

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-498/86-05
50-499/86-05

Construction Permits: CPPR-128
CPPR-129

Dockets: 50-498
50-499

Expiration Date: December, 1987 and
December, 1989

Licensee: Houston Lighting & Power Company (HL&P)
P. O. Box 1700
Houston, Texas 77001

Facility Name: South Texas Project, Units 1 and 2

Inspection At: South Texas Project, Matagorda County, Texas

Inspection Conducted: February 1 - April 4, 1986

Inspectors:


D. R. Carpenter, Resident Inspector, Project
Section C, Reactor Projects Branch

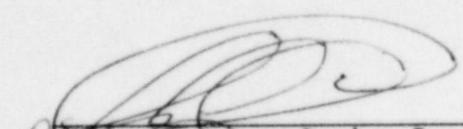
5/28/86
Date


B. A. Breslau, Project Engineer, Project
Section C, Reactor Projects Branch

5/13/86
Date


W. R. Bennett, Project Engineer, Project
Section A, Reactor Projects Branch

5/29/86
Date


J. G. Luehman, Senior Resident Inspector
Project Section C, Reactor Projects Branch

5/28/86
Date

Approved:


G. L. Constable, Chief, Project Section C
Reactor Projects Branch5/25/86
DateInspection SummaryInspection Conducted February 1 - April 4, 1986 (Report 50-498/86-05;
50-499/86-05)

Areas Inspected: Routine, unannounced inspection included site tours, licensee action on IE circulars and notices, licensee action on previous inspection findings, preoperational test procedure review, operations procedure review, hold tags, 1E-125 VDC preoperational test witnessing and operations preventative maintenance program.

Results: Within the scope of this inspection, no violations or deviations were identified.

DETAILS1. Persons ContactedPrincipal Licensee Employees

W. P. Evans, Project Compliance Engineer
 *W. H. Kinsey, Plant Manager
 *E. B. Miller, Deputy Project QA Manager
 *R. Daly, Startup Manager
 S. Dew, Deputy Project Manager
 *T. J. Jordan, Project QA Manager
 *A. J. Peterson, Startup
 *J. T. Westermeier, Project Manager
 *K. M. O'Gara, Project Compliance Engineer
 F. Alkov, Material Control Supervisor
 *G. S. Shukla, Project Compliance Engineer
 *D. R. Keating, Operations QA General Supervisor
 R. C. Arthurs, Project QA General Supervisor
 *M. S. Whittaker, Metrology Laboratory Supervisor
 *A. C. McIntyre, Principal Engineer
 M. T. Sweigart, Operation QA Supervisor
 *M. R. Wisenburg, Manager, Nuclear Licensing

Other PersonnelBechtel Power Corporation (Bechtel)

*L. E. Davis, Construction Manager
 L. Hurst, Project QA Manager
 R. D. Bryan, Deputy Project Manager, Construction
 *J. B. Gatewood, Project QA Manager
 *R. H. Medina, Lead QA Engineer
 M. H. Alexander, Materials Manager
 *A. K. Priest, Site Manager
 *R. W. Miller, Deputy Project QA Manager

Ebasco Services, Inc. (Ebasco)

*A. M. Cutrona, QA Manager
 R. M. Zaist, Construction Manager
 J. A. Thompson, Deputy Construction Manager
 *R. G. Peck, Deputy QA Manager

Westinghouse

A. Hograth, Site Manager

In addition to the above personnel, the NRC inspectors held discussions with various licensee, Bechtel, Ebasco, and other contractor personnel during this inspection.

*Denotes those individuals attending the exit interview conducted on April 4, 1985.

2. Site Tours

The NRC inspectors conducted site tours both independently and accompanied by licensee and contractor personnel. These tours were made to assess the protection of in-place safety-related equipment, plant status and to observe construction, testing and maintenance activities. The areas toured included: Unit 1 - Mechanical and Electrical Auxiliary Building (MEAB), Fuel Handling Building (FHB), Diesel Generator Building, Reactor Containment Building (RCB), and safety-related equipment of the Turbine Generator Building; Unit 2 - MEAB, FHB, and RCB; Balance of Plant (BOP): Emergency Cooling Pond and Pump House, warehouse and equipment laydown areas, Reactor Operations Training Simulator facility and various support facilities. Within the noted areas, activities were generally acceptable.

