

NRC DISTRIBUTION FOR PART 50 DOCKET MATERIAL

FILE NUMBER

TO: R.R. Goller

FROM: Niagara Mohawk Power Corp.
Syracuse, N.Y.
G.K. Rhode

DATE OF DOCUMENT

4-28-76

DATE RECEIVED

5-3-76

LETTER
 ORIGINAL
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 UNCLASSIFIED

PROP

INPUT FORM

NUMBER OF COPIES RECEIVED

1

DESCRIPTION

Ltr. re. our 4-2-76 ltr...

ENCLOSURE

Responses to question concerning the Fuel Usage
At Nine Mile Pt. Unit #1
(1 Original Received)

Note: Incorrect Mail Form was inadvertently attached to wrong inclosure, and is now being distributed correctly....

**DO NOT REMOVE
ACKNOWLEDGED**

Thank You

PLANT NAME: Nine Mile Pt.# 1

SAFETY

FOR ACTION/INFORMATION

ENVIRO

SAB 5-6-76

ASSIGNED AD :		ASSIGNED AD :	
BRANCH CHIEF :	Lear W/6	BRANCH CHIEF :	
PROJECT MANAGER:		PROJECT MANAGER :	
LIC. ASST. :	Parrish	LIC. ASST. :	

INTERNAL DISTRIBUTION

<input checked="" type="checkbox"/> REG FILE	SYSTEMS SAFETY	PLANT SYSTEMS	ENVIRO TECH
<input checked="" type="checkbox"/> NRC PDR	HEINEMAN	TEDESCO	ERNST
<input checked="" type="checkbox"/> I & E (2)	SCHROEDER	BENAROYA	BALLARD
<input checked="" type="checkbox"/> OELD		LAINAS	SPANGLER
GOSSICK & STAFF	ENGINEERING	IPPOLITO	
MIPC	MACCARY		SITE TECH
CASE	KNIGHT	OPERATING REACTORS	GAMMILL
HANAUER	SIHWEIL	STELLO	STEPP
HARLESS	PAWLICKI		HULMAN
		OPERATING TECH	
PROJECT MANAGEMENT	REACTOR SAFETY	<input checked="" type="checkbox"/> EISENHUT	SITE ANALYSIS
BOYD	ROSS	<input checked="" type="checkbox"/> SHAO	VOLLNER
P. COLLINS	NOVAK	<input checked="" type="checkbox"/> BAER	BUNCH
HOUSTON	ROSZTOCZY	<input checked="" type="checkbox"/> SCHWENCER	<input checked="" type="checkbox"/> J. COLLINS
PETERSON	CHECK	<input checked="" type="checkbox"/> GRIMES	KREGER
MELTZ			
HELTEMES	AT & I	SITE SAFETY & ENVIRO	
SKOVHOLT	SALTZMAN	ANALYSIS	
	RUTBERG	DENTON & MULLER	

EXTERNAL DISTRIBUTION

CONTROL NUMBER

<input checked="" type="checkbox"/> LPDR: Oswego, N.Y.	NATL LAB	BROOKHAVEN NATL LAB	4393
<input checked="" type="checkbox"/> TIC	REG. V-IE	ULRIKSON(ORNL)	
<input checked="" type="checkbox"/> NSIC	IA PDR		
<input checked="" type="checkbox"/> ASLB	CONSULTANTS		
<input checked="" type="checkbox"/> ACRS 16 X100XXXXX /SENT			

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Regulatory

File Cy.

NIAGARA MOHAWK POWER CORPORATION

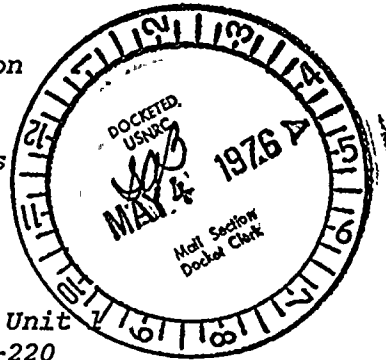
NIAGARA  MOHAWK

300 ERIE BOULEVARD, WEST
SYRACUSE, N. Y. 13202



April 28, 1976

Director of Nuclear Reactor Regulation
Attn: Mr. Karl R. Goller, Assistant
Director
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555



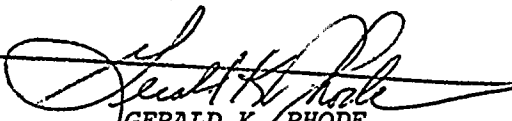
Re: Nine Mile Point Unit
Docket No. 50-220
DPR-63

Dear Mr. Goller:

Your letter dated April 21, 1976 requested information concerning fuel usage at Nine Mile Point Unit 1. The enclosed information addresses itself to the questions in your letter.

