DEPARTMENT OF THE ARMY
U.S. Army Engineer District, Buffalo
1776 Niagara Street
Buffalo, New York 14207

mld

NCBCO-S Re: 77-486-6

24 May 1978

Mr. J.M. Toennies
Director, Environmental Affairs
Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, NY 13202

Dear Mr. Toennies:

Enclosed is a Department of the Army permit to perform the work described in the referenced Public Notice.

In accordance with the second paragraph of your letter of 19 May 1978, please note the special condition added to the permit allowing two years time for the commencement of the work. Also please note condition (n) of the permit which requires that our office be informed of the commencement and completion of the authorized work. Forms for this purpose are enclosed. Also enclosed is a Notice of Authorization which must be conspicuously displayed at the site of work.

Revised plans must be submitted to our office if material changes in the location or plans of the work are necessary because of unforeseen or altered conditions, or otherwise. These revised plans must receive the approval required by law before construction is started.

Please acknowledge receipt of the permit.

Sincerely yours,

PAUL F. GAUME, Chief
Regulatory Functions Branch

5 Incl
1. Permit
2. Form 8
3. Form 9
4. ENG Form 4336
5. C.G. Notice

CF: Permits
Coburn
EPA (NY,NY)
Jennings
USF&WS (Cortland, NY)
USF&WS (Newton, MA)
NOAA
USCGA (VA)
✓U.S. Nuclear Reg. Com.

7815800003

DEPARTMENT OF THE ARMY

PERMIT

REIMBURSABLE COSTS
GOVERNMENT INSPECTI

BUFFALO DISTRICT
CORPS OF ENGINEERS
BUFFALO, NY 14207

NCBCO-S

NO. 77-486-6

23 May 1978
(EFFECTIVE DATE)

(EXPIRATION DATE)

Referring to written request dated 16 September 1977 for a permit to:

(X) Perform work in or affecting navigable waters of the United States, upon the recommendation of the Chief of Engineers, pursuant to Section 10 of the River and Harbor Act of March 3, 1899 (33 U.S.C. 403);

( ) Discharge dredged or fill material into waters of the United States upon the issuance of a permit from the Secretary of the Army acting through the Chief of Engineers pursuant to Section 404 of the Federal Water Pollution Control Act (86 Stat. 816, Pub. L. 92-500);

Niagara Mohawk Power Corporation, 300 Erie Boulevard West, Syracuse, New York 13202 is hereby authorized by the Secretary of the Army: to construct a submerged intake structure and a submerged discharge structure connected to shore by tunnel No. 1, and a submerged intake structure connected to shore by tunnel No. 2 in Lake Ontario at Nine Mile Point Nuclear Station, Oswego County, New York. The tunnels will be in rock below the lake bottom; all of the material removed from the tunnels and lake bottom will be deposited on the Niagara Mohawk Power Corporation's upland property in the vicinity of Lake Road. The work will be in accordance with the plans and drawings attached hereto which are incorporated in and made a part of this permit: Subject to the following conditions:

GENERAL CONDITIONS:

a. That all activities identified and authorized herein shall be consistent with the terms and conditions of this permit; and that any activities not specifically identified and authorized herein shall constitute a violation of the terms and conditions of this permit which may result in the modification, suspension or revocation of this permit, in whole or in part, as set forth more specifically in General Conditions j or k hereto, and in the institution of such legal proceedings as the United States Government may consider appropriate, whether or not this permit has been previously modified, suspended or revoked in whole or in part.

b. That all activities authorized herein shall, if they involve, during their construction or operation, any discharge of pollutants into waters of the United States or ocean waters, be at all times consistent with applicable water quality standards, effluent limitations and standards of performance, prohibitions, pretreatment standards and management practices established pursuant to the Federal Water Pollution Control Act of 1972 (Pub. L. 92-500; 86 Stat. 816), the Marine Protection, Research and Sanctuaries Act of 1972 (Pub L. 92-532, 86 Stat. 1052), or pursuant to applicable State and local law.

c. That when the activity authorized herein involves a discharge during its construction or operation, of any pollutant (including dredged or fill material), into waters of the United States, the authorized activity shall, if applicable water quality standards are revised or modified during the terms of this permit, be modified, if necessary, to conform with such revised or modified water quality standards within 6 months of the effective date of any revision or modification of water quality standards, or as directed by an implementation plan contained in such revised or modified standards, or within such longer period of time as the District Engineer, in consultation with the Regional Administrator of the Environmental Protection Agency, may determine to be reasonable under the circumstances.

d. That the discharge will not destroy a threatened or endangered species as identified under the Endangered Species Act, or endanger the critical habitat of such species.

e. That the permittee agrees to make every reasonable effort to prosecute the construction or operation of the work authorized herein in a manner so as to minimize any adverse impact on fish, wildlife, and natural environmental values.

f. That the permittee agrees that it will prosecute the construction or work authorized herein in a manner so as to minimize any degradation of water quality.

g. That the permittee shall permit the District Engineer or his authorized representative(s) or designee(s) to make periodic inspections at any time deemed necessary in order to assure that the activity being performed under authority of this permit is in accordance with the terms and conditions prescribed herein.

h. That the permittee shall maintain the structure or work authorized herein in good condition and in accordance with the plan and drawings attached hereto.

i. That this permit does not convey any property rights, either in real estate or material, or any exclusive privileges; and that it does not authorize any injury to property or invasion of rights or any infringement of Federal, State, or local laws or regulations nor does it obviate the requirement to obtain state or local assent required by law for the activity authorized herein.

j. That this permit may be summarily suspended, in whole or in part, upon a finding by the District Engineer that immediate suspension of the activity authorized herein would be in the general public interest. Such suspension shall be effective upon receipt by the permittee of a written notice thereof which shall indicate (1) the extent of the suspension; (2) the reasons for this action; and, (3) any corrective or preventative measures to be taken by the permittee which are deemed necessary by the District Engineer to abate imminent hazards to the general public interest. The permittee shall take immediate action to comply with the provisions of this notice. Within 10 days following receipt of this notice of suspension the permittee may request a hearing in order to present information relevant to a decision as to whether his permit should be reinstated, modified or revoked. If a hearing is requested, it shall be conducted pursuant to procedures prescribed by the Chief of Engineers. After completion of the hearing, or within a reasonable time after issuance of the suspension notice to the permittee if no hearing is requested, the permit will either be reinstated, modified or revoked.

k. That this permit may be either modified, suspended or revoked in whole or in part if the Secretary of the Army or his authorized representative determines that there has been a violation of any of the terms or conditions of this permit or that such action would otherwise be in the public interest. Any such modification, suspension, or revocation shall become effective 30 days after receipt by the permittee of written notice of such action which shall specify the facts or conduct warranting same unless (1) within the 30-day period the permittee is able to satisfactorily demonstrate that (a) the alleged violation of the terms and conditions of this permit did not, in fact, occur or (b) the alleged violation was accidental, and the permittee has been operating in compliance with the terms and conditions of the permit and is able to provide satisfactory assurances that future operations shall be in full compliance with the terms and conditions of this permit; or (2) within the aforesaid 30-day period, the permittee requests that a public hearing be held to present oral and written evidence concerning the proposed modification, suspension, or revocation. The conduct of this hearing and the procedures for making a final decision either to modify, suspend or revoke this permit in whole or in part shall be pursuant to procedures prescribed by the Chief of Engineers.

l. That in issuing this permit, the Government has relied on the information and data which the permittee has provided in connection with his permit application. If, subsequent to the issuance of this permit, such information and data prove to be false, incomplete or inaccurate, this permit may be modified, suspended or revoked, in whole or in part, and/or the Government may, in addition, institute appropriate legal proceedings.

m. That any modification, suspension, or revocation of this permit shall not be the basis for any claim for damages against the United States.

n. That the permittee shall notify the District Engineer at what time the activity authorized herein will be commenced, as far in advance of the time of commencement as the District Engineer may specify, and of any suspension of work, if for a period of more than one week, resumption of work and its completion.

o. That if the activity authorized herein is not started on or before one year from the date of issuance of this permit unless otherwise specified and is not completed on or before three years from the date of issuance of this permit unless otherwise specified, this permit, if not previously revoked or specifically extended, shall automatically expire.

p. That this permit does not authorize or approve the construction of particular structures, the authorization or approval of which may require authorization by the Congress or other agencies of the Federal Government.

q. That if and when the permittee desires to abandon the activity authorized herein, unless such abandonment is part of a transfer procedure by which the permittee is transferring his interests herein to a third party pursuant to General Condition t hereof, he must restore the area to a condition satisfactory to the District Engineer.

r. That if the recording of this permit is possible under applicable State or local law, the permittee shall take such action as may be necessary to record this permit with the Register of Deeds or other appropriate official charged with the responsibility for maintaining records of title to and interests in real property.

s. That there shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein.

t. That this permit may not be transferred to a third party without prior written notice to the District Engineer, either by the transferee's written agreement to comply with all terms and conditions of this permit or by the transferee subscribing to this permit in the space provided below and thereby agreeing to comply with all terms and conditions of this permit. In addition, if the permittee transfers the interests authorized herein by conveyance of realty, the deed shall reference this permit and the terms and conditions specified herein and this permit shall be recorded along with the deed with the Register of Deeds or other appropriate official.

SPECIAL CONDITIONS: Also see ATTACHED SHEET

( ) That this permit does not authorize the interference with any existing or proposed Federal project and that the permittee shall not be entitled to compensation for damage or injury to the structures or work authorized herein which may be caused by or result from existing or future operations undertaken by the United States in the public interest.

( ) That no attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized by this permit.

(X) That if the display of lights and signals on any structure or work authorized herein is not otherwise provided for by law, such lights and signals as may be prescribed by the United States Coast Guard shall be installed and maintained by and at the expense of the permittee.

( ) That the permittee, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the authorized structure or work, shall, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the waterway to its former conditions. If the permittee fails to comply with the direction of the Secretary of the Army or his authorized representative, the Secretary or his designee may restore the waterway to its former condition, by contract or otherwise, and recover the cost thereof from the permittee.

( ) That permittee hereby recognizes the possibility that the structure permitted herein may be subject to damage by wave wash from passing vessels. The issuance of this permit does not relieve the permittee from taking all proper steps to insure the integrity of the structure permitted herein and the safety of boats moored thereto from damage by wave wash and the permittee shall not hold the United States liable for any such damage.

( ) That when the work authorized herein includes periodic maintenance dredging, it may be performed under this permit for years from the date of issuance of this permit (ten years unless otherwise indicated).

( ) That the permittee will advise the District Engineer in writing at least two weeks before he intends to undertake any maintenance dredging.

( ) That the discharge will be carried out in conformity with the goals and objectives of the EPA Guidelines established pursuant to Section 404(b) of the FWPCA and published in 40 CFR 230.

( ) That the discharge will consist of suitable material free from toxic pollutants in other than trace quantities.

( ) That the fill created by the discharge will be properly maintained to prevent erosion and other non-point sources of pollution.

( ) That the discharge will not occur in a component of the National Wild and Scenic River System or in a component of a State Wild and Scenic River System.

THIS PERMIT SHALL BECOME EFFECTIVE ON THE DATE OF THE DISTRICT ENGINEER'S SIGNATURE. PERMITTEE HEREBY ACCEPTS AND AGREES TO COMPLY WITH THE TERMS AND CONDITIONS OF THIS PERMIT.

BY AUTHORITY OF THE SECRETARY OF THE ARMY:

DANIEL D. LUDWIG, P.E., COL, CE
DISTRICT ENGINEER

23 May 1978
DATE

BY: Richard C. Cleary — PERMITTEE
Vice President — TITLE
May 16, 1978 — DATE

TRANSFEREE HEREBY AGREES TO COMPLY WITH THE TERMS AND CONDITIONS OF THIS PERMIT.

