UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA ST., N.W., SUITE 3100
ATLANTA, GEORGIA 30303

Report Nos. 50-280/80-23 and 50-281/80-26

Licensee: Virginia Electric and Power Company
Richmond, Virginia 23261

Facility: Surry Units 1 and 2

License Nos. DPR-32 and DPR-37

Inspection at Surry site near Surry, Virginia

Inspector: _____ 8/8/80
D. J. Burke Date Signed

Approved by: _____ 8/8/80
P. J. Kellogg, Section Chief, RONS Branch Date Signed

SUMMARY

Inspection on June 9 - July 3, 1980

Areas Inspected

This routine inspection by the resident inspector involved 90 inspector-hours on site in the areas of plant operations and operating records, plant modifications, maintenance and testing, IE Bulletins, Licensee Event Reports, and plant security.

Results

Of the five areas inspected, no apparent items of noncompliance or deviations were found in four areas; one apparent item of noncompliance was found in one area (infraction - failure to follow plant maintenance and modification procedures--Paragraph 5.b).

DETAILS

1. Persons Contacted

Licensee Employees

*J. L. Wilson, Station Manager
*G. Kane, Superintendent, Operations
*T. A. Peebles, Superintendent, Technical Services
*R. F. Saunders, Assistant Station Manager
*L. A. Johnson, Superintendent, Maintenance
R. M. Smith, Supervisor, Health Physics
*F. L. Rentz, Resident QC Engineer
D. J. Fortin, Engineering Services Superintendent

Other licensee employees contacted during this inspection included control room operators, shift supervisors, QC, HP, plant maintenance, security, engineering, chemistry, administrative, and contractor personnel.

*Attended exit interview

2. Management Interviews

The inspection scope and findings were summarized on a biweekly basis with those persons indicated in Paragraph 1 above.

3. Licensee Action on Previous Findings

(Closed) Noncompliance (280/80-19-01 and 281/80-19-02) - Inadequate procedures for operator response to malfunctions of radiation monitoring (RM) systems. This infraction is withdrawn; the licensee had Abnormal Procedures 5.16 through 5.19 which specified actions to be taken in the event of a malfunction of the RM systems. In addition, the operators have been reinstructed in the use of these procedures and are utilizing them.

4. Unresolved Items

Unresolved items were not identified during this inspection.

5. Unit 1 Operations

Unit 1 operated at full power during the reporting period. During this period, the inspector routinely toured the Unit 1 control room and other plant areas to verify that the operations and maintenance were being conducted in accordance with the Technical Specifications (TS) and facility

procedures. Plant logs, records and tests were also reviewed. Specific areas of inspection and review included:

a. While reviewing the Control Room Operator (CRO) and Shift Supervisor (SS) logs in the control room, the inspector noted disparities in the two logs on June 10, 1980, when Emergence Diesel Generators (EDG) 2 and 3 were being tested, and one log indicated that both EDG's were in exercise (inoperable) for a short period of time. After reviewing all logs and Periodic Test 22.3 series and discussing the matter with station operating personnel, the inspector determined that the EDG's were appropriately tested and operable in accordance with TS 3.16. When one EDG was in the exercise status (auto start defeated), the inspector verified that the normal power source was operable and all the required redundant systems or trains were operable. The licensee is adding precautionary notes to various procedures to address the operability of redundant systems in accordance with the NRC letter of April 10, 1980, to all power reactor licensees. When one EDG was inoperable, the inspector noted that all redundant auxiliary feedwater pumps for Unit 1 were not operable, the steam to the turbine driven AFW pump was manually isolated due to leaks; however, TS 3.6.B.1 requires that two of the three AFW pumps be operable and the two motor driven pumps were operable.

b. While touring the emergency switchgear room, the inspector noted that certain safety-related cable tray covers were not in place and properly bolted; covers were observed unbolted, laying on the electrical cables, or not covering the cables. In addition, trash such as rags, paper and prints, cable ties, tape, and wood was found on several cable tray covers. Similar conditions, with fewer examples, were found in the Unit 1 cable vault. The Unit 2 side of the switchgear room was considerably worse than the Unit 1 side, since cable pulls and electrical work was still in progress on the shutdown Unit 2. Electrical Maintenance Procedures (EMP) such as EMP-C-EPH-25 and -26 and their attachments require that areas are properly cleaned, that tools, materials and rags are collected, and that all cable tray covers are replaced following electrical maintenance. In addition, NUS 9045 states that permanent tray covers shall be installed as soon as possible after cable pulls and that dirt, scrap materials, rubbish, and flammable refuse shall not be permitted to accumulate in the trays. The above failures to follow procedures could have jeopardized the fire protection and electrical separation for Unit 1; this is contrary to Technical Specification 6.4.A.7 and 6.4.D and is an infraction (280/80-23-01).

