

TERA
~~BAE FOR~~



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555
AUG 15 1979

Docket Nos. 50-369
and 50-370

Mr. William O. Parker, Jr.
Vice President, Steam Production
Duke Power Company
P. O. Box 2178
422 South Church Street
Charlotte, North Carolina 28242

Dear Mr. Parker:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION - REFUELING WATER STORAGE TANK DESIGN
(McGuire Nuclear Station, Units 1 and 2)

A recent design deficiency report submitted for the Seabrook Station (Enclosure 1) identified an inadequacy in the refueling water storage tank (RWST) capacity. The deficiency is related to the remaining capacity in the RWST, following transfer from the injection to the recirculation mode, and the required operator actions along with the time needed to perform these actions relative to this remaining tank capacity. To assure that a similar problem does not exist for the McGuire Station, provide the information requested in Enclosure 2.

We request that this information be provided by September 24, 1979.

Please contact us if you have any questions concerning this matter.

Sincerely,

Robert L. Baer
Robert L. Baer, Chief
Light Water Reactors Branch No. 2
Division of Project Management

Enclosures:

- 1. Report on the Seabrook Station RWST Design Deficiency
- 2. Request for Additional Information

ccs w/enclosures:
See next pages

357356

7909180096
790918010964

Mr. William O. Parker, Jr.
Vice President, Steam Production
Duke Power Company
P. O. Box 2178
422 South Church Street
Charlotte, North Carolina 28242

cc: Mr. W. L. Porter
Duke Power Company
P. O. Box 2178
422 South Church Street
Charlotte, North Carolina 28242

Mr. R. S. Howard
Power Systems Division
Westinghouse Electric Corporation
P. O. Box 355
Pittsburgh, Pennsylvania 15230

Mr. E. J. Keith
EDS Nuclear Incorporated
220 Montgomery Street
San Francisco, California 94104

Mr. J. E. Houghtaling
NUS Corporation
2536 Countryside Boulevard
Clearwater, Florida 33515

Mr. Jesse L. Riley, President
The Carolina Environmental Study Group
854 Henley Place
Charlotte, North Carolina 28207

J. Michael McGarry, III, Esq.
Debevoise & Liberman
1200 Seventeenth Street, N. W.
Washington, D. C. 20036

Shelley Blum, Esq.
418 Law Building
730 East Trade Street
Charlotte, North Carolina 28202

Robert M. Lazo, Esq., Chairman
Atomic Safety and Licensing Board
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dr. Emmeth A. Luebke
Atomic Safety and Licensing Board
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

957357

Mr. William O. Parker, Jr. - -

cc: Dr. Cadet H. Hand, Jr., Director
Bodega Marine Lab of California
P. O. Box 247
Bodega Bay, California 94923

Ms. Brenda Best
Carolina Action
1740 E. Independence Boulevard
Charlotte, North Carolina 28205

Anthony Z. Roisman, Esq.
Natural Resources Defense Council
917 - 15th Street, N. W.
Washington, D. C. 20555

Richard P. Wilson, Esq.
Assistant Attorney General
State of South Carolina
2600 Bull Street
Columbia, South Carolina 29201

Mr. Geoffrey Owen Little
P. O. Box 2501
Davidson College
Davidson, North Carolina 28036

957358

ENCLOSURE 1

DEC 5 1978

Report on the Seabrook Station
Refueling Water Storage Tank
Design Deficiency

Prepared by: Yankee Atomic Electric Company
for Public Service Company of New Hampshire

October 28, 1978

DUPLICATE DOCUMENT

957359

Entire document previously entered
into system under:

ANO 7811290344

No. of pages: 4

ENCLOSURE 2

REQUEST FOR ADDITIONAL INFORMATION
MCGUIRE NUCLEAR STATION
REFUELING WATER STORAGE TANK DESIGN

Provide the sizing design bases for the refueling water storage tank including the following specific information:

1. Provide information and justification on each of the following RWST design criteria:
 - a. Injection requirements (LOCA)
 - b. Instrumentation error
 - c. Working allowance
 - d. Transfer allowance
 - e. Single failure allowance
 - f. Unusable volume
2. Each of the following questions on RWST capacity and volume is to be answered in terms of usable volume unless otherwise specified.
 - a. Provide the total tank volume, the technical specification minimum required volume, the low level alarm set-point for initiation of switchover procedures, the tank volume at back-up automatic RHR/pump switchover, and the lo-lo tank level volume.
 - b. Provide the volume remaining in the tank following injection to recirculation switchover procedure using normal operation and operation with worst single failure. Include total lack of operator response to the first low level alarm with no response until second (audio/visual) alarm is heard as a scenario for single failure. Justify your single failure scenario as the worst.
3. Investigate time requirements for manual and automatic functions at switchover and provide these times. Examine the time required to perform operator procedures and the time allotted from one RWST set-point to the next for each set of procedures (manual and automatic) for both small and large breaks. Justify that there is enough time to complete the procedures. Include single failure analysis, especially lack of operator response. For both small and large breaks, provide the amount of time remaining after lo-lo level alarm is no manual action has been taken. Provide the operator procedure if this point is reached.
4. Show that there is sufficient allowance in the RWST to prevent vortex formation and air entrapment in RWST suction piping. Reference a test showing that the minimum amount of remaining RWST volume (after switchover with worst single failure) is enough to prevent vortexing problems.

357360