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Mr. H. B. Tucker, Vice President
Nuclear Production Department
Duke Power Company
422 South Church Street
Charlotte, North Carolina 28242

Dear Mr. Tucker:

Subject: Control of Heavy Loads

The NRC staff and its contractor, the Franklin Research Center (FRC), have completed their reviews of Control of Heavy Loads (Phase I) for the McGuire Nuclear Station, Units 1 and 2. Enclosure 1 is our Safety Evaluation Report (SER) which was developed based on your responses to our December 22, 1980, generic letter on "Control of Heavy Loads". This SER incorporates the Technical Evaluation Report (TER) (Enclosure 2) developed by FRC. The TER is based upon your submittals through 1982. We reviewed the TER in 1983 and concurred with its findings including the two open items identified regarding safe load paths associated with fuel handling area cranes, and verification of the adequacy of design of the special lifting devices including the implementation of programs to ensure their continued compliance in accordance with ANSI-N14.6-1978. However, subsequent to preparation of the TER, you submitted letters dated July 15, 1983, August 17, 1984, January 31, and February 22, 1985, containing additional information which resolves these items as reflected in our SER. Therefore, we conclude that the guidelines of NUREG-0612 "Control of Heavy Loads at Nuclear Power Plants" Sections 5.1.1 and 5.3 have been satisfied and that Phase I for McGuire Nuclear Station, Units 1 and 2, is acceptable.

Paragraph 2.C.(8) of Facility Operating License NPF-17 for McGuire Unit 2 contains a license condition regarding compliance with the criteria of Phase I and Phase II (Sections 5.1.2 through 5.1.6) of NUREG-0612. The enclosed SER resolves both the Phase I and Phase II portions of the license condition in its entirety, and no further action is required.

Sincerely,

Thomas M. Novak, Assistant Director
for Licensing
Division of Licensing

Enclosures: As stated
*See previous white for concurrence
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McGuire

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McGUIRE NUCLEAR STATION UNITS 1 AND 2
CONTROL OF HEAVY LOADS-PHASES I AND II
SAFETY EVALUATION REPORT

I. Introduction

As a result of Generic Task A-36, "Control of Heavy Loads Near Spent Fuel," NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants," was developed. Following the issuance of NUREG-0612, a generic letter dated December 22, 1980, was sent to all operating plants, applicants for operating licenses and holders of construction permits requesting that responses be prepared to indicate the degree of compliance with the guidelines of NUREG-0612. As indicated above, in accordance with the generic letter dated December 22, 1980, Duke Power Company, the licensee for McGuire Nuclear Station, Units 1 and 2 was requested to review their provisions for handling and control of heavy loads at McGuire, Units 1 and 2 to determine the extent to which the guidelines of NUREG-0612 are satisfied and to commit to mutually agreeable changes and modifications that would be required in order to satisfy these guidelines. By letters dated June 2, August 5, October 8, November 23, 1981, January 15, March 3, June 4, July 26, 1982, July 15, 1983, August 17, 1984 and January 31, and February 22, 1985, the licensee provided responses to this request.

II. NRC Review and Evaluation

The staff and its consultant, the Franklin Research Center (FRC), have reviewed the licensee's submittals for McGuire Nuclear Station, Units 1 and 2. As a result of its review, FRC has issued the enclosed Technical Evaluation Report (TER). The TER contains two open items regarding guidelines 1 and 4. The first open item concerns safe load paths in the auxiliary building for fuel handling area cranes A108A and A111A, and the second open item requests that the licensee evaluate the design of special

lifting devices for compliance with the criteria of ANSI N14.6-1978.

Regarding the safe load paths issue, the licensee's submittal of August 17, 1984 stated that lines designating the safe load paths for the fuel handling area cranes have been painted on the floor. Further, the designated travel paths have been identified in load handling procedures. We find this acceptable and this issue is therefore resolved.

Regarding the special lifting devices issue, by letters August 17, 1984, January 31, and February 22, 1985, the licensee provided an assessment against the criteria of ANSI N14.6-1978 for the reactor vessel head lifting rig and load cell, reactor internals lifting rig, reactor coolant pump motor lifting rig, and control rod drive mechanism missile shield lifting rig. The licensee concluded that these devices have been designed and load tested in accordance with ANSI N14.6-1978 as appropriate. Further, the licensee committed to a program for assuring continuous compliance with ANSI N14.6-1978 for those special lifting devices. We find this acceptable for resolving this concern.

The staff has reviewed the TER and concurs with its findings. The TER is a part of the SER. Based on the TER and the above discussed resolution of the two open items, we conclude that the guidelines in NUREG-0612, Sections 5.1.1 and 5.3 have been satisfied. We therefore, consider that Phase I for McGuire Nuclear Station, Units 1 and 2 is acceptable.

In Section 9.1.5 to Supplement 6 of the McGuire SER, the staff imposed a condition (Unit 2 License Condition No. 2.C.(8)) regarding compliance with the criteria of Phase I and Phase II (Sections 5-1.2 through 5-1.6) of NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants." The staff has subsequently eliminated the need for further effort regarding compliance with the criteria of Phase II of NUREG-0612 on the basis of Phase I (Section 5.1.1) compliance and Phase II reviews consisted of an evaluation of the responses for 12 randomly selected operating plants which formed a pilot program. The staff determined from these reviews that the majority of risk associated with heavy loads handling has been resolved by implementation of Phase I, and, in addition, no further heavy loads handling concerns were identified from the pilot program reviews. It is, therefore, concluded that the objective identified in NUREG-0612 for providing "maximum practical defense in depth" is satisfied without the need for further action regarding Phase II. Therefore, the license condition is deemed to have been satisfied in its entirety.