



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
101 MARIETTA STREET, N.W.  
ATLANTA, GEORGIA 30303

Report Nos.: 50-250/84-23 and 50-251/84-24

Licensee: Florida Power and Light Company  
9250 West Flagler Street  
Miami, FL 33101

Docket Nos.: 50-250 and 50-251

License Nos.: DPR-31 and DPR-41

Facility Name: Turkey Point 3 and 4

Inspection Conducted: July 15, 1984 through August 17, 1984

Inspectors: *K M Jensen for*  
T. A. Peebles, Senior Resident Inspector

9/21/84  
Date Signed

*K M Jensen*  
K. M. Jensen, Project Inspector

9/21/84  
Date Signed

Accompanying Personnel: D. R. Brewer

Approved by: *S A Elrod*  
S. A. Elrod, Section Chief  
Division of Reactor Projects

9/27/84  
Date Signed

#### SUMMARY

Scope: This routine, unannounced inspection entailed 168 inspector-hours on site, including 43 hours on backshift, in the areas of licensee action on previous inspection findings. Licensee Event Report (LER) followup, annual and monthly surveillance, annual and monthly maintenance, operational safety, Engineered Safety Features walkdown, Plant Events, design changes, calibration, independent inspection and exit interviews.

Results: Of the 15 areas inspected, no violations or deviations were identified in four areas: four violations were identified in three areas (failure to originate operating records - paragraph 6; failure to perform an adequate surveillance test - paragraph 6; failure to follow procedure - paragraph 9, with additional examples in paragraphs 11 and 13; failure to require complete unreviewed safety question determinations) and two examples of a previous violation were noted in two areas (inadequate safety evaluation - paragraph 3; inadequate curve book procedure - paragraph 14).

## REPORT DETAILS

### 1. Licensee Employees Contacted

- \*K. N. Harris, Vice President - Turkey Point
- C. J. Baker, Plant Manager - Nuclear
- \*J. P. Mendieta, Service Manager - Nuclear
- \*D. D. Grandage, Operations Superintendent - Nuclear
- R. A. Longtemps, Assistant Superintendent Mechanical Maintenance - Nuclear
- W. R. Williams, Assistant Superintendent Electrical Maintenance - Nuclear
- \*J. W. Kappes, Maintenance Superintendent - Nuclear
- E. F. Hayes, Instrumentation and Control Supervisor
- T. A. Finn, Operations Supervisor
- \*W. C. Miller, Training Supervisor
- \*V. A. Kaminskas, Reactor Engineering Supervisor
- J. S. Wade, Chemistry Supervisor
- P. W. Hughes, Health Physics Supervisor
- M. J. Crisler, Quality Control Supervisor
- \*J. A. Labarraque, Technical Department Supervisor
- \*J. Arias, Regulations & Compliance Lead Engineer
- \*K. Jones, Site QA Superintendent
- \*D. W. Haase, Chairman Safety Engineering Group
- W. Bladow, QA Operations Supervisor
- J. E. Moaba, Section Supervisor Licensing
- R. E. Garrett, Plant Security Supervisor
- G. J. Boissy, PEP Program Manager
- D. Tomaszewski, Plant Engineering Supervisor
- \*M. R. Costa, I&C Prod. Supervisor
- \*F. A. Houtz, QC

Other licensee employees contacted included construction craftsmen, technicians, operators, mechanics, electricians and security force members.

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized during management interviews held throughout the reporting period with the plant manager - nuclear and selected members of his staff.

An exit meeting was held on August 3, 1984, with the persons noted above. The areas requiring management attention were reviewed, including: failure to require a complete unreviewed-safety-question determination per the Facility Operating License (250/84-23-01 and 251/84-24-01); failure to conduct adequate surveillance tests (250/84-23-02 and 251/84-24-02); failure to originate records as required by the Facility Operating License (250/84-23-03 and 251/84-24-03); failure of the startup test group to adequately perform a walk down and turn over a system (250/84-23-04 and 251/84-24-04); an Unresolved Item (URI) concerning how and when the oil vent

pipe to the bearing on the containment spray pump was replaced URI (250/84-23-05); and review of construction control of work Inspector Followup Item (IFI) (250/84-23-06 and 251/84-24-06). The licensee acknowledged the findings.

