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U.S. NUCLEAR REGULATORY COMMISSION

Region I

Report Nos. 50-317/82-04  
50-318/82-04

Docket Nos. 50-317  
50-318

License Nos. DPR-53  
DPR-69 Priority -- Category C

Licensee: Baltimore Gas and Electric Company  
P. O. Box 1475  
Baltimore, Maryland 21203

Facility Name: Calvert Cliffs Nuclear Power Plant, Units 1 and 2

Inspection At: Lusby, Maryland

Inspection Conducted: February 3 - March 2, 1982

Inspectors:

D. C. Trimble for R. Architzel  
R. E. Architzel, Senior Resident Reactor Inspector

3/2/82  
date signed

D. C. Trimble  
D. C. Trimble, Resident Reactor Inspector

3/2/82  
date signed

Approved By: E. C. McCabe  
E. C. McCabe, Jr., Chief, Reactor Projects  
Section 2B

3/4/82  
date signed

Inspection Summary:

Inspection on Feb. 3-Mar. 2, 1982 (Combined Reports Nos. 50-317/82-04 and 50-318/82-04)  
Areas Inspected: Routine onsite regular shift inspection by the resident inspectors (110 hours). Areas inspected include the control room and the accessible portions of the auxiliary, turbine, service, and intake buildings; radiation protection; physical security; fire protection; plant operating records; maintenance; surveillance; plant operations; radioactive waste releases; open items; IE Bulletins; TMI Action Plan Items; and reports to the NRC.

Violations: Two: Failure to properly lock valves (detail 3.f) and failure to comply with Technical Specifications Surveillance Requirements (detail 4.d)



## DETAILS

### 1. Persons Contacted

The following technical and supervisory level personnel were contacted:

- M. E. Bowman, Principal Engineer, Nuclear Fuel Management
- J. T. Carroll, General Supervisor, Operations
- J. E. Gilbert, Shift Supervisor
- S. Hager, Site Representative, Combustion Engineering
- J. R. Hill, Shift Supervisor
- A. E. Lundvall, Jr., Vice President-Supply
- W. J. Lippold, Supervisor Nuclear Fuel Management
- J. F. Lohr, Shift Supervisor
- R. O. Mathews, Assistant General Supervisor, Nuclear Security
- J. E. Rivera, Shift Supervisor
- L. B. Russell, Plant Superintendent
- J. A. Snyder, Supervisor, Instrument Maintenance Unit 2
- R. W. Talley, Jr., Assistant General Foreman, PMD
- J. A. Tiernan, Manager, Nuclear Power Department
- R. L. Wenderlich, Engineer, Operations
- D. Zyriek, Shift Supervisor

Other licensee employees were also contacted.

### 2. Licensee Action on Previous Inspection Findings

(Closed) Violation (317/81-27-02) Failure to Follow Radiation Work Permit Requirements. The licensee responded to this item in a letter dated February 12, 1982. The inspector verified retraining of the individuals involved had been conducted (February 9, 1982) and that the incident had been discussed between the individuals and their supervisor. In addition, proper posting of the Notice of Violation was verified in accordance with 10CFR19.

(Closed) Violation (317/81-24-03; 318/81-23-02) Access Plate Removed in Control Room/Cable Spreading Room Ventilation Duct. The licensee responded to this item in a letter dated February 5, 1982. The inspector verified the licensee's corrective actions including reinstallation of the access plate and a memorandum dated February 1, 1982, from the Plant Superintendent to all plant personnel regarding the use of procedural controls for all safety-related maintenance and modification activities.

(Closed) Inspector Follow Item (317/80-14-04) Initiate P.M. to check Blowdown Flow Rate. A change has been made to the Control Room Log Sheets (revision dated 5/81) to require a shift-wise check of steam generator blowdown flow with the remote setting and to verify correct computer input. In addition, a daily P.M. has been added (P.M. 83-3-0-D) to require a check of the blowdown heat exchanger leakage to ensure correct blowdown flow is being entered.



(Closed) Inspector Follow Item (317/81-13-05) Revision of Site Emergency Plan Implementing Procedures to specifically require documentation of NRC notification during any emergency condition. The inspector reviewed ERPIP 3.1, Revision 3 dated October 2, 1981 and concluded that the licensee had made the necessary revision to include the NRC in the Initial Notification Checklist.