TRANSFEREE — DATE

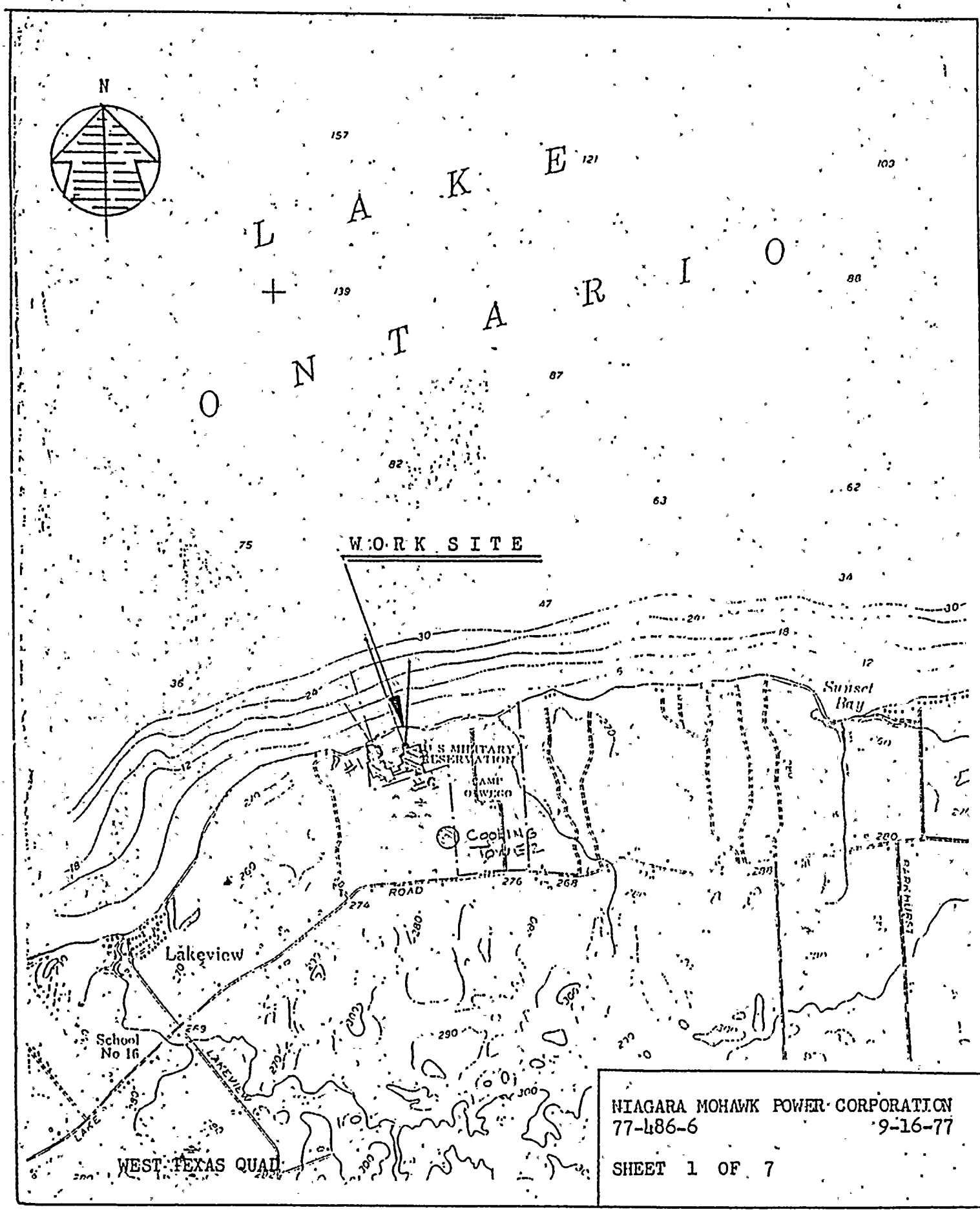
SPECIAL CONDITION:

(x). That the permittee agrees to reimburse the U.S. Army Corps of Engineers for the cost of a sweep survey required after completion of the activity authorized herein, to determine that the intake structures and discharge diffuser nozzles provide the clearance below low water datum as specified in the permit, and to determine that no refuse piles or ridges have been left on the lake bottom.

(x) General Condition (o) is hereby amended to read as follows:

That if the activity authorized herein is not started on or before two years from the date of issuance of this permit unless otherwise specified and is not completed on or before three years from the date of issuance of this permit unless otherwise specified, this permit, if not previously revoked or specifically extended, shall automatically expire.

