

**Florida  
Power**  
CORPORATION

November 20, 1984  
3F1184-15

Mr. J. P. O'Reilly  
Regional Administrator, Region II  
Office of Inspection & Enforcement  
U.S. Nuclear Regulatory Commission  
101 Marietta Street N.W., Suite 2900  
Atlanta, GA 30323

Subject: Crystal River Unit 3  
Docket No. 50-302  
Operating License No. DPR-72  
IE Bulletin 84-03  
Refueling Cavity Water Seal

Dear Sir:

Attached is Florida Power Corporation's response to the subject IE Bulletin.

Sincerely,

G. R. Westafer  
Manager, Nuclear Operations  
Licensing and Fuel Management

Attachment

EMG/feb

cc: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

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**IE BULLETIN 84-03  
REFUELING CAVITY WATER SEAL  
FLORIDA POWER CORPORATION'S RESPONSE**

**IE Bulletin Requirements**

Evaluate the potential for and consequences of a refueling cavity water seal failure and provide a summary report of these actions.

Such evaluations should include consideration of a gross seal failure; maximum leak rate due to failure of active components such as inflated seals; makeup capacity; time to cladding damage without operator action; potential effect on stored fuel and fuel in transfer; and emergency operating procedures.

**Florida Power Corporation's Response:**

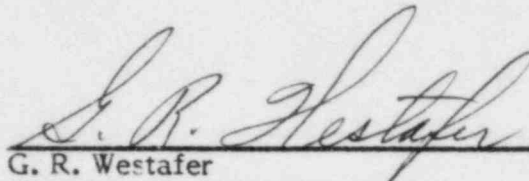
The refueling cavity water seal at Crystal River Unit 3 (CR-3) has been used for approximately seven years with no significant leakage. It is not similar to the seal used at the Haddam Neck Plant. The passive seal system at CR-3 consists of a stainless steel ring with two non-inflatable rubber seal rings. One rubber seal is positioned between the steel ring and the reactor vessel flange. The other rubber seal is positioned between the steel ring and the refueling canal floor. These rubber seal rings are compressed between the surfaces with stainless steel bolts. Figure 1, depicting the CR-3 seal design, is attached. Due to this configuration, any possible seal leakage would be insignificant compared to the makeup capability at CR-3. The steel seal ring width is greater than the opening it covers, therefore, gross seal failure due to lack of interference between the width of the seal annulus and the width of the opening as described in IE Bulletin 84-03 is not considered probable at CR-3.

Assuming that the seal could fail and the water would be allowed to drain through the annular opening between the reactor vessel and the refueling canal floor, the resulting water level in the refueling canal would be at the 135 foot elevation (elevation of the refueling cavity water seal). Due to plant configuration, fuel stored in the reactor, the transfer tube area, and the spent fuel storage area would remain covered by the water during such an occurrence. The relative locations of these areas are shown in Figure 2.

As a result of the review of the CR-3 refueling cavity water seal design, it has been determined that no changes need to be made to the plant configuration or emergency operating procedures to assure that fuel exposure during refueling remains an unlikely event.

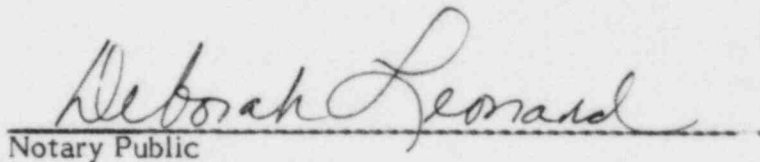
STATE OF FLORIDA  
COUNTY OF PINELLAS

G. R. Westafer states that he is the Manager, Nuclear Operations Licensing and Fuel Management for Florida Power Corporation; that he is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the information attached hereto; and that all such statements made and matters set forth therein are true and correct to the best of his knowledge, information, and belief.



G. R. Westafer  
Manager, Nuclear Operations  
Licensing and Fuel Management

Subscribed and sworn to before me, a Notary Public in and for the State and County above named, this 20th day of November, 1984.