(Closed) Unresolved Item (317/81-24-01; 318/81-23-01) Adequacy of Licensee's System for Following Commitments to the NRC. The inspector reviewed and discussed with the licensee the List of Calvert Cliff Commitments to Outside Agencies dated January 20, 1982, which was developed by the licensee to provide status and ensure timely completion of commitments.

(Closed) Unresolved Item (318/82-02-01) Drain Valves on the Unit 2 Saltwater System P&IDs. The inspector reviewed Facility Change Request 82-26, approved on 2/5/82, to change P&IDs OM-49, M-49, OM-450, and M-450 to show two drain valves on the common saltwater outlet from the service water heat exchangers.

(Closed) Unresolved Item (317/80-02-06; 318/80-02-11) Format and Training of Emergency Plan, Adequacy for Use, and (317/80-02-07; 318/80-02-12) Emergency Plan Appropriateness to Local and Plant Emergency Conditions. These items were identified prior to the major revision of the licensee's Emergency Plan and implementing procedures to conform to the guidance of NUREG 0654. Subsequent to this major revision, an Emergency Preparedness Appraisal was conducted (Inspection Report 317/81-19; 318/81-18) to evaluate the plan. The unresolved items are no longer applicable to the revised plan and procedures.

(Closed) Unresolved Item (317/80-25-01; 318/80-25-01) Additional Training on Emergency Plan Actions, Including Plant Staff and Shift Supervisors. Substantial additional training on the Emergency Plan has been conducted since this item was identified. Adequacy of the training was addressed by the NRC's Emergency Plan Appraisal Team and conduct of the training was observed by the inspector prior to a full scale exercise conducted in November, 1981.

(Closed) Inspector Follow Item (318/81-04-04) Submit Exemption Request for Arc Strike Repair. The licensee submitted the required exemption request to the NRC, Division of Licensing, in a letter dated May 29, 1981.

(Closed) Unresolved Item (318/81-11-01) Small Fires Periodically Ignite and Self-Extinguish on Diesel Exhaust Pipe. The licensee has determined, in conjunction with the diesel manufacturer, Fairbanks Morse, that it is a normal condition to carryover about one gallon per hour of lube oil into the exhaust header. If the temperature of the exhaust header remains low the oil will collect and leak outside the exhaust header after cooldown. (The gaskets are designed to contain hot exhaust gases and do not prevent leakage of oil when shutdown.) The licensee has revised the Emergency Diesel Generator Surveillance Test Procedure to require running the diesels one hour under full load to burn out any oil which would otherwise accumulate in the exhaust header.



### 3. Review of Plant Operations

#### a. Daily Inspection

The inspector toured the facility to verify proper manning and access control, and observed adherence to approved procedures and LCOs. Instrumentation and recorder traces were observed. Status of Control Room annunciators was reviewed. Nuclear instrument panels and other reactor protective systems were examined. Control rod insertion limits were verified. Containment temperature and pressure indications were checked against Technical Specifications. Stack monitor recorder traces were reviewed for indications of releases. Panel indications for onsite/offsite emergency power sources were examined for automatic operability. Control Room, shift supervisor, tagout log books, and operating orders were reviewed for operating trends and activities. During egress from the protected area, the inspector verified operability of radiological monitoring equipment and that radioactivity monitoring was done before release of equipment and materials to unrestricted use.

These checks were performed on the following dates:

February 3, 5, 8, 10, 12, 15, 16, 18, 22, 24, 26, and March 1, 1982.

On February 8, the inspector noted that the 200 foot wind speed indicator was not functioning properly and pointed this out to the shift supervisor. The shift supervisor noted the problem in his daily log and directed that a Maintenance Request be generated for corrective action. The instrument is required to be operable as a limiting condition for operation by Technical Specification 3.3.3.4. During subsequent Control Room checks the indicator was observed to be functioning properly.

