AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)

CONTROL NO: 2627

FILE

FROM:	DATE OF DOC:	DATE REC'D	LTR	MEMO	RPT	OTHER
Niagara Mohawk Power Corporation Syracuse, N. Y. 13202 Philip D. Raymond	4-19-73	4-20-73	X			

TO:	ORIG	CC	OTHER	
Mr. Skovholt	3 signed			SENT AEC PDR X SENT LOCAL PDR X

CLASS:	INPUT	NO CYS REC'D	DOCKET NO:
(U) PROP INFO		40	50-220

DESCRIPTION: Ltr notarized 4-19-73, furnishing addl info to their 1-31-73 ltr containing a description of a hydrogen "getter" located in the upper plenum of the fuel rods in Type 4 reload fuel.....

ENCLOSURES:

Do Not Remove

ACKNOWLEDGED

PLANT NAMES: Nine Mile Point Unit 1

FOR ACTION/INFORMATION 4-23-73 AB

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EXTERNAL DISTRIBUTION

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WOODWARD/H ST.	1- CONSULTANT'S	1-AGMED(WALTER KOESTER,
✓ 16-CYS ACRS ~~HOLDING~~ SENT TO LIC ASST.	NEWMARK/BLUME/AGABIAN	RM C-427, GT)
R. DIGGS ON 4-23-73	1- GERLAD ULRIKSON....ORNL	1- RD...MULLER...F-309GT

Regulatory File Copy

NIAGARA MOHAWK POWER CORPORATION

NIAGARA MOHAWK

300 ERIE BOULEVARD WEST
SYRACUSE, N. Y. 13202

DOCKETED USAEC APR 20 1973 REGULATORY MAIL SECTION DOCKET CLERK

RECEIVED APR 20 1973 U.S. Atomic Energy Commission Regulatory Mail Section

April 19, 1973

Mr. Donald J. Skovholt
Assistant Director for Operating Reactors
Directorate of Licensing
United States Atomic Energy Commission
Washington, D. C. 20545

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

Dear Mr. Skovholt:

Niagara Mohawk's letter of January 31, 1973, contained a description of a hydrogen "getter" located in the upper plenum of the fuel rods in Type 4 reload fuel. This communication documents information previously provided to the Commission Staff for its review of the Type 4 reload fuel.

A hydrogen getter is located in the upper plenum of each fuel rod in the Type 4 fuel. The hydrogen getter is an added precaution against clad hydriding that might result from incomplete removal of hydrogen impurities in the fuel rod during fabrication; extraneous hydrogen impurities will combine chemically with the getter in preference to zircaloy cladding. The getter is composed of chips of a zirconium alloy located in a stainless steel container in the upper plenum. Extensive testing has shown that the getter is effective for temperatures beyond the range anticipated for a BWR fuel rod plenum and will not release hydrogen during normal operation, or under transients or accident conditions. The getter material chip size has been selected such that the getter will not undergo a chemical reaction contributing to the severity of transients and accidents.

The getter operating conditions are defined by the coolant temperature at the plenum area of the rod. Under normal operation conditions the plenum temperature is between 550 F to 600 F. During abnormal transients or accident conditions the plenum region temperatures would range from 300 F to 600 F. The getter chips are inactive below 450 F and active in adsorbing and retaining hydrogen from 450 F to

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beyond 600 F. The corrosion products of these reactions are confined within the stainless steel jacket containing the getter. The rate of reaction of the getter with air, steam or hydrogen is not pyrophoric in the temperature range experienced in a BWR fuel rod. Therefore, the getter will combine chemically with extraneous hydrogen during normal operation, and not release hydrogen or otherwise contribute to the severity of abnormal transients or postulated accidents.

Very truly yours,

Philip D. Raymond

Philip D. Raymond
Vice President-Engineering

PDR/vk

Subscribed and sworn to
before me this 19th day
of April 1973.

Carolyn F. Robertson
Notary Public

CAROLYN F. ROBERTSON
Notary Public in the State of New York
Qualified in Onon. Co. No. 34-8599125
My Commission Expires March 30, 1974