REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:8310120180 DOC.DATE: 83/10/05 NOTARIZED: NO DOCKET #
FACIL:50-400 Shearon Harris Nuclear Power Plant, Unit 1, Carolina 05000400
50-401 Shearon Harris Nuclear Power Plant, Unit 2, Carolina 05000401
AUTH.NAME AUTHOR AFFILIATION
MCDUFFIE,M.A. Carolina Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
DENTON,H.R. Office of Nuclear Reactor Regulation, Director

SUBJECT: Forwards response to request for addl info re draft SER open items re reevaluation of PMP,plant area water accumulation & adequacy of electric distribution sys voltages.

DISTRIBUTION CODE: B001S COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 8
TITLE: Licensing Submittal: PSAR/FSAR Amdts & Related Correspondence

NOTES:

| | RECIPIENT ID CODE/NAME | | COPIES LTTR | COPIES ENCL | RECIPIENT ID CODE/NAME | | COPIES LTTR | COPIES ENCL |
|---|---|---|---|---|---|---|---|---|
| | NRR/DL/ADL | | 1 | 0 | NRR LB3 BC | | 1 | 0 |
| | NRR LB3 LA | | 1 | 0 | BUCKLEY,B | 01 | 1 | 1 |
| INTERNAL: | ELD/HDS1 | | 1 | 0 | IE FILE | | 1 | 1 |
| | IE/DEPER/EPB | 36 | 3 | 3 | IE/DEPER/IRB | 35 | 1 | 1 |
| | IE/DEQA/QAB | 21 | 1 | 1 | NRR/DE/AEAB | | 1 | 0 |
| | NRR/DE/CEB | 11 | 1 | 1 | NRR/DE/EHEB | | 1 | 1 |
| | NRR/DE/EQB | 13 | 2 | 2 | NRR/DE/GB | 28 | 2 | 2 |
| | NRR/DE/MEB | 18 | 1 | 1 | NRR/DE/MTEB | 17 | 1 | 1 |
| | NRR/DE/SAB | 24 | 1 | 1 | NRR/DE/SGEB | 25 | 1 | 1 |
| | NRR/DHFS/HFEB | 40 | 1 | 1 | NRR/DHFS/LQB | 32 | 1 | 1 |
| | NRR/DHFS/PSRB | | 1 | 1 | NRR/DL/SSPB | | 1 | 0 |
| | NRR/DSI/AEB | 26 | 1 | 1 | NRR/DSI/ASB | | 1 | 1 |
| | NRR/DSI/CPB | 10 | 1 | 1 | NRR/DSI/CSB | 09 | 1 | 1 |
| | NRR/DSI/ICSB | 16 | 1 | 1 | NRR/DSI/METB | 12 | 1 | 1 |
| | NRR/DSI/PSB | 19 | 1 | 1 | NRR/DSI/RAB | 22 | 1 | 1 |
| | NRR/DSI/RSB | 23 | 1 | 1 | REG FILE | 04 | 1 | 1 |
| | RGN2 | | 3 | 3 | RM/DDAMI/MIB | | 1 | 0 |
| EXTERNAL: | ACRS | 41 | 6 | 6 | BNL(AMDTS ONLY) | | 1 | 1 |
| | DMB/DSS (AMDTS) | | 1 | 1 | FEMA-REP DIV | 39 | 1 | 1 |
| | LPDR | 03 | 1 | 1 | NRC PDR | 02 | 1 | 1 |
| | NSIC | 05 | 1 | 1 | NTIS | | 1 | 1 |

TOTAL NUMBER OF COPIES REQUIRED: LTTR 53 ENCL 46

CP&L

Carolina Power & Light Company

SERIAL: LAP-83-458

OCT 05 1983

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
United States Nuclear Regulatory Commission
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT
UNIT NO. 1 AND 2
DOCKET NOS. 50-400 AND 50-401
RESPONSES TO REQUESTS FOR ADDITIONAL INFORMATION

Dear Mr. Denton:

Carolina Power & Light Company hereby transmits one original and forty copies of additional information requested by the NRC as part of the safety review of the Shearon Harris Nuclear Power Plant. The enclosed responses relate to Draft Safety Evaluation Report Open Items. The cover sheet of the attachment summarizes the related Open Items addressed in the attachment along with the corresponding review branch and reviewer for each response.