During the Control Room checks on February 18, the inspector observed that the Reactor Coolant Loop 11B cold leg temperature indicator was indicating 25 degrees F low (compared with other instruments in this and other loops) and that the Auxiliary Feedwater Flow indication to the 12 Steam Generator was reading 70 gallons per minute with no flow (pump secured). The Unit 1 Control Room Operator was questioned concerning these instruments and stated that they apparently were malfunctioning and that an MR would be initiated. The cold leg temperature indication was observed to be functioning properly during Control Room checks on February 22. The inspector further noted during a review of the Shift Supervisor's and Control Room Log Books that the licensee entered Technical Specification Action Statement 3.3.3.6 for the inoperable Auxiliary Feedwater Flow Rate indication. This T.S. allows 30 days to restore the channel to an operable status. The indicator was observed to be functioning properly during subsequent Control Room checks.

On February 24, the inspector questioned the Control Room Operator about the indication for the Unit 2 Condensor Off Gas monitor. With the unit at about 50% power, the indication was downscale. The operator examined the instrument and attempted to perform a source check which was not successful. An MR was initiated to investigate the monitor. During subsequent Control Room checks the monitor was observed to be functioning properly.



b. Weekly System Alignment Inspection

Operating confirmation was made of selected piping system trains. Accessible valve positions in the flow path were verified correct. Proper power supply and breaker alignment was verified. Visual inspections of major components were performed. Operability of instruments essential to system performance was verified. The following systems were checked:

- Unit 1 Service Water Lineup in the SRW Pump Room, checked on 2/3.
- Unit 1 Auxiliary Feedwater Lineup in the Protected Area and AFW Pump Room, checked on 2/9.
- Selected normally inaccessible valves in the Unit 2 Containment on 2/17 and 2/23.
- High and Low Pressure Safety Injection and Containment Spray Lineups in 22 ECCS Pump Room on 2/4.

Several locked valves in the Unit 2 Containment were observed to be out of their normal locked positions on February 23, 1982. The valves in question included the service water supply to the Containment charcoal filters, the Containment spray header manual isolations, and the auxiliary spray header manual isolation. In addition, the Containment purge valves were open. The lineups were either normal for Mode 5 or for surveillance testing and maintenance. Two independent checks of proper position and locking are required for these valves prior to going from Mode 4 to Mode 5. On a subsequent tour of the Unit 2 Containment, during plant heat up on 2/23, the inspector noted that all valves had been restored to their normal locked and at power positions.

Additional findings are addressed in paragraphs e and f below.

c. Biweekly Inspection

Verification of the following tagouts indicated the action was properly conducted.

- Tagout 2039, 12 Boric Acid Pump, verified on 2/5.
- Tagout 2174, Unit 2 CVCS System, Auxiliary Spray, verified on 2/17.

Boric acid tank samples were compared to the Technical Specifications. Tank levels were also confirmed.

d. Other Checks

During plant tours, the inspector observed shift turnovers, security practices at vital area barriers, completion and use of radiation work permits, protective clothing and respirators. The use and operational status of personnel monitoring practices, and area radiation and air monitors were reviewed. Equipment tagouts were sampled for conformance with TS LCOs. Plant housekeeping and cleanliness was evaluated. Other TS LCOs, including RCS Chemistry and Activity, Secondary Chemistry and Activity, watertight doors, and remote instrumentation were checked.



The inspector noted the following items during a tour of the Unit 2 Containment on February 23, 1982. The unit was being heated up prior to restart.

- The 27' Tool Cage Door was open (many loose items are stored inside this cage).
- The primary side Steam Generator Manway canned insulation cover was off.
- About 2' of canned insulation was loose on top of a chemical addition tank near the entrance to 21 Reactor Coolant Pump bay.
- Lagging and loose poly sheets were still in the vicinity of the work area where the Auxiliary Spray Valve had been repacked.

The inspector brought these deficiencies to the attention of the shift supervisor. The shift supervisor stated that several of these items had been identified for the ISI Containment close out inspection which was still to be conducted (for example the SG Manway cover was off to verify manway leakage was minimal at full pressure). The shift supervisor initiated action to correct the remaining deficiencies.

The inspector also questioned the licensee concerning a number of radiation area posting signs inside the Containment (plastic signs and nylon rope). The inspector requested that the licensee evaluate the ability of the signs to withstand a post LOCA environment without contributing to blockage of the sumps. The licensee stated that this area would be examined (318/82-04-01).

