UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 38 TO FACILITY OPERATING LICENSE NO. NPF-69

NIAGARA MOHAWK POWER CORPORATION

NINE MILE POINT NUCLEAR STATION, UNIT 2

DOCKET NO. 50-410

1.0 INTRODUCTION

By letter dated January 17, 1992, the Niagara Mohawk Power Corporation (the licensee) requested an amendment to the Facility Operating License No. NPF-69 for Nine Mile Point Nuclear Station Unit 2 (NMP-2). The requested amendment would increase the number of fuel assemblies allowed out of the approved storage locations in the spent fuel pool from one to three. This allows simultaneous use of both fuel preparation machines during fuel channeling and dechanneling operations.

2.0 EVALUATION

The proposed change to the license revises License Condition 2.C(3) to increase the number of fuel assemblies allowed out of the storage racks in the spent fuel pool from one to three. Currently, this license condition allows up to three assemblies above the refuel floor to be outside of the new fuel vault or normal shipping containers, and also allows only one fuel assembly to be outside of the storage rack in the spent fuel pool below the refuel floor. The purpose of this change is to allow simultaneous use of the two fuel preparation machines located in the spent fuel pool. The use of two machines allows simultaneous removal of channels from irradiated fuel bundles and installation of such a reusable channel on new unirradiated fuel bundles. The Nine Mile Point Unit 2 Updated Safety Analysis Report Section 9.1.4.2.11 describes rechanneling of fuel using both fuel preparation machines. However, in accordance with the requirements of NRC Bulletin No. 90-02, "Loss of Thermal Margin Caused By Channel Box Bow," March 20, 1990, any proposed reuse of channel boxes will require prior NRC approval.

Increasing the number of fuel assemblies allowed out of their storage racks in the spent fuel pool from one to three does not represent a decrease in nuclear criticality safety. General Electric (GE) Direction Document 22A6042 Revision 4, Step 10.2.2, allows a fuel array of up to three fuel bundles or assemblies outside of a storage area or shipping container provided an edge-to-edge spacing of 12 inches or more exists from all other fuel. This fuel handling requirement is again stated in Procedural Recommendation 3 in GE SIL 152, titled "Critically Margins for Storage of New Fuel," dated March 31, 1976. The NRC Safety Evaluation Report Supplement 4, dated September 1986, states in Section 9.1 the following:

"Calculations have indicated that three assemblies out of storage cannot be made critical under any conditions. In addition, the applicant has committed to maintain a minimum edge-to-edge distance of more than 12 in. between fuel assemblies out of storage and fuel assemblies in their shipping container array and the storage rack arrays."

The supporting information for the license change states that GE has performed calculations that demonstrate four fuel assemblies in any configuration will remain subcritical in the fuel pool provided a minimum distance of 12 inches is maintained between these four assemblies and any surrounding assemblies. This method of fuel handling was reviewed and found acceptable as documented in the NRC Safety Evaluation for the Nine Mile Point Unit 2 License Amendment No. 21 for the Facility Operating License. License Amendment No. 21 authorized spiral reload of fuel assemblies and the amendment states that four fuel assemblies cannot be made critical. The proposed change limits the number of assemblies outside of approved locations to three, and requires a 12-inch spacing be maintained from any other fuel. Since only three assemblies can be outside of approved locations at one time and a GE analysis, which was reviewed by the NRC, determined 4 fuel assemblies cannot be made critical, adequate assurance exists that fuel handling in accordance with the proposed amendment will not result in an inadvertent criticality.

The proposed change of license condition 2.C(3)c from "four" to "three" fuel assemblies reflects the proposed change in License Condition 2.C(3)b and maintains consistency. This change is administrative in nature and does not affect the probability of an inadvertent criticality or any other accident.

The staff has reviewed the proposed changes and we find them to be acceptable because three fuel assemblies in any position cannot cause criticality, and it is normal practice in a boiling water reactor to simultaneously use both fuel preparation machines during fuel rechanneling operations.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New York State official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (57 FR 6038). Accordingly, the amendment meets

the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Date: March 24, 1992