Another exit was held with the plant manager - nuclear on August 17, 1984. An IFI (250/84-23-07 and 251/84-24-07) concerning the progress of revising the Inservice Test (IST) program and the submittal of another proposed Technical Specification (TS) was discussed. The licensee acknowledged the commitment. The 10 CFR 21 Report on non-vital power to the safety related pressure switches on the RWST line is considered to identify another example of previous Severity Level III violation for inadequate safety evaluation (250/84-09-10).

### 3. Licensee Action on Previous Enforcement Matters

- a. On July 17, 1984, the licensee notified the NRC of a 10 CFR 21 report which they had received from their architect engineer. The control circuitry for safety-related pressure controllers PC-600 and PC-601 is powered from a single non-vital source. These controllers are to protect the Refueling Water Storage Tank (RWST) line from overpressure during cooled-down operations. Loss of power to this circuit would not allow the suction and discharge valves to the Residual Heat Removal pumps to be opened from the control room. The failure of a single component (power from the non-vital bus) coincident with a loss of coolant accident would not allow the recirculation phase of safety injection to operate. The cause of the deficiency is that these relays and the control circuitry were not identified as safety related. This is another example of failure to properly identify equipment as safety related, and therefore, a failure to adequately review items for effects on safety as stated in report 250,251/84-09 and is an example of that violation (250/84-09-10 and 251/84-09-10).

The licensee's immediate corrective actions of changing procedures to provide guidance to operators to override these relays were reviewed and were adequate. The licensee intends to provide proper separate power sources to these relays.

- b. Monthly Update of Performance Enhancement Program (PEP)

The inspector reviewed the PEP to determine if commitments were being met. The program to upgrade the facility TS to standard TS is in the preliminary scoping stage and has yet to be funded or staffed and therefore, is progressing slowly. In addition, a definitive schedule has yet to be set for this program. Other aspects of the PEP appear to be progressing according to schedule.

#### 4. Unresolved Items\*

An unresolved item is identified in paragraph 7.

#### 5. Licensee Event Report Followup

The following LER's were reviewed and closed. The inspector verified that reporting requirements had been met, causes had been identified, corrective actions appeared appropriate, generic applicability had been considered, and the LER forms were complete. A more detailed review was performed to verify that the licensee had reviewed the event, corrective action had been taken, no unreviewed safety questions were involved, and violations of regulations or TS conditions had been identified.

(Open) LER 251/84-15. On July 16, 1984, the 4A high head safety injection pump started spuriously. The licensee's investigation showed that it was probably started by construction electricians working near the 4160 VAC switchgear. However, no one would admit to having bumped the switch. The licensee decided that the event was not reportable. The next day, the inspector reviewed the decision and contacted the region for an interpretation. It was determined that the event should have been reported per 10 CFR 50.72(b)(2)(ii) as it was an actuation of an Engineered Safety Feature. The licensee was notified of the interpretation and reported the event. Further followup concerning control of construction activities will be conducted under this LER.

(Closed) LER 251/84-16. On June 24, 1984, manual initiation of the three auxiliary feedwater pumps during a transient occurred. At 8:15 a.m., a rapid load reduction was being accomplished on Unit 4 as turbine oil problems had caused control valves to close and the hotwell level was decreasing due to a divert valve failing to open. The shift supervisor ordered the manual start of the auxiliary feedwater pumps to alleviate the low hotwell level until the divert valve could be reset. The licensee determined on July 24, 1984, that the event was not reportable as the pumps were not required to function as they were only started in a precautionary manner. However, NRC Region II interpreted the event to be reportable as the pumps were started during a transient condition which was not preplanned and the pumps were fulfilling their role as an Engineered Safety Feature. The licensee was informed on August 2, 1984, of the region's interpretation and reported the event. This event and the LER are considered closed.

