UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W.
ATLANTA, GEORGIA 30323

Report Nos.: 50-327/85-16 and 50-328/85-16

Licensee: Tennessee Valley Authority
500A Chestnut Street
Chattanooga, TN 37401

Docket Nos.: 50-327 and 50-328 License Nos.: DPR-77 and DPR-79

Facility Name: Sequoyah Units 1 and 2

Inspection Conducted: April 6, 1985 thru May 5, 1985

Inspectors: for E. J. Ford — G. J. Ignatonis — 6/4/85 (Date Signed)

for K. M. Jenison — G. J. Ignatonis — 6/4/85 (Date Signed)

for L. J. Watson — G. J. Ignatonis — 6/4/85 (Date Signed)

Approved by: S. P. Weise, Section Chief, Division of Reactor Projects — S. P. Weise — 6/4/85 (Date Signed)

SUMMARY

Scope: This routine, announced inspection involved 168 resident inspector-hours onsite in the areas of plant tour, Technical Specification compliance, operations performance, housekeeping, radiation control activities, site security, independent inspection and followup of events.

Results: One violation was identified: Failure to adequately establish and implement a surveillance instruction.

REPORT DETAILS

1. Licensee Employees Contacted

*P. R. Wallace, Plant Manager
L. M. Nobles, Operations and Engineering Superintendent
J. B. Krell, Maintenance Superintendent
M. R. Harding, Engineering Group Supervisor
J. M. Anthony, Operations Group Supervisor
D. C. Craven, Quality Assurance Supervisor
B. M. Patterson, Maintenance Supervisor (I)
D. E. Crowley, Health Physics Supervisor
J. L. Hamilton, Quality Engineering Supervisor
*G. B. Kirk, Compliance Supervisor
H. R. Rodgers, Compliance Engineer

Other licensee employees contacted included technicians, operators, shift engineers, security force members, engineers, maintenance personnel, and corporate office personnel.

*Attended exit interview

2. Exit Interview

The inspection scope and findings were summarized with the Plant Manager and members of his staff on May 9, 1985. A violation described in paragraph 3. concerning failure to adequately establish and implement a procedure for testing of radiation monitoring systems was discussed. The licensee acknowledged the inspection findings. The licensee did not identify as proprietary any of the material provided to or reviewed by the inspectors during this inspection. During the reporting period, frequent discussions were held with the Plant Manager and his assistants concerning inspection findings. At no time during the inspection was written material provided to the licensee by the inspector.

3. Licensee Action on Previous Inspection Findings (93702)

(Closed) Unresolved Item, 327/85-10-02, 328/85-10-02: On April 4, 1985, Instrument Mechanics (IM) were performing Surveillance Instruction SI-82, "Functional Tests for the Radiation Monitoring System" (Revision 10) on Unit 1. This SI performs an electronic circuitry functional check of the Auxiliary Building (AB) Vent Air Monitors as required by Technical Specifications. An Auxiliary Building Isolation (ABI) is initiated when the AB radiation monitor trip setpoint is exceeded.

While verifying monitor alarm setpoints by signal injection on RM 90-101A (101A detects particulates - 101B detects gaseous activity) the IMs noted that while the channel high radiation alarm properly activated, the

annunciation did not. The IMs noted this, continued with the surveillance, and removed the ABI block from RM 90-101B. The senior IM subsequently remembered that a delay circuit modification had been performed on the equipment to remedy previous ABI spurious actuations. He then instructed another IM to retest 90-101A. This retest caused an ABI actuation since the block feature was not placed in effect by the IM. The inspector determined that the procedure gave no instructions or cautions with regard to the time delay in the circuity. Lack of this information in the procedure concerning circuit behavior in addition to failing to follow the procedure for blocking the ABI actuation caused the unnecessary ABI. This constitutes a violation for failure to follow the procedure and failure to adequately establish the procedure (327/85-16-01, 328/85-16-01).

The inspector follow-up item (IFI 327/85-10-03, 328/85-10-03) regarding the explicit annunciation of an Auxiliary Building Isolation (ABI has been resolved by the licensee's issuance of Design Change Request (DCR 1717 which will have an annunciator installed inside the Unit 1 control room horseshoe to inform the Unit Operator when an ABI occurs (Reference LER SQRO 50-327/85014). This item is closed.

4. Unresolved Items

An unresolved item was identified during this inspection and is discussed in paragraph 11.

