

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

November 16, 1981

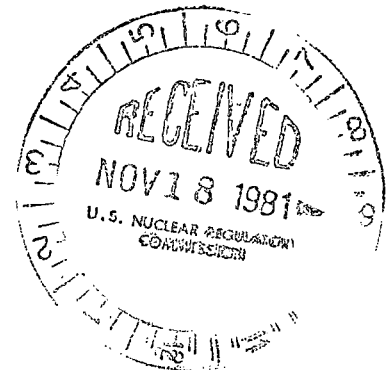
R. H. LEASBURG
VICE PRESIDENT
NUCLEAR OPERATIONS

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
Attn: Mr. Steven A. Varga, Chief
Operating Reactors Branch No. 1
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Serial No. 388B
PSE&C/WSM:cdk
Docket No. 50-281
License No. DPR-37

Gentlemen:

NUREG-0612
CONTROL OF HEAVY LOADS
SURRY POWER STATION UNIT 2

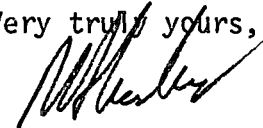


In accordance with letter 388 and 388A, Vepco to Harold R. Denton, dated July 1, 1981 and September 30, 1981 respectively Vepco is providing the interim report on NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants" for Surry Power Station Unit 2 (attached).

This report addresses only Surry Power Station Unit 2 and only the "heavy loads" (defined in NUREG-0612 Section 3.1) that are expected to be handled during the present refueling outage. Evaluation for Unit 1 and the remaining Unit 2 "heavy loads" will be identified in the 6 month report.

These interim actions will be in effect for the Surry Unit 2 refueling outage.

Very truly yours,


R. H. Leasburg

Attachment

cc: Mr. J. P. O'Reilly - NRC Region II

A033
s
11

8111190346 811116
PDR ADDCK 05000281
P PDR

INTERIM REPORT
NUREG 0612
CONTROL OF HEAVY LOADS
SURRY POWER STATION - UNIT 2
VIRGINIA ELECTRIC POWER COMPANY

INTRODUCTION

In accordance with letter 388 and 388A, Vepco to Harold R. Denton, dated July 1, 1981 and September 30, 1981 respectively Vepco is providing the interim report on NUREG 0612, "Control of Heavy Loads at Nuclear Power Plants" for Surry Power Station Unit 2.

This report addresses only Surry Power Station Unit 2 and only the "heavy loads" (as defined in NUREG-0612 Section 3.1) that are expected to be handled during the present refueling outage. Evaluation for Unit 1 and the remaining Unit 2 "heavy loads" will be identified in the 6 month report.

This interim report contains 5 parts.

Part 1 consists of an analysis of Vepco, Surry Power Station Unit 2 compliance with the requirement for Safe Load Paths as defined in Section 5.1.1 (1) of NUREG-0612, "Control of Heavy Loads at Nuclear Power Stations."

Part 2 consists of an analysis of Vepco Surry Power Station Unit 2 compliance with the requirements for procedures as defined in Section 5.1.1 (2) of NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants."

Part 3 consists of an analysis of Vepco Surry Power Station Unit 2 compliance with the requirements for crane operator training as defined in Section 5.1.1 (3) of NUREG- 0612, "Control of Heavy Loads at Nuclear Power Plants."

Part 4 consists of an analysis of Vepco Surry Power Station Unit 2 compliance with the requirements for crane inspection, testing and maintenance as defined in Section 5.1.1 (6) of NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants."

Part 5 consists of an analysis of Vepco Surry Power Station Unit 2 compliance with the requirements of Section 5 of Staff Position - Interim Actions for Control of Heavy Loads (enclosure 2 of the December 20, 1980 letter to license holders).

I. Safe Load Paths

Safe load paths are defined in NUREG-0612 as a path to be followed to the extent practical, structural floor members, beams, etc. such that if the load is dropped the structure is more likely to withstand the impact.

Surry Power Station complies with this requirement. At Surry Power Station Unit 2 these paths follow to the extent practical, structural floor members, beams, etc., such that if the load is dropped the structure is more likely to withstand the impact. These load paths in the form of sketches are being incorporated into lifting (operating or mechanical maintenance) procedures and will be incorporated onto existing station drawings.

Section 5.1.1 (1) of NUREG-0612 "Control of Heavy Loads at Nuclear Power Stations" requires that safe load paths be "clearly marked on the floor in the area where the load is handled."

Surry Power Station takes exception to this requirement. Safe load paths will not be marked in the area where the loads are handled. Due to work other than refueling being performed in the area during this outage, it would be impractical to mark the safe load paths at this time. Operators will use the safe load path sketches via attachment to approved procedures when lifting heavy loads as defined by NUREG-0612.