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\*An Unresolved Item is a matter about which more information is required to determine whether it is acceptable or may involve a violation or deviation.



(Closed) LER 250/84-21. On July 14, 1984, a reactor trip occurred on Unit 3 while the unit was shutdown with the shutdown control rods withdrawn. The instrument technician working on Nuclear Source Range Instrument NI-32 caused a loss of control power to relays which resulted in a reactor trip. The inspector witnessed and later reviewed the event and has no further questions. This event and the LER are closed.

No violations or deviations were identified.

6. Monthly and Annual Surveillance Observation (61726/61700)

The inspectors observed TS required surveillance testing and verified that testing was performed in accordance with adequate procedures; that test instrumentation was calibrated; that limiting conditions for operation (LCO) were met; that test results met acceptance criteria and were reviewed by personnel other than the individual directing the test; that deficiencies were documented and that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel; and that system restoration was adequate. For completed tests, the inspector verified that testing frequencies were met and tests were performed by qualified individuals. The inspector witnessed/reviewed portions of the following test activities:

Engineered Safety Features Logic Periodic Test  
Containment Spray Pump Periodic Test (OP 3204.1)  
Residual Heat Removal (RHR) System Periodic Test (OP 4004.1)  
High Head Safety Injection (HHSI) System Periodic Test (OP 4104.1)  
Auxiliary Feedwater System Periodic Test (OP 7304.1)  
Intake Cooling Water System Periodic Test (OP 3404.2)  
Emergency Diesel Generator Periodic Test (OP 4304.1)

- a. While witnessing the testing of "A" Emergency Diesel Generator per OP 4304.1 on July 26, 1984, the inspector noticed that out of specification readings were being taken on one of the cylinder exhaust temperatures. The reading for cylinder No. 2 was 120F and the other cylinder temperatures in service were reading 790 - 880F. The acceptance criteria allowed no greater than 1100 and a deviation between cylinders of less than 200; however, the acceptance criteria did not give instructions as to action to be taken if a reading was not within tolerance. Also, the Data and Record Sheets did not have spaces to identify the performer of the test and the reviewer of the test and did not have information required as to disposition of deficiencies.

The Facility Operating Licenses (DPR-31 and DPR-41) Section III.D requires that the licensee shall originate and maintain operating records in accordance with TS. TS 6.10.1.d requires records of surveillance activities required by TS be kept for five years. These data sheets are also Quality Assurance records as defined by 10 CFR 50, Appendix B, Criterion XVII which requires that records affecting quality shall include the results of tests and that test records shall identify the data recorders, the acceptability and the action taken in

connection with any deficiencies. The FP&L QA topical section 17.2, Revision 0, and Quality Procedure 17.1, Revision 11 implements these 10 CFR 50, Appendix B requirements. This is a violation (250/84-23-03 and 251/84-24-03) of the operating license as the records were not originated.

- b. On July 27, 1984, the procedures for RHR and HHSI pump testing (OP 4004.1 and OP 4104.1) were reviewed for adequacy of compliance against TS 4.5. The intent of the TS is to verify that the subject systems will respond promptly and perform their design functions. Both of the pumps have mechanical seals with seal water pumped to a seal water heat exchanger which is cooled by component cooling water. The seals have a manufacturer's design maximum leak rate. TS 4.5.2.a requires that the pumps be started monthly; that they start and reach their required head and that the instruments and visual observations indicate proper functioning; and that the test be run for fifteen minutes. Neither of the procedures verified that the seals, seal water system or component cooling water system was meeting design functions during the fifteen minute run by either visual or instrument observations. Therefore, this is a violation (250/84-23-02 and 251/84-24-02) as the surveillance tests were inadequate.

The licensee was informed of the finding on July 27, 1984. On August 1, 1984, the RHR pumps were tested and the procedure was not corrected. The licensee was again notified of the discrepancy on August 3, 1984, at a formal exit, and agreed to correct the problems with the surveillance tests as it was apparent that the tests were for ASME Section XI, IST compliance and not TS operability compliance. The other pump operability surveillance tests have similar discrepancies and have not been adequate.