c. During routine tours of the Unit 1 control room, the inspector noted that the recently installed pressurizer power-operated relief and safety valve monitoring instrumentation was in the low alarm condition (neon light flashing). To prevent operator distraction and present more meaningful information, the licensee recalibrated the instrumentation so the normal and appropriate valve indications were displayed.

d. After discussing the operability requirements for Radiation Monitors RM-159 and -160 for the containment atmosphere, the licensee stated that Abnormal Procedure 5.18 would be revised to require daily sampling of the particulate or gaseous activity, if the radiation monitor is inoperable; AP 5.18 required sampling only if both RM's were inoperable.

e. While reviewing Unit 1 chemistry records, the inspector noted that the boron injection tank (BIT) was sampled on June 3, 13, 20 and 23, 1980; however, Technical Specification Table 4.1-2B requires twice per week boron sampling. The chemists reviewed their sample data and verified that BIT samples were also drawn and analyzed on June 6 and 17, 1980, with acceptable results.

The Periodic Tests were completed twice per week as required and the chemistry logbook is being corrected; the inspector had no further questions.

f. On June 16, 1980, the inspector noted that the Unit 1 annunciator "Water in recirc. spray heat exchanger" was alarmed. Operations personnel followed the annunciator alarm response procedure and concluded that periodic testing of the inside recirculation spray pumps moved a liter or two of sump water into the heat exchangers, which actuated the alarm. The alarm cleared when the heat exchanger sample was drawn.

6. Unit 2

The inspector reviewed certain Unit 2 periodic testing and plant evolutions to verify that they were conducted in accordance with the plant Technical Specifications, licensee committments, and facility procedures. Unit 2 remains in the cold shutdown condition for modifications, testing and maintenance following the steam generator replacement. Specific areas of inspection and review included:

a. While reviewing periodic test (PT) results, the inspector noted that several pump and valve stroke tests did not contain specific acceptance criteria. The licensee stated that engineering personnel are reviewing the ISI test data and will compare the results with engineering and vendor specifications and the results from Unit 1 ISI testing, prior to startup; if additional testing is required, it will be performed.

b. While shutdown, the inspector routinely verified that adequate boric acid and flow paths were available in accordance with TS 3.2.A, that the reactor coolant overpressure mitigating system was operable in accordance with TS 3.1.G, and that appropriate sampling and radiation monitoring was conducted. Within the areas inspected, no items of noncompliance were identified.

c. During periodic testing of the engineered safeguards systems, the inspector toured the emergency diesel generator rooms when the #2 EDG was automatically started. Although the EDG's operated as required,

the inspector noted that a considerable amount of diesel exhaust fumes from #2 EDG accumultated in the #3 EDG room, apparently due to the horizontal exhaust of EDG #2 into the No. 3 exhaust structure on the EDG building roof. The fumes did not affect the operability of the #3 EDG, however, the fumes could present a hazard to personnel who may be required to enter and perform maintenance under these conditions. The licensee is reviewing the situation to determine if deflectors or exhaust redirection can be engineered to correct the fume collection in the rooms. (Open item 281/80-26-01).