5. Plant Tour (71707, 92706)

The inspector conducted plant tours periodically during the inspection interval to verify that monitoring equipment was recording as required, equipment was properly tagged, operations personnel were aware of plant conditions, and plant housekeeping efforts were adequate. The inspector determined that appropriate radiation controls were properly established, excess equipment or material was stored properly, and combustible material was disposed of expeditiously. During tours, the inspector looked for the existence of unusual fluid leaks, piping vibrations, pipe hanger and seismic restraint abnormal settings, various valve and breaker positions, equipment clearance tags and component status, adequacy of fire fighting equipment, and instrument calibration dates. Some tours were conducted on backshifts. The inspector performed major flowpath valve lineup verifications and system status checks on the following systems on Units 1 and 2 (except as indicated):

(1) Containment Spray System (Unit 2)
(2) Residual Heat Removal System
(3) Safety Injection System (Unit 2)
(4) Turbine Driven Auxiliary Feedwater System (Unit 2)
(5) Motor Driven Auxiliary Feedwater System (Unit 2)
(6) Condensate Storage Tank (supply and recirculation flow paths)

(7) Refueling Water Storage Tank (supply to centrifugal charging pumps)
(8) Upper Head Injection System (Unit 2)
(9) Auxiliary Control Air System
(10) 6.9kv Shutdown Boards
(11) 480 VAC Shutdown, Reactor MOV, and Containment and Auxiliary Ventilation Boards
(12) 120 VAC Vital Plant Control Power System
(13) 125 VAC Vital Plant Control Power System
(14) Diesel Generators

No violations or deviations were identified.

6. Technical Specification Compliance (71707)

During this reporting interval, the inspector verified compliance with selected limiting conditions for operation (LCO) and reviewed results of selected surveillance tests. These verifications were accomplished by direct observation of monitoring instrumentation, valve positions, switch positions, and review of completed logs and records. The licensee's compliance with selected LCO action statements were reviewed as they happened.

No violations or deviations were identified.

7. Plant Operations Review (71707)

a. The inspector periodically during the inspection interval reviewed shift logs and operations records, including data sheets, instrument traces, and records of equipment malfunctions. This review included control room logs, auxiliary logs, operating orders, standing orders, jumper logs and equipment tagout records. The inspector routinely observed operator alertness and demeanor during plant tours. During abnormal events, operator performance and response actions were observed and evaluated. The inspector conducted random off-hours inspections during the reporting interval to assure that operations and security remained at an acceptable level. Shift turnovers were observed to verify that they were conducted in accordance with approved licensee procedures.

b. On May 3, 1985, while operating at 100% power, the Unit 2 main generator tripped due to the loss of the stator water cooling pumps. The turbine tripped, resulting in a reactor trip. The resident inspector was in the control room at the time of the trip and observed operator response to the indications of loss of stator water cooling and performance during the recovery phase. The reactor operators responded immediately to the indication of the loss of stator cooling water. The unit tripped however within 45 seconds of experiencing the loss of the pumps. The operators verified the correct response of the Reactor Protection System. The unit responded normally, and no Engineered Safety Features actuation took place.

The pumps were lost when an SRO, responding to an indication of a fire in the stator water cooling area, tripped the B stator water cooling pump which had just been returned to service after maintenance to correct high vibration problems. The SRO attempted to immediately restart stator water cooling pump A; however, the pump would not start. The following sequence of events were later determined to have occurred. The A stator water cooling pump was in service. The B pump was returned to service after maintenance. The A stator water cooling pump was then removed from service. In preparation for putting the A pump in the standby mode, the SRO restarted the A pump, then turned the pump off and placed it in standby. During these actions, the A pump experienced an electrical short in the leads to the motor, causing a puff of smoke. The SRO heard the fire alarm, contacted the control room, and was told that the fire was in the stator water cooling area. The SRO assumed that the pump on fire was the one just returned to service and tripped the B pump.

During the recovery from the trip, it was noted that the high flux reactor trip signal would not clear, and the B train reactor trip breaker could not be reset. Troubleshooting on the problem revealed that a spring clip had fallen in a Solid State Protection System (SSPS) cabinet and had caused a short across the SSPS logic card input pins for the P10 enable and intermediate range high flux trip signal. The Instrument Mechanics removed the clip and checked the cabinet for any additional problems. None were identified. The inspectors will follow the resolution of this item in the review of the licensee event report on the reactor trip.

