

Mr. John H. Mueller
 Chief Nuclear Officer
 Niagara Mohawk Power Corporation
 Nine Mile Point Nuclear Station
 Operations Building, Second Floor
 P.O. Box 63,
 Lycoming, NY 13093

August 11, 1998

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING INCREASED SPENT FUEL POOL STORAGE CAPACITY AT NINE MILE POINT NUCLEAR STATION UNIT 1 (TAC NO. MA1945)

Dear Mr. Mueller:

By letter dated May 15, 1998, you submitted an application for license amendment to change Technical Specification 5.5, "Storage of Unirradiated and Spent Fuel." The changes would reflect proposed modifications to increase the storage capacity of the spent fuel pool at Nine Mile Point Nuclear Station, Unit 1. The NRC staff is reviewing this application and finds that additional information, identified in the enclosure, is needed.

Your response to the enclosure is requested within 45 days of receipt of this letter.

If you should have any questions regarding this request or are unable to meet the requested response schedule, please contact me by phone at (301) 415-3049 or by electronic mail at dsh@nrc.gov.

Sincerely,

ORIGINAL SIGNED BY:

Darl S. Hood, Senior Project Manager
 Project Directorate I-1
 Division of Reactor Projects - I/II
 Office of Nuclear Reactor Regulation

Docket No. 50-220

Enclosure: Request for Additional Information

cc w/encl: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

August 11, 1998

Mr. John H. Mueller
Chief Nuclear Officer
Niagara Mohawk Power Corporation
Nine Mile Point Nuclear Station
Operations Building, Second Floor
P.O. Box 63
Lycoming, NY 13093

**SUBJECT: REQUEST FOR ADDITIONAL INFORMATION REGARDING INCREASED SPENT
FUEL POOL STORAGE CAPACITY AT NINE MILE POINT NUCLEAR STATION
UNIT NO. 1 (TAC NO. MA1945)**

Dear Mr. Mueller:

By letter dated May 15, 1998, you submitted an application for license amendment to change Technical Specification 5.5, "Storage of Unirradiated and Spent Fuel." The changes would reflect proposed modifications to increase the storage capacity of the spent fuel pool at Nine Mile Point Nuclear Station, Unit No. 1. The NRC staff is reviewing this application and finds that additional information, identified in the enclosure, is needed.

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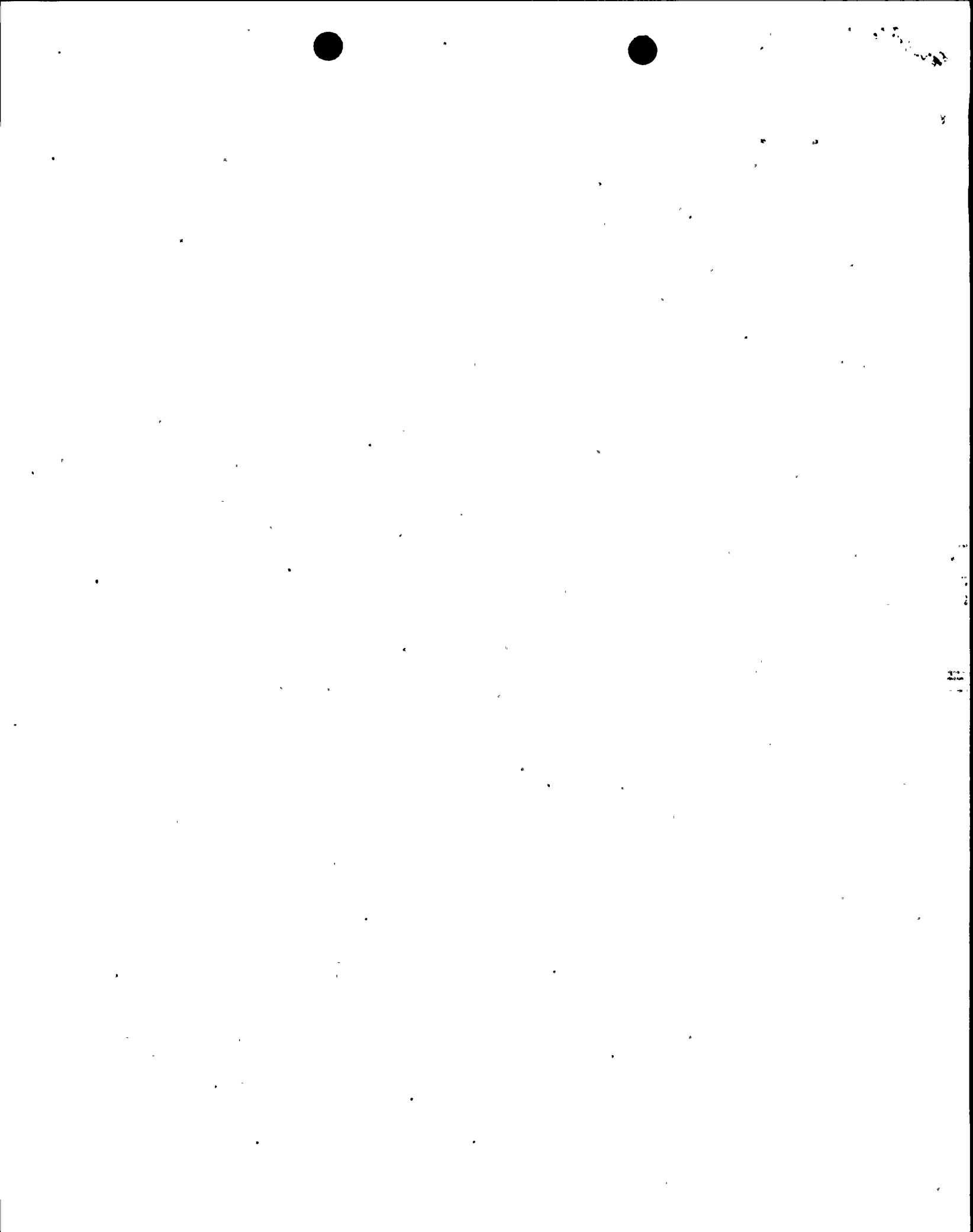
A handwritten signature in cursive script that reads "Darl S. Hood".