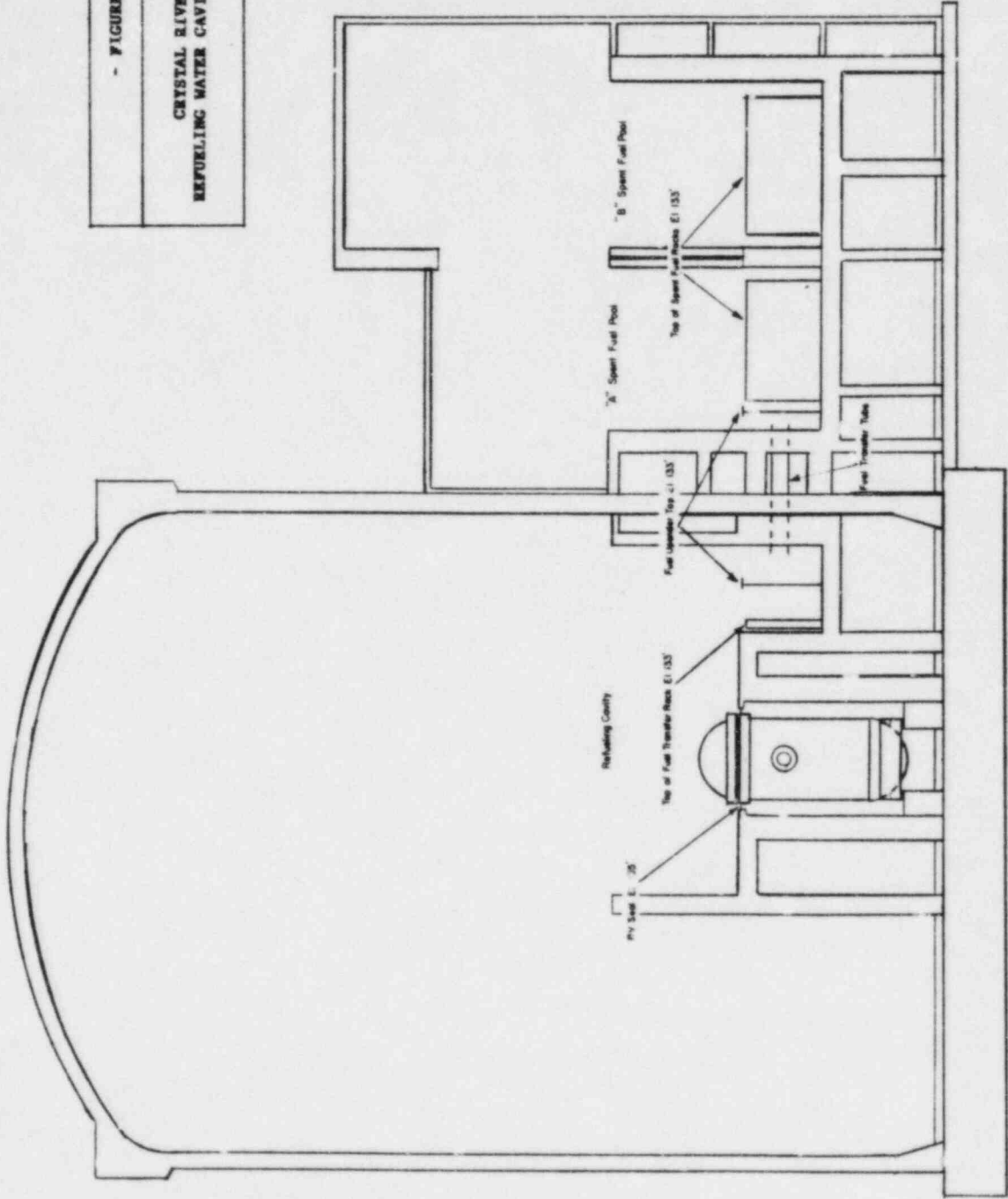


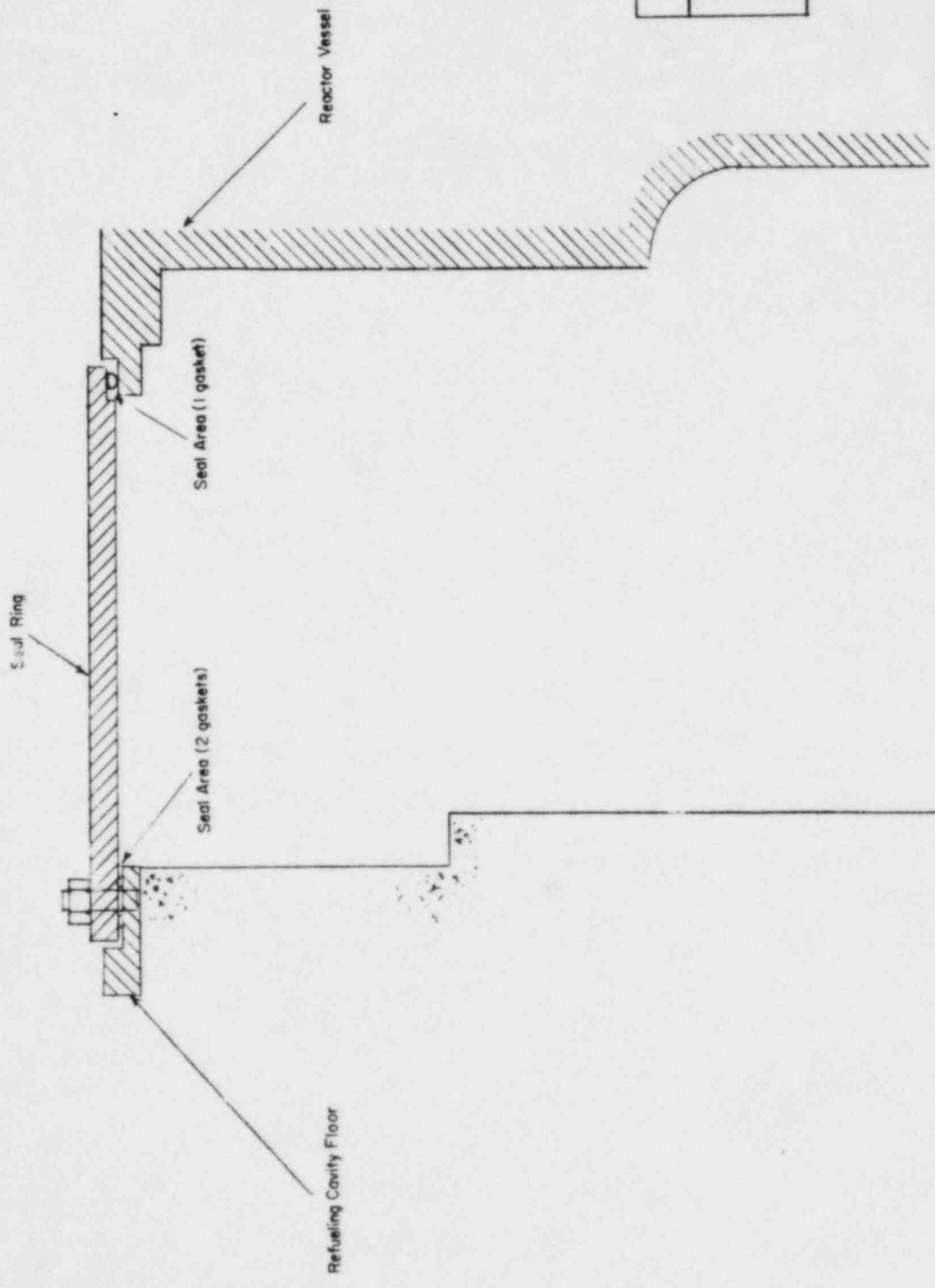
Notary Public

Notary Public, State of Florida at Large,  
My Commission Expires: November 19, 1986

- FIGURE 2 -

CRYSTAL RIVER UNIT 3  
REFUELING WATER CAVITY CONFIGURATION





- FIGURE 1 -

CRYSTAL RIVER UNIT 3  
REFUELING CAVITY WATER SEAL