The inspector observed the preparations for restart including verification of the use of General Operating Instruction GOI-2, "Plant Startup From Hot Standby to Minimum Load." The inspector observed portions of the reactor trip instrumentation functional tests, reviewed the procedure for calculation of shutdown margin, and observed the activities for the return to criticality. In addition, the inspector observed a shift turnover conducted shortly after the trip.

No violations or deviations were identified.

8. Physical Protection (71707)

The inspector verified by observation and interview during the reporting interval that measures taken to assure the physical protection of the facility met current requirements. Areas inspected included the establishment and maintenance of gates, doors and isolation zones in the proper condition, that access control and badging was proper, that search practices were appropriate, and that escorting and communications procedures were followed.

No violations or deviations were identified.

9. Licensee Event Report (LER) Followup (92700)

The inspector reviewed the following LERs to verify that the report details met NRC requirements, identified the cause of the event, described appropriate corrective actions, adequately assessed the event and addressed any generic implications. Corrective action and appropriate licensee review of the below events were verified. The inspector had no further comments. The following LERs are closed.

LERS Unit 1

327/83022	Inoperability of the Upper Head Injection (UHI) Level Switches
327/83047	Inoperability of the Reactor Coolant Subcooling Margin Monitor
327/83057	Inoperability of the Accident Monitoring Instrumentation for the Subcooling Margin Monitor
327/83084	Inoperability of Two Level Switches to the UHI System
327/83090	De-energizing of 6900V Shutdown Board 1B-B After Surveillance Test
327/83092	Loss of Subcooling Margin Monitor
327/83116	Inoperability of the Reactor Coolant Subcooling Margin Monitor
327/83156	Inoperability of One UHI Level Channel
327/83176	Inoperability of One Reactor Protection Steam Flow Channel
327/83187	Inoperable Radiation Monitors for Essential Raw Cooling Water Liquid Monitor
327/84031	Required Plant Shutdown Following Premature Lifting of a Pressurizer Safety Relief Valve
327/84032	Reactor Trip
327/84033	Reactor Trip
327/84035	Generator and Reactor Trip Caused by a Failed Bearing on the Generator
327/84036	Turbine/Reactor Trip

327/84040	Inoperability of the Standby Diesel Generator Caused by Past Due Surveillance Requirement
327/84050	Control Room Isolation Caused by a Spurious Signal From the Chlorine Director
327/84055, Rev. 1	Breaches of Auxiliary Building Secondary Containment Enclosure
327/84056	Inadvertent Containment Isolation and Auxiliary Building Isolation
327/84060	Inadvertent Auxiliary Building Isolations From Spent Fuel Pool Radiation Monitors
327/84064	Inadvertent Opening of the Reactor Trip Breakers While Unit was in Cold Shutdown
327/84068	Auxiliary Building Isolation Caused by an Inadvertent Signal in a Radiation Monitor Circuit
327/84071	Failure to Meet Surveillance Requirements for Radiation Monitors
327/84072	Functional Discrepancy for Postaccident Radiation Monitors
327/85014	Inadvertent Auxiliary Building Isolation

LERs Unit 2

328/83008	Inoperability of One Pressurizer Pressure Channel
328/83015	Inoperability of One Containment Sump Level Channel
328/83030	Inoperability of One Containment Sump Level Channel
328/83069	Inoperability of the Reactor Coolant System Subcooling Margin Monitor
328/83074	Inoperability of the Accident Monitoring Instrumentation for the RCS Subcooling Margin Monitor
328/83095	Loss of the Subcooling Margin Monitor Because of the Loss of the Plant Process Computer
328/83105	Underfrequency Relay and Undervoltage Timer Found to be Inoperable on Reactor Coolant Pump
328/84005	Failure to Perform Surveillance Instruction Concerning ESF Auto Switchover to Containment Sump

328/84014 Reactor Trip on Low Low Steam Generator Level

10. Event Followup (93702, 92706, 62703, 61726)

On April 13, 1985, Unit 1 commenced a shutdown for a Technical Specification (TS) required ice weighing and to correct a cooling system problem on the main generator. During a two day period the unit experienced a number of problems which were reviewed by the Resident Inspectors to ascertain if plant procedures for operating and maintaining the unit were properly followed. These problems, which will be addressed below, consisted of a false actuation of the B train steam flow (SF) bistables, failures involving both pressurizer spray valves, failure of the B train motor driven auxiliary feedwater pump (MDAFW) to start on steam generator (SG) level signal, and the automatic opening of the reactor trip breakers (RTB) in Mode 4 (hot shutdown).