Safe load paths will be marked prior to the refueled unit commencing operation.

Section 5.1.1 (1) also states that "Deviations from defined load paths should require written alternative procedures approved by the plant safety committee".

Surry Power Station takes exception to this requirement. Deviations from defined load paths will be accomplished by utilizing existing approval methods for deviations to procedures.

No safe load path sketches will be generated for movement of fuel transfer canal gates in the fuel pool. Updated fuel pool maps will be used instead. These maps are more accurate than one safe load path sketch.

II. Procedures

Surry Power Station Unit 2 lifting (mechanical maintenance or operating) procedures comply with the requirement of Section 5.1.1 (2) of NUREG-0612 "Control of Heavy Loads at Nuclear Power Stations".

Table 3-1 in NUREG-0612 lists the minimum required procedures to be reviewed in this interim report. These procedures are a summary of a survey of typical heavy loads developed from information provided by licensees. Table II-1 lists only those heavy loads applicable for Surry Power Unit 2 refueling outage.

III. Crane Operators

Surry Power Station crane operators are trained in accordance with ANSI B30.2-1976 which complies with the requirements of NUREG-0612 "Control of Heavy Loads at Nuclear Power Plants".

Surry crane operators recently (October 2, 1981) finished a two week course in Crane and Rigging Operation. The course was conducted by an independent contractor to provide certification of training in accordance with ANSI B30.2. Copies of the tests are available at Surry Power Station.

IV. Inspection, Testing, and Maintenance

Surry Power Station Unit 2 complies with the requirements of Section 5.1.1 (6) of NUREG-0612 "Control of Heavy Loads at Nuclear Power Stations." Cranes at Surry are inspected, tested and maintained in accordance with station maintenance procedures MPP-P-CR-015 and 017 which were revised in 1977 to incorporate ANSI B30.2-76. These maintenance procedures are for cranes inside and outside containment respectively.

In addition to the maintenance and testing procedures as stated above the fuel handling system is performance tested in accordance with station procedure PT-20.1. This procedure also includes a thorough visual inspection.

The fuel handling system consists of:

- Manipulator Crane
- Fuel Transfer System
- Reactor Controlled Carriage Change Fixture
- Partial Length Control Rod Drive Shaft Tool
- Full Length Control Rod Drive Shaft Tool
- Burnable Poison Rod Assembly Tool - Air Operated
- Burnable Poison Rod Assembly Tool - Mechanically Operated
- Thimble Plug Handling Tool
- Spent Fuel Assembly Handling Tool
- Internals Lifting Rig
- Guide Tube Cover Handling Tool
- Irradiation Sample Handling Tool
- New Fuel Elevator
- Moveable Platform

V. Loads Over Reactor Core

The following is a point by point analysis corresponding to Part 5 of the Staff Position Interim Actions for Control of Heavy Loads of the heavy loads over the reactor at Surry Power Station Unit 2.

1. The only heavy loads carried over the reactor when the reactor is fueled are the reactor components. Each heavy load is covered by its own unique procedure. The crane load block does not have a lift procedure since it is an integral portion of the crane, however, it has been identified as a potential heavy load drop. To ensure that the crane load block is not dropped the existing redundant limit switches will be performance tested prior to use. Table II-1 lists the existing Surry Station procedures for lifting heavy loads (to be moved during Unit 2 refueling outage).
2. Prior to refueling a minimum of a visual inspection is performed for each lifting rig in the maintenance procedure, MPP-P-CR-015 or in the performance test. This ensures that each device receives an inspection prior to use.

3. If any components are found to be defective they are replaced or repaired and reinspected before use.
4. Surry's crane operators recently passed a two week course on crane operations. During a refueling operation each shift supervisor (SRO) is responsible to ensure that the operators are qualified.

TABLE II-1

Fuel Building

Fuel Transfer Canal Door
New Fuel Assembly Tool

Procedure

OP4.18
OP4.14

Inside Reactor Containment

Reactor Vessel Head
Upper Internals

MPP-C-RC-040 OP4.1
MPP-C-RC-039

Reactor Coolant Pump
Crane Load Block
Irradiation Sample
Handling Tool

EMP-C-EPH-1A-6B
Performance Test PT20.1
OP4.9

Full Length Reactor Controlled
Carriage Drive Shaft Tool

OP4.4

Reactor Vessel Studs
CRD Missile Shields and
Ventilation Ducts

MPP-C-RC-038
MPP-C-RC-033