#### 7. Monthly and Refueling Maintenance Observation (62703)

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

The following items were considered during this review: LCO were met while components or systems were removed for 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.

The following maintenance activities were observed/reviewed:

Replacement of holddowns for packing gland followers on Unit 4.  
Charging pump 3B piston valve replacement.  
Replacement of air lines to CV-4-2907, component cooling outlet valve from 4C Emergency Containment cooler.  
3A Containment Spray Pump bearing oil vent replacement.  
Safety Injection Pump 3B motor rotor overhaul.

- a. The broken air lines on CV-4-2907, which were found on July 24, 1984, by an auxiliary building operator, caused the valve to fail in the "unsafe" closed position. The licensee's investigation indicated that construction crews in the area were the contributing factor. Construction Work Permits (CWP) are reviewed and signed by the shift supervisor with the intent of providing guidance to construction personnel as to critical equipment in the area of work. Many of the CWP's are not specific enough to allow the shift supervisor to do an adequate review, e.g., "cable pulling to be conducted throughout the auxiliary building." The licensee is reviewing the CWP program. This will be followed as IFI (250/84-23-06 and 251/84-24-06).
- b. On August 1, 1984, the 3A containment spray pump was taken out of service as the constant level oiler fell off during the pump run. Subsequent investigation conducted by the licensee showed that a one half inch pipe vent, on top of the bearing housing, did not have a vent hole and running the pumps built up pressure which caused the cooler to be forced from its mounting. How and when the vent pipe was replaced is under investigation and the potential for the pump to have been out of service for an extended period of time is considered an URI pending NRC review of investigation results URI (250/84-23-05).
- c. Following the repair of 3A high head safety injection pump motor rotor reported in report 250/84-22, the licensee shipped the 3B high head safety injection pump motor rotor to Westinghouse for evaluation as there was some indication of vibration. Westinghouse did not find any significant problems. After reconditioning, the rotor was shipped back and reinstalled. The other two rotors (4A and 4B) are not to be shipped out as no abnormal vibrations have been seen. The motors are on a scheduled five year preventive maintenance program and vibration readings will continue to be taken and are expected to identify any significant deterioration in motor performance.

No violations or deviations were identified.

## 8. Operation and Safety Verification (71707)

The inspectors observed control room operations, reviewed applicable logs, conducted discussions with control room operators, observed shift turnovers, and confirmed operability of instrumentation. The inspectors verified the operability of selected emergency systems, reviewed tagout records, verified compliance with TS LCO and verified return to service of affected components.

The inspectors by observation and direct interviews verified that the physical security plan was being implemented in accordance with the station security plan.

The inspectors verified that maintenance work orders had been submitted as required and that followup and prioritization of work was on-going.

The inspectors observed plant housekeeping/cleanliness conditions and verified implementation of radiation protection control.

Tours of the spent fuel pit pumps rooms, auxiliary, control, diesel, and turbine buildings were conducted to observe plant equipment conditions, including potential fire hazards, fluid leaks, and excessive vibrations.

The inspectors walked down accessible portions of the following safety-related systems on Unit 3 and 4 to verify operability and proper valve alignment:

Containment Spray System  
Auxiliary Feedwater System  
Emergency Diesel Generators

- a. The Unit 3 safety injection accumulators have been requiring increasing attention to keep their levels within specifications as leakage has increased. The licensee is pursuing corrective action.
- b. The Unit 4 'C' Pressurizer Safety valve is leaking at about the same rate as it has been since the start-up in April. The STA has been closely monitoring the leakage for any increase. Parts to rebuild the valve with are on-site and will be installed if leakage begins to increase or during a cold shutdown of sufficient duration.
- c. During a tour of the Unit 3 Spent Fuel Pit Pump Room, a boric acid leak onto the spent fuel pit pump controller box was reported to the licensee for correction.
- d. On August 14, 1984, Unit 4 power was reduced to 50% to lessen a possible transient that might occur while a broken lead was replaced on the B main feedwater pump control switch located on the control room panel. The wire was found broken at the lug while other maintenance



was being performed. The broken circuit would have partially affected the B auxiliary feedwater initiation logic. The wire was repositioned and the unit returned to 100% power.