- e. During lineup checks in the Control Room, the inspector questioned the Control Room Operators concerning yellow dots which had been placed on the Control Boards for selected remotely operated valves. They stated that the dots had been placed as reminders to the operators of which valves required administrative control (Lock Valve Deviation Log) pursuant to STPs 0-62-1 and 2, Monthly Valve Position Verification. The stated reason was that it was difficult to remember those valves in this category. The inspector observed that not all valves listed in STP 0-62 had the yellow dots affixed. The licensee stated that either controls would be initiated to verify placement of the dots or they would be removed from the boards. This item is unresolved (317/82-04-01; 318/82-04-02) pending licensee corrective action.
- f. On February 4, 1982 the inspector noted that two valves were not locked as required in the 22 ECCS pump room, but were in their proper position. The valves in question were 2 SI 450, 22 LPSI Pump Minimum Flow Return Isolation Valve, and 2 CC 246, Supply to HPSI Pump 23 Cooler. The valves are required to be locked open by procedures OI 3, Safety Injection Shut-down Cooling and Containment Spray, and OI 16, Component Cooling System, respectively. The inspector noted that this violation was repetitive in that service water valves to the diesel generators had similarly been found to be not properly locked as detailed in Inspection Report 317/81-27; 318/81-25 conducted in December 1981. The inspector further discussed with the licensee findings of the NRC's Performance Appraisal Team that certain other valves did not appear to be adequately controlled pursuant to their administrative procedures. The inspector noted that the licensee's method of locking valves does not comply with the NRC's accepted methods for lock-



ing valves in that either combination or key locks be used (preferred) or in lieu of this any method which restrains stem motion of the valve and provides an indication of tampering (e.g. lead seals). The licensee noted that the method used (chains and clips, with colored tags to indicate locked open and locked closed) was in accordance with their commitments to the NRC in the FSAR (Chapter 12) and subsequent letters to the NRC (Response to IE Bulletin 79-06 C); and that proper locking of valves was a matter in which they preferred to emphasize importance to the operations staff and all plant personnel. The inspector acknowledged the licensee's comments and stated that failure to properly lock valves was a repetitive violation (318/82-04-03) which would be closely followed by the NRC.

#### 4. Review of Events Requiring One Hour Notification to the NRC

The circumstances surrounding the following events requiring prompt NRC (one hour) notification via the dedicated telephone (ENS-line) were reviewed.

- a. At 6:11 a.m. on February 4, 1982 during the initial steps of testing the Engineered Safety Features Actuation System (ESFAS) 4KV under-voltage trip (STP 0-7-2) an inadvertent actuation occurred. Rapid actions on the part of the Control Room Operators prevented a plant trip when one of the two 4KV vital buses and associated 480 vital buses were lost. Twelve Diesel Generator started but, as designed, did not close in on the deenergized bus (swing diesel only closes on a SIAS signal coincident with loss of power). Normal electrical line-up was restored in one minute. The inspector discussed the actuation with the operators and reviewed Control Room indications (recorder charts and computer printouts). The procedure had been followed in a step-wise fashion. The inspector also observed portions of the troubleshooting and retesting. The problem was found to be a failed signal isolator between the sensor and actuation cabinets. The signal isolator was replaced and the retest was acceptable.
- b. At 12:52 p.m. on February 5, 1982 while at 100% power, the plant was manually tripped following the loss of the 22 main feedwater pump when the plant operator observed that the remaining main feedwater pump could not supply sufficient feedwater flow. The cause of the main feedwater pump trip could not be determined. The inspector discussed the post-trip response with the operators, examined Control Room indications (recorder charts and post-trip printouts) and verified that equipment functioned as designed after the trip. During plant restart, the pressurizer level dropped below its programmed value band and was subsequently restored to a proper level.
- c. At 9:58 a.m., February 12, 1982 there was a manual trip from 100% power due to low Steam Generator level after loss of main feedwater pump 22. This was a repeat of a February 5 trip (for which no reason for MFP-22 loss had been found) except that one control rod (CEA-19) stuck about 8 inches above the core bottom. Licensee actions to free the CEA are addressed in paragraph d below. The inspector observed activities in the Control Room following the trip and reviewed licensee actions attempting to determine the cause of loss of MFP-22. Equipment functioned normally following the trip except 22 Feedwater Regulating Valve (FWRV) which took about eight minutes to close versus a normal closure in less than one minute. Investigation revealed that the



problem with the FWRV was an air leak on the positioner, which was repaired. As a result of this air leak, 22 Steam Generator returned to "0" without operator action, a condition which was similar to the occurrence on February 5.