No violations or deviations were identified.

3. Licensee Action on IE Circulars and Notices

(Closed) IE Circular 76-02

"Relay failures - Westinghouse BF (ac) and BFD (dc) relays." The licensee review of this item concludes that STP doesn't utilize the subject relays. The licensee has incorporated statements in the various system specification to prevent the procurement of these relays, additionally, this item was added to the licensee's Restricted Components List (5A010NL1001). No further action is required. This IE circular is considered closed.

(Closed) IE Circular 76-07

"Inadequate performance by reactor operating and support staff members." STP FSAR, Chapters 12 and 17 appears to adequately address the concerns of this circular. No further action is required. This IE circular is considered closed.

(Closed) IE Circular 77-2 and 2A

"Potential heavy spring flooding." This concern was not applicable to the licensee. Flooding scenarios appear to be adequately addressed in FSAR, Section 2.4. No further action is required. This IE circular is considered closed.

(Closed) IE Circular 77-03

"Fire inside a motor control center (MCC), ITT series 5600 motor control centers." Subject model of MCC has been modified by the manufacturer to eliminate this concern. No further action is required. This IE circular is considered closed.

(Closed) IE Circular 77-14

"Separation of contaminated water systems from noncontaminated plant systems." This item is concerned with potential contamination of potable water systems. The NRC inspectors review of potable water system drawings indicates no connection with any contaminated systems, no corrective actions were required by licensee. FSAR, Section 9.2.4, provides adequate description of separation between potable and sanitary water systems from potentially contaminated systems. This IE circular is considered closed.

(Closed) IE Circular 80-01

"Service advice for General Electric induction disk relays." The concerns of this circular are adequately addressed in licensee approved procedure TMP-ZG-11. This IE circular is considered closed.

(Closed) IE Circular 80-020

"Changes in Safe-Slab tank dimensions." The licensee doesn't have the subject tank. This is not applicable to STP. This IE circular is considered closed.

(Closed) IE Circular 80-023

"Potential Defects in Beloit Power Systems emergency generators." STP doesn't have subject generator system; no action is required by licensee. This item is considered closed.

(Closed) IE Circular 81-08

"Foundation Materials." The licensee reported this item as a potential 10 CFR 50.55(e) item prior to issuance of IEC-81-08. The licensee has subsequently addressed the concerns of this circular and have incorporated adequate changes to their site procedures. This IE circular is considered closed.

(Closed) IE Circular 81-01

"Design problems involving indicating pushbutton switches manufactured by Honeywell." These pushbutton switches aren't used at STP, licensee has placed item on Restricted Components List. No additional actions are required by licensee.

This IE circular is considered closed.

(Closed) IE Circular 81-06

"Potential deficiency affecting certain Foxboro 10 to 50 milliampere transmitters." This pertains to models N-E11 and N-E13 with suffix codes MCA, MCA/RRW, MCA/RR. The licensee has listed these items on their restricted components list. This IE circular is considered closed.

(Closed) IE Circular 81-09

"Containment effluent water that bypasses radioactivity monitors." STP has evaluated this concern and has determined that this item is adequately monitored. The NRC inspector's review of the monitoring system and monitoring procedures indicated adequate coverage is provided. This IE circular is considered closed.

(Closed) IE Notice 80-29

"Broken studs on Terry Turbine steam inlet flange." The licensee has revised surveillance procedures to include monitoring during surveillance testing to note any abnormal vibration or other transient which would promote loss of bolting integrity. Pipe insulation specification has been revised to allow use of removable insulation to facilitate inspection of flanges. This IE notice is considered closed.

(Closed) IE Notice 80-31

"Maloperation of Gould-Brown Boveri 480 volt-type K-600A and K Don 600S circuit breakers." These circuit breakers are not being utilized at STP. These components are listed on the licensee's Restricted Components list. This IE Notice is considered closed.