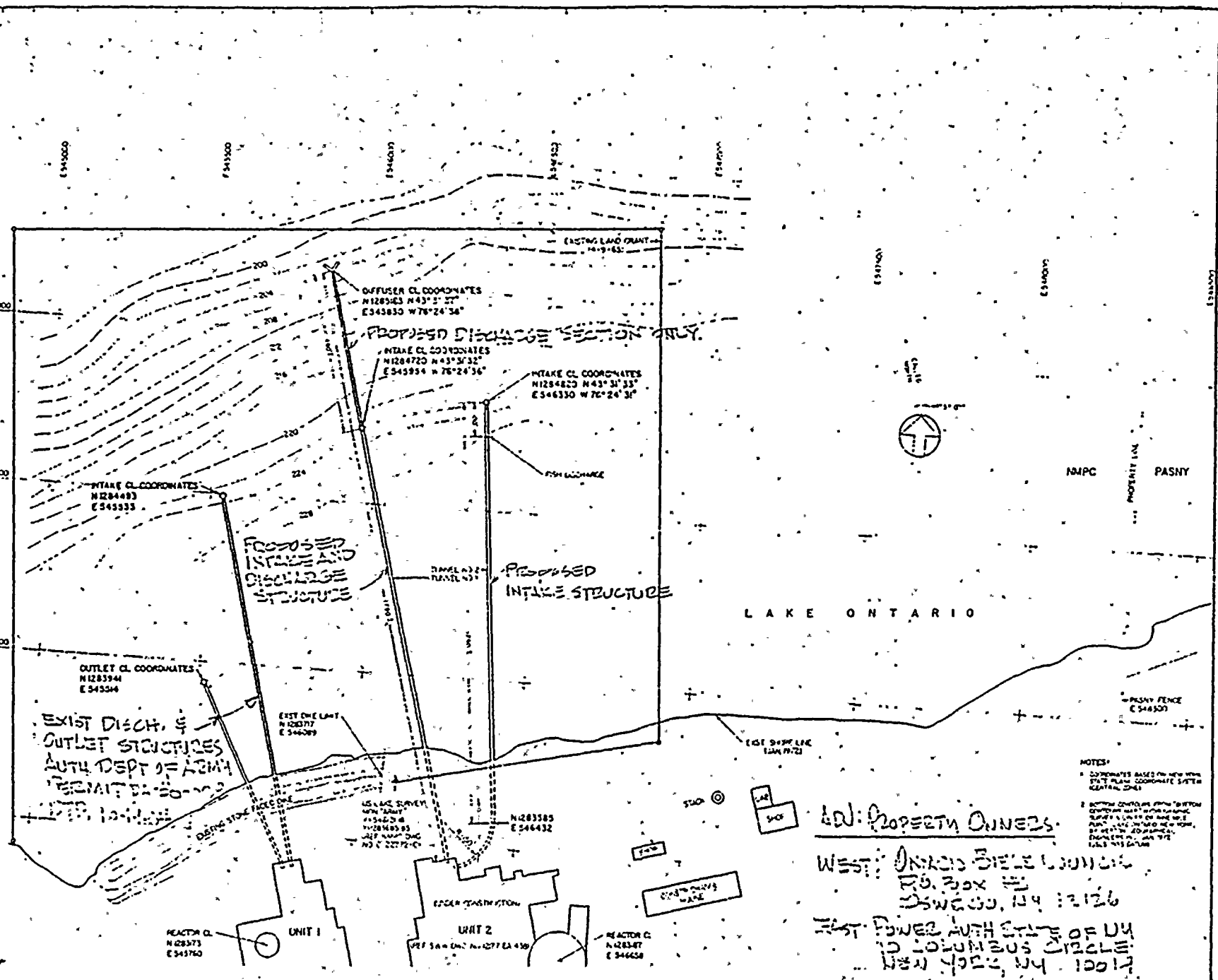
77-486-6



NIAGARA MOHAWK POWER CORPORATION
77-486-6 9-16-77

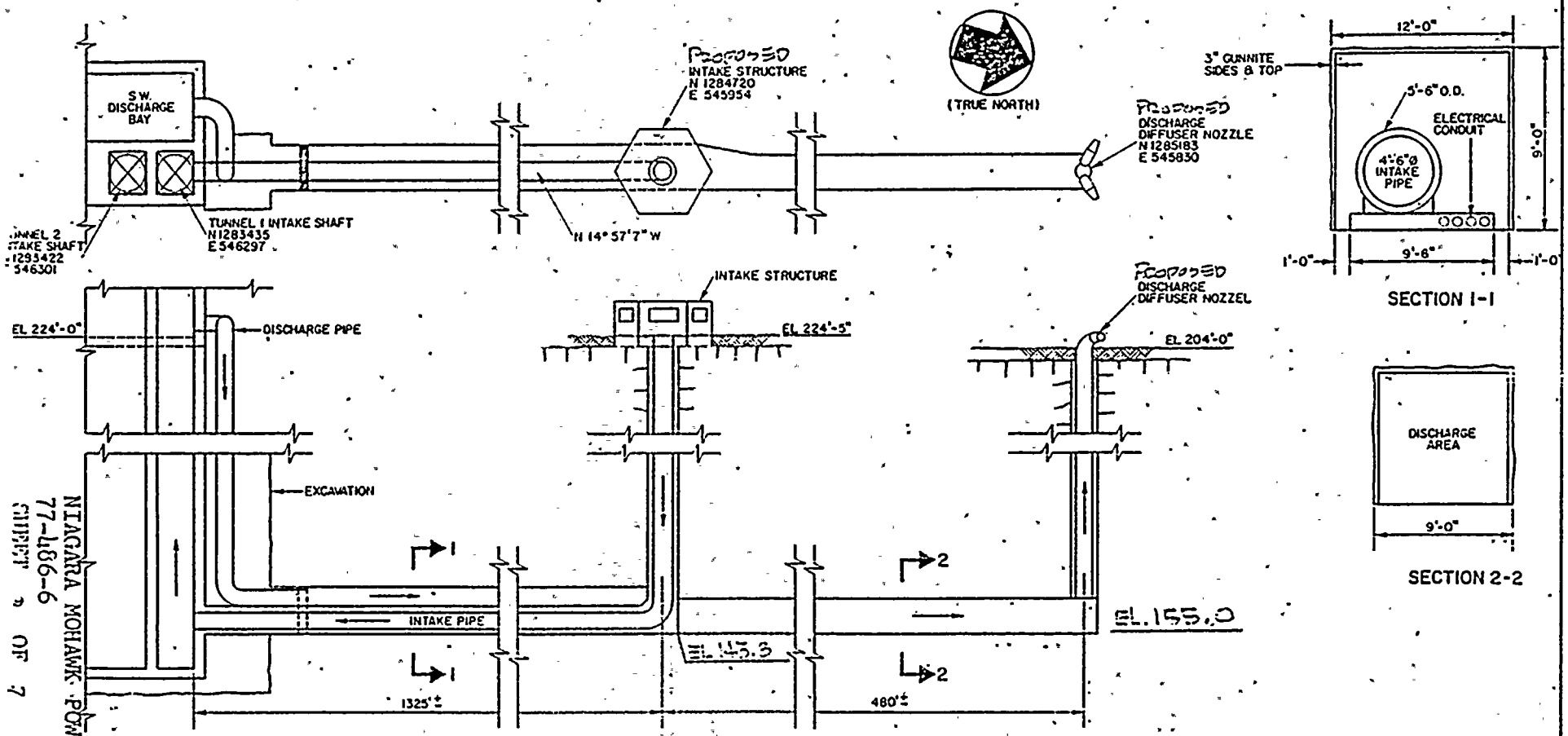
SHEET 1 OF 7

77-486-6



PLAN

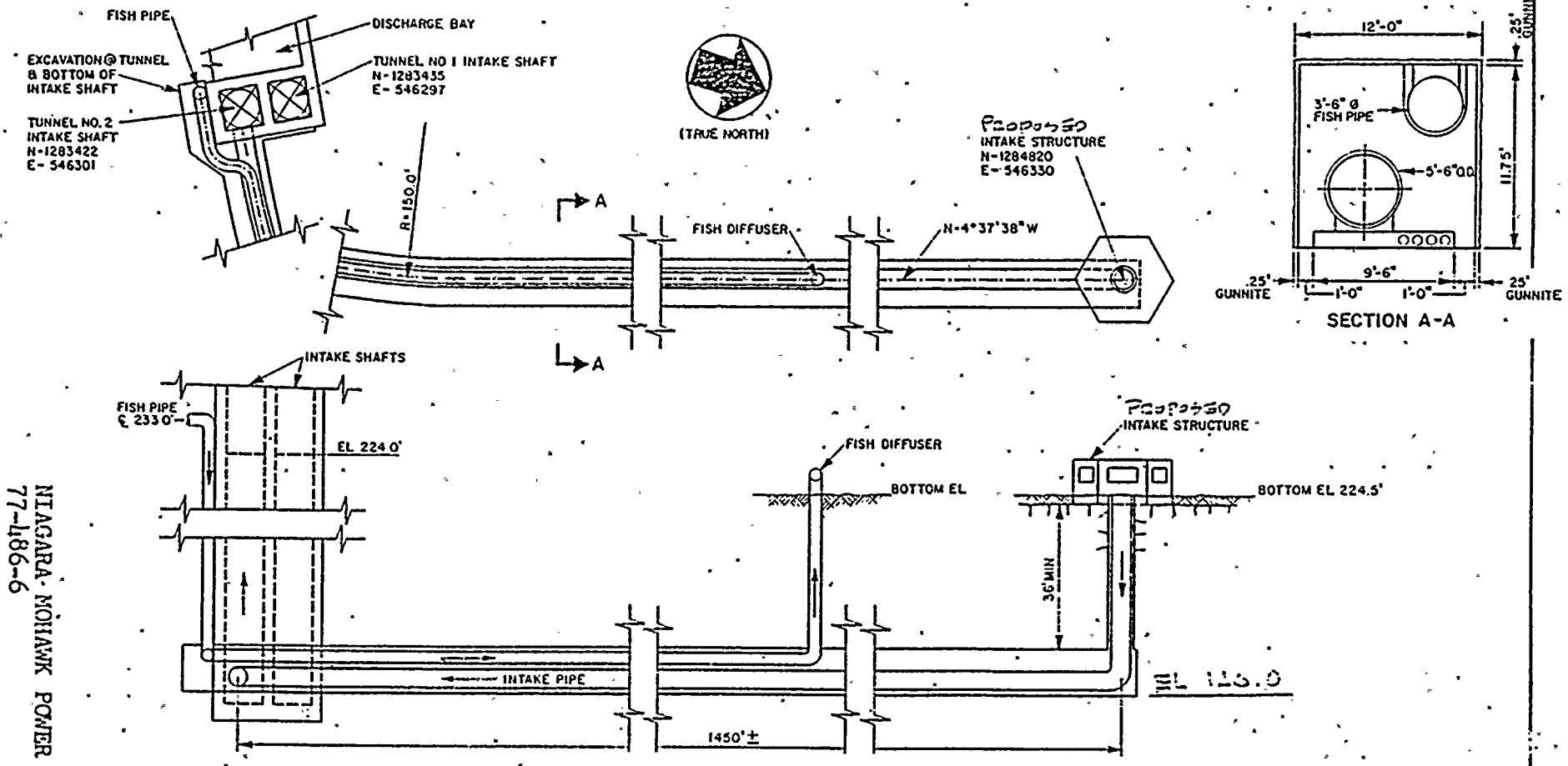
NIAGARA MOHAWK POWER CORPORATION
77-486-6 9-16-77
SHEET 2 OF 7