Further investigations were made into the possible causes of the trip of MFP-22. A thrust bearing wear alarm was received but a seal in trip alarm was not present. A MFP overspeed alarm printed on the alarm typer, reading 5072 RPM (alarm 4900, trip 5600, computer scans every 30 seconds). Other trips were also examined and all found to be in specification. The licensee concluded that the MFP had tripped on overspeed. A change was made to the computer software to better resolve MFP speed (every 10 seconds). A FCR was initiated to provide a seal in alarm on 1C03/2C03 for MFP overspeed trip.

The licensee continued investigations to find the cause of the suspected 22 MFP overspeed. On February 17, Instrument Maintenance discovered a failed voltage to current converter on the output of the controller for 21 MFP. The converter was failed at 64% of maximum (3400 RPM). Three independent checks of 21 MFP speed with a hand-held strobe tach were inconclusive prior to the trip. Two indicated the MFP was running slow and another indicated full speed for the MFP. The licensee hypothesized that a 1600 RPM mismatch between MFPs apparently caused MFP 22 to carry most of the feed flow prior to the trip. This, combined with the problem with 22 FWRV positioner was thought to explain why the system was unable to recover from a perturbation. A special test was written in an attempt to simulate conditions which existed at the time of the trip and verify that 22 MFP would speed up significantly. The inspector reviewed TSP 66, Main Feedwater Pump Response Test, approved February 23, 1982. The results of the test, performed on February 25, following restart, were inconclusive.

The inspector's review of appropriate recorder charts (SG water levels, feedwater flows, steam flows and MFP steam flows) and reconstructed Technical Support Center data did not exactly explain the cause of the trip. Several indications apparently revealed a significant increase in MFP steam and feed flows for both MFPs coincident with the trip. Additionally, computer alarms present at the time indicated a booster pump starting with coincident alarms on 22 208 volt AC Instrument Bus. A review of computer alarm records indicated that this was a frequent occurrence when a heavy load, such as a booster pump, was started. Another problem identified during the short outage was that precoat filter bypass valve 5818 was missing its seat which could cause transients in the feed and condensate systems. During restart on 2/24 a problem occurred in the automatic control circuit for 21 FWRV causing unstable operation. The automatic circuitry was repaired following a reactor trip caused by technician troubleshooting on 2/24.

The inspector concluded that several significant problems had been identified and corrected by the licensee in the Unit 2 feedwater and condensate systems. The inspector was unsure of the licensee's analysis of the exact cause. A combination of the above detailed problems probably caused the MFP trips and subsequent reactor trips. The licensee has corrected the problems identified, improved the instrumentation available for MFP trips, and initiated actions to allow prompt



critiques of such incidents with personnel involved to aid in diagnosis. These actions should minimize the chance for future occurrences of this nature.

- d. At 9:58 a.m. on February 12, 1982 during a manually initiated plant trip, Control Element Assembly (CEA) 19 did not fully insert into the reactor core (final position was approximately eight inches above core bottom). The remaining control rods and soluble boron provided sufficient shut-down margin reactivity to meet Technical Specification requirements. The plant had been operating at 100% power and was tripped following the loss of the 22 main feedwater pump (MFWP) when the remaining MFWP could not supply sufficient feedwater to the Steam Generators. CEA 19 was freed on February 13 by attempting movement of the CEA using a CEA "Manual Sequencer" device with the Reactor Coolant System (RCS) at approximately 220 degrees F and 270 psia. The CEA was first withdrawn 3/4" from the stuck position and then moved to the 12" withdrawn position. It was then switched to a dual coil power programmer module (with minimum pull down coil voltage) and withdrawn from and inserted to the 8" withdrawn position. The control element drive mechanism (CEDM) was unable to drive the tip of CEA 19 down through the 8" withdrawn position. An attempt to scram the CEA from the 8" withdrawn position was not successful. Subsequently, CEA 19 was withdrawn to the 31" withdrawn position and successfully scrammed to full insertion. Additional scrams from various heights were successful. A normal rod drop time was measured under the existing "cold" conditions. On February 19, the CEA was successfully tested at "hot" conditions using test procedure PSTP-13.