a. False Hi Steam Flow Bistables Actuation

On April 13, 1985, Unit 1 operators decreased power level in preparation to enter an outage for a TS required ice weighing. The unit had previously decreased power to approximately 36% while troubleshooting the main electrical generator to locate hydrogen losses from the generator hydrogen cooling system. At approximately 18% power several high steam flow bistables were actuated. Later additional bistables were actuated. Instrument mechanics (IM) were notified and commenced an evaluation. Reactor power was stabilized at 1% to preclude a possible inadvertent safety injection (SI) signal which would be generated if Tavg decreased to 540°F without the bistable signals blocked.

Shift Engineer (SE) log entries indicated the high steam flow bistables had been cleared by the IMs who found turbine impulse pressure transmitter, PT-1-72 (Train B), adjustment set at 8 volts vice 13 volts, which caused the high steam flow setpoint program to actuate the bistables prematurely at the program low end. The licensee initiated a potential reportable occurrence (PRO) which was evaluated and determined to be a 30-day LER.

The inspector reviewed applicable maintenance documents, data and drawings and noted that the "as found" loop values for the involved circuitry were within the expected value tolerances; however, the low end of the program "as found" value differed significantly from the "desired" value. The apparent error was in the conservative direction with respect to safety system actuation, but could cause an unnecessary challenge.

The inspector reviewed the following documentation associated with this event for appropriate authorizations, reviews and technical content:

PRO 1-85-122

MR A-518490 dated April 14, 1985, and its associated IMI-134, work instruction and configuration control change sheets for MR A-518490

MR A-530705 dated April 13, 1985, and its associated IMI-134 documents

IMI-99.CC10.4B, page 6 of 8, Rev. 7 data sheets and Appendix A setpoint program curves

Shift Engineer, Assistant Shift Engineer and Unit Operator logs for April 13, 1985

The inspector also held discussions with the licensee technical personnel and reviewed appropriate documentation for corrective maintenance.

b. Spray Valve Failures

On April 14, 1985, with Unit 1 in Mode 3 (hot standby, rods inserted) and the Reactor Coolant System (RCS) at 547°F, the pressurizer spray valve, PCV 68-340B, failed in the open position. The operators implemented Abnormal Operating Instructions (AOI) and stopped reactor coolant pump (RCP) two, as required by the AOI. A maintenance request (MR) was initiated to investigate the problem. The operators started RCP-1 and proceeded to initiate spray through valve PCV 68-340D; however, this valve failed to open in response to the initiating signal. With both normal spray valves inoperative, the operators maintained a controlled cooldown by stopping RCPs 1 and 2 and using the auxiliary spray feature to control pressurizer pressure. The inspector reviewed the event with respect to TS 3.4.1.1 requirements and found the licensee to be in compliance.

The inspector monitored on-going corrective maintenance activities, which determined that valve 68-340B (RCS loop 2) had failed open due to problems in the mechanical linkage of the valve positioner. A loop check by the Instrument Mechanics of the I/P module for valve 68-340D (RCS loop 1) revealed a defective module with no signal output over the full input range. The I/P module is used to convert a current signal to a pneumatic signal for use by the valve positioner to cause its air-operated spray valve to actuate. Without the proper I/P output the spray valve fails closed.

The inspector reviewed the following documents:

Maintenance Request, MR A-526276 and associated maintenance documents

Abnormal Operating Instruction, AOI-18

Shift Engineer, Assistant Shift Engineer and Unit Operator logs dated April 14, 1985

Mechanical Control Diagram Reactor Coolant System, 47W610-68-6

c. Failure of AFW Motor to Auto Start

On April 14, 1985, at 1150 CST Unit 1 was in Mode 3 with control rods inserted and the RCS being borated. The Unit was cooling down in preparation to go on Residual Heat Removal (RHR) cooling. The operator was using the condensate booster pumps and was controlling levels in the steam generators (SG) by increasing levels on three of the generators while holding the fourth SG level (which was higher than the others) stable by closing the Feedwater Regulating Valve (FWRV) and its isolation valve. The isolation valve was leaking, and SG level continued to increase. The operator was aware of the condition and isolated feedwater heaters in an attempt to prevent further level rise in the one SG. Within approximately ten minutes of closing the FWRV and FW isolation valves the SG was at the high SG level FW isolation setpoint. This setpoint causes the main feed pumps to trip and actuates the auxiliary feedwater (AFW) pumps. The B train motor driven AFW did not start as required. This was determined to be caused by a failed coil in relay RTT2 which is located near the main feed pump. The pump was started manually from the control room. The licensee considers this an isolated failure and will replace the coil and perform post-maintenance testing. The licensee is investigating the leaking FWRV and feedwater isolation valves.