NO. 1 INTAKE TUNNEL & DIFFUSER

NIAGARA MOHAWK POWER CORPORATION
77-486-6
SHEET 6 OF 7
9-16-77

77-486-6

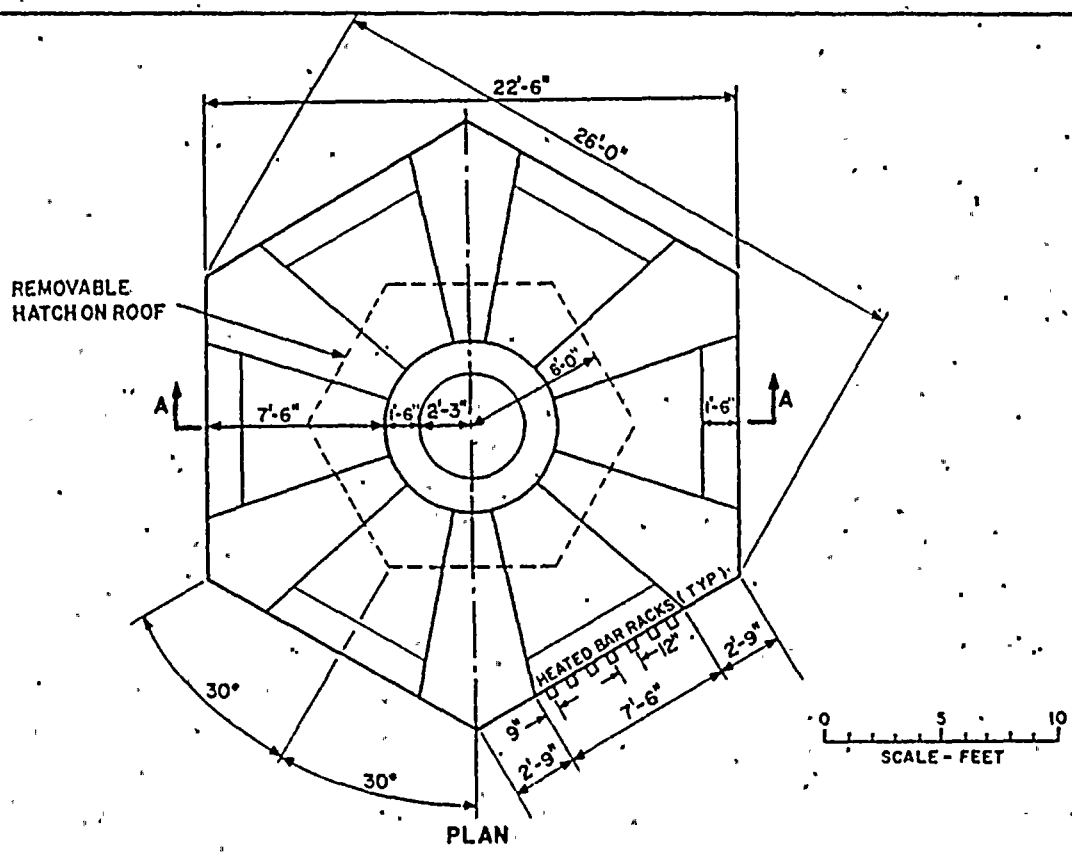


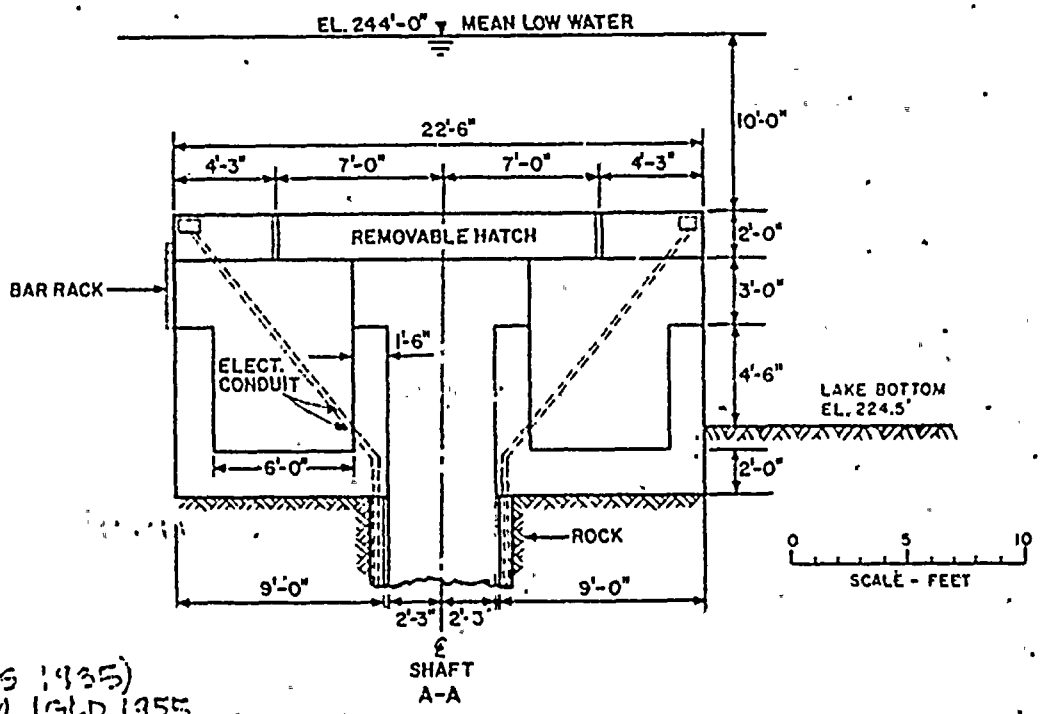
NO. 2 INTAKE STRUCTURE

NIAGARA-MOHAWK POWER CORPORATION
77-486-6
9-16-77
SHEET 4 OF 7

77-486-6

77-486-6

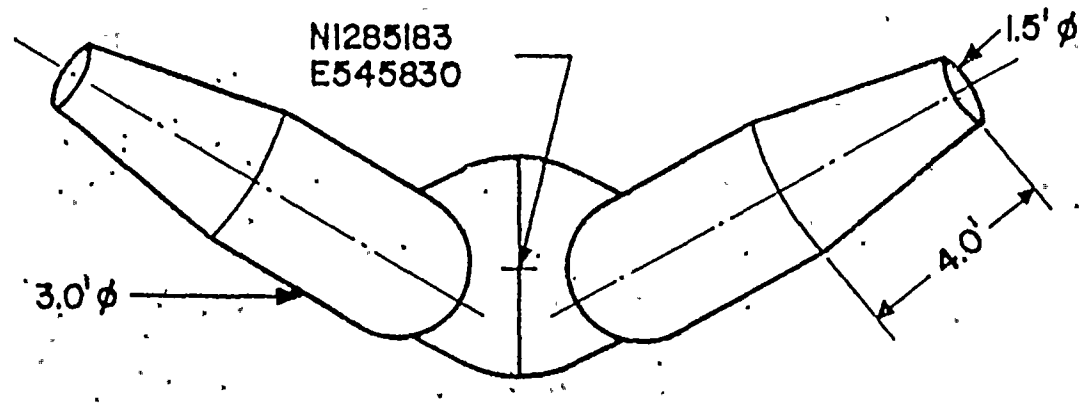




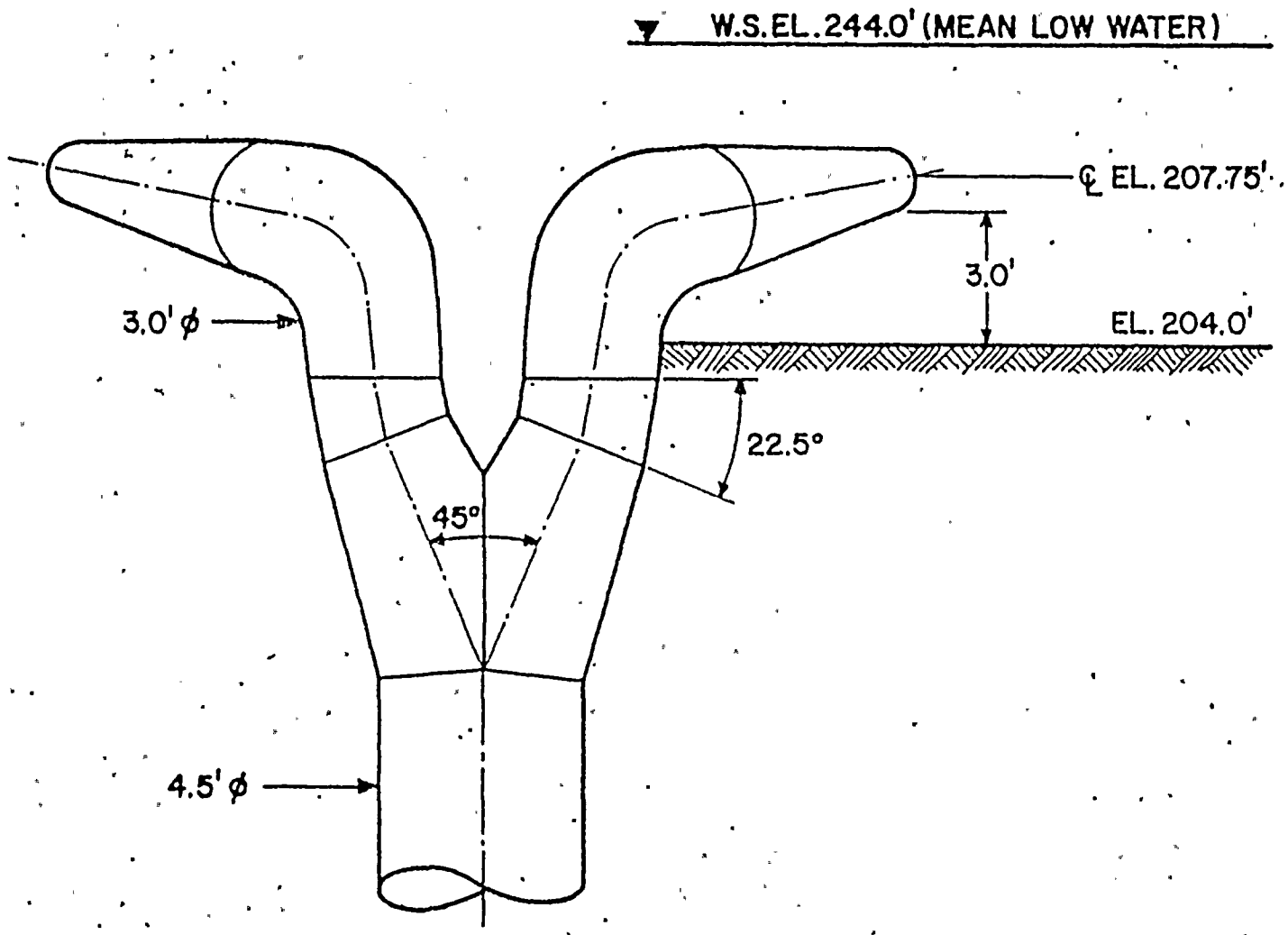
NOTE:
DATUM - (USLS 1935)
TO CONVERT TO IGLD, 1955
SUBTRACT 1.2 FEET
FROM THE ELEVATIONS
SHOWN ON DRAWINGS

INTAKE STRUCTURE

NIAGARA MOHAWK POWER CORPORATION
77-486-6 9-16-77
SHEET 5 OF 7



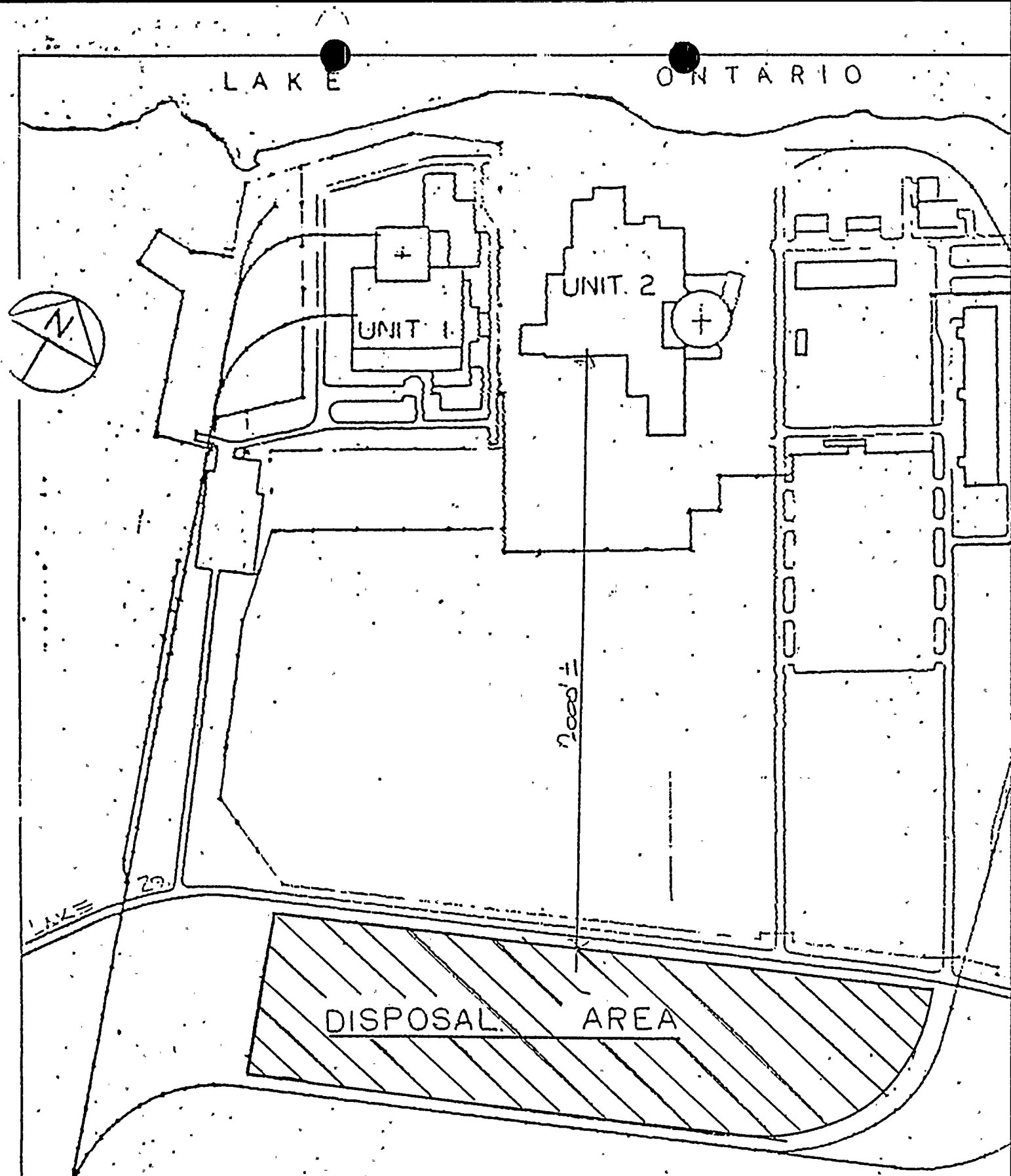
PLAN



ELEVATION

DISCHARGE DIFFUSER

NIAGARA MOHAWK POWER CORPORATION
77-486-6 9-16-77
SHEET 6 OF 7



NIAGARA MOHAWK POWER CORPORATION
77-486-6 9-16-77
SHEET 7 OF 7

AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)

CONTROL NO: 4054

FILE: CONSULTANT

FROM:	DATE OF DOC	DATE REC'D	LTR	MEMO	RPT	OTHER
Department of the Army Coastal Engineering Research Ctr. Fort Belvoir, Virginia 22060 James L. Trayers	6-22-73	6-23-73	x			

TO:	ORIG	CC	OTHER	
R. A. Clark	1 signed			SENT AEC PDR X (Hold) SENT LOCAL PDR X (Hold)

CLASS	UNCLASS	PROP INFO	INPUT	NO CYS REC'D	DOCKET NO:
	XXX			1	50-410

DESCRIPTION:
Ltr re our 9-26-72 ltr...furnishing info ..re.. establishment of the maximum and minimum design water levels at the plant.....

ENCLOSURES:

ACKNOWLEDGED DO NOT REMOVE

PLANT NAME: Nine Mile Point, Unit # 2

FOR ACTION/INFORMATION 6-23-73 fod

BUTLER(L)	SCHWENCER(L)	ZIEMANN(L)	REGAN(E)
W/ Copies	W/ Copies	W/ Copies	W/ Copies
✓CLARK(L) /Gearin	STOLZ(L)	DICKER(E)	✓W. P. GAMMILL
W/ 3 Copies	W/ Copies	W/ Copies	W/2 Copies
GOLLER(L)	VASSALLO(L)	KNIGHTON(E)	
W/ Copies	W/ Copies	W/ Copies	W/ Copies
KNIEL(L)	SCHEMEL(L)	YOUNGBLOOD(E)	
W/ Copies	W/ Copies	W/ Copies	W/ Copies

INTERNAL DISTRIBUTION

✓REG FILE	TECH REVIEW	✓DENTON	LIC ASST	A/T IND
✓AEC PDR	HENDRIE	GRIMES	BROWN (E)	BRAITMAN
✓OGC, ROOM P-506A	✓SCHROEDER	GAMMILL	DIGGS (L)	SALTZMAN
✓MUNTZING/STAFF	MACCARY	KASTNER	GEARIN (L)	
CASE	KNIGHT	BALLARD	GOULBOURNE (E)	PLANS
GIAMBUSSO	PAWLICKI	SPANGLER	LEE (L)	MCDONALD
BOYD	SHAO		MAIGRET (L)	DUBE
✓MOORE (L)(BWR)	STELLO	ENVIRO	SERVICE (L)	
DEYOUNG(L)(PWR)	HOUSTON	MULLER	SHEPPARD (E)	INFO
SKOVHOLT (L)	NOVAK	DICKER	SMITH (L)	C. MILES
P. COLLINS	ROSS	KNIGHTON	TEETS (L)	
	IPPOLITO	YOUNGBLOOD	WADE (E)	
REG OPR	TEDESCO	REGAN	WILLIAMS (E)	
FILE & REGION(3)	LONG	PROJECT LDR	WILSON (L)	
MORRIS	LAINAS			
STEELE	BENAROYA	HARLESS		
	VOLLMER			

EXTERNAL DISTRIBUTION LB

✓1 - LOCAL PDR Oswego, N. Y.		
1 - DTIE(ABERNATHY)	(1)(2)(9)-NATIONAL LAB'S	1-PDR-SAN/LA/NY
1 - NSIC(BUCHANAN)	1-R. CARROLL-OC,GT-B227	1-GERALD LELLOUCHE
1 - ASLB(YORE/SAYRE/	1-R. CATLIN, E-256-GT	BROOKHAVEN NAT. LAB
WOODARD/"H" ST.	1-CONSULTANT'S	1-AGMED(WALTER KOESTER
16 - CYS ACRS HOLDING	NEWMARK/BLUME/AGBABIAN	RM-C-427-GT
	1-GERALD ULRIKSON...ORNL	1-RD..MULLER..F-309 GT

DEPARTMENT OF THE ARMY
COASTAL ENGINEERING RESEARCH CENTER
KINGMAN BUILDING
FORT BELVOIR, VIRGINIA 22060

50-410

CEREN-DE

22 JUN 1973

Mr. Robert A. Clark
Chief, Gas Cooled Reactors Branch
Directorate of Licensing
U. S. Atomic Energy Commission
Washington, D.C. 20545

Dear Mr. Clark:

Reference is made to your letter of 26 September 1972 regarding Docket No. 50-410, the Preliminary Safety Analysis Report and subsequent Amendments 1 through 11 thereto, for Niagara Mohawk Power Corporation's Nine Mile Point Nuclear Power Plant, Unit 2.