We will be providing responses to other requests for additional information shortly.

Yours very truly,

M. A. McDuffie
Senior Vice President
Nuclear Generation

FXT/tda (8055FXT)
Enclosure

cc: Mr. B. C. Buckley (NRC)
Mr. G. F. Maxwell (NRC-SHNPP)
Mr. J. P. O'Reilly (NRC-RII)
Mr. Travis Payne (KUDZU)
Mr. Daniel F. Read (CHANGE/ELP)
Mr. R. P. Gruber (NCUC)
Chapel Hill Public Library
Wake County Public Library
Mr. Wells Eddleman
Dr. Phyllis Lotchin
Mr. John D. Runkle
Dr. Richard D. Wilson
Mr. G. O. Bright (ASLB)
Dr. J. H. Carpenter (ASLB)
Mr. J. L. Kelley (ASLB)

A B001 1/1



411 Fayetteville Street • P. O. Box 1551 • Raleigh, N. C. 27602

LIST OF OPEN ITEMS/SAFETY REVIEW QUESTIONS, REVIEW BRANCH AND REVIEWER

Environmental and Hydrologic Engineering Branch/R. Gonzales
Open Item 11

Power System Branch/O. Chopra
Open Item 307

Quality Assurance Branch/R. Kirkwood
Open Item 220

(8055FXTtda)

Shearon Harris Nuclear Power Plant
Draft SER Open Item 11
Supplemental Information

The staff requires that the applicant submit a grading plan to show that there are no obstructions such as raised road beds or earth berms under security fences that could result in more than one foot of ponding on the plant island.

Note: This response has been revised per discussions with the NRC Staff.

Response

The local Probable Maximum Precipitation (PMP) has been reevaluated based on the following references:

"Probable Maximum Precipitation Estimates, United States East of the 105th Meridian," Hydrometeorological Report No. 51, NOAA & Corps of Engineers, June 1978.

"Application of Probable Maximum Precipitation Estimates - United States East of the 105th Meridian," Hydrometeorological Report No. 52, (U.S.) National Weather Service, August 1982.

As a result of this reevaluation, the maximum depth of accumulation of rain water on the site is 13.8 inches.

FSAR Table 2.4.2-4 will be revised to incorporate the new data.

The maximum elevation to which water will pond on the plant site during a PMP event assuming the entire drainage system became blocked would be 261.27 ft. However, this will not impact on the plant's ability to safely shutdown, if necessary.

All safety related structures which have entrances at elevation 261 ft. are protected against any ponding during a Probable Maximum Precipitation (PMP) event by the following features:

a) Artificial barriers such as watertight or airtight doors.

b) Low structural barriers (i.e., curbs). The minimum curb elevation is 262.0 ft.

The only exceptions to the above are two entrances to the Waste Processing Building which are not protected against any ponding above El. 261.06 ft. However, these entrances provide access to areas which house locker rooms, and shower stalls and do not house any safety related equipment.

(Cont'd OI 11)

The elevation of the railroad in the plant area is 261.0 ft. (top of the rails) which is equivalent to the plant roads. Therefore, the above analysis includes the effects of ponding caused by the railroad tracks.

Section 2.4 of the FSAR will be revised in a future amendment to reflect the above information.

The elevation of the plant security fencing is the same as plant grade. Concrete footing for the fence ports should be at or slightly below grade.