The inspector interviewed cognizant licensee personnel and reviewed the following documentation:

Potential Reportable Occurrence, PRO 1-85-123

General Operating Instruction, GOI-3, "Plant Shutdown from Minimum Load to Cold Shutdown" Rev. 29

Unit Operator's Log (Unit 1) dated April 14, 1985

Steam Generator Level Charts

d. Reactor Trip Signal Generated in Mode 4

On April 15, 1985, Unit 1 was in Mode 4 at 290°F and 280 psig while being cooled down to Mode 5, when a Reactor Protection System (RPS) signal was generated due to low steam generator (SG) level coincident with a steamflow/feedflow mismatch. The control rods had already been inserted so no reactor trip occurred.

Prior to the time of the event, instrument mechanics had been given permission to remove the steam flow channel on Loop 4 from service and place them in the tripped condition to continue work on problems identified earlier in the shutdown. Additionally, operators were attempting to control and drain the steam generators in preparation for the outage. The operator was avoiding draining the SGs to less than 18% (the low-low level trip setpoint) and forgot the steam flow channel was out of service. When level reached the low level of 25% the anticipatory trip condition was satisfied. The RPS generated a trip signal and opened the reactor trip breakers; however, the control rods were already inserted.

The inspector reviewed the event against the NRC reporting requirements and determined the report to have been made within proper time limits.

e. Summary of Events

The inspector noted that the actuation of the four SF bistables was due to a common component feeding the bistables (PT 1-72), which had been set too conservatively at the low power end of its programmed curve. The spray valve failures were due to equipment failure. The valve which failed open due to a broken linkage is being evaluated for generic implications. Failure of the MDAFW pump to actuate was also caused by equipment failure (a main feed pump relay). The generation of a RPS open signal to the RTBs was due to personnel error. Due to the high number of equipment failures, the licensee stated that an Independent Safety Engineering Group (ISEG) review for all events associated with the shutdown was ongoing, including a comparative study with other shutdowns.

No violations or deviations were identified during this event follow-up.

11. Inspector Followup Items (92701, 61726, 71710)

(Closed) IFI (DRP 85-01) Station Battery Operation, Maintenance, and Inspection. The inspector reviewed the licensee's program for the operation, surveillance and maintenance of the 125V DC vital station battery bank and the diesel generator (DG) 125V DC battery bank to assure that the program did not contain deficiencies identified during NRC inspections at other operating facilities.

The inspector reviewed the following areas:

a. The licensee stated that no single cell chargers had been used on either Unit 1 or 2 batteries. However, the licensee is considering the use of single cell chargers. The licensee was provided additional information on NRC concerns in this area. The inspector will follow the results of the licensee review (IFI 327/85-16-02, 328/85-16-02).

b. The inspector examined the 125V DC vital battery banks and the diesel generator 125V DC battery banks. There was no evidence of improper gassing or abnormal levels of sediment.

c. The inspector reviewed TVA and vendor installation drawings against the field configuration of the battery racks for the 125V vital DC battery banks and the diesel generator battery banks.

The 125V vital DC battery racks were installed in accordance with the drawings; however, TVA had received an information notice dated March 27, 1985, from the vendor stating that there may be a gap between the end cell and end stringer of greater than one quarter inch in some Class 1E battery installations. A gap greater than one fourth inch was determined by the vendor to be unacceptable. A review of the installation indicated that gaps of approximately one-half inch existed at one end of some of the racks. The vendor drawing did not show a gap limit or a spacer for the original installation. The vendor recommended that a spacer be inserted to bring this gap to less than three-eights of an inch. TVA has initiated workplans to install spacers of an approved material in the vital battery banks. The inspector requested that the licensee provide further information concerning TVA's actions in response to the vendor notice, including any determination concerning operability during a seismic event. Pending this information and modification completion, this constitutes an unresolved item, UNR 327/85-16-03, 328/85-16-03.