In accordance with our arrangement, an engineer from the CERC staff has reviewed pertinent information in the (PSAR) report leading to the establishment of the maximum and minimum design water levels at the plant site. It is his opinion with which I concur, that for design purposes the Probable Maximum still water level, exclusive of wave runup and overtopping action, should be elevation 254.0 feet (U.S. Lake Survey Datum, 1935) at the shoreline and a Probable Minimum low water level should be elevation 236.3 feet (U.S. Lake Survey Datum, 1935). These are the same design water levels required at the nearby James A. Fitzpatrick Nuclear Power Plant.

Analysis of the factors involved for the preliminary design of plant grade and flood protection facilities determined that overland flooding can occur as the result of wave runup and overtopping of the dike fronting the plant site during the Probable Maximum event. The rate of wave overtopping of the dike exceeds the capacity of the drainage ditch to prevent overland flooding. I concur with the AEC staff position that the applicant should be required to modify the design to provide for adequate facilities for preventing this condition from adversely affecting safety related structures.

CEREN-DE
Mr. Robert A. Clark

22 JUN 1973

It is concluded that neither flooding nor low water conditions from Lake Ontario during periods of Maximum Probable lake level fluctuation will adversely affect the operation of the lake intake structure.

Sincerely yours,

James L. Trayers

JAMES L. TRAYERS
Colonel, Corps of Engineers
Commander and Director

CF:
Mr. L. G. Hulman, AEC
DAEN-CWZ-R/Maj Smith

Regulatory File Cy.

DOCKETED
USAEC
JUN 23 1973
REGULATORY
MAIL SECTION
DOCKET CLERK

AEC DISTRIBUTION FOR PART 50 DOCKET MATERIAL
(TEMPORARY FORM)

CONTROL NO: 3523

ACKNOWLEDGED

DO NOT REMOVE

FILE CONSULTANT

FROM:	DATE OF DOC:	DATE REC'D	LTR	MEMO	RPT	OTHER
Nunn, Snyder & Associates Fairfax, Virginia 22030 Dwight E. Nunn	05-26-73	05-31-73	X			

TO:	ORIG	CC	OTHER	
Harold R. Denton	1			SENT AEC PDR X SENT LOCAL PDR X

CLASS:	INPUT	NO CYS REC'D	DOCKET NO:
(U) PROP INFO		1	50-410

DESCRIPTION:

Ltr re their 05-07-73 submittal reg AEC's Work Directive L-1N for Nine Mile Point # 2..... Submitted as the Final Safety Evaluation Summary.....

ENCLOSURES:

Sent to PDR 6-8-73 per W. Gammill

PLANT NAMES: Nine Mile Point, Unit 2

FOR ACTION/INFORMATION 06-01-73 rht

BUTLER(L)	SCHWENCER(L)	ZIEMANN(L)	YOUNGBLOOD(E)
W/ Copies	W/ Copies	W/ Copies	W/ Copies
CLARK(L)	STOLZ(L)	ROUSE(FM)	REGAN(E)
W/ Copies	W/ Copies	W/ Copies	W/ Copies
GOLLER(L)	VASSALLO(L)	DICKER(E)	✓ W. P. GAMMILL
W/ Copies	W/ Copies	W/ Copies	W/2 Copies
KNIEL(L)	SCHEMEL(L)	KNIGHTON(E)	
W/ Copies	W/ Copies	W/ Copies	W/ Copies

INTERNAL DISTRIBUTION

✓ REG FILE	TECH REVIEW	DENTON	F & M	WADE	E
✓ AEC PDR	✓ HENDRIE	GRIMES	SMILEY	BROWN	E
✓ OGC, ROOM P-506A	✓ SCHROEDER	GAMMILL	NUSSBAUMER	G. WILLIAMS	E
✓ MUNTZING/STAFF	MACCARY	KASTNER		SHEPPARD	E
CASE	KNIGHT	BALLARD	LIC ASST.		
GIAMBUSSO	PAWLICKI	SPANGLER	SERVICE L	A/T IND	
BOYD	SHAO		WILSON L	BRAITMAN	
✓ V. MOORE-L(BWR)	STELLO	ENVIRO	GOULBOURNE L	SALTZMAN	
DEYOUNG-L(PWR)	HOUSTON	MULLER	SMITH L		
SKOVHOLT-L	NOVAK	DICKER	✓ GEARIN L	PLANS	
P. COLLINS	ROSS	KNIGHTON	DIGGS L	MCDONALD	
	IPPOLITO	YOUNGBLOOD	TEETS L	DUBE	
REG OPR	TEDESCO	REGAN	LEE L		
FILE & REGION(2)	LONG	PROJ LEADER	MAIGRET L	INFO	
MORRIS	LAINAS		SHAFER F & M	C. MILES	
STEELE	BENAROYA	HARLESS			
	VOLLMER				

EXTERNAL DISTRIBUTION

✓ 1-LOCAL PDR Oswego, New York		
1-DTIE(ABERNATHY)	(1)(2)(9)-NATIONAL LAB'S	1-PDR-SAN/LA/NY
1-NSIC(BUCHANAN)	1-R. CARROLL-C, GT-B227	1- GERALD LELLOUCHE
1-ASLB-YORE/SAYRE	1- R. CATLIN,E-256-GT	BROOKHAVEN NAT. LAB
WOODWARD/H ST.	1- CONSULTANT'S	1-AGMED(WALTER KOESTER,
16-CYS ACRS HOLDING	NEWMARK/BLUME/AGABIAN	RM C-427, GT)
	1- GERLAD ULRIKSON....ORNL	1- RD...MULLER...F-309GT

NUNN, SNYDER & ASSOCIATES
CONSULTANTS
HYDROLOGIC ENGINEERING—HYRDOMETEOROLOGY
3505 PERRY STREET
FAIRFAX, VIRGINIA 22030

50-410

FRANKLIN F. SNYDER
1516 LABURNUM STREET
McLEAN, VIRGINIA 22101
(703) 536-6334

DWIGHT E. NUNN
3505 PERRY STREET
FAIRFAX, VIRGINIA 22030
(703) 273-1627

May 26, 1973

Harold R. Denton
Assistant Director for Site Safety
Directorate of Licensing
U. S. Atomic Energy Commission
7920 Norfolk Avenue
Bethesda, Maryland 20014

Dear Mr. Denton:

AEC's Work Directive L-1N for Nine Mile Point Nuclear Power Station - Unit 2, Docket No. 50-410, requested our review of the hydrologic engineering aspects consisting of two rounds of questions, a report, and a letter summary report. We have completed these assignments and this letter report summarizes our Hydrologic Engineering - Safety Evaluation condensed from our previous report dated May 7, 1973.

We have assisted and been in consultation with AEC's Hydrologic Engineering staff throughout the various phases of review. We assisted the staff in preparation of and concur in their Hydrologic Engineering Safety Evaluation Report for Nine Mile Point Nuclear Power Station - Unit 2.

The following summarizes our more comprehensive safety evaluation in our Hydrologic Engineering Final Safety Evaluation, which was prepared consistent with item headings contained in Hydrology Section 2.4 of the Standard Format and Content of Safety Analysis Report for Nuclear Power Plants, transmitted by our letter dated May 7, 1973 to your Hydrologic Engineering staff. The following Safety Evaluation Summary should be considered as our final report under Work Directive L-1N.

HYDROLOGIC ENGINEERING SAFETY EVALUATION SUMMARY
for
NINE MILE POINT NUCLEAR POWER STATION - UNIT 2
DOCKET NO. 50-410

1. The Nine Mile Point Nuclear Power Station - Unit 2, is located on the western portion of the Nine Mile Point peninsula on the southeastern shore of Lake Ontario in New York, and is approximately seven miles northeast of the City of Oswego, New York, and 36 miles northwest of Syracuse, New York.

2. The lake levels of Lake Ontario are controlled by dams operated on the St. Lawrence River under regulation plans of the International Joint Commission (IJC). The lake levels under the regulation plan are to be controlled between elevations 243 and 248 feet LSD (Lake Survey Datum 1935), and the annual average lake level has been 245.2 feet LSD under the regulation plan.

3523

Regulatory File Cy.

3. The unit will be protected by a dike extending east-west along the present shore line. The dike with one on two slopes and a top elevation of 263 feet LSD will be extended along the lake front from the existing dike in front of Unit 1 on the west to a point where the ground rises naturally to elevation 263 feet LSD on the east. Ditches are to be provided behind the 3000-foot length of dike, which includes 900 feet in front of Unit 1, for intercepting site runoff and dike overtopping flow, and conveying it to the lake. The Plant buildings are located about 300 feet back of the dike structure with a surrounding ground grade elevation of 260 feet LSD.

4. We will consider the design basis for the Plant's flood protection and water supply adequate if the applicant will design for or adequately demonstrate that no adverse effects of the safety-related facilities will result from the hydrologic engineering criteria for the following conditions:

a. The applicant has stated that he will document that one-hour rainfall amounts up to and including 8.4 inches used for basis of drainage design for roofs of the safety-related structures and the site drainage system will not adversely affect safety-related facilities or structures. We conclude this design basis is adequate.

b. The applicant should provide assurance that coincident wave action and wave overtopping rates on the lake-front dike with surging up to and including the probable maximum surge elevation 254.0 feet LSD, will not flood or adversely affect the Plant's safety-related facilities. He should demonstrate the integrity of the protective shore line dike or show that the dike is not required for protection of the Plant by showing the resultant effects of their failure.

The probable maximum surge elevation of 254.0 feet LSD (based on available information) should be used with appropriate overtopping rates as the flood design basis for flooding on the plant side of the dike and which would require a stable 13-ton armor stone to provide assurance of the protective dike's integrity.

There is no flooding potential for the probable maximum surge and associated wave action if the applicant can verify the protective dike's integrity and that the drainage ditch behind the dike can carry off the wave overtopping and/or that sufficient storage is available during the probable maximum event, without the water surface exceeding plant grade of 261 feet LSD or that the minimum elevation of all openings and safety-related facilities is not exceeded or can be made water tight.

5. The ice ridges building up along the lake shore are not expected to result in any flooding of the safety-related structures.

6. Cooling water is to be taken from an intake structure about 1300 feet from the shore line and conveyed to the screenwell structure through 1650 feet of tunnel with a cross-sectional area of 238 square feet to keep the tunnel velocity to about 5 feet per second. In addition, there will be two intake tunnels for Unit 1 that are interconnected to Unit 2 by means of a crossover between the individual screenwell structures. The top and bottom of the invert of the lake's circulating water intake drop inlet are to be at elevation 232.0 and 222.5 feet LSD respectively. Discharge from the cooling system will be via a 1700-foot long discharge tunnel to be shared with Unit 1 with a terminal tee diffuser tunnel having 12 pairs of heads, each head having two diffusers. The 12 outlets are split by a tee, 6 on each tee branch, with a distance of 45 feet between each of

the heads. The total length at the top of the tees is 555 feet. The operating floor of the screenwell structure is to be at elevation 261.0 feet LSD and each pump will be mounted on a pedestal above the floor.

We conclude that there is no potential flooding of the screenwell and associated safety-related facilities through the proposed intake and discharge tunnels. It is also concluded that there is no potential loss of cooling from the remote possibility of flooding through the intake tunnel for the proposed design.

7. Heating elements will be installed in each of the rack bars at the intake to prevent ice forming on the intake bar racks. These separate heating elements on each bar rack are to be sufficient to keep the temperature of the bars at least 34 deg. F. during periods of subcooling.

We conclude that design basis of the cooling water (and a primary portion of the Ultimate Heat Sink) is adequate.

