

identification tag (FORM 2778G) attached to the primer had a blank for the "Shelf Life Expiration" date, but it was not filled in as required by Administrative procedure AD-QA-200 and Material Section Instruction MC-OI-011. The primer was from a batch received under Receipt Inspection Report (RIR) 80-104 in June 1980. NCR 82-195 was written on these replacement kits on March 22, 1982 since GE had not provided the manufacturing date needed to calculate the shelf life. The NCR was closed July 14, 1982 when the date was received, but this delay may have contributed to the omission of the expiration date on the form. In addition, the licensee's program to track shelf life expiration was revised in March 1985, one month prior to the installation. The inspector observed the replacement kits currently in the warehouse and several completed work packages, and all included the expiration date on the form.

10 CFR 50, Appendix B, Criterion XV states that measures shall be established to control materials which do not conform to requirements in order to prevent their inadvertent use or installation. Installation of an expired squib is a Violation of this Criterion (387/86-02-03).

Precautionary steps have been included in the applicable surveillance procedures (SE-153/253-001) subsequent to the installation of the expired primer, which require that the expiration date of the assembly being installed be recorded in the procedure and confirming that the expiration date is at least 36 months from the date of installation. These same precautions should be included in the maintenance procedure, MT-053-002, for those cases where the squib is replaced not in conjunction with the 18-month firings. The licensee is reviewing the maintenance procedure.

### 6.1.3 Summary of Findings

- Based on actual field firing of the SLCS squib valves, either one of the two possible primer configurations will operate as designed. The concerns of the Information Notice have no impact on the system operability.
- The maintenance procedures and applicable drawings do not correctly reflect the valve configuration installed. The drawing deficiency had been previously identified, but it has not yet been corrected. The correct drawings have been procured from the vendors and should be incorporated into the plant drawings and procedures.

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- The maintenance procedure needs to include additional steps to verify the batch number, shelf life expiration date and bridgewire configuration for the cases where the squibs are replaced without the performance of the 18-month surveillance test.
- A squib valve was installed in the Unit 1 system after it exceeded its recommended shelf life and remained in the system for almost a year. This is a Violation of 10 CFR 50; Appendix B, Criterion XV. This did not appear to affect system operability since the valve was successfully tested after the discovery of its expiration.

## 7.0 Unit 1 Refueling Outage Activities

### 7.1 Refueling Outage Summary

The Unit 1 second refueling outage began on February 15, 1986 when the unit was manually scrammed from 18 percent power.

The unit reached cold shutdown on February 15, and entered Operational Condition 5 (Refueling) on February 17. The reactor vessel head was removed on February 18, and fuel movements started February 22. Fuel movements were delayed on February 27, when a 5/8 inch nut fell into the cavity off of the refueling bridge. (See Section 7.4). Two Zone III isolations occurred during the period. (See Section 7.6). During the in-vessel inspections, new indications were identified on the steam dryer. (See Section 7.5).

Major outage work to date has consisted primarily of work on Division I systems and balance of plant work. Major work items performed include: main turbine low pressure rotor replacements, local leak rate testing, changeout of 24 control rod drive mechanisms, reactor vessel internal inspections, modification on the SLCS suction piping, and performance of 18-month surveillance tests.

### 7.2 Design Changes and Modifications

The inspector observed portions of selected modification activities to determine that: Limiting Conditions for Operation were met while components or systems were removed from service; required administrative reviews and approvals were obtained prior to initiating the work; the installation conformed to the drawings and other design documents; activities were conducted using formal work control procedures; and QC hold points were established where required.

Portions of the following activities were observed:

- Nitrogen Makeup Supply Modification (PMR 83-746), performed under CWO C55725.
- SLCS Piping Modification (PMR 85-3097A) performed under CWO C55583.

The modification activities observed were performed in accordance with the applicable requirements and no acceptable conditions were identified.

### 7.3 Complex Surveillance Test Witnessing

The inspector observed the performance of portions of certain complex 18-Month Surveillance tests to determine that: the technical specification (TS) surveillance requirement was covered by an approved procedure; test prerequisites were completed; special test equipment was calibrated; required data was accurately recorded; appropriate revision of the test procedure was available and in use by test personnel; system restoration was accomplished upon completion of testing; and the surveillance was performed within the time frequency specified by the Technical Specifications.

Portions of the following tests were observed:

- SE-151-001, 18-Month Core Spray System and Logic Functional Check Loop 'A' (Division I), performed on February 27, 1986.
- SE-149-001, 18-Month RHR System and Logic Functional Test (DIV I), performed on February 28, 1986.
- SE-153-001, Standby Liquid Control System Eighteen Month Initiation and Injection Demonstration, performed on March 1, 1986.

The surveillance testing observed was performed in accordance with the approved procedures and no unacceptable conditions were identified.

During the performance of several other surveillance tests on March 1, 1986, the 'A' RHR pump was started and operated for approximately 85 minutes with no cooling water applied to the motor oil cooler. The pump was manually shutdown when the control room operator observed pump thrust bearing indication on the CRT to be 205 degrees F. There is no alarm or annunciator on high oil temperature. Following shutdown of the pump, the cooler inlet valve (111-138A) was found throttled and the outlet valve (111-129A) was found closed. During the outage, inspections had been performed on these coolers, but the documentation did not indicate these valves were



manipulated. The valves had been locked. Immediate corrective actions included taking an oil sample for analysis, and evaluating the pump data to determine if any damage may have occurred. The cooler valves were realigned to their proper position. After the inspections, the pump was restarted and all the bearing temperatures were monitored. All temperatures were normal. Evaluation of the data indicated the temperatures had not reached the range where damage may have occurred. This occurrence will be further reviewed.