(Closed) IE Notice 80-44

"Actuation of Emergency Core Cooling System (ECCS) in the recirculation mode while in hot shutdown." The licensee's investigation and actions taken to address the concerns of this notice appear to be adequate. This IE Notice is considered closed.

(Closed) IE Notice 82-11

"Potential inaccuracies in wide range pressure instrumentation used in Westinghouse plants." A review of licensee drawings and documentation indicates three transmitters will be located outside the containment and two additional transmitters to be located within the containment. This appears to be an acceptable resolution to a potentially significant problem. This IE Notice is considered closed.

(Closed) IE Notice 82-18

"Assessment of intakes of radioactive materials by workers." Licensee internal dosimetry procedure PRP-2-ZB-05 appears to adequately address this concern. This IE Notice is considered closed.

(Closed) IE Notice 83-04

"Failure of Elma power supply units." The subject components are not used at STP. These items are listed on the Restricted Components List. This IE Notice is considered closed.

(Closed) IE Notice 83-05

"Obtaining approval for disposing of very low-level radioactive waste - 10 CFR Section 20.302(a)." Provisions of 10 CFR 20.302(a) have been noted by the licensee. This IE Notice is considered closed.

(Closed) IE Notice 83-13

"Design misapplication of Bergen-Paterson standard strut restraint clamp." Licensee's review of this item showed subject clamps are not used at STP. This item is listed on the Restricted Components List. This IE Notice is considered closed.

(Closed) IE Notice 83-15

"Falsified pre-employment screening records." A review of licensee interdepartment procedure "Nuclear Plant Access Authorization System," appears to adequately address this concern. This IE Notice is considered closed.

(Closed) IE Notice 83-17

"Electrical control logic problem resulting in inoperable auto-start of emergency diesel generator units." This item involves a potential problem related to time delay features in generator restart circuitry. This control logic is not applicable to STP. This IE Notice is considered closed.

(Closed) IE Notice 83-19

"General Electric type HFA relay gap and wipe setting adjustments." The licensee has placed this item on the STP Restricted Components List. This IE Notice is considered closed.

(Closed) IE Notice 83-53

"Primary containment isolation valve discrepancies." This specifically addresses discrepancies associated with BWR plants and is not applicable to PWR plants. This IE Notice is considered closed.

(Closed) IE Notice 83-57

"Potential misassembly problem with ASCO solenoid valves, model NP 8316." The licensee has determined that the assembly instructions in their manuals are correct. This concern has no impact on STP and is considered closed.

(Closed) IE Notice 83-58

"Transamerica Delaval diesel generator crankshaft failure." The STP doesn't utilize subject diesel generator, this concern is not applicable to STP. This item is considered closed.

(Closed) IE Notice 83-59

"Dose assignment for workers in non-uniform radiation fields." The concerns addressed in this notice appear to be adequately addressed in the licensee's health physics related procedures. This notice is considered closed.

(Closed) IE Notice 83-60

"Falsification of test results for protective coatings." The licensee's vendor surveillance program appears to provide adequate assurance that vendors are performing the required tests and verifying test results. This notice is considered closed.

(Closed) IE Notice 83-63

"Potential failures of Westinghouse Electric Corporation type SA-1 differential relays." The licensee has determined that subject relays have been modified to resolve the concerns of this notice. The item has been added to the STP Restricted Components List. This notice is considered closed.

(Closed) IE Notice 83-68

"Respirator user warning: Defective self-contained breathing apparatus air cylinders." The licensee hasn't purchased subject models and has listed this item on their Restricted Component List. This notice is considered closed.

(Closed) IE Notice 83-42

"Reactor mode switch malfunctions." This notice is applicable to boiling water reactors. STP does not have any switches equivalent to the reactor mode switch. This IE Notice is considered closed.

(Closed) IE Notice 83-76

"Reactor trip breaker malfunctions (undervoltage trip devices on GE Type AK-2-25 breakers)." These circuit breakers are not being utilized at STP. This IE Notice is considered closed.

(Closed) IE Notice 83-48

"Gaseous effluent releases of radioactive iodine-125 and iodine-131 in excess of Nuclear Regulatory Commission limits." This notice was issued to byproduct material licensee. The FSAR describes monitoring, sampling, and automatic actions, which the NRC inspector considered adequate, to prevent excessive release. This IE Notice is considered closed.