No violations or deviations were identified.

9. Design Changes and Modifications (37700)

On July 27, 1984, a review was made of design changes (PC/M) 81-29 and 81-30 (Units 3 and 4) for the installation of bypass switches around the lockout circuitry for the B backup pressurizer heaters. The breaker for these heaters is located in the D 480 Vac load center for each unit. The lockout circuitry is energized as a load shedding feature during an undervoltage event and the installation of the keyed bypass switch in the back of the load center allows these heaters to be re-energized. The inspector found that the circuits have been operable since the last refueling, which on Unit 3 was January 1984, and Unit 4 was May 1984. Neither switch was labeled as to function and the Unit 4 switch did not have an indication plate so that its position could be determined. The drawing for the operation logic of the circuit 5610-TL-1 Sheet 23 still had the notation that this was for Unit 3 only, even though, Revision 8 was issued specifically to incorporate that PC/M for Unit 4. The start-up test group had responsibility for the walkdown of the system to identify discrepancies and to have the operating drawing updated. These requirements are stated in AP 0103.17 - Systems/Equipment Acceptance/Turnover to Plant Staff. This is a violation (250/84-23-04 and 251/84-24-04) for failure to follow procedures as required by TS 6.8.1.

10. Independent Inspection Effort (92706)

- a. The inspectors routinely attended meetings with licensee management and shift turnovers between shift supervisors, shift foremen and licensed operators during the reporting period. These meetings and discussions provided a daily status of plant operating and testing activities in progress as well as discussion of significant problems or incidents. As a result of discussions with the licensee management, the following items are to be actively pursued by the licensee: the shift supervisor is to be responsible for knowing the qualifications of his shift personnel; the operations supervisor (or superintendent) is to be responsible to assure operations personnel training is current; and training briefs will require a separate sign off.
- b. The Inservice Test (IST) Program was reviewed as to the appropriate scope for pump testing. Discussions with licensee personnel and with NRR reviewers led to the agreement that the charging pumps and boric acid transfer pumps were required for an orderly shutdown and cooldown of the plant and therefore should be a part of the IST program as required by 10 CFR 50.55a(g). On July 27, 1984, the Vice-President -

Turkey Point and the Plant Manager - Nuclear agreed to include the charging pumps, boric acid transfer pumps and spent fuel pit pumps into the IST program and to change the IST TS submittal of April 2, 1984, to reflect the change. However, on August 22, 1984, no responsibility or time table for action had been initiated.

The IST TS submittal of April 2, 1984 has several discrepancies, two are briefly listed below. The entire submittal will be further reviewed:

- (1) The letter states that in the submittal they are adopting the wording of the Standard Technical Specifications; however, this is not done.
- (2) The margin of safety assured by the current surveillance testing requirements would be reduced as the requirement to assure the support systems are operable during the testing is being deleted.

The IST program will be reviewed as IFI (250/84-2-07 and 251/84-24-07).

- c. A review of evaluations for unreviewed safety question determinations per 10 CFR 50.59 was conducted. The requirement for this evaluation is in the facility operating licenses (DPR-32 and DPR-41) section III. 10 CFR 50.59(2) discusses that the evaluation for an unreviewed safety question determination be made against evaluations previously made in the Final Safety Analysis Report (FSAR). Discussions with licensee personnel revealed that they believed that only those items addressed in the Chapter 14 Accident Analysis chapter of the FSAR were of significance in evaluations for unreviewed safety question's and that other chapters discussed back up equipment which did not require the same level of review. A review showed that the following licensee's procedures stated management acceptance of this concept as the procedures only required a review be made against Chapter 14 of the FSAR:

Administrative Procedure 0109.1 page 14 - Preparation, Revision and Approval of Procedures - Procedure Change Safety Evaluation

Administrative Procedure 0103.3 page 15 - Control and Use of Temporary System Alterations - Safety Evaluation

Administrative Procedure 0190.10, page 34 - Plant Projects - Approvals, implementation and Regulatory Requirements - Appendix A - Suggested Format for Safety Evaluations.

