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TO:	ORIG	CC	OTHER	SENT NRC PDR	SENT LOCAL PDR
Mr. B.C. Rusche	3 signed	37		XX	XX

CLASS	UNCLASS	PROP INFO	INPUT	NO CYS REC'D	DOCKET NO:
	XXX			40	50-261

DESCRIPTION: Ltr notarized 11-1375 trans the following:

ENCLOSURES: H.B. Robinson Unit 2 Spent Fuel Storage Expansion "Response to NRC Staff Requests for Addl Info Received 11-3-75.... W/Figures 1+2

(40 cys encl rec'd)

ACKNOWLEDGED

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PLANT NAME: H.B. Robinson Unit 2

FOR ACTION/INFORMATION

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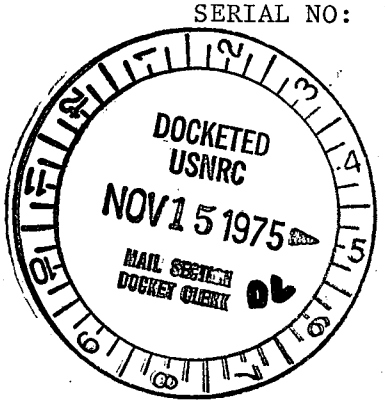
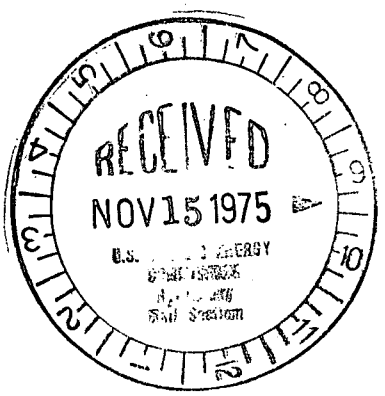
Regulatory Docket File

November 13, 1975

FILE: NG-3514(R) SERIAL NO: NG-75-2041





Mr. Benard C. Rusche, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

RE: H. B. ROBINSON UNIT NO. 2
DOCKET NO. 50-261
FACILITY OPERATING LICENSE NO. DPR-23

Dear Mr. Rusche:

In response to a request from your staff, Carolina Power & Light Company submits three signed originals and 37 copies of this letter and enclosure. The enclosure contains responses to three requests for additional information regarding our report titled, "H. B. Robinson Unit 2 Spent Fuel Storage Expansion," submitted with our letter of September 5, 1975. The responses discuss the structural design of the new spent fuel racks.

Yours very truly,

N. B. Bessac
Manager
Nuclear Generation

RLM/mf
Enclosure

Sworn to and subscribed before me this 13th day of November, 1975.

Marilyn V. Pease
Notary Public

My Commission Expires: October 19, 1980

13073

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

Enclosure

H. B. Robinson Unit 2
Spent Fuel Storage Expansion

Response to NRC Staff Requests for
Additional Information Received 11/3/75

Question No. 1

Discuss in some detail the welding of thin sections and plates:

a) Welder qualification tests;
b) Welding procedures.

Section IX of the ASME Code is not very detailed in this respect.

Response

The racks and wall supports will be fabricated by Programmed and Remote Systems Corporation (PaR). With the aid of an outside laboratory, Twin City Testing Co., PaR has qualified their weld procedures and their welders for the welding of Type 304 stainless steel according to the rules and regulations of Section IX of the ASME Code for Manual Metal Arc, Tungsten Inert Gas and Metallic Inert Gas for materials from 1/16" to 1" in thickness. These weld procedures and welders have been used extensively on similar work, such as fuel storage racks for General Electric's Morris, Ill., facility, fuel transfer systems, and refueling machines.

Racks and wall supports for Robinson will be fabricated of material no thinner than 3/16", and well within the thickness range for which PaR's procedures and welders are qualified. Thus, since procedures were developed, and welders qualified, specifically for "thin" members, suitable welding will be performed on these racks.

Question No. 2

For seismic design, indicate what magnification factor will be used. If not a dynamic analysis but a static design only will be used, indicate the magnification factor applied to the static forces.

Response

The seismic design of the existing fuel racks was a static design. Using the seismic ground acceleration given in Section 2.9 of the FSAR, a dynamic analysis of the Fuel Handling Building was performed. From this was determined the maximum seismic acceleration for the elevation in the Fuel Handling Building at which the racks are located. This seismic acceleration was then used as an input acceleration to the spent fuel racks, which were essentially considered rigid. The seismic design of the proposed additional racks is completely consistent with this method.

Question No. 3

Give more details (sketch) on the lateral supports provided to take the seismic forces. Explain how sliding at the bottom of the racks on the pool liner will be avoided. Describe the consideration given to the vertical seismic component.

Response

The lateral supports are shown on Figures 1 and 2. They consist of compression members using no attachments to the spent fuel pool liner. They include thermal expansion gaps to eliminate thermal stresses due to pool heatup. Where they contact the walls, adequate bearing area is provided to keep bearing loads well under allowable loads on the liner and concrete.

In the east-west direction, the racks are braced at top and bottom. On the west, the racks are braced against the spent fuel pit walls; on the east, they are braced against the existing racks. In the north-south direction, the racks are braced on the north and south walls at the bottom only. Since the racks are braced in all four directions, sliding along the pool floor is prevented.