(Closed) IE Notice 84-13

"Potential deficiency in motor operated valve control circuits and annunciation." Thermal overloads on motor operated valves, utilized at STP, provide only an alarm function, not a trip function. This IE Notice is considered closed.

(Closed) IE Notice 83-29

"Fuel binding caused by fuel rack deformation." This notice is applicable to boron-aluminum fuel racks. The licensee is using stainless steel fuel racks and has an acceptable method for ensuring this notice is referenced for any future purchase of fuel racks. This IE Notice is considered closed.

(Closed) IE Notice 83-26

"Failure of safety/relief valve discharge line vacuum breakers." This notice is applicable to Boiling Water Reactors. STP does not have vacuum breakers downstream of safety/relief valves or power operated relief valves. This IE Notice is considered closed.

(Closed) IE Notice 83-23

"Inoperative containment atmosphere sensing systems." This notice described instances where systems were made inoperative due to a wrong valve lineup. The licensee's procedures provide sufficient requirements for independent verification that if followed correctly, will prevent similar problems. This IE Notice is considered closed.

(Closed) IE Notice 83-33

"Non representative sampling of contaminated oil." STP procedure PCP5-ZS-12, Revision 0, "Sampling Techniques," requires "all level" sampling and PCP11-OW-01, Revision 0, "Oily Waste System Operation," contains steps to minimize the introduction of water into oily waste. Selected plant design piping and instrumentation drawings (P&ID's)

were reviewed to access the design characteristics that reduce water and oily waste commingling. The reviewed activities of the licensee are an acceptable response. This IE Notice is considered closed.

(Closed) IE Notice 84-04

"Failure of elastomer seated butterfly valves used only during cold shutdown." This notice dealt with the use of Allis Chalmers Model 60WP butterfly valves for specific applications. STP uses Rockwell International (RI) butterfly valves for this application therefore this notice is not applicable. The Technical Specification (draft) and specific preventive maintenance procedures were reviewed to ensure there was no potential for similar failure of the RI valves. Appropriate steps have been taken by the licensee to review and include where applicable "lessons learned" by similar failures. This IE Notice is considered closed.

(Closed) IE Notice 84-01

"Excess lubricant in electric cable sheaths." Okonite cable manufactured at the Passaic N. J. plant has displayed oil leakage at some nuclear plants. An engineering evaluation has indicated that if leakage were to occur it would be from 2 hours to 3 days after the cable had been cut. At STP inspections are made after that time period. Electrical crafts at STP have been trained on how to identify leaking cables. The action taken by the licensee is acceptable. This IE Notice is considered closed.

(Closed) IE Notice 84-07

"Design-Basis threat and review of vehicular access control." The licensee has reviewed their security plan and taken such actions as reasonable and required by existing regulation to control vehicular access. The licensee is committed to comply with any new regulations from the NRC. This IE Notice is considered closed.

(Closed) IE Notice 84-08

"10 CFR 50.7, employee protection." This Federal Regulation prohibits discrimination against an employee for engaging in certain protected activities. The licensee has a "Safeteam" designed to address employees concerns and protect their identity. There are numerous postings plant wide, of HL&P's commitment to 10 CFR 50.7 signed by Mr. D. Jordon, CEO and chairman of the board. Posted in the same case is the NRC-3 form, "Notice to Employees." The licensee's action on this issue is acceptable. This IE Notice is considered closed.

(Closed) IE Notice 84-06

"Steam binding of auxiliary feedwater pumps." STP has added temperature sensors close to the auxiliary feed nozzles and placed the readout on the ERFDADS computer system. The auxiliary feedwater system at STP is significantly different in design to that of the H. B. Robinson plant

(cause for this Notice). STP has dedicated auxiliary feedwater trains for each steam generator and is thus less likely to a common mode failure. The NRC inspector has reviewed the engineering analysis and plant design change notice and found them acceptable. This IE Notice is considered closed.