#### 7.4 Refueling Activities

The inspectors monitored portions of the refueling activities to ascertain whether pre-refueling activities specified in the Technical Specifications were completed and whether refueling activities were conducted as required by Technical Specifications and approved procedures.

The observations included:

- Verification that selected surveillance testing required by Technical Specifications was completed prior to fuel handling.
- Verification that fuel handling activities were conducted in accordance with approved procedures (RE-081-032, Refueling Operations).
- Verification that containment integrity was maintained.
- Verification that good housekeeping was maintained in the refueling area.
- Verification that staffing was in accordance with Technical Specifications.
- Confirming that Technical Specification requirements and other pre-refueling requirements were scheduled in the master outage plan.

At 11:05 a.m. on February 27, during fuel movements, a main refueling hoist cable support nut and a piece of lockwire fell into the reactor vessel. The refueling bridge was being maneuvered over fuel bundle 46-49 and the mast was fully extended. Fine adjustments were being made prior to latching. The mast was being lifted and the operators heard an unusual noise. The grapple was 10-15 feet above the fuel bundle. The mast was raised and mechanical maintenance personnel identified one of the two cables was slack. Further investigation found that the cable retaining nut (5/8 inch) and the associated lockwire was missing from the mast. Refueling operations were halted. A NCR was written by Reactor Engineering to report the nonconforming condition. Administrative procedure AD-QA-503, Housekeeping/Cleanliness Control, Section 6.6.8 requires

that an NCR be issued if any article is inadvertently dropped into the reactor vessel, and a copy is provided to the shift supervisor to be entered in the Lost Articles Log. Several attempts to locate and retrieve the lost nut were unsuccessful. The NCR is being evaluated to determine what further action, if any, is required and further inspections will be performed later in the outage.

#### 7.5 Reactor Vessel Internals Inspections

During the first refueling outage inservice inspections (ISI) performed in the reactor vessel discovered crack-like indications on a number of components. The most significant indications were on one of the four steam dryer support blocks, which was repaired in the last outage.

During the second refueling outage several of the components were reinspected to determine the status of the previously identified indications and to identify any new indications.

The present status of the inspections is discussed below:

Steam Dryer Support Block - On the initial visual inspections, indications were identified on the 184 degree and 274 degree blocks. After buffing, the reinspections found the blocks acceptable. Further inspections identified an indication on the 274 degree block, and the licensee decided to defuel the reactor to facilitate further examination of the block. Defueling was completed on March 12. The inspections were performed on March 15. Some wear patterns were also noted on the side and top of the blocks, indicating possible dryer movement. The wear patterns are to be evaluated by NPE. During the March 15 inspection, acceptable dye penetrant results were obtained on the 274 degree block indicating no repair was necessary.

#### Core Spray Junction Boxes (C&D) Feedwater Sparger (A) and Dry Tubes

- The indications have not changed since the last outage and no further action is planned by the licensee.

Top Guide - The indication identified during the last outage is no longer visible, and no other indications were found.

Steam Dryer Assembly - Visual examination of the steam dryer revealed that the surface indications on the dryer support ring have increased in number. UT examinations of 14 reference indications measured in the last outage found that the cracks have grown, but within the predicted growth calculated by the licensee. Additional indications were identified on the dryer lift rod, dryer hoods and the seismic support lugs. These indications are scheduled to be reinspected following buffing, and will be evaluated by NPE.



The status of the inspections will be further reviewed during the next routine/resident inspection period and by Region-based specialists. (See Inspection Report 50-387/86-05).

#### 7.6 Reactor Building Zone III Isolations

At 3:19 p.m. on February 28, a Zone III (Refueling Floor) Ventilation isolation occurred on a Railroad Access Shaft High Radiation Signal. The high radiation level was due to shine from 21 CRD mechanisms which were being stored directly below the radiation detectors in the CRD Maintenance Room. Control room operators had noted the increase in levels as the mechanisms were being stored and requested an HP survey, but the trip occurred prior to the completion of the survey. The isolation occurred at 2.0 mrem/HR, although the Technical Specification only requires a setpoint of 2.5 mrem/HR. Shielding was installed to reduce the effects of the shine and the systems were restored. All systems responded as designed and no abnormal releases occurred. An ENS notification was made due to the ESF system actuation.

At 10:15 p.m. on March 4, 1986 an inadvertent Division II LOCA isolation signal was initiated and Zone I and III isolated. In addition, the SGTS 'B' and CREOASS 'B' trains started. The associated alarms cleared within several seconds and the systems were restored. Licensee investigation could not identify the specific cause for the isolation, but modification work was in progress in an electrical cabinet which contained relays that could have initiated the isolation. All systems responded as designed. An ENS notification was made due to the ESF actuation.

#### 8.0 Exit Meeting

On March 18, 1986 the inspector discussed the findings of this inspection with station management. Based on NRC Region I review of this report and discussions held with licensee representatives, it was determined that this report does not contain information subject to 10 CFR 2.790 restrictions.

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