Sincerely,

NIAGARA MOHAWK POWER CORPORATION


GERALD K. RHODE
Vice President - Engineering

4393

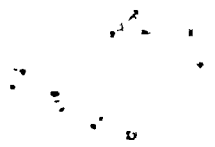
MGM/sz

Enclosure

1950

NINE MILE POINT UNIT 1

FUEL USAGE DATA



Nine Mile Point Unit 1

Operating Summary

<u>Cycle</u>	<u>1A</u>	<u>1B</u>	<u>1C</u>	<u>2</u>	<u>3</u>	<u>4</u>
Start-Up	10/13/69	10/24/71	6/12/72	6/15/73	6/29/74	12/4/75
Shutdown	9/18/71	3/19/72	4/17/73	3/30/74	9/13/75	
Ave. Reload Enrichment-New Fuel MTU Loaded (Bundles)	IC - 2.11 103.39 (532)	R1 - 2.50 4.65 (24)	R2 - 2.30 7.75 (40)	R3 - 2.50 26.43 (140)	R4 - 2.58 ⁽¹⁾ 17.62 (96)	R5 - 2.50 36.70 (200)
Reload Enrichments - Reinserts MTU Loaded (Bundles)			1.6 1.349 (7)	1.2 3.060 (16)	1.0 9.904 (52)	
Ave. Exposure (MWD/MT)			5200	11000	13000	
Fuel Cladding	Zircaloy	Zircaloy	Zircaloy	Zircaloy	Zircaloy	Zircaloy
Excess Reactivity at EOC	Yes	Yes	Yes	Yes	No	
Reason for Shutdown	(5)	(3)	(3)	(3)	(3)	
Calculation of Discharge Exp.	(4)	(4)	(4)	(4)	(4)	(4)
Energy Production MWDe x 10 ⁵	1.69	.81	1.39	1.43	2.04	

- (1) 60 bundles with 2.62 w/o average enrichment and 36 bundles with 2.50 w/o average enrichment.
 (2) Values shown are MTU of the batch as loaded. Uranium depletion due to previous burnup has been accounted for.
 (3) Reactivity was not sufficient to reach next refueling window.
 (4) In core power monitoring program used to calculate discharge exposures.
 (5) Extrapolation of stack release rates indicated values might approach 10% of Tech. Spec. limits prior to the next outage window. Therefore, the outage date was accelerated.



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Nine Mile Point Unit 1

Discharge Fuel Summary

<u>Discharge Batch No.</u>	<u>Discharge Date</u>	<u>Fuel Type</u>	<u>No. of Bundles</u>	<u>Initial Enrichment w/o</u>	<u>Discharge Exposure Predicted when fuel was Loaded (MWD/MT)</u>	<u>Actual (1) Discharge Exposure (MWD/MT)</u>	<u>Actual Final U-235 Enrich. (w/o)</u>	<u>Actual Final Pu 239 Enrich. w/o</u>
1	9/18/71	IC	17	2.11	14500	5700(2)	1.57	.30
2	3/19/72	IC	31	2.11	14500	8010(2)	1.40	.34
3	4/17/73	IC	104	2.11	14500	12580(2)	1.10	.42
4	3/30/74	IC	148	2.11	17100	16800	.88	.47
5	9/13/75	IC	194	2.11	20700	18950(3)	.78	.50
6	9/13/75	R2	6	2.30	23200	17130(2)	.98	.47

NOTES: (1) Differences between actual and predicted exposures are partly due to earlier than anticipated discharges to allow for loading sufficient reactivity to meet follow-on cycle requirements. In addition, changes in the plant operating schedule to meet system requirements effect the discharge dates and discharge exposures. When 18 month cycle effects are accounted for, indications are that the future batch average discharge exposures will be within $\pm 10\%$ of predicted.

(2) Major differences between actual and predicted exposures are due to the removal of fuel bundles suspected to be failed.

(3) Major differences between actual and predicted exposures are due to a change from 12 month to 18 month operating cycles.



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Nine Mile Point Unit 1

Summary of Average In-Core Exposure (MWD/MTU)

	<u>1A</u>	<u>1B</u>	<u>1C</u>	<u>2</u>	<u>3</u>	<u>4</u>
Initial Core # Bundles	532	508	468	328	232	38
BOC Exposure	0	5040	7450	10680	12980	15400
EOC Exposure	5080	7550	11570	14710	18360	
Reload 1 # Bundles		24	24	24	24	24
BOC Exposure		0	1776	6460	11110	15010
EOC Exposure		1776	6458	11110	15010	
Reload 2 # Bundles			40	40	40	34
BOC Exposure			0	4990	9910	16020
EOC Exposure			4990	9910	16180	
Reload 3 # Bundles				140	140	140
BOC Exposure				0	5400	12810
EOC Exposure				5400	12810	
Reload 4 # Bundles					96	96
BOC Exposure					0	7850
EOC Exposure					7850	
Reload 5 # Bundles						200
BOC Exposure						0
EOC Exposure						