(Closed) IE Notice 84-16

"Failure of automatic sprinkler system valves to operate." The 6-inch Model C valve from Automatic Sprinkler Corporation of America, Cleveland, Ohio, has failed at various nuclear plants. This valve was verified as being on the Restricted Components List for the STP. This IE Notice is considered closed.

(Closed) IE Notice 84-21

"Inadequate shutdown margin." This Notice was for research reactors, however, the licensee reviewed it for potential similar concerns. At STP, all core configurations changes are computer modeled to predict rod worth and all other sources of reactivity worth to calculate shutdown margin. Approved procedures are used to verify calculated reactivity, therefore, inadequate shutdown margin for reasons in this Notice are not possible at STP. This IE Notice is considered closed.

(Closed) IE Notice 84-22

"Deficiency in Comsip, Inc. standard bed catalyst." This Notice is applicable to STP and required the modification of the Comsip Hydrogen analyser. The design change, Nonconformance Report (NCR); Design Engineering Request (DER) and parts purchase order (P.O. no. 35-1197-6041, Revision 5, dated October 1, 1984) were reviewed by the NRC inspector and found acceptable. The parts were received July 17, 1985, and modifications will be delayed till after system turnover to startup. This item is being tracked by Incident Review Committees (IRC) no. 198. The IRC no. 198 action will remain open but this IE Notice is considered closed.

(Closed) IE Notice 84-24

"Physical qualification of individuals to use respiratory protection devices." Procedure OPGP03-ZR-0021, Revision 0, "Respiratory Protection Program," was reviewed by the NRC inspector and found acceptable and in compliance with 10 CFR 20.103C. Minor editorial comments were discussed with the licensee. This IE Notice is considered closed.

4. Licensee Action on Previous Inspection Finding

(Closed) Violation 8507-01

This item refers to a prior NRC inspection of HL&P's Measuring and Test Equipment (M&TE) Control Program. The NRC inspector noted cases of

procedural noncompliance with Plant General Procedure PGP-3-ZM-1, Administrative Site Procedure ASP-23 and Quality Control Procedure ASP-12.1. The noncompliances dealt with: M&TE not in recall system, M&TE overdue for recalibration, Tool Data & Issue/Record Cards not being annotated with required information and incorrect tagging of equipment.

The NRC inspector's follow-up of the corrective steps taken by the licensee indicated adequate craft/QA/QC personnel training has been conducted and procedures QCP 12.1, ASP-23 and PGP-3-ZM-1 have been revised to provide clarity in M&TE control. The results of a review conducted of completed Tool Data & Issue/Record Cards and completed deficient controlled M&TE evaluation reports indicated documents are being annotated and processed adequately. Discussions with M&TE personnel, craft, and QC personnel revealed they have clear understanding of the M&TE control program.

The above violation is considered closed.

(Closed) Unresolved Item 498-8524-01 - Skewed Pressurizer Instrumentation Pipe Stub

This unresolved item concerns a skewed portion of the Unit 1, 3/4" pressurizer level instrumentation line RC-6509-P-A2, between the pressurizer and isolation valve RC-054B. The line was bent approximately -4 1/2 degrees down from perpendicular to the pressurizer which exceeds the Nuclear Steam Supply System (NSSS) vendor (Westinghouse) fabrication tolerance of ± 1 degree with $\pm 3 1/2$ degrees being acceptable. The bent line was dye penetrate checked and determined to be acceptable. The engineering analysis provided by the NSSS vendor and the dye penetrate results were reviewed by the NRC inspector and considered acceptable. The disposition of the Nonconformance Report (NCR) was to "use as is." These actions are acceptable and this unresolved item is considered closed.

5. Preoperations Test Procedure Review

The NRC inspectors reviewed the following preoperational test procedures:

1-HB-P-03	Control Room Envelope Leakage
1-PK-P-01	1E AC Power Distribution - Train A
1-PK-P-02	1E AC Power Distribution - Train B
1-PK-P-03	1E AC Power Distribution - Train C
1-CC-P-04	Component Cooling Water System Balance
1-AF-P-01	Auxiliary Feedwater System

The listed preoperational test procedures were reviewed to ensure the contents were in accordance with the FSAR, Regulatory Guide 1.68 and the licensee's administrative procedures.

