Monitor
81-47	Failure of ORT-PR-10C
81-48	Failure of IRE-0011 and IRE-0012
81-49	Failure of Power Range Channel N-42
81-50	Battery and Charger 112 Taken Out of Service

Unit 2

<u>LER NO.</u>	<u>DESCRIPTION</u>
81-25	Missed Shiftly Grab Samples
81-26	2A S/G Feedwater Flow Loop High
81-27	Vessel Level Leak in Containment
81-28	Blower Tripped for Rad Monitors
81-29	2C S/G Channel Failed High
81-16 Update	Failure of 2AOV-SS9356B to Close

Regarding LER 304/81-25, this will be designated a licensee identified item of noncompliance in which no citation will be issued.

Regarding LER 304/81-26, the zero shift of Fischer Porter transmitters is described in paragraph 6 of this report.

Regarding LER 50-304/81-16 (Failure of 2AOV-SS9356B to close), the subject valve did not operate because the ASCO solenoid failed to vent the air off the operator of the AOV. The licensee believes this was due to the ASCO valve sticking caused by residual oil in the instrument air system interacting with the Buna N seals. This problem has existed with solenoid air valves at least as far back as 1976 and has been well documented via LER's. A further discussion of this problem is contained in paragraph 11.

17. Meetings, Offsite Functions

The inspectors attended the following meetings and offsite functions during the inspection period:

J. R. Waters

December 10, 1981	Zion Probabilistic Risk Seminar	NRC Headquarters Bethesda, Maryland
December 16-18, 1981	Resident Inspector Seminar	NRC Region III Headquarters Glen Ellyn, Illinois

J. E. Kohler

November 30- December 18, 1981	American Nuclear Society Meeting	San Francisco, California
December 17, 1981	Commonwealth Edison Corporate Office	Chicago, Illinois
December 18, 1981	Resident Inspector's Seminar	NRC Region III Headquarters Glen Ellyn, Illinois

18. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance or deviations. Two unresolved items (paragraphs 4 and 9) were disclosed during this inspection.

19. Exit Interview

The inspector met with licensee representatives (denoted in paragraph 1) throughout the month and at the conclusion of the inspection on January 15, 1981 and summarized the scope and findings of the inspection activities.

The licensee acknowledged the inspector's comments.