Therefore, this is a violation (250/84-23-01 and 251/84-24-01) of the facility operating license as the evaluations were not required to be made as stated in the license.

## 11. Calibration (65700)

References: NUREG CR 1369 Evaluation of Maintenance Test and  
Calibration Procedures in Nuclear Power Plants  
ANSI N18.8 1971  
ANSI N45.2.4 1972  
TS, Section 4.1  
AP 0190.9 Control of Measuring and Test Equipment

- a. The following maintenance, test and calibration procedures were evaluated for conformance with the above references. The review included calibration frequency, acceptance criteria, maintenance of procedure revisions, review and approval of procedures, deviated procedures, return-to-service of out-of-calibration equipment, and primary standard control:

A-1-I	PWO 8714-TIC 627	PWO 8734
A-2-I	PWO 8715-TIC 625	PWO 8363
A-3-I	PWO 8727	PWO 8230
A-4-I	PWO 8493	
MP14007.13	PWO 815B	
MP14007.14	PWO 8230	

Revision control on some procedures was found to be inadequate in that pen and ink changes had been made to controlled copies of certain procedures without management approval.

- b. Records for selected gages, instruments and measuring and test equipment used to determine compliance with TS were examined to determine if the equipment was calibrated against certified equipment having a known valid relationship to nationally recognized standards. The following equipment was examined:

Heise gage	803	General Radio Meg Ohm Meter 803
Heise gage	1004	Techtronix 5A21N
Fluke meter	81000A 1000-1	
Fluke meter	81000A 1000-4	Ashcroft Gage 1,500 psig
Fluke meter	81000A 103-3	Ashcroft Gage 10,000 psig 4227
Fluke meter	81000A 103-5	Ashcroft Gage 10,000 psig 4228
Fluke meter	81000A 103-6	Ametek pump 704-5
		Techtronix X-Y module 553

Several discrepancies were noted during this review of calibration and test equipment:

Tecktronix	5A2IN	PTP509	Invalid calibration sticker affixed to the amplifier.
Ashcroft	0-1500 psig	-	No calibration sticker and no PTP control number assigned. No current calibration data available.
Ashcroft	0-10,000 psig	PTP4227	No calibration sticker affixed. No current calibration data available.
Ashcroft	0-10,000 psig	PTP4228	No calibration sticker affixed. No current calibration data available.
Ametek Pump	704-5	-	This item was used on PWO 8067 on 5/31. It was overdue for calibration on 5/23 and not recalibrated until 6/14.
Tektronix	X-Y output module	PTP553	No calibration sticker affixed to the module.
Ametek 93cg	0-15 psig	PTP178	This equipment was out of service without the proper identification tag affixed.
Ametek 93cg	0-15 psig	PTP 179	
Ametec 93cg	0-15 psig	PTP 180	

The above discrepancies collectively constitute a failure to comply with AP 0190.0 - Control of Measuring and Test Equipment and will be considered a further example of violation (250,251/84-24, 23-04). These discrepancies will be reviewed as IFI (250,251/84-24, 23-08).

- c. In addition the master calibration schedule, calibration stickers affixed to equipment and individual completed procedures were compared. Several examples were identified in which the data listed on the different documents did not agree. This appears to be a clerical problem in nature, and plant management has committed to review this area.



- d. The calibration of gages which are used by the licensee only for local indication was reviewed. It was discovered that local gages are not calibrated on a routine schedule unless they are a part of a remote indication calibration loop. In addition these gages are not used for operability determination or IST by the licensee. This item will be reviewed as IFI (250,251/84-24, 23-09).

