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Department of Energy
Washington, D.C. 20585

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U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

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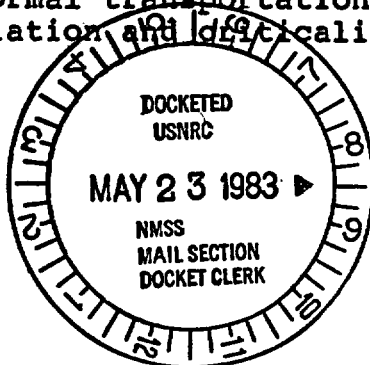
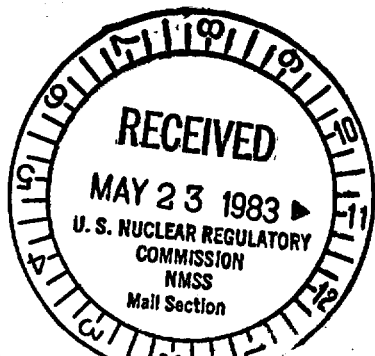
SUPER TIGER SHIPPING CONTAINER - REVISED SAFETY ANALYSIS REPORT FOR SHIPMENT OF UNIRRADIATED U233 FUEL RODS IN SUPER TIGER SHIPPING CONTAINER; REQUEST FOR NUCLEAR REGULATORY COMMISSION CONCURRENCE

A revised safety analysis report for shipment of unirradiated U233 fuel rods in the Super Tiger shipping container is attached as enclosure (1) and is forwarded for Nuclear Regulatory Commission (NRC) review and concurrence. The revised safety analysis report addresses the use of a simplified inner containment structure for shipment of unirradiated U233 fuel rods.

The previous version of the safety analysis report for shipment of unirradiated U233 rods in the Super Tiger shipping container which was forwarded for NRC review by Naval Reactors letter Z#899 dated March 9, 1981, utilized an inner containment structure which was basically an array of twenty rectangular steel tubes welded together. Boral neutron poison material was laminated between the tubes and a steel gamma radiation shield was welded around the perimeter.

Based on studies to minimize the amount of storage space that would be required for these rods after shipment, a modified rod storage container has been designed resulting in a simplified inner containment structure for the Super Tiger shipping container. The simplified inner containment structure consists of four thick walled round steel tubes welded into a two by two array. A two inch thick steel gamma radiation shield is welded around the array. The array is centered within the Super Tiger cavity by twenty to twenty-four inches of polyurethane foam on the ends and sides.

The simplified inner containment structure is designed to evenly distribute the weight to the Super Tiger chassis and to withstand all accident loads without deformation. Approximately 50 kg U233 in the form of fuel rods can be transported per shipment without exceeding 10CFR71 normal transportation and accident requirements with respect to radiation and criticality control.



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Naval Reactors considers that the Super Tiger shipping container modified for shipment of unirradiated U233 fuel rods complies with Code of Federal Regulations requirements (10CFR71). A DOE Certificate of Compliance for the Super Tiger shipping container revised to include shipment of unirradiated U233 fuel rods is attached as enclosure (2). The resolution of NRC comments on the previous version of the safety analysis report for shipment of unirradiated U233 rods in the Super Tiger shipping container forwarded NRC by Naval Reactors letter Z#899 is attached as enclosure (3). NRC concurrence with the revised Super Tiger safety analysis report is requested by July 4, 1983.



W. P. Engel, Director
Division of Reactor Safety
and Computation

- Enclosures:
- (1) Safety Analysis Report for Packaging Super Tiger Shipping Container As Adapted
 - (2) DOE Certificate of Compliance USA/6400/BLF (DOE-NR), Revision 3
 - (3) Resolution of NRC Comments on Revision 1 of Super Tiger Shipping Container Safety Analysis Report for Packaging

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