8. The applicant has estimated that lake levels could gradually decline to elevation 240.6 feet LSD in the event of failure of the St. Lawrence River dams before natural controls would prevent further decline. By superimposing the negative effects of lowering the lake by an additional 4.3 feet due to a postulated probable maximum wind field blowing the water away from the site, the applicant has estimated that the minimum design lake level should be 236.3 feet LSD. Comparison of this lake level with the top and bottom elevations of the proposed lake intake structure openings (elevations 230.0 and 222.5 feet LSD, respectively) indicates that an adequate water supply should be available from the lake at the intake.

The applicant's proposed design for the pit floor of the screenhouse is elevation 221.0 feet LSD, which is 15.3 feet below the postulated minimum lake level of 236.3 feet LSD. The circulating water pump is to be designed to operate with a minimum water level of 232 feet LSD.

We conclude the loss of cooling water is unlikely. The ultimate heat sink water supply will consist of Lake Ontario, the lake water intake structure and intake tunnel, and we conclude the system is capable of providing sufficient cooling water for 30 days and beyond.

9. The heated water and processed liquid radwaste will be disposed of via the 12 multi-outlet submerged diffuser headers at the end of the discharge tunnel. The submerged discharge jets, with a high initial velocity and oriented in a lakeward horizontal direction, will be deflected toward the water surface due to the buoyancy of the jet and will flow lakeward horizontally from the point of intersection, with the water surface. The dominant current pattern in the lake is counterclockwise, i. e., from west to east at the site. The total flow of cooling water effluent from Units 1 and 2 is about 1800 cubic feet per second (cfs) and is expected to be dispersed and diluted with the water carried past the site by the lake currents.

10. The ground water table at the site slopes toward Lake Ontario at an average gradient of 2 feet per 100 feet. The applicant has reported 16 public water supplies within 30 miles of the site, two of which obtain water from the lake; the others obtain water from wells and springs. The two nearest public water supplies are located about seven miles from the site and both use water from the

lake. The shallow domestic wells in the general vicinity are located up gradient (ground water slopes upstream) from the plant site, mine relatively minor amounts of water, and therefore, no ground water contamination affecting these wells is likely.

NUNN, SNYDER & ASSOCIATES

Dwight E. Nunn

By: Dwight E. Nunn

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MAY 11 1973

50-410

Nunn, Snyder & Associates
3505 Perry Road
Fairfax, Virginia 22030

Dear Sirs:

Under the terms of your contract No. AT(49-24)-0007, you are herein requested to continue your review of Nine Mile Point Nuclear Station, Unit 2, Docket No. 50-410. The maximum amount payable to your firm for this assignment is increased from $3,000 to $4,500 (Work Directive L-1N). Your final report should be provided no later than May 25, 1973.

Sincerely,

Original signed by,
H. R. Denton

Harold R. Denton, Assistant Director
for Site Safety
Directorate of Licensing
(Authorized Representative for the
Contracting Officer)

Concur

OFFICE ▶	L:SAB	L:SAB	L	L	DRA	L:AD/SS
SURNAME ▶	EFHawkins LGHulman	WPGammill	RBrady	RMiller	RMiller	HRDenton
DATE ▶	5/11/73	5/11/73	5/14/73	5/14/73	5/14/73	5/11/73

Form AEC-318 (Rev. 9-53) U. S. GOVERNMENT PRINTING OFFICE 16—62761-3

50-410 ✓
50-416/417

MAY 7 1973

Dr. Roger Griebe
Energy Incorporated
P. O. Box 736
Idaho Falls, Idaho 83401

Dear Roger:

Attached are copies of the information on Grand Gulf and Nine Mile Point which you need in order to do rod heatup calculations. In addition NMP has 532 assemblies (7x7), a total power of 1850 Mw(t), a peak bundle power of 5.22 Mw and axial, radial and local peaking factors of 1.57, 1.5, 1.3 respectively. I don't know the specifics for an 8x8 reload of NMP, but presume the radial peaking would remain the same (i.e., 1.5). The axial and local peaks are unknown, except GE indicates that the maximum LHGR will be 12.75 kw/ft. The rod-to-rod peaking within a bundle will probably not be too different since the water gaps are still unequal.

Warren Minners
Reactor Systems Branch
Directorate of Licensing

Enclosure

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Hydrologic Engineering Summary of the Safety Evaluation Review.

ACKNOWLEDGED

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PLANT NAMES: Nine Mile Point Unit # 2

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FOR ACTION/INFORMATION 5-8-73 fod

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May 7, 1973

Lewis G. Hulman, Senior Hydraulic Engineer
Site Analysis Branch
Directorate of Licensing
U. S. Atomic Energy Commission
7920 Norfolk Avenue
Bethesda, Maryland 20014

NINE MILE POINT NUCLEAR POWER STATION - UNIT 2
DOCKET NUMBER 50-410
(Work Directive L-1N)

HYDROLOGIC ENGINEERING - SAFETY EVALUATION

Enclosed is a copy of our hydrologic engineering summary of the safety evaluation review prepared in consultation with Mr. Robert A. Jachoswki (CERC) on the subject plant. The summary report is presented (written) in the context of the AEC Hydraulic Engineering Staff for your appropriate use.

NUNN, SNYDER & ASSOCIATES

Dwight E. Nunn

By: Dwight E. Nunn

Enclosure:
As stated.

3024

NINE MILE POINT NUCLEAR POWER STATION - UNIT 2
DOCKET NUMBER 50-410

HYDROLOGIC ENGINEERING - SAFETY EVALUATION

2.4 Hydrology

2.4.1 Hydrologic Description

The site is located on the western portion of Nine Mile Point on the southeastern shore of Lake Ontario and is approximately 300 feet east of Unit No. 1 and about 2500 feet west of the James A. FitzPatrick Nuclear Power Plant. Lake Ontario is the smallest of the Great Lakes having a surface area of 7,520 square miles and a drainage basin of 34,800 square miles. The average annual Lake Ontario level is elevation 245.2 feet LSD (Lake Survey Datum of 1935) and the specified control is between elevations 243 and 248 feet LSD by dams operated on the St. Lawrence River under a regulation plan of the International Joint Commission (IJC) for Lake Ontario and the St. Lawrence River.

The Unit will be protected by a dike extending east-west along the present shore line. The dike with one on two slopes and a top elevation of 263 feet LSD will be extended along the lake front from the existing dike in front of Unit 1 on the west to a point where the ground rises naturally to elevation 263 feet LSD on the east. Ditches are to be provided behind the 3000-foot length of dike, which includes 900-foot area in front of Unit 1, for intercepting site runoff and dike overtopping flow, and conveying it to the lake. The plant buildings are located about 300 feet back of the dike structure with a surrounding ground grade elevation of 260 feet LSD.

2.4.2 Floods

There are no perennial streams on or adjacent to the site. Precipitation falling on the site is discharged into Lake Ontario by surface runoff and ground water flow. Variations in Lake Ontario levels are caused by both runoff and wind-generated waves and surges. Superimposed on the long-range and seasonal fluctuations resulting from the change in quantity of water in the lake, there are daily and even hourly fluctuations resulting from surges and tilting of the lake's water surface induced by winds and differential barometric pressure. These short period fluctuations reach a maximum, especially at the easterly end of the lake, where the water surface may rise 3 feet or greater, due to the effects of the winds. The level at a specific shore location on the lake is not considered to fluctuate as greatly from runoff and rain on the lake as it is from wind-generated waves and surges.

The monthly mean lake high water level elevation of 249.3 feet LSD occurred in June 1952 when Lake Ontario was (pre-project) unregulated. This high lake level resulted primarily from snowmelt and rainfall runoff through the Great Lakes system. However, under present IJC regulation plan there would be no difficulty in retaining this 1952 flow condition to a controlled level elevation of 248 feet or below. However, this year, 1973, the lake level is expected with IJC regulation to reach about 249 feet LSD. Under pre-project conditions (without regulation) the elevation would be about 250 feet. The highest flooding at specific shore locations occurring from severe storms with associated high winds which produce surges at the down-wind components are not uncommon to most of the Great Lakes. One of the most severe lake storms of record occurred November 7-10, 1913 with winds above 80 mph over Lake Erie and Lake Ontario.

High winds and heavy snow covered the entire lake region and winds over Lake Ontario and Lake Erie were above 60 mph for about 16 hours, resulting in high surges at various locations.

2.4.3 Probable Maximum Floods

There are no streams in the vicinity that could cause site flooding. Variations in Lake Ontario levels are caused by both runoff and wind-generated waves and surges. Although PMF runoff was considered, the level of the large lake is not considered to fluctuate as greatly due to runoff as it is to wind-generated waves and surges. Therefore, probable maximum floods are not site applicable, except for the local and interior drainage system to effectively protect the safety-related facilities. The safety-related facilities would include the roofs of safety-related structures and exterior penetrations, which must safely store or pass runoff resulting from the local probable maximum precipitation without a loss of functions of the safety-related facilities. The applicant states the facilities and drainage system are designed to handle the water quantity of 6 inches per hour, which he estimated to be the maximum hour during the probable maximum precipitation. The applicant has previously been informed that the staff's independent analysis resulted in a maximum hour rainfall of 8.4 inches during a PMP estimate. The applicant will be required to assure that the maximum one-hour rainfall of 8.4 inches would not adversely affect any safety-related facilities and will be required to document this in a future amendment.

2.4.4 Potential Dam Failure

There are no dams so located or dam failures that could result in any flooding of the site. The only effects of dam failures could be the

St. Lawrence power project dams located in the St. Lawrence River, and their failure could only result in lowering the lake level. The applicant has estimated in the event of such an unreasonable catastrophe as simultaneous failure of the dams, the lake level would decline gradually and might fall to minimum elevation of 240.6 feet LSD.

2.4.5 Probable Maximum Surge Flooding

The applicant estimated maximum lake level at the site which could occur due to wind-generated surges and waves, utilizing the January 1972 surge for calibration of his one- and two-dimensional models. His estimates of the probable maximum surge by the three different computations and extrapolations resulted in surges (stillwater levels) ranging from elevations of 254.0 feet LSD for the one-dimensional model and 252.7 feet LSD, and his most recent estimate of 251.0 feet LSD, both from the two-dimensional model. The 251-foot elevation was estimated using the January 1972 winds with the maximum of 52 mph wind velocity at Kingston, Canada on the northeast shore of the lake, and then ratioed this maximum wind of 52 mph to the probable maximum 100 mph wind to represent the maximum possible conditions at the site. Apparently this was without consideration for the wind conditions that could be from a more critical direction, and velocities which would be more favorable in producing a larger surge at the site.

The staff and our consultants' independent analyses resulted in the probable maximum surge (stillwater level) at the site to be elevation 254.0 feet LSD. This is the same probable maximum surge level required at the nearby James A. FitzPatrick Nuclear Power Plant. The applicant was informed that maximum surge (stillwater level) elevation 254.0 feet LSD should be used as the basis of design. At the request of the staff

the applicant has evaluated the safety-related structures by superimposing the wind-generating wave action on the stillwater elevation of 254.0 feet LSD.

The applicant presented the analysis based on the stillwater level elevation of 254.0 and also provided the analysis on his most recent stillwater elevation of 251.0 that he believes is appropriate for the site. This is 1.7 feet lower than his previous proposal of 252.7 feet LSD, which he used in the PSAR as a basis of his design analyses.

The applicant estimated the wind-generated wave action and forces at various water levels and for a broad range of wave periods on the intake structure at the proposed location approximately 1/4 mile from the shoreline with a depth of 34.5 feet at a maximum stillwater level elevation 254.0 feet. The applicant estimated that the wave forces (breaking on the intake) would be approximately 1000 kips acting on the entire gross projectional area of the intake structure, and a maximum upward force of 325 kips would occur with a water level of 254 feet LSD. Accordingly, the staff and our consultants conclude that the wave design forces on the intake structure are conservative and adequate. The lake water is to be conveyed through intake and discharge tunnels to the screenwell structure located on shore. The screenwell structure's operating floor level is to be at elevation 261.0 feet LSD and each pump will be mounted on a pedestal above the floor.

