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O. W. DIXON, JR.
VICE PRESIDENT
NUCLEAR OPERATIONS

May 30, 1984

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Virgil C. Summer Nuclear Station
Docket No. 50/395
Operating License No. NPF-12
Spent Fuel Pool Rerack Modification

Dear Mr. Denton:

In a transmittal to the Nuclear Regulatory Commission (NRC) dated January 23, 1984, South Carolina Electric and Gas Company (SCE&G) requested approval for a proposed rerack modification to the spent fuel pool at the Virgil C. Summer Nuclear Station. In letters dated March 6, 1984, April 4, 1984, April 17, 1984, May 11, 1984 and May 18, 1984, SCE&G provided responses to NRC Staff questions on the proposed rerack modification. This letter is provided in response to additional questions raised by the Staff in their review of the Licensing Report contained in the submittal.

The first question concerns the possibility of relocating the Region I and Region II storage racks (poisoned racks) such that mechanical or electrical interlocks could be used to preclude inadvertently placing fuel assemblies in Region III (unpoisoned rack) storage locations. SCE&G does not consider the position of the poisoned rack regions to be a safety concern. Fuel assembly placement in the new rack modules is to be controlled administratively by Fuel Handling Procedures. Fuel transfers will be performed and verified using indexed location numbers to ensure that spent fuel assemblies are placed in the correct storage location. A critical arrangement by misplacement of a fuel assembly into Region III is precluded by the Technical Specification requirement that the pool be highly borated and periodically sampled during refueling opeations. Because the seismic design of the proposed rack configuration would be invalidated by repositioning the racks, and because of the existence of strict administrative controls to preclude mispositioning a fuel assembly, SCE&G does not consider the addition of interlocks necessary to increase the margin of safety.

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The second question requests information about the removal of the existing racks and the installation of the new rack modules. A temporary gantry crane will be used for removing the old racks and installing the new modules. The maximum weight of any of the existing rack modules is five (5) tons, and the new modules have a maximum weight of eighteen (18) tons. The gantry crane has a rated capacity of twenty (20) tons. However, because it has a safety factor of four (4) on the rated capacity, the absolute design capacity of the crane is eighty (80) tons. The crane is designed in accordance with the Crane Manufacturers Association of America 70 Standard (CMAA 70 Standard). It is wired in accordance with the National Electric Code and has been load tested in accordance with ANSI B30.2. The special and general purpose lifting devices to be used for the reracking modification are not designed in accordance with NUREG-0612 requirements since they will not be in place when spent fuel is in the pool.

The third question requests measures to be taken to prevent a load drop over spent fuel stored in the pool. Presently, SCE&G does not have any spent fuel in the storage pool. The reracking is to be completed before the first refueling occurs and therefore the modification will not be performed with spent fuel in the pool.

The fourth question concerns the possibility of heavy loads being moved into the area of the spent fuel pool designated as the "Reserve Area" (see Figure 2.1, enclosed). This "Reserve Area" can not be used as a cask loading area. The Fuel Handling Building crane is not capable of traveling over the spent fuel pool. Only the fuel handling machine can be operated over the area of the spent fuel pool. The "Reserve Area" would be used for operations, i.e., fuel sipping, assembly reconstitution, etc.

The fifth question requests clarification on the dropped fuel assembly accident analysis results presented in Chapter 6 of the Licensing Report. The fuel assembly is assumed to drop from an initial height of thirty-six (36) inches above the top of the module and fall the entire height of the storage rack before striking the base of the rack. Local piercing of the base plate and direct impact with the pool liner does not occur. Also, the subcriticality of the adjacent fuel assemblies is not violated.

If you have any questions, please advise.

Very truly yours,

O. W. Dixon, Jr.

AMM/OWD/gj

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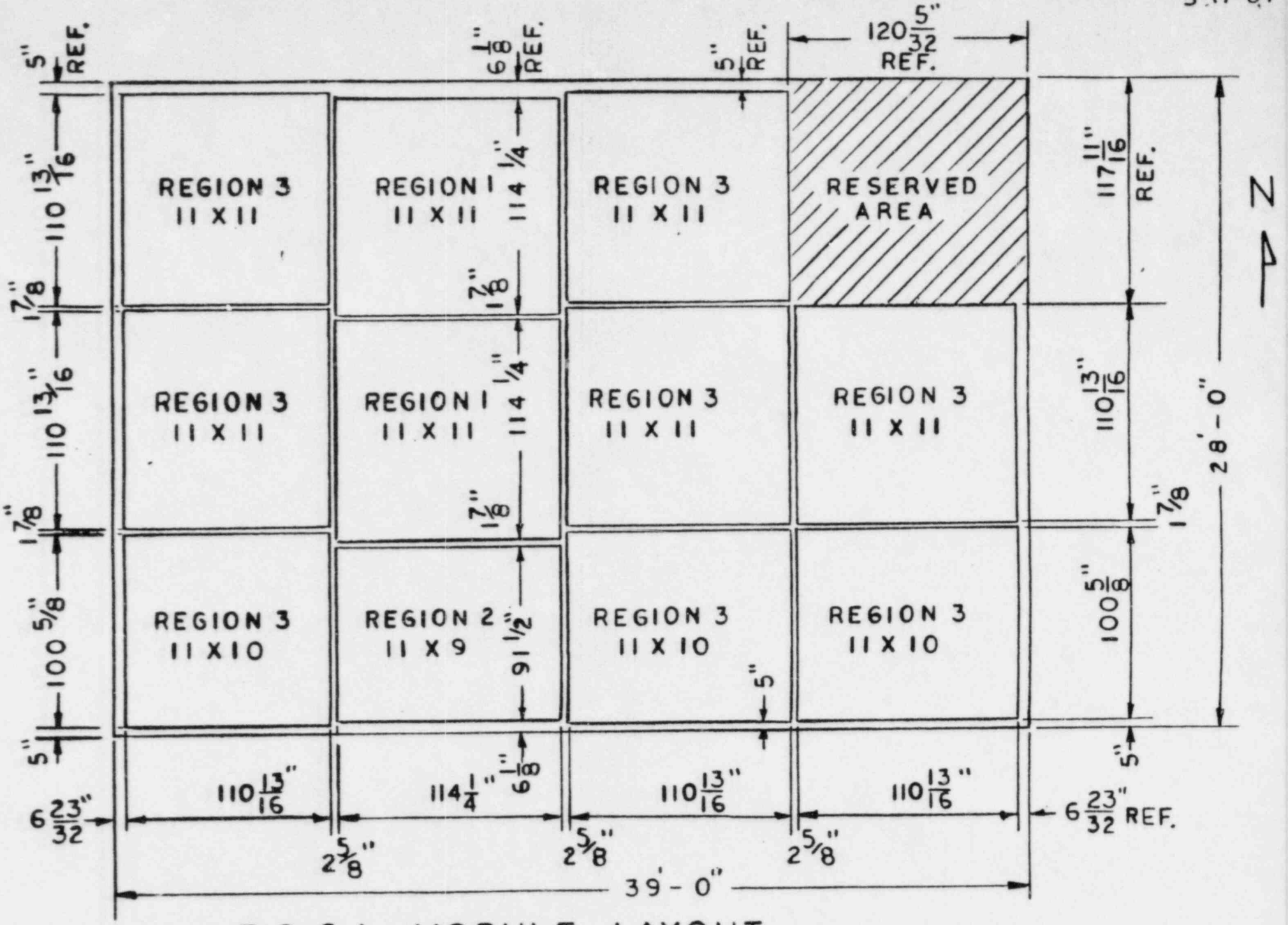

FIG. 2·1 MODULE LAYOUT