Following the event, the inspector discussed the post-trip response with the operators, examined Control Room indications (recorder charts and post-trip printouts) and verified that equipment functioned as designed after the trip. During this review, at 1:25 p.m. the inspector noted that a confirmatory calculation of reactor shutdown margin, as required by TS Surveillance Requirement 4.1.1.1.1 had not been conducted within one hour of detection of an inoperable control rod. The inspector pointed this out to the shift supervisor. The proper calculation was then performed at 1:45 p.m. by the appropriate operations personnel and reviewed by the inspector. The failure to comply with Technical Specification Surveillance Requirement 4.1.1.1.1 is a violation (318/82-04-04). On February 19, the inspector observed the test equipment setup and reviewed the results of the CEA/CEDM Performance Test (PSTP-13) at "hot" conditions.

On February 22, the inspector reviewed the Calvert Cliff's plant evaluation of the "Stuck CEA 19 Event". This evaluation states that during the next refueling outage of Unit 2, CEA 19 and its corresponding fuel assembly guide tubes will be inspected for any evidence of a reason for the event. This examination will be reviewed during a subsequent NRC inspection (318/82-04-05).



- e. At 12:25 p.m. on February 21, a Quality Control Inspector fell in the Unit 2 Containment while observing work in progress. He walked out of Containment with an injured back (but was not contaminated) and was taken to Calvert Memorial Hospital for examination.
- f. About 2:15 p.m. on February 23, the licensee discovered that a 3 foot square piece of boiler plate had not been reinstalled in the Unit 2 Steam Penetration Room vapor barrier prior to exceeding 250 degrees F. The barrier had been disassembled as interference during the disassembly and repair of 21 MSIV. The licensee remained in Mode 3 at 500 degrees F while the barrier was reassembled. The cause of the delay was misplacing a short structural steel angle iron which required access from the back side of the vapor barrier to reinstall. Because the vapor barrier was not addressed in the Technical Specifications a hold point had not been placed on exceeding 250 degrees with the barrier disassembled. (The lost angle iron was found prior to fabrication of a new piece.) The inspector discussed this event and its reportability with licensee Operations, Quality Control, and Maintenance Management personnel. In addition, the inspector observed reassembly of the vapor barrier which was completed about 5:30 p.m. Prompt LER 82-05 was issued on 2/23/82. A more detailed report of the sequence of events and corrective action is due by the licensee in 14 days and will be reviewed by the NRC.
- g. At 5:13 p.m. on February 24, Unit 2 tripped from 60% power due to low Steam Generator (21) water level. This was caused when an I&C technician placed a voltmeter across a diode in 21 Feedwater Regulating Valve (FWRV) automatic control circuitry during trouble shooting. This action shorted the diode and sent a signal to close the FWRV even though it was in the manual control mode. The inspector discussed the post-trip response with the operators, examined Control Room indications, and verified that equipment functioned as designed following the trip. The licensee verified the cause of the trip by testing the FWRV in a similar configuration, restored the automatic control circuitry and restarted the plant. During plant restart pressurizer level went outside its programmed band and was subsequently restored to a proper level.
- h. About 3:25 a.m. on February 25 a plant laborer fell off scaffolding while cleaning condensor water boxes. He was not seriously injured but was taken to Calvert Memorial Hospital by ambulance.

## 5. Plant Maintenance

The inspector observed and reviewed maintenance and problem investigation activities to verify compliance with regulations, administrative and maintenance procedures, and codes and standards, proper QA/QC involvement, safety tags use, equipment alignment, jumpers use, personnel qualifications, radiological controls for worker protection, fire protection, retest requirements and reportability per Technical Specifications. The following activities were included.

- MRM-82-2229, observed repacking of 21 MSIV on 2/22/82.
- MR 0-82-547, Unit 2, observed troubleshooting of ESFAS under voltage trip on 2/4/82.