TABLE 2.4.2-4

PLANT AREA WATER ACCUMULATION FOR DESIGN PMP COMDITIONS*

| Time (HR) | Incremental Rainfall (in.) | Incremental Plus Accumulated Rainfall (in.) | Utilized Plant Drainage (in.) | Net Accumulated Water (in.) Depth |
|---|---|---|---|---|
| 0 | - | - | - | - |
| 1 | 1.5 | 1.5 | 1.5 | 0 |
| 2 | 2.1 | 2.1 | 2.1 | 0 |
| 3 | 2.3 | 2.3 | 2.3 | 0 |
| 4 | 18.8 | 18.8 | 5.0 | 13.8 |
| 5 | 4.0 | 17.8 | 5.0 | 12.8 |
| 6 | 1.25 | 14.03 | 5.0 | 9.05 |
| 9 | 2.95 | 12.0 | 12.0 | 0 |
| 12 | 2.5 | 2.5 | 2.5 | 0 |
| 15 | 1.7 | 1.7 | 1.7 | 0 |
| 18 | 1.2 | 1.2 | 1.2 | 0 |
| 21 | 1.1 | 1.1 | 1.1 | 0 |
| 24 | 0.7 | 0.7 | 0.7 | 0 |
| 27 | 0.7 | 0.7 | 0.7 | 0 |
| 30 | 0.6 | 0.6 | 0.6 | 0 |
| 33 | 0.6 | 0.6 | 0.6 | 0 |
| 36 | 0.6 | 0.6 | 0.6 | 0 |
| | 42.6 | | | |

References: "Probable Maximum Precipitation Estimates, United States East of the 105 Meridian," Hydrometeorological Report No. 51, NOAA & Corps of Engineers, June 1978.

"Application of Probable Maximum Precipitation Estimates - United States East of the 105th Meridian," (U.S.) National Weather Service & Corps of Engineers, August 1982.

* 1 sq. mi. (or point) PMP intensity.

Shearon Harris Nuclear Power Plant
Draft SER Open Item 307
Supplemental Information

Describe in detail, how the Shearon Harris design meets BTP PSB-1 "Adequacy of Station Electric Distribution System Voltages."

The response to position 4 of BTP PSB-1 was inadvertently left out of Carolina Power & Light Company's previous response to this item dated August 12, 1983. Additional information, in response to other questions by the Reviewer on this item, will be supplied in a future transmittal.

Response

Position 4

Actual field testing will be conducted prior to initial full power operation to verify the accuracy of the auxiliary system analysis results. Attached is a copy of the "AC Distribution System Minimum Operating Voltage Test Summary," which will be incorporated in a future FSAR Amendment. The guidance provided in BTP PSB-1 for correlation of the analytical results and the test results will be utilized.

(8044NECtda)

AC Distribution System Minimum Operating Voltage Test Summary

a) Test Objectives

1) The results of this test will be used to validate the analytical techniques and assumptions used in the analysis for "Adequacy of Station Electric Distribution System Voltages" performed by Ebasco to demonstrate compliance with Branch Technical Position PSB-1.

b) Prerequisites

1) The general prerequisites are met.

2) Sufficient unit auxiliary loads are operable with which to load the AC distribution system.

c) Test Method

1) Load the required AC distribution buses to 30% or more of each bus' normal continuous loading and measure/record the steady state voltage and loading.

2) With the required AC distribution buses loaded to 30% or more, install recorders on the string of buses that were analyzed by the AE to have the lowest voltage. Separately start a large Class 1E motor and a large non-Class 1E motor and record the voltages and loadings of the resulting transients.

3) Transmit the bus voltage and loading data taken in steps 1 and 2 above to the AE for evaluation and validation of the AE's analytical techniques and assumptions used in the bus loading analysis program.

d) Acceptance Criteria

1) None.

Shearon Harris Nuclear Power Plant
Draft SER Open Item 220(A)
Supplemental Information

As a result of a telephone conversation on September 14, 1983 between the NRC (R. Kirkwood) and Carolina Power & Light Company (CP&L) the following is submitted to complete the CP&L response to Open Item 220:

Response

All ASME, Section III, Division 1, Class 1, 2, and 3 pressure retaining components are in compliance with all aspects of subsection NA including NA-5000, ASME boiler and pressure vessel code.

(8036NECccc)