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RECIP.NAME RECIPIENT AFFILIATION
DENTON,H.R. Office of Nuclear Reactor Regulation

SUBJECT: Forwards addl info re spent fuel storage capacity expansion program.

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Donald C. Cook Nuclear Plant Unit Nos. 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
Spent Fuel Storage Capacity Expansion Program

July 27, 1979
AEP:NRC:00213A

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Denton:

Attachment 1 to this letter provides additional information on the spent fuel storage capacity expansion program for the Donald C. Cook Nuclear Plant. This information was requested from us on a facsimile telecopied to our offices on July 18, 1979.

Very truly yours,

John E. Dolan
Vice President

Sworn and subscribed to before me
this 27th day of July, 1979 in
New York County, New York

C. Robert Roll.
Notary Public

C. ROBERT ROLL
NOTARY PUBLIC, STATE OF NEW YORK
No. 41-3332850
Qualified in Queens County
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ATTACHMENT 1

QUESTION No. 14

Provide a sketch of the first mode vibration which results from the SAP IV Seismic Model of FIG. 3.6.1. Discuss why, for this mode, the participation factors are so small.

RESPONSE

A plot of the first vibrational mode shape is presented in Figure 3.6.14. The mode shape plot is presented as a plan view of the top of the rack structure. As can be seen from Figure 3.6.14 this mode shape constitutes a diagonally symmetrical "diamonding" distortion at the top of the rack.

Since this mode shape is symmetrical all inertial and stiffness forces are balanced within the structure. There is, therefore, a negligible response to seismic excitation imposed at the pool floor/rack base interface.

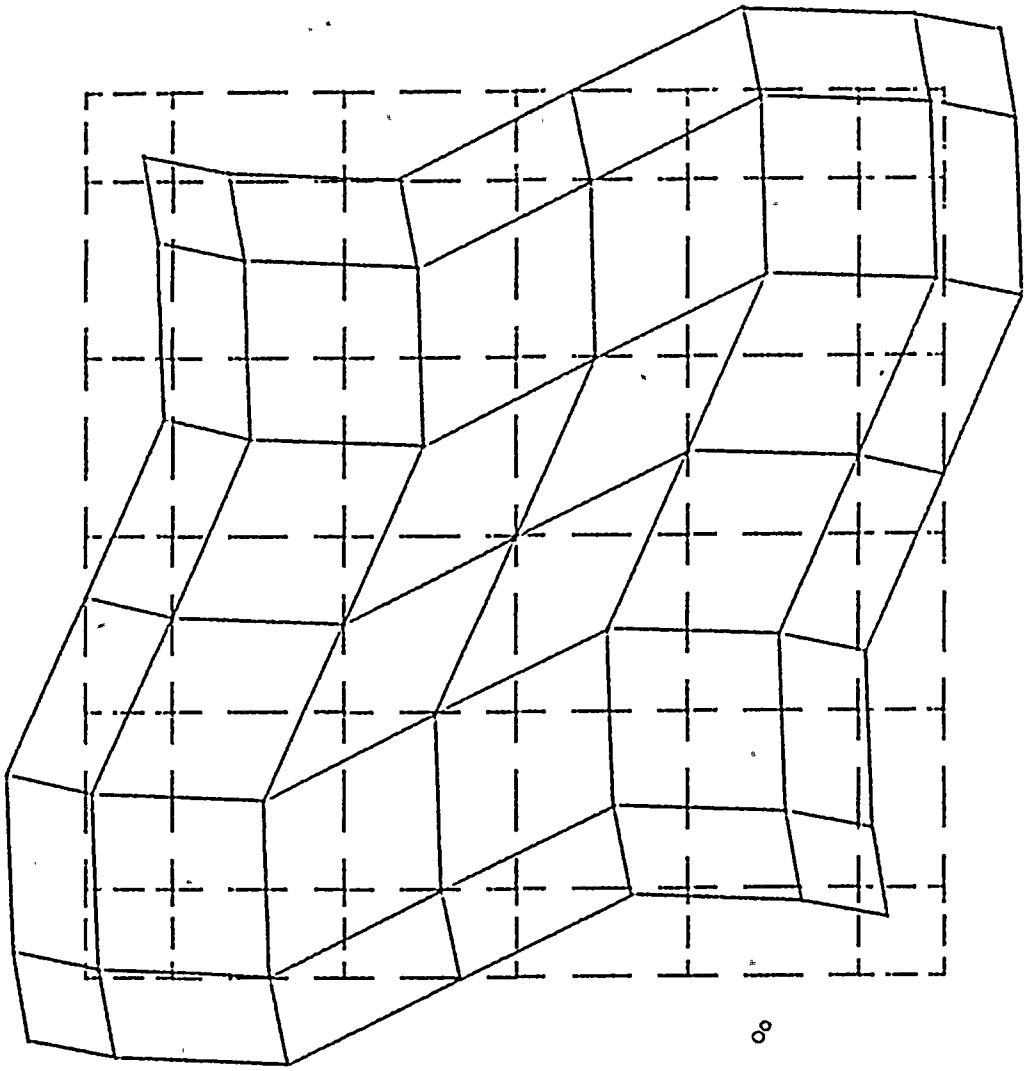

FIGURE 3.6.14 Mode Shape 1

Plan View On Top Of Rack Module

QUESTION No. 15

The NRC position paper entitled, "Review and Acceptance of Spent Fuel Storage and Handling Applications" lists load combinations in Section 6, "Structural Acceptance Criteria". These loads combinations include two which are not mentioned in Table 3.6.1 of your April 16, 1979 Spent Fuel Pool Transmittal. They are:

1. $D + L + T_o + E$

2. $D + L + T_a + E$

Discuss your reasons for omitting these combinations.

RESPONSE

The apparent omission occurred because of different definitions of live loads. The NRC position paper references Section 3.8.4 of the NRC Standard Review Plan for definitions where, under Normal Loads, L is defined as "Live loads or their relaxed internal moments and forces including any movable equipment loads and other loads which vary with intensity and occurrence, such as soil pressure." Using this definition the fuel weight would, therefore, be defined as a live load. In Section 3.6.2 of our April 16, 1979 submittal dead load, D is defined as "Dead load of fuel module structure and stored fuel".

The following load combinations are, therefore, equivalent:

D. C. Cook 4/16/79 Submittal	NRC Position Paper
$D + E$	$D + L + E$
$D + T_o + E$	$D + L + T_o + E$
$D + T_a + E$	$D + L + T_a + E$
$D + T_a + E$	$D + L + T_a + E$

From the foregoing it is concluded that the load combinations used in the D. C. Cook fuel storage rack design are in conformance with the provisions of the NRC position paper.

Question No. 16

Indicate if welding is performed to connect the racks and the pool liner. If so, indicate the applicable code used to qualify the welder and welding procedure.

Response

No welding will be done to connect the racks to the spent fuel pool liner.

Question No. 17

Discuss the inservice surveillance plans, if any, that you have developed to assure long term safety of the fuel rack system.

Response

The inservice surveillance program to insure the integrity of the Boral material was discussed in our submittal of November 22, 1978, Section 3.4.2.

The spent fuel racks are passive structures which are protected from impact damage by restrictions on the movement of heavy loads over the pool. The racks require no maintenance since they have no moving parts and the noncorrosiveness of stainless steel is well documented. We have not identified any additional surveillances which would be required under normal operation to insure the long term safety of the proposed fuel rack structure.

Normal surveillance and routine maintenance will continue to be performed on the spent fuel cooling and water purification systems independent of the proposed modifications to the spent fuel rack storage capacity.