Darl S. Hood, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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Information

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John H. Mueller
Niagara Mohawk Power Corporation

Nine Mile Point Nuclear Station
Unit No. 1

cc:

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REQUEST FOR ADDITIONAL INFORMATION
REGARDING SPENT FUEL POOL MODIFICATIONS
NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT NUCLEAR STATION UNIT NO. 1
DOCKET NO. 50-220

Provide the following additional information regarding the application for license amendment by letter dated May 15, 1998:

I. REACTOR SYSTEMS

1. The proposed changes to Technical Specification (TS) 5.5 contain requirements for both the current spent fuel pool storage racks (flux trap and Boraflex) and the new Boral racks to be installed in 2 campaigns. Presumably, this is to allow intermediate configurations during reracking. Discuss the applicability of the TS following each campaign, including the final rerack configuration. When will the reference to the current non-poison flux trap racks be eliminated from the TS?
2. How does the reactivity with the assumption of a maximum lattice-average enrichment compare to that using the actual enrichment distribution?
3. Since initially only the non-poisoned racks in the north half of the pool will be replaced with Boral racks, why have you not analyzed the misloading of fuel with the maximum allowed enrichment in the Boral racks (4.6 w/o and k-inf no greater than 1.31) into the south half Boraflex racks?
4. Describe how zirconium flow channel bulging is modeled in the criticality calculations and explain why a positive reactivity effect is obtained.

II. MATERIALS AND CHEMICAL ENGINEERING

5. Although Boral neutron absorbers are expected to exhibit significant corrosion resistance in the spent fuel pool environment, some corrosion may still occur. While this corrosion should not cause significant degradation of neutron absorption capability of Boral panels, the resulting hydrogen generated by corrosion reaction, if not vented, may produce pressures within the Boral enclosing sheathing which may cause distortion of the fuel cells. This could be especially significant in the early stages when Boral panels have not yet developed protective oxide films.

Does the design of the Nine Mile Point 1 (NMP1) spent fuel racks include a hydrogen venting feature?

6. Use of Boral in many nuclear power plants has indicated that the material exhibits a high degree of stability to radiation. However, it is not known if, under certain circumstances, some degree of degradation will not occur. A verification is needed, therefore, for determining that Boral will perform its neutron absorbing function throughout the life of the spent fuel racks.

Describe the measures you will take to ensure satisfactory performance of Boral in the NMP1 spent fuel racks. Discuss the extent to which Niagara Mohawk Power Corporation will implement the Boral integrity surveillance program described in the Holtec report enclosed with your submittal.

Enclosure