The NRC inspector found the instructions and procedures adequate.

No violations or deviations were noted.

6. Plant Procedures Review

The NRC reviewed the following procedures. Observations made during the review of the procedures are noted below:

a. Plant General Procedures (PGPs) 3

OPGP-2A-0010, Revision 2 - "Plant Procedures Compliance,
Implementation and Review"
(Also OPGP03-2A-0039 Addendum 14)

Further guidance may be needed to define what constitutes independent verification of a mechanical system. For example, what constitutes an independent check of throttle valve position and what constitutes a check of drain valve position. In the case of drain valves, should a hands on check be required or is observing flow or the lack of flow from tank to the floor sufficient?

OPGP03-2A-0026, Revision 0 - "Control of Operator Aids"

OPGP03-2A-004, Revision 1 - "Plant Operations Review Committee"

OPGP03-2E-0021, Revision 0 - "Inservice Testing Program for Valves"

OPGP03-2E-0022, Revision 0 - "Inservice Testing Programs for Pumps"

If test frequency not maintained in Mode 5 or 6, test should be performed before entry into mode 4. Section XI of the ASME code does allow test to be performed within 7 days after equipment is required to be operable. This does not appear to be consistent with draft Technical Specifications (TS) 4.0.4 and 4.0.5.e.

This is an open item. (498/499-8605-01)

PGP03-2F-03, Revision 0 - "Breaching of Fire Barriers"

If a fire barrier is knowingly breached, pre-planning for a firewatch needs to be considered. Even though TS would allow 1 hour to post a fire watch, the specification was written assuming that the identified breach had not been purposely created.

PGP03-2F-08, Revision 0 - "Use of Fire Protection Equipment"

A rule for Section 5.4 as to the size of a fire that can be extinguished locally should be considered.

OPGP03-Z1-0002, Revision 0 - "Erection and Use of Temporary Scaffolding"

Should address construction for erection of scaffolding over/around Seismic Category I components/systems.

OPGP3-2L-0002, Revision 0 - (Info Only) "New Fuel Receipt, Inspection Storage"

OPGP3-ZL-0003, Revision 0 - "Offsite Shipment of New Fuel"

The responsibility for assigning crane operators is different in the two procedures (assigned by reactor operations or maintenance, depending on the procedure).

OPGP03-ZC-0003, Revision 0 - "Offsite Shipment of New Fuel"

PGP3-ZM-0004 "Lubrication Program"

OPGP03-ZM-0011, Revision 2 - "Plant Instrumentation Scaling Program"

When determining tolerances for channel checks the same method employed for the loop originally should be used.

OPGP03-ZM-0012, Revision 0 - "Housekeeping"

OPGP3-ZO-1, Revision 2 - "Equipment Clearance"

The term "impractical" as it relates to manually checking valve position should be defined.

OPGP3-ZO-0003, Revision 0 - "Disconnect and Jumper Control"

OPGP03-ZO-0008, Revision 0 - "Shift Technical Advisor"

EIT is not sufficient per the latest commission guidance.

OPGP03-ZO-0022, Revision 0 - "Post Trip Review"

General Comment on References Used in Procedures - If HL&P is committed to a certain revision of a Regulatory Guide then the revision number should be listed. If the reader has a question, he will need to know which revision to refer to.

b. Plant Engineering Procedures (PEPs)

PEP04-ZA-0002	Qualification and Certification of Initial Start-up Testing Personnel
PEP4-ZA-3	Documentation of Initial Startup Results
PEP04-ZL-0001	Initial Core Loading Prerequisites
PEP4-ZL-10	Initial Core Loading
PEP4-ZL-11	Reactor Coolant System Sampling During Core Loading
PEP4-ZL-12	Neutron Response Check of Core Loading Instrumentation
PEP4-ZL-20	Test Sequence for Cold Precritical Testing
PEP4-ZL-50	Test Sequence for Hot Precritical Testing (Info Only)
PEP4-ZL-52	Pressurizer Spray and Heater Capability (Info Only)
PEP4-ZL-53	Control of Margin to Saturation

Precaution 5.2 is incorrect. It should read 320 degrees F not 621 degrees F. This also applies to caution 6.3.4.