The TVA drawings for the DG battery racks reflect a spacer at the end of the tier of racks. The inspector noted during a walkdown of the system that a bracing bar had been installed in lieu of a spacer. A review of the vendor drawings indicate that the vendor's Class 1E design reflected the use of a bracing bar instead of a spacer for the battery installation. The TVA drawings had not been changed to reflect the vendor design. Based on past reviews of TVA drawings, including reviews of the major safety related system flowpath drawings, this inaccurate drawing appears to be an isolated case. The licensee has committed to change the drawing and include the revised drawing in the FSAR. This item will be followed by IFI 327/85-16-04, 328/85-16-04.

d. The spacing material between cells was plastic for the vital batteries and polystyrene foam for the DG batteries.

e. The inspector reviewed the following procedures which implement the surveillance program required by Technical Specifications 4.8.2.3, "DC Distribution - Operating," and 4.8.2.4, "DC Distribution - Shutdown":

SQN Surveillance Instruction, SI-100, "Vital Battery Operability," Units 1 and 2, Rev. 20

SQN Surveillance Instruction, SI-100.1, "Vital Battery System Weekly Inspection," Units 1 and 2, Rev. 13

SQN Surveillance Instruction, SI-105, "Vital Battery Bank and Charger Performance Tests," Units 1 and 2, Rev. 15

SQN Surveillance Instruction, SI-3, "Daily, Weekly and Monthly Logs," Rev. 45

SQN Maintenance Instruction, MI-10.3, "125-Volt Battery System Inspection" Units 1 and 2, Rev. 8

SQN Maintenance Instruction, MI-10.12, "Vital Battery Maintenance and Inspection," Units 1 and 2, Rev. 2

SQN Modification and Addition Instruction, M&AI-14, "Vital Battery Cell Removal or Replacement," Rev. 5

The inspector determined that the procedures required that surveillance be conducted in accordance with the TS requirements and at the appropriate interval. The inspector reviewed selected completed procedures and determined that the surveillances had been conducted within the appropriate time frames.

f. The inspector reviewed the following procedures which implement the surveillance program required by Technical Specifications 4.8.1.1.3, which addresses the surveillance requirements for the 125V DC battery bank and associated charter for each diesel generator:

SQN Surveillance Instruction, SI-238, "Diesel Generator Battery System Inspection," Units 1 and 2, Rev. 14

SQN Surveillance Instruction, SI-238.1, "Diesel Generator Battery System Weekly Inspection," Units 1 and 2, Rev. 10

SQN Maintenance Instruction, MI-10.2, "Diesel Generator Battery System Inspection" Units 1 and 2, Rev. 14

SQN Modifications and Additions Instruction, M&AI-15, "Diesel Generator Battery Cell Removal and Replacement," Rev. 7

SQN Modification and Addition Instruction, M&AI-16, "Diesel Battery Intercell Strapout," Rev. 3

The inspector determined that the procedures required that surveillances be conducted in accordance with the TS requirements and at the appropriate interval. The inspector reviewed selected completed procedures and determined that the surveillances had been conducted within the appropriate time frames.

The inspector determined that the TS does not require performance of discharge and capacity tests on the diesel generator batteries. Additionally, on April 17, 1985, a licensee task force prepared a potentially reportable occurrence concerning the preoperational testing

of the battery bank for diesel generator 1A-A. This battery bank had been replaced in August 1980. The licensee is evaluating the types of surveillances used for the DG batteries. Testing of the DG battery banks will be reviewed by the resident inspectors during the next inspection report period. This is identified as IFI 327/85-16-05, 328/85-16-05.

g. Float voltages are maintained on the batteries in accordance with the vendor manuals.

h. Service tests and performance tests are conducted in accordance with the TS for both sets of batteries. Post-modification tests are also required per procedure.

i. Battery equalizer charges were conducted in accordance with the vendor technical manual for both sets of batteries, except that for the vital 125V DC battery banks there was not requirement to conduct an equalizer charge when the individual cell voltage varies from battery average by more than 0.04 VDC. The procedures do require equalizing when an individual cell is below 2.13 volts as required by TS. The licensee is evaluating the vendor recommendation. This item is identified as IFI 327/85-16-06, 328/85-16-06.

j. ICV and specific gravity readings were corrected for temperature and electrolyte level.

k. Post-maintenance testing is required to be performed after cell jumpering and cell replacement.

l. The licensee stated that they made no additions of acid to the batteries.