The lake-front dike with a crown elevation of 263 feet LSD and the intercepting drainage ditch at the back side toe of the dike are for protection of the plant (about 300 feet farther inland) from the wind and wave action associated with surges up to and including the probable maximum.

The applicant estimates integrity of the dike (rubble dike structure) based on maximum wave runup on the dike, maximum deep-water breaking wave and the maximum wave breaking at the toe of the dike. He estimated the stability of the rubble dike structure from a 11.2 foot wave height associated with his designated appropriate water (stillwater) level elevation of 251.0 feet would require armor stone weight of 6 ton. He further presents that the stability of the dike structure for a still-water elevation of 254.0 feet and the associated wave height of 14.5 feet would require an armor stone of 13 ton. We concur with the applicant's estimate of the armor stone weights for the two conditions; however, we are not sure of his proposed design. Based on the staff's and our consultants' independent analysis of the probable maximum surge 254.0 feet and the associated wave height of 14.5 feet, the 13-ton stone will be required to insure the integrity of the rubble dike structure. The applicant will be required to design the dike to withstand the forces of the 14.5 foot wave associated with the stillwater elevation of 254.0 feet where any or all of the dike structure is essential to protect any safety-related structures.

With the crest of the dike at elevation 263.0 feet, the applicant estimates the overtopping rate for the lake water level of 254.0 feet would be about 2.0 cfs per linear foot of the 3000-foot dike. He also estimates the total overtopping flow based on the stillwater elevation 254.0 feet is 60,000 cfs. He concludes that a ditch capacity of 200,000 cubic feet is more than adequate to intercept the overtopping flow and assurance of the ability of the safety-related structures to function is provided. The staff and our consultants disagreed with the applicant's rate of overtopping. Based on our and our consultant's (CERC) independent analyses, the overtopping would exceed 3 cfs per lineal foot of dike

for wave periods ranging from 12 to 20 seconds with a maximum overtopping of 11 cfs for a breaking wave of 13.3 feet and a period of 16 seconds. The total overtopping for this average condition (say 7 cfs per lineal foot average) would be in excess of 200,000 cfs. The applicant will be required to substantiate the capacity of interceptor ditch to effectively discharge the wave overtopping during the storm period so that the back shore flooding will not adversely affect the safety-related structures. The stillwater level during the probable maximum storm at elevation 254.0 feet LSD would result in essentially no hydraulic gradient in the total length of the ditch, thus probably allowing water to exceed the bank of the ditch on the plant side and possibly accumulate to elevation greater than the plant grade of 260 feet LSD.

The applicant will be required to verify that the design of the ditch has enough capacity to adequately prevent flooding of the safety-related facilities with an overtopping rate ranging from 3 to 11 cfs per lineal foot of dike or that other residual means (such as emergency procedure covered by technical specifications) will be taken in such an event to prevent adverse effects to the safety-related facilities.

2.4.7 Ice Flooding

The ice ridges building up along the lake shore are not expected to result in any flooding of the safety-related structures.

2.4.8 Cooling Water

Cooling water is to be taken from an intake structure about 1300 feet from the shore line and conveyed to the screenwell structure through 1650 feet of tunnel with a cross-sectional area of 238 square feet to keep the tunnel velocity to about 5 feet per second. In addition, there

will be two intake tunnels for Unit 1 that are interconnected to Unit 2 by means of a crossover between the screenwell structures. The top and bottom of the invert of the lake's circulating water intake inlet is to be at elevation 232 and 222.5 feet LSD respectively. Discharge from the cooling system will be via a discharge tunnel shared with Unit 1. There is one discharge tunnel 1700 feet from the Unit 2 screenwell structure out into the lake, and through a discharge diffuser with 12 pair of heads with two diffusers on each head. The 12 outlets are split by a tee, 6 on each tee branch, with a distance of 45 feet between each of the heads. The total length at the top of the tees is 555 feet.

The operating floor of the screenwell structure is to be at elevation 261.0 feet LSD and each pump will be mounted on a pedestal above the floor.

The staff concludes that there is no potential loss of cooling from the remote possibility of flooding through the intake tunnel or loss of water during the probable minimum lake level.

Heating elements will be installed in each of the rack bars at the intake to prevent ice forming on the intake bar racks. These separate heating elements on each bar rack are to be sufficient to keep the temperature of the bars at least 34 deg. F. during periods of subcooling.

The staff has concluded that the cooling water (and a primary portion of the Ultimate Heat Sink) is adequate.

2.4.9 <u>Channel Diversions</u>

Not site applicable.

2.4.10 Flooding Protection

All safety-related structures and equipment are located above elevation 260 feet LSD. The applicant has evaluated the potential flooding that may occur from three major sources: (a) flooding from the local probable maximum precipitation; (b) exterior flooding from probable maximum surge and associated wave action; and (c) interior flooding through the intake conduit with surging and associated wave action. The staff's evaluations of these are as follows:

a. The applicant will be required, as discussed in Section 2.4.3, to assure that the local probable maximum precipitation will not adversely affect any safety-related facilities.

b. There is no flooding potential for the probable maximum surge and associated wave action if the applicant can verify that the drainage ditch behind the dike can carry off the wave overtopping during the probable maximum event, without the water surface exceeding plant grade of 260 feet LSD or that the minimum elevation of all openings and safety-related facilities is not exceeded or can be made watertight. (See Section 2.4.5)

c. As cited in Section 2.4.8 there is no potential flooding of the screenwell safety-related facilities through the intake and discharge tunnels.

2.4.11 Low Water Considerations

The applicant has estimated that lake levels could gradually decline to elevation 240.6 feet LSD in the event of an arbitrarily assumed failure of the St. Lawrence River dams before natural controls would

prevent a further decline. By superimposing the negative effects of lowering the lake by 4.3 feet due to the probable maximum wind field blowing the water away from the site, the resulting water level has been considered by the applicant to result in a minimum design lake level of 236.3 feet LSD. Comparison of this lake level (236.3 feet LSD) with the top and bottom elevations of the lake intake structure openings (elevations 230.0 and 222.5 feet LSD respectively) indicates that an adequate water supply should be available from the lake.

The applicant proposed design of the pit floor elevation 221.0 feet LSD of the screenhouse, which is 15.3 feet below the postulated minimum lake level of 236.3 feet LSD. The applicant also estimated that a normal head loss of approximately 4 feet would occur through the intake tunnel and across the trash rack and traveling screen, thus the sump elevation is to be at 232.5 feet LSD. He proposes the circulating water pumps be designed to operate with a minimum water level at elevation 232 feet LSD. He also states the service water pumps will be specified to have at least a 10 percent margin over the minimum pump submergence requirements at the design (236.3 feet) minimum water level. Therefore, the loss of cooling water is unlikely in the event at the minimum low water (236.3 feet LSD). The heat sink water supply consists of Lake Ontario, the lake water intake structure and intake tunnel, and is capable of providing sufficient cooling water for 30 days and beyond. Therefore, we and our consultants concur with the applicant that the loss of cooling water to the safety-related equipment is unlikely in the event of the minimum low-water elevation of 236.3 feet LSD.

2.4.12 Environmental Aspects of Effluents

The heated water and processed liquid radwaste will be disposed of via the 12 multi-outlet submerged diffuser headers (two tee branches 6-headers on each branch) with a double nozzle arrangement on each diffuser header some 1700 feet from the screenwell building and in a northwesterly direction from the intake. The submerged discharge jets, with a high initial jet velocity, oriented in a lakeward direction, will be deflected toward the water surface due to the buoyancy of the jet and will flow lakeward horizontally from the point of intersection with the water surface. The dominant current pattern in the lake is counter-clockwise, i. e., from west to east at the site. Storm conditions can, however, reverse the current pattern. Water travel times have also been estimated to vary from a minimum of about 9 hours to more than 100 hours between the (nearby James A. FitzPatrick Plant) site and the Oswego Public Water Supply intake and Selkirk Shore State Park. The total flow of cooling water effluent from Units 1 and 2 is about 1788 cubic feet per second (cfs) and is expected to be dispersed and diluted with the water carried past the site by the lake currents.

2.4.13 Ground Water

The ground water table at the site slopes toward Lake Ontario at an average gradient of 2 feet per 100 feet. The site area is underlaid by a layer of glacial soil overlaying Oswego sandstone. The sandy glacial till is interspersed with silts and clays which result in low permeabilities. There are no ground water users down-gradient from the site.

The applicant has reported 16 public water supplies within 30 miles of the site, two of which obtain water from the lake; the others obtain

water from wells and springs. The two nearest public water supplies are located about seven miles from the site and both use water from the lake. The applicant has surveyed private ground water use in the area and has found approximately 102 wells within a two-mile radius of the site. Approximately 29 of these wells are not presently in use. The estimated daily pumping rate of the wells in use varies from about 50 gallons per day to about 10,000 gallons per day with an over-all average rate of about 650 gallons per day. The shallow domestic wells in the general vicinity are located up gradient from the plant site; therefore, no ground water contamination affecting these wells is possible.

APR 23 1973

Docket No. 50-410
Mr. Robert Jachowski
U.S. Army Coastal Engineering
Research Center
5201 Little Falls Parkway, NW
Washington, D.C. 20016

Subject: AMENDMENT NO. 11 TO NINE MILE POINT UNIT NO. 2
Complete amendment was sent to you separately. Please notify L. G. Hulman if amdt. is not received in a reasonable period.

The following documents concerning our review of the subject facility are transmitted for your information:

- [ ] Notice of Receipt of Application.
- [ ] Draft Environmental Statement, dated _____.
- [ ] Final Environmental Statement, dated _____.
- [ ] Safety Evaluation, or Supplement No. _____, dated _____.
- [ ] Notice of Hearing on Application for Construction Permit.
- [ ] Notice of Consideration of Issuance of Facility Operating License.
- [ ] Application and Safety Analysis Report, Vol. _____.
- [X] Amendment No. 11 to Application/SAR, dated 4/17/73.
- [ ] Construction Permit No. CPPR- _____, dated _____.
- [ ] Facility Operating License No. DPR- _____, dated _____.
- [ ] Technical Specifications, or Change No. _____, dated _____.
- [ ] Other: _____

Site Analysis Branch
Directorate of Licensing
E. W. Merhee for
W. P. Gammill

Enclosures:
As stated

cc: Docket File
J. Osloond

OFFICE ▶						Consulted
SURNAME ▶						
DATE ▶						

Form AEC-318 (Rev. 9-53) AECM 0240 GPO C43-16-81465-1 445-678

APR 25 1973

February 15, 1973

Docket No. 50-410

Lt. Colonel Don S. McCoy, Director
U. S. Coastal Engineering Research Center
5201 Little Falls Road, N.W.
Washington, D. C. 20016

Subject: Niagara Mohawk Power Corp. (Nine Mile Pt., Unit 2)

The following documents concerning our review of the subject facility are transmitted for your information:

/_/ Notice of Receipt of Application.

/_/ Draft Environmental Statement, dated _____.

/_/ Final Environmental Statement, dated _____.

/_/ Safety Evaluation, or Supplement No. ___, dated _____.

/_/ Notice of Hearing on Application for Construction Permit.

/_/ Notice of Consideration of Issuance of Facility Operating License.

/_/ Application and Safety Analysis Report, Vol. _____.

/X/ Amendment No. 7 to Application/SAR, dated 2-13-73.

/_/ Construction Permit No. CPPR-_____, dated _____.

/_/ Facility Operating License No. DPR-_____, dated _____.

/_/ Technical Specifications, or Change No._____, dated _____.

