

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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 FACIL: 50-220 NINE MILE POINT #1, NIAGARA MOHAWK POWER CORP.
 AUTH. NAME AUTHOR AFFILIATION
 DISE, D.P. NIAGARA MOHAWK PWR
 RECIP. NAME RECIPIENT AFFILIATION
 IPPOLITO, T.A. ***OPERATING REACTORS BRANCH 3

DOCKET #
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SUBJECT: Responds to 781.109 request for addl info re submittal re control rod removals during core offloading.

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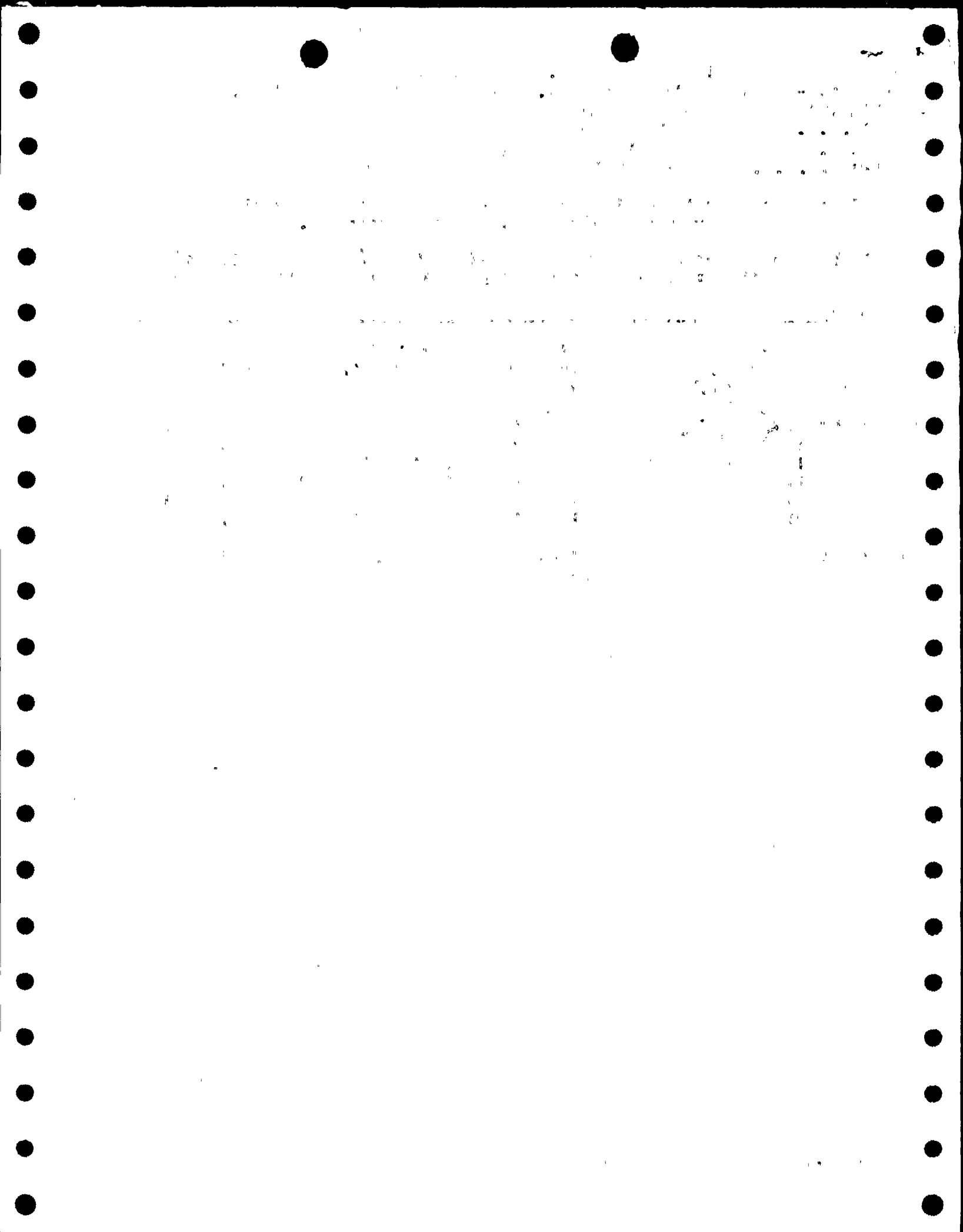
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January 15, 1979