The racks are designed for simultaneously-acting vertical and horizontal seismic loading. To preclude overturning in the northerly direction of an individual module under vertical seismic motion, all modules are clamped together at the top. Thus, the vertical seismic component has been considered in the design.

WEST

EL. 250.853'
FUEL TOP FITTING

EL. 250.32'
BOTTOM OF CANAL OPENING

EL. 250.0'

EL. 0'-9½"
BOTTOM OF FUEL
237.542'

EL. 236.75'

11 5/16"

2½"

3"

TYPICAL FUEL ASSEMBLY

6 1/4" REF.

2"

6" DIA

D

D

SECTION CC

SCALE 3" = 1'-0"

4" SQ

.385"
FOR 100°F THERMAL EXPANSION

8 15/16"
INSIDE SQ

SECTION DD

1'-5"

12'-1½"

EL. 14'-6" ±1"
251.25'

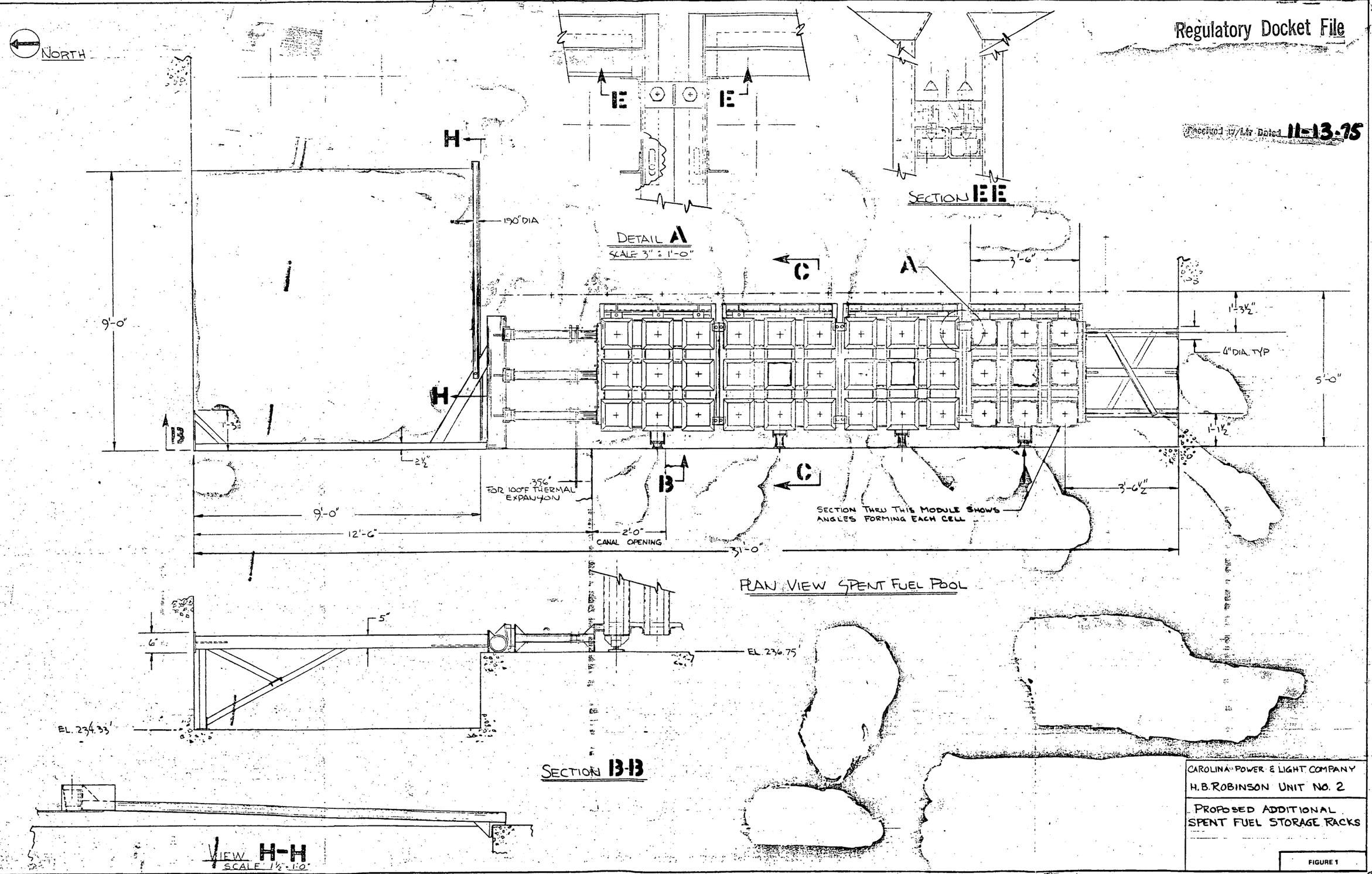
ELEVATION VIEW (3×3 MODULE)

SCALE ¾" = 1'-0"

CAROLINA POWER & LIGHT COMPANY
H. B. ROBINSON UNIT NO. 2

PROPOSED ADDITIONAL
SPENT FUEL STORAGE RACKS

FIGURE 2



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H.B. ROBINSON UNIT NO. 2

PROPOSED ADDITIONAL SPENT FUEL STORAGE RACKS

FIGURE 1