

Detroit

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June 23, 1981

EF2 - 53864



Mr. L. L. Kintner  
Division of Project Management  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission

Dear Mr. Kintner:

Reference: Enrico Fermi Atomic Power Plant, Unit 2  
NRC Docket No. 50-341

Subject: Details re: Handling Items in Spent Fuel Pool

During a telecon on May 25, 1981, Fred Clemenson (NRC) requested the following additional information regarding light loads carried over fuel:

1. What is lifting capacity of devices (cranes) carrying these items?
2. Describe safety features on all hooks and other lifting devices.
3. Give the value of either safety margin or ultimate limit on all lifting bails.
4. Describe qualifications for operators of cranes and lifting devices.

RESPONSE:

1. The fuel bundle is carried on the fuel grapple which is attached to the main trolley of the refueling platform. The balance of the equipment is carried by specific grapples dedicated to an individual item such as the control blade. They are suspended from either the auxiliary hoist on the Refueling Platform main trolley or on the monorail mounted auxiliary hoist.

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The lifting capacity of all grapples is based upon a 5 to 1 safety factor based upon the ultimate strength of the material. The fuel grapple is limited in practice to approximately 1,000 lbs. by load cell settings and the remaining hoists to 500 lbs. maximum load cells.

2. The refueling grapple uses a single hook which captures the lifting bail. The bail is then totally enclosed in the grapple head. A microswitch is used to contain an indication that the fuel bail is enclosed in the grapple head. The general purpose grapple typically attached to the jib crane uses dual hooks to attach to the bail of the component being lifted. All screwed connections between hoist cable and grapple are pinned in place.

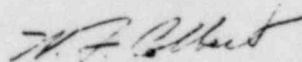
The actuating pole is carried about by the refueling crew and quite often is tied off to the pool railing.

3. The safety margin used is 5 to 1 based on material ultimate strength. This is a typical industry standard, and can be found in Crane Manufacturer Standard CMA-70.

There are no other items which are expected to be carried over the pool which have significant kinetic energy compared to a fuel assembly.

4. All manipulations carried on in the spent fuel pool shall be observed and directly supervised by either a licensed Senior Reactor Operator or Senior Reactor Operator Limited to Fuel Handling who has no other concurrent responsibilities during this operation. This supervisor will have received training appropriate to this task. The training includes thorough instructions in precautions and safety while operating all devices, in procedures which minimize carrying items over spent fuel, and in responses to malfunctions, emergencies, and accidents.

Sincerely,



W. F. Colbert  
Technical Director  
Enrico Fermi 2

MLB  
WFC/MLB/dk