- MR M-82-2229, observed reinstallation of Unit 2 Steam Penetration Room vapor barrier disassembled as interference during repair and maintenance of 22 MSIV.

No unacceptable conditions were identified.

#### 6. Surveillance Testing

The inspector observed parts of tests to verify that performance was in accordance with approved procedures, LCOs were satisfied, test results (if completed) were satisfactory, removal and restoration of equipment were properly accomplished, and that deficiencies were properly reviewed and resolved. The following tests were reviewed:

- STP 0-7-2, ESFAS Logic and Performance Test, observed portions of UV Testing on 2/4/82.
- PSTP-13, CEA/CEDM Performance Test, approved 2/19/82, observed equipment set up and selected traces for CEDM 19 on 2/23/82.

No unacceptable conditions were identified.

#### 7. Licensee Action on NUREG 0660, NRC Action Plan Developed as a Result of the TMI 2 Accident

The NRC's Division of Project and Resident Programs has inspection responsibility for selected action plan items. These items have been broken down into numbered descriptions (enclosure 1 to NUREG 0737, Clarification of TMI Action Plan Items). Licensee letters containing commitments to the NRC were used as the basis for acceptability, along with NRC clarification letters and inspector judgment. The following items were reviewed.

- II.B.4 Training to Mitigate Core Damage. The inspector reviewed attendance records for the Mitigation of Core Damage portion of the operator training program. All licensed operators had completed the training as of January 4, 1982.

The inspector also reviewed the instructor's lesson plans which had been constructed following the lecture series. The inspector previously had attended the lecture series for degraded core cooling. Portions of the degraded core cooling training were also completed at the CE Simulator in February, May and June of 1981 (accident chemistry). The inspector reviewed attendance records for this training and verified all active licensed operators had attended. Training for mitigation of core damage has also been included in the initial license operator training program. This item is closed.

#### 8. Radioactive Waste Releases

Records and sample results of the following liquid and/or gaseous radioactive waste releases were reviewed to verify conformance with regulatory requirements prior to release.

- Gaseous Waste Permit G-007-82, Unit 2 Containment Vent via the ECCS Pump Room, released 2/6/82; Group I release rate  $4.23 \times 10^3 \text{ m}^3/\text{sec.}$ , Group II release rate  $1.05 \text{ m}^3/\text{sec.}$



- Abnormal Release Permit M-005-82, 11 Waste Neutralizing Tank, released 2/15/82, total released  $8.09 \times 10^{-5}$  curies (see note).
- Gaseous Waste Permit G-018-82, Unit 1 Containment Vent via the ECCS Pump Room, released 2/26/82. Group I release rate  $5.85 \times 10^4$  m<sup>3</sup>/sec., Group II release rate 4.26 m<sup>3</sup>/sec.
- Release of 12 Reactor Coolant Waste Monitor Tank on 2/24/82; total released  $3.84 \times 10^{-2}$  curies, excluding tritium and noble gases.

The inspector also observed the taking of gas samples prior to a Unit 1 Containment Vent on 2/2/82.

Note: The licensee has recently confirmed minor (2 to 5 gallons per day) primary to secondary tube leakage in 12 Steam Generator. Consequently, secondary release points such as the Waste Neutralizing Tank are being treated as potentially radioactive.

#### 9. New Fuel Receipt Inspection

The inspector reviewed procedure FH-1, New Fuel Assembly and Control Element Assembly Handling, Inspection, and Storage, revision 16 approved 2/5/82. The inspector observed fuel receipt inspections performed in accordance with FH-1 for new fuel assemblies 1H101 and 1H016 received for Unit 1 Cycle 6 core reload.

No unacceptable conditions were identified.

#### 10. Observation of Physical Security

The inspector checked, during regular and off-shift hours, on whether selected aspects of security met regulatory requirements, physical security plans, and approved procedures.

##### a. Security Staffing

- Observations and personnel interviews indicated that a full time member of the security organization with authority to direct physical security actions was present as required.
- Manning of all three shifts on various days was observed to be as required.