## 12. Engineered Safety Features Walkdown (71710)

The inspector verified the operability of the Units 3 and 4 Safety Injection (SI) system on August 2, 1984, by performing a partial walkdown of the accessible portions of the system. The following specific attributes were reviewed/observed as appropriate: that the licensee's system lineup procedures match plant drawings and the as-built configuration; that equipment conditions and items that might degrade performance (hangers and supports are operable, housekeeping, etc.) were identified; with assistance from licensee personnel that the interior of the breakers and electrical or instrumentation cabinets were inspected for debris, loose material, jumpers, evidence of rodents, etc.; that instrumentation was properly valved in and functioning and calibration dates were appropriate; and that valves were in proper position, power was available and valves were locked as appropriate; and local and remote position indication was compared.

Valves and piping flow paths were verified to be built in accordance with plant drawings 5610-TE-4510 Revision 29, 5610-TE-4512 Revision 12, and 5610-TE-4501 Revision 34. During the inspection of the area, no violations or deviations were identified, however, various discrepancies were noted:

- a. Numerous valves in the SI system have no valve identification tags, although the valves have been numbered on applicable drawings. This is an example of inadequate equipment identification which is being addressed by the PEP.
- b. In both Units 3 and 4 boric acid injection tank (BIT) areas, boric acid residue from valve leakage was readily apparent. Several large valves showed signs of long-term minor leakage with boric acid build up and valve stud corrosion.
- c. The licensee was informed that the seal water lines, including vent valves, and safety injection side of the seal water heat exchangers do not appear on drawings.

## 13. Refueling Water Storage Tank (RWST) Level Indication

References      Operating Procedure (OP) 16.122  
                   Operating Procedure (OP) 0204.2  
                   Drawing 5610-C-18-393      RG-7-3-80  
                   Tank Book drawing figure 5 - RWST

OP 0204.2 States that an operator should "read pressure, convert to gallons and record the Refueling Water Storage Tank head pressure and check against tank level indicators LI-\*-6583A and LI-\*-6583B TS (4.1-1(15)) Head Pressure (PSI) = Test Gauge Pressure (PSI) + Correction Factor (PSI). Level (GALS.) = Head Pressure (PSI) X 16620 gallons/PSI. A minimum of 320,000 gallons is required by TS 3.4.1.a.1. The correction factor is given on the engraved name plate mounted next to the gauge. Check this name plate each time, as this correction factor may have changed."

When inspected, the local Ashcroft test gauge pressure correction factor was not mounted next to the gauge plate. It was however, attached to a plastic tape attached to a calculator which was used by the reactor operator to calculate RWST level. Several operators, when questioned on August 1, 1984, indicated that the correction factor used was not verified prior to each calculation in accordance with OP0204.2. This is a violation and will be considered as a further example of violation (250,251/84-24, 23-04). This item will be reviewed as IFI (250,251/84-24, 23-10).

In addition, there appeared to be a 10 inch discrepancy between the data used to install Magnetrol LS-3-1584A under PCM-80-100, and drawing 5610-C-18-393. This discrepancy was later attributed to an error in the data used to calculate figure five - Refueling Water Storage Tank, in the Unit 3 control room curve book. This level switch is the TS low level alarm which is used to backup control room level indication LI-3-6583B. In addition drawing 5610-C-18-393 (AG 7-3-80) was not updated after the addition of the Magnetrol level switch. This is a violation and will be considered as a further example of violation (250,251/84-24, 23-04). This item will be reviewed as inspector followup item IFI (250,251/84-24, 23-11).

The local ashcroft meter had several items of concern associated with it. The meter face vibrated severely and when held still oscillated two tenths of a pound. It was mounted to a sample line which leaked. When the gage was held the reading varied three tenths of a pound depending on the pressure used to steady the gage. Because this reading was multiplied by a factor of 16620 (which could institute significant error) to calculate RWST level and was the gauge used to calibrate the Magnetrol LS-3-1584A TS alarm the calculational method was reviewed. The method seemed to be sound although water density as a function of temperature or Boron concentration was not addressed. The licensee placed a newly calibrated Bailey level indication in parallel with the Ashcroft gage and the indicated level was 4000 gallons above the level calculated using the Ashcroft gage. The inspector had no further concerns with respect to the use of the Ashcroft gage.

