

Rel to G-Tharpe  
596-53

OCT 20 1983

FCUP:BLS  
70-2985

Duke Power Company  
ATTN: Mr. Roger W. Ouellette  
P. O. Box 33189  
Charlotte, NC 28242

Gentlemen:

We have reviewed your application for receipt and storage of special nuclear material. Additional information is required to allow us to complete our safety review for the materials requested. The required information is identified in the enclosure. The additional information should be included as replacement pages to your application.

Our review of these topics will continue upon receipt of the requested information. Please contact us if you have any questions.

Sincerely,

Original signed by:  
Barry L. Serini

Barry L. Serini  
Uranium Process Licensing Section  
Uranium Fuel Licensing Branch  
Division of Fuel Cycle and  
Material Safety

Enclosures:

1. Additional Information Requested
2. Annex A "License Condition for Leak Testing Sealed Plutonium Sources"

DISTRIBUTION

→ Docket File 50-413 & 70-2985

NMSS R/F  
FCUP R/F  
PDR  
BLSerini  
VLTharpe  
ALSoong  
Region III

8311010444 831020  
PDR ADOCK 07002985  
C PDR

OFFICE	FCUP BLS	FCUP W	FCUP VL	FCUP WTC		
SURNAME	BLSerini/dp	ALSoong	VLTharpe	WTCrow		
DATE	10/19/83	10/10/83	10/20/83	10/20/83		

OCT 20 1983

Additional Information Required for Application to Receive, Possess  
and Store Special Nuclear Material at Catawba Nuclear Station, Unit 1

Page 1

1. The requested authorization for the use of uranium fuel should be deleted or explained.
2. Discussion with the Resident Inspector indicates that you may not be able to receive fuel by December 1, 1983. Please specify a more realistic date.

Page 2

3. Page 2 of your application indicates that 3.1 w/o U-235 is the highest enrichment requested. If this is a nominal value, please specify the maximum.
4. Confirm that all licensed material possessed under this license is in the form of sealed sources.

Page 3

5. Please confirm that written procedures shall be established, maintained, and followed whenever licensed material is handled. Specify who approves the procedures and changes to the procedures, this approval should be in writing.
6. Please identify the person(s) responsible for the safe use of the Pu-Be source outside of the health physics calibration facility.
7. Identify the location(s) and condition(s) for storing the fission chambers and Pu-Be sources when not in use.
8. Describe the current status of your preoperational testing. Specify any additional tests to be performed prior to receipt of fuel.
9. Please provide a description of the fuel receiving area and the storage array of fuel that is temporarily stored there.
10. You have stated that fuel assemblies "are handled one at a time". Please indicate if you will have more than one assembly out of storage at any one time. If you desire more than one fuel assembly out of storage at a time, demonstrate that the fuel assemblies cannot be made critical (distance, shielding, etc.).

OFFICE ▶							
SURNAME ▶							
DATE ▶							

OCT 20 1983

Page 6

11. Please indicate the frequency of fire patrols in the fuel area and describe your manual fire fighting system.

Page 7

12. Describe the administrative procedures for storing fuel in the spent fuel pool to ensure a checkerboard loading.
13. Specify whether blocking devices are used in the spent fuel pool to prevent other than a checkerboard array or if a visual inspection by the Reactor Engineer is all that is used.

Page 8

14. Please specify how high a fuel assembly is carried over the racks in the spent fuel pool and the crush allowance atop the racks (ft-lbs). Indicate the types of cranes used to transport the new fuel assemblies.

Page 9

15. Please provide a map to show the locations or areas where licensed material will be used.

Page 10

16. Confirm that the Radiation Work Permit shall be approved and signed by the Station Health Physicist prior to starting the activity.

Page 12, Section D

17. In this section, please state whether Duke Power Company wishes to take credit for protection provided by a respirator against airborne radioactive material. This section should be revised to comply with the provisions specified in 10 CFR 20.103.

Page 14, Section F

18. This section should state that requirements for personnel monitoring equipment shall comply with 10 CFR 20.202 and the personnel monitoring program for neutron dosimetry shall be conducted in accordance with Regulatory Guide 8.14

OFFICE ▶							
SURNAME ▶							
DATE ▶							

OCT 20 1983

Page 14, Section F cont.

19. Please specify the action level(s) and action(s) to be taken to prevent personnel exposure from exceeding the limits in 10 CFR 20.101.

Page 16

20. Please confirm that the minimum professional qualifications for the Radiation Protection Manager meet the requirements in Regulatory Guide 1.8.

Nuclear Criticality Safety

21. Please provide diagrams of the fuel storage areas with all materials and their dimensions clearly marked. The diagrams should be of such detail to enable modelling these areas for nuclear criticality safety.
22. Please explain your statement on Page 7 which stated checkerboard storage and 21" center-to-center.

OFFICE	FCUP <i>BL</i>	FCUP <i>W</i>	FCUP <i>VT</i>	FCUP <i>WTC</i>			
SURNAME	BLSerini/dp	ALSoong	VLTharpe	WTCrow			
DATE	10/19/83	10/19/83	10/20/83	10/20/83			

LICENSE CONDITION FOR LEAK TESTING  
SEALED PLUTONIUM SOURCES

- A. Each plutonium source shall be tested for leakage at intervals not to exceed six (6) months. In the absence of a certificate from a transferor indicating that a test has been made within six (6) months prior to the transfer, the sealed source shall not be put into use until tested.
- B. The test shall be capable of detecting the presence of 0.005 microcuries of alpha contamination on the test sample. The test sample shall be taken from the source or from appropriate accessible surfaces of the device in which the sealed source is permanently or semipermanently mounted or stored. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Commission.
- C. If the test reveals the presence of 0.005 microcurie or more of removable alpha contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired by a person appropriately licensed to make such repairs or to be disposed of in accordance with the Commission regulations. Within five (5) days after determining that any source has leaked, the licensee shall file a report with the Division of Fuel Cycle and Material Safety, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, describing the source, the test results, the extent of contamination, the apparent or suspected cause of source failure, and the corrective action taken. A copy of the report shall be sent to the Director of the nearest NRC Inspection and Enforcement Office listed in Appendix D of Title 10, Code of Federal Regulations, Part 20.
- D. The periodic leak test required by this condition does not apply to sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to any use or transfer to another person unless they have been leak tested within six (6) months prior to the date of use or transfer.