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March 3, 1980  
CRJ/80/16/ETS

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U.S. NUCLEAR REG  
COMMISSION  
MISS MAIL SECTION

Mr. C. E. MacDonald, Chief  
Transportation Branch  
Division of Fuel Cycle and Material Safety  
Nuclear Regulatory Commission  
Washington, D. C. 20555

Dear Mr. MacDonald:

Applicant	.....
Check No.	6636-6
Amount/Fee Category	2400-110
Type of Fee	annual
Date Check Rec'd.	3/13/80
Received By	.....

NFS-4, Spent Fuel Shipping Cask (NAC-1 Cask); Docket No. 71-6698

Nuclear Assurance Corporation hereby requests that Certificate of Compliance No. 6698, Revision 9, dated December 12, 1979, be revised to authorize the shipment of reconstituted PWR uranium oxide fuel assemblies which may contain more or less than the design number of fuel rods. Specifically, it is requested that:


Item 5(b)(1)(vii) be revised to read as follows:

- (vii) Reconstituted PWR uranium oxide fuel assemblies with
  - (1) Less than the original number of fuel rods
  - (2) Additional fuel rods secured in guide tube thimbles
  - or
  - (3) Combinations of both cases (1) and (2) above.

Fuel assemblies described above shall conform to the maximum active dimensions given in item 5(b)(1)(i).

Any fuel assembly shipped without one or both end fittings shall be equipped with an assembly carrier as shown in Battelle Drawing No. 00-001-676 or equivalent.

Nuclear Assurance Corporation has been asked by Babcock & Wilcox to prepare for shipping an irradiated fuel assembly which will contain less than the design number of fuel rods for the assembly. In addition, the modified assembly may contain fuel rods inserted and secured in the guide thimble.



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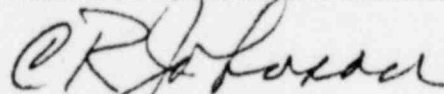
Criticality analysis has been performed to verify the safety of transporting reconstituted assemblies, using the KENO IV, NULIF and PDQ codes for various configurations. Fully reflected configurations, ranging from 36 rods removed to 17 rods added, were analyzed. In all cases, the K-effective value was within  $2\sigma$  (.02) of a normal assembly value.

In accordance with the schedule of fees published on page 7223 of the Federal Register, Volume 4, Number 35, dated February 21, 1978, enclosed is a check in the amount of \$2,800.00.

If there are any questions, or if further information is desired, please contact me at your earliest convenience.

Very truly yours,

NUCLEAR ASSURANCE CORPORATION



Charles R. Johnson  
Vice President

CRJ:nkc  
Enclosure

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