#### 14. Control Room Tank/Curve Book

The control room curve book was reviewed and compared the control room indications in order to the verify certain TS limits. During the review the reactor operator on Unit 4 was observed using a table entitled "Allowable Flux Difference vs. Percent of Reactor Power." This table was not an official part of the curve/tank book however, the information included in

the table appeared to be consistent with a flux vs. power curve in the curve/tank book. This table was not controlled and was not listed on the index nor did it appear in any other control copy. This is a further example of violation (250,251/84-24, 23-04), and will be reviewed as IFI (250,251/84-24, 23-11).

#### 15. Independent Inspection - Annunciated Control Room Alarms

A review of control room annunciated alarms was conducted with the following concerns noted:

- a. The Unit 3 reactor coolant pump (RCP) thermal barrier cooling water high temperature annunciator was alarmed. Maintenance work was being conducted on the heat exchanger of one train of component cooling water (CCW) which supplies cooling to the RCP. The licensee stated that one train of CCW is not sufficient to meet normal cooling requirements during the summer months as a result of high canal intake water temperatures. The review of special allowances for the failure of one train of CCW is identified as IFI (250,251/84-24, 23-13).
- b. Unit 4 had a high pressure relief tank temperature alarm. This is a repeat of an item identified in inspection report (250,251/84-06). Indications of long term corrective actions mentioned in the February, 1984 report are still not evident. In order to comply with OP 1300.1 almost continuous purges of the tank are required. The licensee stated that an evaluation of this problem was in process. Licensee corrective action will be reviewed as IFI (250,251/84-24, 23-14).
- c. The Units 3 and 4 containment high Hydrogen monitor alarm was annunciated in the control room and after review it was determined that it was permanently alarmed as a result of system lineup. The monitor is part of the Post Accident Monitoring system and alarms as a result of one or more of the below situations:
  - (i) Low calibration bottle gas pressure
  - (ii) Low sample gas flow
  - (iii) Low temperature
  - (iv) Heat tracing failure

In this instance, the monitor alarm is the result of low sample gas flow because the sample gas flow is isolated during normal operations in order to maintain containment integrity. Diagram 5610-T-E-4534 and control schematic K-111-01430 were reviewed. This item is identified as a possible human factor and/or design concern and the licensee has agreed to review possible changes to eliminate the continuously alarmed annunciator.

There were no violations or deviations identified in this section.

## 16. Procedure Upgrade Program (PUP)

The PUP portion Turkey Point Performance Enhancement Program (PEP) was reviewed. The following approved procedures were reviewed for content, detail, and compliance with INPO or other industry standards:

ADM-101 Writers guide for Administrative and Normal Operations Procedures

ADM-100 Procedure Preparation, Review and Approval

Two preliminary procedures (Residual Heat Removal System OP-050 and Intake Cooling Water OP-019) were reviewed and compared to the PDG procedure status report of August 1, 1984. These documents appeared to be clear and well written and will be reviewed further.

The schedule/personnel requirements of the PUP were also reviewed. The OP schedule and personnel availability appear to be well matched and should meet the overall schedule committed to by the licensee. The maintenance procedure upgrade portion of the PUP appears to be under staffed with respect to two issues. The first issue that appears to be a possible impediment to the accomplishment of the committed to schedule is the support of "real time" or intermediate procedure changes. The intermediate changes have monopolized the available maintenance procedure staff time and no significant preventive action has been taken by the licensee to effectively deal with the sharp increase in "real time" procedure change requirements. This item will be reviewed as IFI (250,251/84-24, 23-15). This item was discussed with both the PUP project manager and the resident Vice President Turkey Point Nuclear Plant, who committed to evaluate the situation. The second issue that appears to be a possible impediment to the accomplishment of both the operations and maintenance procedure upgrading/rewriting efforts is the implementation training resources available. Presently, there is an inadequate number of staff available to review and write updated training material to support the procedure implementation schedule. In addition, there doesn't appear to be any integration of training requirements into the overall PUP. This item was also discussed with the PUP project manager and the Vice President, Turkey Point Nuclear Plant who committed to also evaluate training requirements.

No violations or deviations were identified in this area.