7. General Inspection Items

a. The inspector followed up on certain contractor employee questions presented to the inspector during routine tours and conversations with workers. The employees asked why additional dosimetry or TLD's could not be issued to be worn on the hands or head in high radiation areas. Based upon previous licensee studies of hundreds of head or additional TLD's, the licensee does not routinely issue extra dosimetry or TLD's if the radiation surveys and work permits do not require them. The previous studies indicate that the additional dosimetry read less than or equal to the normal dosimetry worn on the chest. When HP determines that additional dosimetry is required, it is issued and worn. The employees also asked why more lead shielding is not hung on piping or valves to reduce radiation levels. The inspector stated that before lead shielding is hung on valves or pipes, engineering personnel must analyze the loads to assure that components or piping is not overstressed or damaged. In addition, the materials (eg. - stainless steel) must be metallurgically protected from potentially contaminating materials. The inspector did observe a number of lead pads hung from girders, building support beams, and gates which would not affect piping stresses. However, the licensee does not appear to actively support radiation shielding by lead placement on piping due to the engineering analysis and manpower required. The Surry ALARA program will be evaluated by the Health Physics Appraisal Teams. Nevertheless, the inspector did monitor several work areas behind high radiation gates to verify that the areas were properly posted and controlled. Within the areas inspected, no items of noncompliance were identified. A few posted "hot spots" behind gate #1 in the auxiliary building basement were conservatively posted above the current radiation levels. The licensee subsequently performed an intensive radiation survey in the auxiliary building basement and found one hot spot outside gate #1 in the piping overhead which read some 25 R/hr on contact. The area was immediately posted and restricted until the boron recovery system pipe was flushed to remove the hot spot. After flushing, the pipe read some 0.02 R/hr; the areas are routinely surveyed to ensure that changing radiation areas are properly controlled.

b. While in the auxiliary building basement, the inspector observed some missing insulation on the Unit 1 boron injection tank recirculation line. Maintenance personnel, who were on a lunch break, returned to complete the replacement of the heat tracing and insulation; BIT

recirculation flow was verified. The inspector also noted some accumulation of water in the low (drain) areas of the auxiliary basement floor. the plugged floor drains were subsequently cleaned and the water removed. Standing water was also observed in the cooling water pipe pipe trench in the floor of the emergency switchgear room near the air conditioning units. The licensee is taking action to drain the two to three inches of water from the trench.

8. IE Bulletins

a. IE Bulletin 79-13 (and Revisions), "Cracking in Feedwater System Piping" is closed for Surry Unit 2. The inspections and repairs have been reviewed by the NRC. The Bulletin remains open on Unit 1 pending the results of the auxiliary to main feedwater connection volumetric examination; the containment penetration area will also be reexamined during refueling.

b. IE Bulletins 79-06 and 79-06A, Revision 1 is closed. The NRC staff has reviewed the licensee responses and actions on this Bulletin, and has found them appropriate for Surry Units 1 and 2. The inspectors verified that appropriate training, additional instrumentation, and plant emergency procedures were provided as required following the Three Mile Island, Unit 2 event, and in accordance with NUREG-0578. The inspector specifically verified that the licensee incorporated the Westinghouse Owners Group generic guidelines into the Surry Emergency Procedures, that the approved safety injection termination criteria have been properly incorporated into the Surry Emergency Procedures (EP's), and that appropriate RC pump trip criteria have been incorporated into the Surry EP's.

9. Review of Reportable occurrences

The inspector reviewed the Reportable Occurrence (RO) reports listed below to ascertain that NRC reporting requirements were being met and to determine the appropriateness of corrective action taken and planned. Certain Licensee Event Reports (LER) were reviewed in greater detail to verify corrective action and determine compliance with the Technical Specifications and other regulatory requirements. The review included examination of log books and internal correspondence and records, review of SNSOC meeting minutes, and discussions with various staff members.

Within the areas inspected, no items of noncompliance or deviations were identified.

a. LER 280/79-09 is closed. The Unit 2 inside recirculation spray pump motors have been rebuilt and retested; the Unit 1 motors were previously rebuilt and tested (IE Inspection Rpt. 50-280/79-59).

b. LER 281/79-11 is closed. The overexposure of a Shift Supervisor has been reviewed and discussed in IE Inspection Report 50-281/79-29.

c. LER 281/79-12 is closed. The 62 new fuel assemblies which were contaminated with chemicals were rinsed and returned to the manufacturer for examination and repairs. The assemblies were disassembled and cleaned in accordance with approved procedures, and the skeleton assembly (guide thimbles and grids) was discarded. The fuel rods, nozzles and bottom grid were reassembled with a new skeleton, inspected, and tested to ensure that the fuel and assemblies conformed to the original design requirements, and returned to the licensee.

d. The following LER's are closed:

LER 281/79-23, Inoperable SW valve 202B
LER 280/79-04, Errors in Pipe Stress Codes
LER 280/79-44, The #3 EDG Turbocharger has been replaced with a rebuilt unit.

10. Plant Physical Protection

The inspector verified the following by observation:

a. Gates and doors in protected and vital area barriers were closed and locked when not attended.

b. Isolation zones described in the physical security plans were not compromised or obstructed.

c. Personnel were properly identified, searched, authorized, badged and escorted as necessary for plant access control.