Director of Nuclear Reactor Regulation
Attn: Mr. Thomas A. Ippolito, Chief
Operating Reactors/Branch #3
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Gentlemen:

Re: Nine Mile Point Unit 1
Docket No. 50-220
DPR-63

Your letter of November 9, 1978 requested additional information regarding our submittal on control rod removals during core offloading. The attachment to this letter responds to those concerns.

Very truly yours,

NIAGARA MOHAWK POWER CORPORATION

Donald P. Dise

Donald P. Dise
Vice President-Engineering

MGM/szd

Attachment

REGULATORY DOCKET FILE COPY

7901190086

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NIAGARA MOHAWK POWER CORPORATION

Nine Mile Point Unit 1

Docket No. 50-220

DPR-63

CONTROL ROD REMOVAL LICENSE AMENDMENT

Additional Information

1. Question

The proposed LCO 3.5.3 does not have a corresponding surveillance requirement. We have incidents on file where, during control rod drive maintenance, rods were inadvertently pulled which violated the Technical Specifications. In one case, the forbidden rod pattern was never noticed by plant personnel, but instead was discovered by an NRC inspector while walking through the control room. Therefore, either provide a surveillance requirement or justify in detail how the Technical Specifications will preclude withdrawal of an incorrect rod assuming a single operator error.

Response

Whenever the reactor is in the refuel mode and rod block interlocks are being bypassed for core unloading, one licensed operator and a member of the reactor analysis staff will verify that all the fuel from the cell has been removed before the corresponding control rod is withdrawn.

2. Question

Do the SRM channels at NMP have audible alarms in the control room and on the refueling floor?

Response

SRM channels at Nine Mile Point Unit 1 have audible alarms only in the control room.

Cells from which both fuel and control blades have been removed will be moderator filled cavities imbedded in the core. Although such a configuration probably is less reactive than a fully loaded core with one rod out, it is certainly possible for such a "flux trap" to actually increase reactivity. Therefore, provide or reference a calculation, using an approved code, or a worst-case core configuration with such a cavity. This calculation must bound the present core plus all future cores, since this is a permanent change to the Technical Specifications.

Response

A spiral unloading pattern starting at the core periphery will be utilized for complete core offloadings. Reloading the core will be accomplished via a spiral loading sequence from the center of the core to the periphery. Utilization of this unloading and reloading sequence will not create a moderator filled uncontrolled cavity surrounded by fuel. Procedures will be implemented to ensure that no flux traps exist.

Prior to spiral core unloading, the Source Range Monitors (SRM's) shall have an initial count rate of 3 cps with all control rods fully inserted. After all the fuel is removed from a cell, the refueling interlock will be bypassed on the corresponding control rod. Prior to withdrawal of that rod, one licensed operator and a member of the Reactor Analyst's staff will verify that the interlock bypassed is on the correct control rod. Once the control rod is withdrawn, it will be valved out of service.

Under this special condition of complete spiral core unloading, the count rate of the SRM's may drop below 3 cps before all the fuel is unloaded from the core. Since there will be no reactivity additions, a lower number of counts will not present a hazard. When all of the fuel has been removed to the spent fuel storage pool, the SRM's will no longer be required. Requiring the SRM's to be operational prior to fuel removal assures that the SRM's are operable and can be relied on even if the count rate goes below 3 cps.

During spiral core reloading, SRM operability will be verified by the use of a portable external source at least once every twelve hours until a sufficient amount of fuel is loaded to maintain the required count rate. Alternatively, SRM operability can be verified by loading two fuel assemblies per quadrant in cells containing control blades around each SRM to obtain a count rate of 3 cps. SRM's shall not be required to have the minimum count rate until these assemblies have been loaded. Core loading will then proceed in a spiral sequence from the center to the periphery of the core.

During both loading and unloading, IRM's and APRM's are in-service but downscale during core configuration changes.