Safety injection value of 1850 PSIA not consistent with draft TS (1770 PSIA).

PEP4-ZL-54	Reactor Coolant System Flow Measurement at Hot Standby
PEP4-ZL-55	Resistance Temperature Detector Bypass Loop Flow Verification
PEP4-ZL-56	Control Rod Drive Mechanism Test (System Hot)
PEP4-ZL-57	Rod Position Indication System (Hot)

Acceptance criterion 7.2 should have quantitative limits (out by 18 steps on withdrawal, or by 6 steps on insertion).

PEP4-ZL-58	Rod Drop Time Measurement (Hot-Full Flow)
PEP4-ZL-60	Rod Control System (Partial Review)

Step 6.8.2 Second note - "RB" LEDs may not extinguish with first 6 steps of withdrawal. PEP4-ZL-57 only had to verify LEDs out by 18 steps on withdrawal.

Step 6.25 Note - Same comment as above. Does the 6 steps apply on withdrawal and insertion?

PEP4-ZL-62 RCS Flow Coastdown Measurement (Info Only)
 PEP4-ZX-01 Test Sequence for Initial criticality and Low Power Testing

Consider including draft TS 4.10.1.1 in precaution

PEP4-ZX-02 Initial Criticality
 PEP-4-ZX-03 Boron Endpoint Measurement
 PEP4-ZY-11 Load Swing Test

Steps 6.8 and 6.13 discuss using "the largest ramp rate available."
 If this means for the turbine then should HL&P specify 200%/min as is done in PEP4-ZY-12 or is this instruction here because of the need to consider the fuel reconditioning limits on power. If this is the case, then it should be explained.

PEP4-ZY-12 Large Load Reduction Test
 PEP4-ZX-04 Isothermal Temperature Coefficient measurement

In the precautions section, LO-LO Tav_g value should be stated.

PEP4-ZY-17 Power Coefficient and Integral Power Defect
 PEP4-ZY-18 RCCA on Boron Worth Measurements at Power
 PEP4-ZY-0019 Steam Generator Water Level Control Test
 PEP4-ZY-0030 Initial Synchronization and 30% Power Test
 PEP4-ZY-0031 Automatic Reactor Control

No violations or deviations were identified.

7. Hold Tags

The NRC inspector observed in Unit 1 several examples of what appeared to be improperly completed or installed Hold Tags on systems or components that had been turned over from construction to startup (turnover is called "Released for Test" - RFT). A meeting was held with the Startup Manager, who has responsibility for RFT systems and components, to discuss the construction - startup interfaces dealing with Nonconformance Reports (NCR's), Hold Tags, and conditional releases. The examples observed by the NRC inspector were discussed at this meeting in conjunction with the directions provided in procedures Startup Administrative Instruction (SAI) 5, "Release For Test," Standard Site Procedure (SSP) 3, "Construction Turnover and Release For Test," and

SSP-8, "Nonconformance Reporting." Four conditions were identified that could account for the observed tagging situation:

- a. Hold Tags were not conditionally released at turnover.
- b. NCR was conditionally released and not annotated on the Hold Tag.
- c. NCR was cleared but the Hold Tag was not removed.
- d. Hold Tags were placed by the constructor (Ebasco) after jurisdiction released to startup.

The licensee held a senior management meeting and immediately assigned task force responsibility to determine the cause and extent of the ambiguity that existed in the various Hold Tag systems and controlling procedures. The following actions were completed by the licensee:

- a. Procedure SSP-3, "Construction Turnover and Release For Test," SSP-8, "Nonconformance Reporting," SSP-19, "STP QA/QC Responsibilities Systems and Area Turnover," and QCP-15.1, "Identification and Control of Deficiencies and Nonconforming Conditions," were revised, issued and appropriate personnel were retrained on the revisions.
- b. NCR validators were retrained on system validation requirement and responsibilities.
- c. On turned over system, HL&P Startup will put discrepancy notices (DN) on the Master Completion List and Ebasco QC will close the DN.