##### b. Physical Barriers

Selected barriers in the protected area (PA) and the vital areas (VA) were observed. Random monitoring of isolation zones was performed. Observations of truck and car searches were made.

##### c. Access Control

Observations of the following were made:

- Identification, authorization, and badging;



- Access control searches;
- Escorting;
- Communications;
- Compensatory measures when required.

No unacceptable conditions were identified.

#### 11. IE Bulletin Followup

The inspector reviewed licensee actions on the following IE Bulletin to determine that the written response was submitted within the required time period, that the response included the information required including adequate corrective action commitments, and that licensee management had forwarded copies of the response to responsible onsite management. The review included discussions with licensee personnel and observations and review of items discussed below.

- IEB 80-06, Engineered Safety Features Reset Controls. This bulletin was addressed in Inspection Report 317/81-07; 318/81-07 and left open. At that time, the inspector noted that the licensee's test had been inadequate to address the requests of the bulletin. The licensee committed to retesting the subject reset controls and submittal of a revised bulletin response within 90 days (Inspection Report issued on May 14, 1981). The inspector reviewed the licensee's modified test procedures TSP 40, revision 1, ESFAS Logic Test--Reset Modified approved 6/17/81 and TSP 49, revision 1 approved 7/1/81. The inspector also reviewed portions of the retesting on July 9, 1981.

The results of the test procedure were reviewed and approved by the PORSC on July 15, 1981. Documentation of completion of this test had been left open pending submittal of a revised response by the licensee to accurately reflect the testing performed. The licensee stated that the commitment date had been missed due to other demands on time in the licensee's Electric Engineering Department, but that all information was available in the corporate offices and that a response would be issued by March 19, 1982. The inspector expressed concern that this commitment had been missed by so much time, however, noted that aggressive use of the new commitment system (discussed in paragraph 2) should alleviate future problems. This bulletin remains open pending receipt of the licensee's revised response.

#### 12. Review of Licensee Event Reports (LERs)

LERs submitted to NRC:RI were reviewed to verify that the details were clearly reported, including accuracy of the description of cause and adequacy of corrective action. The inspector determined whether further information was required from the licensee, whether generic implications were indicated, and whether the event warranted onsite followup. The following LERs were reviewed.



<u>LER No.</u>	<u>Date of Event</u>	<u>Date of Report</u>	<u>Subject</u>
<u>Unit 1</u>			
82-01/3L	01/19/82	02/18/82	EXCESSIVE LEAK RATE PAST CONTAINMENT PERSONNEL AIR LOCK OUTER DOOR.
82-04/4T	01/22/82	02/05/82	REGENERATIVE WASTE WAS NOT PROPERLY * NEUTRALIZED PRIOR TO DISCHARGE.
<u>Unit 2</u>			
82-01/3L	01/18/82	02/17/82	EXCESSIVE LEAK RATE PAST CONTAINMENT PERSONNEL AIR LOCK OUTER DOOR.

\* This LER was followed up on site and documented in NRC Inspection Report 317/82-02; 318/82-02.

### 13. Staff Training

The inspector attended portions of the licensee's Engineer Series training schedule. This training provided basic system description and operations training for engineers who have not been through a license training curriculum.

No unacceptable conditions were identified.

### 14. Review of Periodic and Special Reports

Upon receipt, periodic and special reports submitted pursuant to Technical Specifications 6.9.1 and 6.9.2 were reviewed. That review included the following: Inclusion of information required by the NRC; test results and/or supporting information consistent with design predictions and performance specifications; planned corrective action adequacy for resolution of problems; determination whether any information should be classified as an abnormal occurrence; and validity of reported information. The following periodic report was reviewed:

-- January, 1982 Operations Status Reports for Calvert Cliffs No. 1 Unit and Calvert Cliffs No. 2 Unit, dated February 10, 1982.

### 15. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable. Unresolved items are discussed in paragraph 3.e of this report.

### 16. Exit Interview

Meetings were held with senior facility management periodically during the course of this inspection to discuss the inspection scope and findings. A summary of findings was also provided to the licensee at the conclusion of the report period. The inspectors and accompanying Section Chief also attended the exit interview conducted by the NRC's Performance Appraisal Team on February 11, 1982. Certain findings by this team will be followed closely by Region I.