Additionally, a 100% system walk down of all turned over systems to verify the status of NCR's and Hold Tags is scheduled for the second week in April. The licensee has taken prompt and appropriate action in evaluating and correcting the ambiguities that were present in these various NCR and Hold Tag systems.

No violations or deviations were identified.

8. 1E-125 VDC Preoperational Test Witnessing

The NRC inspector witnessed the 125 VDC 1E Battery system (Channel IV) Preoperational Test (No. 1-DJ-P-04) to ensure that the testing was conducted in accordance with approved procedures and to observe the test personnel's conductance of the test.

Prior to witnessing the test, the NRC inspector reviewed the test procedure to verify that it adequately addressed NRC requirements, licensee FSAR commitments, and technical requirements. The inspector also verified the proper installation and calibration of all test equipment.

During the course of the test witnessing, the NRC inspector noted that four acceptance criteria requirements were not met.

- a. Acceptance criteria 2.1.1 requires that the overall battery terminal voltage does not fall below 103.25 VDC, while supplying a rated constant output current, for a minimum of 8 hours. Actual time calculated for the battery to be discharged to 103.25 VDC was 7.57 hours.
- b. Acceptance criteria 2.2.1 requires that each of the battery chargers maintain a rated output voltage with a maximum ripple voltage of 85 millivolts peak to peak (30 millivolts RMS) with the battery connected on both Float and Equalize mode. Actual ripple voltages measured on Equalize mode were 90 mv peak to peak for charger 1 and 150mv peak to peak for charger 2.
- c. Acceptance criteria 2.2.2 requires that the battery charger system be capable of restoring the discharged battery, while supplying a load of 259 amps (minimum), at a maximum output per charger of 330-345 amps. Actual current output measured in float mode was 345.5 amps while in Equalize mode current was 346.3 amps.
- d. Acceptance criteria 2.2.2 requires that the battery charger system restore the battery to a nominally fully charged condition within 12 hours. Actual time measured was 12.5 hours.

During the course of the preoperational testing, the NRC inspector made several observations, pertaining to the performance of the licensee personnel conducting the test. It was noted that the latest revision of the test procedure, along with appropriate test change notices, were available and in use by the test personnel. The NRC inspector noted that the test was stopped due to a malfunction of test equipment. The test engineer adhered to procedures for the interruption and continuation of an interruptive test. The test was performed as required by the approved test procedures.

The approval of the test results is presently indeterminate since some of the data taken fails to meet criteria requirements. This discrepancy will remain open pending engineering's review of the nonconforming data results.

This is an open item. (498-8605-02)

9. Operations Preventive Maintenance Program

The NRC inspector reviewed the Nuclear Plant Operations Departments (NPOD) preventive maintenance program for safety-related equipment turned over from construction. Preventive Maintenance (PM) procedures, PM check sheets and records were reviewed for style, format and conformance to TS, vendor, manuals, Regulatory Guides and industry standards. The selected system was the 125 VDC-1E Battery. The following were reviewed:

- a. Plant Procedure OPGP03-ZM-0002, "Preventive Maintenance Program," Revision 3

- b. PM Check Sheet E-1-DJ-001, "Weekly Battery Inspection"
- c. PM Check Sheet E-1-DJ-002, "Quarterly Battery Inspection"
- d. PM Check Sheet E-1-DJ-003, "Inter-cell Surveillance Test"
- e. PM Check Sheet E-1-DJ-004, "Capacity Surveillance Test"
- f. PM Check Sheet E-1-DJ-005, "60 Month Surveillance Test"

The review of the above procedures indicated the PM system was well organized, complete and in accord with references. The PM Check Sheets will be converted into Plant Surveillance Procedures (PSP) prior to fuel load. The check sheets contain all of the required information and directions but are not organized in the PSP format. The check sheets are however an appropriately written, reviewed and issued document.

No deviations or violations were identified.

10. Exit Interview

An exit interview was conducted on April 4, 1986, with those personnel denoted in paragraph 1 of this report. During the exit interview, the NRC inspectors summarized the scope and findings of this inspection.