/_/ Other:_____

Directorate of Licensing

Enclosures:
As stated

cc:

OFFICE ▶	L:GCR					Consult
SURNAME ▶	HGearin					
DATE ▶	2/15/73					

Form AEC-318 (Rev. 9-53) AECM 0240 GPO 843—16—81465-1 445-678

Docket No. 50-410 January 30, 1973

Lt. Colonel Don S. McCoy, Director
U. S. Army Coastal Engineering
Research Center
5201 Little Falls Road, N. W.
Washington, D. C. 20016

Subject: Niagara Mohawk Power Corp. (Nine Mile Point Unit 2)

The following documents concerning our review of the subject facility are transmitted for your information:

/_/ Notice of Receipt of Application.

/_/ Draft Environmental Statement, dated _____.

/_/ Final Environmental Statement, dated _____.

/_/ Safety Evaluation, or Supplement No. ___, dated _____.

/_/ Notice of Hearing on Application for Construction Permit.

/_/ Notice of Consideration of Issuance of Facility Operating License.

/_/ Application and Safety Analysis Report, Vol. _____.

/X/ Amendment No. 6 to Application/SAR, dated Jan. 29, 1973.

/_/ Construction Permit No. CPPR-_____, dated _____.

/_/ Facility Operating License No. DPR-_____, dated _____.

/_/ Technical Specifications, or Change No._____, dated _____.

/_/ Other:_____

Directorate of Licensing

Enclosures:
As stated

cc:

OFFICE ▶	L:GCR					Consult
SURNAME ▶	HGearin					
DATE ▶	1/30/73					

Docket No. 50-410 January 11, 1973

Lt. Colonel Don S. McCoy, Director
Army Coastal Engineering Research Center
5201 Little Falls Road, N.W.
Washington, D. C. 20016

Subject: Niagara Mohawk Power Corp. (Nine Mile Point Unit 2)

The following documents concerning our review of the subject facility are transmitted for your information:

/_/ Notice of Receipt of Application.

/_/ Draft Environmental Statement, dated _____.

/_/ Final Environmental Statement, dated _____.

/_/ Safety Evaluation, or Supplement No. ___, dated _____.

/_/ Notice of Hearing on Application for Construction Permit.

/_/ Notice of Consideration of Issuance of Facility Operating License.

/_/ Application and Safety Analysis Report, Vol. _____.

/X/ Amendment No. 5 to Application/SAR, dated Jan. 10, 1973.

/_/ Construction Permit No. CPPR-_____, dated _____.

/_/ Facility Operating License No. DPR-_____, dated _____.

/_/ Technical Specifications, or Change No._____, dated _____.

/_/ Other:_____

Directorate of Licensing

Enclosures:
As stated

cc:

OFFICE ▶	L:GCR					Counsel
SURNAME ▶	HGearin					
DATE ▶	1/11/73					

Form AEC-318 (Rev. 9-53) AECM 0240 GPO c43—16—81465-1 445-678

Docket No. 50-410

DEC 12 1972

Lt. Colonel Don S. McCoy, Director
U. S. Army Coastal Engineering
Research Center
5201 Little Falls Road, N. W.
Washington, D. C. 20016

Application: Niagara Mohawk Power Corporation
(Nine Mile Point Unit 2)

Dear Lt. Colonel McCoy:

This supplements previous correspondence with you concerning the above application. The following amendment to that application is enclosed for your information and use:

Amendment No. 4, dated December 7, 1972

This amendment consists of supplemental information to be inserted in the Preliminary Safety Analysis Report.

Sincerely,

Original signed by
Robert A. Clark

Robert A. Clark, Chief
Gas Cooled Reactors Branch
Directorate of Licensing

Enclosure:
As stated

Distribution:
Docket File
GCR Reading
H. Gearin
A. Bournia

OFFICE ▷	L:GCR	L:GCR				
SURNAME ▷	HGearin:nb	RAClark				Concurred
DATE ▷	12/12/72	12/12/72				

50-410

DEC 4 1972

Nunn, Snyder & Associates
3505 Perry Road
Fairfax, Virginia 22030

Dear Sirs:

Under the terms of your contract No. AT(49-24)-0007, you are herein requested to review the hydrologic aspects of the plants listed below. Your review should be limited to those areas considered pertinent with particular reference to Section 2.4 of the Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants, Revision 1, issued October 1972, and should culminate in a letter report at the conclusion of your review. Safety Analysis Reports not previously supplied will be forwarded under separate cover.

Nine Mile Point-2, Work Directive L-1N. The second round of questions are scheduled for January 31, 1973. The maximum amount payable to your firm for this assignment is $3,000. DOC. NO. 50-410.

Millstone-2, Work Directive L-2N. The first round of questions was scheduled for November 20, 1972; statement of position (in lieu of Q-2) is scheduled for April 13, 1973. The maximum amount payable to your firm for this assignment is $3,000. DOC. NO. 50-336.

Grand Gulf, Work Directive L-3N. The first round of questions are scheduled for February 9, 1973. The maximum amount payable to your firm for this assignment is $3,000. DOC. NO. 50-416, 417.

In addition to the above, you are requested to review our position statement on Waterford, and be prepared to consult with the staff as necessary. The work directive is L-4N; maximum amount payable to your firm for this assignment is $1,000. DOC. NO. 50-382.

Itemized invoices should be separately identifiable by each work directive. Any anticipated work resulting

in costs in excess of the individual amounts should be reported for approval prior to undertaking any additional effort. Technical coordination on these work directives is to be through Mr. L. G. Hulman of my staff.

Sincerely,

Original signed by
H. R. Denton

Harold R. Denton, Assistant Director
for Site Safety
Directorate of Licensing
(Authorized Representative for the
Contracting Officer)

DISTRIBUTION:
L:Suppl
L:Rdg
L:SAB
L:AD/SS
L:RBrady
DRA:DDandois
QC
OC:MKnighton
OGC

Concurr.

OFFICE ▶	L:SAB	L:SAB	L:SAB	L	DRA	L:AD/SS
SURNAME ▶	WSBivins EFHawkins	LGHulman:bas	WPGammill	RBrady JMiller	RMiller	HRDenton
DATE ▶	12/1/72	12/1/72	12/4/72	12/4/72	12/9/72	12/4/72

NOV 30 1972

Docket No. 50-410

Lt. Colonel Don S. McCoy, Director
U. S. Army Coastal Engineering
Research Center
5201 Little Falls Road, N. W.
Washington, D. C. 20016

Application: Niagara Mohawk Power Corporation
(Nine Mile Point Unit 2)

Dear Lt. Colonel McCoy:

This supplements previous correspondence with you concerning the above application. The following amendment to that application is enclosed for your information and use:

Amendment No. 3, dated November 27, 1972

This amendment consists of supplemental information to be inserted in the Preliminary Safety Analysis Report.

Sincerely,

Original signed by:
Steven A. Varga for

Robert A. Clark, Chief
Gas Cooled Reactors Branch
Directorate of Licensing

Enclosure:
As stated

Distribution:
Docket File
GCR REading
H. Gearin (2)
A. Bournia

OFFICE ▷	L:GCR	L:GCR				Concurr
SURNAME ▷	HGearin:nb	RAClark				
DATE ▷	11/30/72	11/ /72				

Distribution:
Docket File
GCR Reading
A. Bournia
H. Gearin (2)

NOV 17 1972

Docket No. 50-410

Lt. Colonel Don S. McCoy, Director
U. S. Army Coastal Engineering
Research Center
5201 Little Falls Road, N. W.
Washington, D. C. 20016

Application: Niagara Mohawk Power Corporation
(Nine Mile Point Unit 2)

Dear Lt. Colonel McCoy:

This supplements previous correspondence with you concerning the above application. The following amendment to that application is enclosed for your information and use:

Amendment No. 2, dated November 14, 1972 (first part only)

This amendment consists of supplemental information to be inserted in the Preliminary Safety Analysis Report.

Sincerely,

Original signed by
Robert A. Clark

Robert A. Clark, Chief
Gas Cooled Reactors Branch
Directorate of Licensing

Enclosure:
As stated

OFFICE ▷	L:GCR	L:GCR				Consult
SURNAME ▷	HGearin:nb	RAClark				
DATE ▷	11/17/72	11/17/72				

50-410

NOV 6 1972

Mr. Dwight E. Nunn
Nunn, Snyder and Associates
3505 Perry Street
Fairfax, Virginia 22030

Dear Dwight:

Under the terms of your contract I am transmitting copies of the Nine Mile Point, Unit 2, PSAR and Millstone II FSAR, under separate cover, for your review of hydrologic engineering aspects thereof. Your review should be limited to those areas considered pertinent with reference to section 2.4 of the draft Standard Format and Content of SAR's for Nuclear Power Plants, dated February 1972. The schedule for both applications requires two rounds of questions and a report. The first round of questions for transmittal to the applicant have been scheduled for November 3, 1972, and November 20, 1972, respectively. Your consultation with the staff on these cases should consist of providing advice on the preparation of questions to the applicants, and your preparation of a letter summary report at the end of the review process.

L. G. Hulman, Senior Hydraulic Engineer
Site Analysis Branch
Directorate of Licensing

Enclosures (Separate Cover):
1. Nine Mile Point PSAR
2. Millstone II FSAR

DISTRIBUTION:
Docket File - 50-410
Docket File - 50-336
L:Rdg.
L:AD/SS
L:SAB

w/o enclosures
bcc: R. C. DeYoung
R. S. Boyd
K. Goller
R. Clark
A. Bournia
D. Crutchfield

OFFICE ▶	L:SAB	L:SAB				Consult
SURNAME ▶	LGHulman:bas	WPGammill				
DATE ▶	10/27/72	11/6/72				

SEP 26 1972

Docket No. 50-410

Lt. Colonel Don S. McCoy, Director
U. S. Army Coastal Engineering
Research Center
5201 Little Falls Road, N. W.
Washington, D. C. 20016

Dear Colonel McCoy:

In accordance with the arrangements for assisting us in evaluating water surge and wave runup aspects for reactor projects located in coastal areas, we would appreciate receiving comments from an appropriate member of your staff on the information presented in the enclosed Preliminary Safety Analysis Report and Amendment No. 1 thereto, on the nuclear reactor which the Niagara Mohawk Power Corporation proposes to construct and operate on the applicant's site located on Lake Ontario in the Town of Scriba, Oswego County, New York.

Sincerely,

/S/

Robert A. Clark, Chief
Gas Cooled Reactors Branch
Directorate of Licensing

Enclosures:
Vols. I-VI, PSAR, and
Amendment No. 1 thereto

Distribution:
Docket File
GCR Reading
H. Smith (2)
A. Bournia
W. Gammill

OFFICE ▷	L:BWR	L:GCR				Consult
SURNAME ▷	HSmith:nb	RAClark				
DATE ▷	9/25/72	9/25/72				

Form AEC-318 (Rev. 9-53) AECM 0240 ☆ U.S. GOVERNMENT PRINTING OFFICE: 1972 —463 —015

February 15, 1973

Docket No. 50-410

Dr. Isaac Van der Hoven, Chief
Air Resources Environ. Laboratory
National Oceanic & Atmospheric Admin.
8060 - 13th Street
Silver Spring, Maryland 20910

Subject: Niagara Mohawk Power Corp. (Nine Mile Point, Unit 2)

The following documents concerning our review of the subject facility are transmitted for your information:

/_/ Notice of Receipt of Application.

/_/ Draft Environmental Statement, dated _____.

/_/ Final Environmental Statement, dated _____.

/_/ Safety Evaluation, or Supplement No. ___, dated _____.

/_/ Notice of Hearing on Application for Construction Permit.

/_/ Notice of Consideration of Issuance of Facility Operating License.

/_/ Application and Safety Analysis Report, Vol. _____.

/X/ Amendment No. 7 to Application/SAR, dated 2-13-73.

/_/ Construction Permit No. CPPR-_____, dated _____.

/_/ Facility Operating License No. DPR-_____, dated _____.

/_/ Technical Specifications, or Change No._____, dated _____.

/_/ Other:_____

Directorate of Licensing

Enclosures:
As stated

cc:

OFFICE ▶	L:GCR					Consult
SURNAME ▶	HGearin					
DATE ▶	2/15/73					

Form AEC-318 (Rev. 9-53) AECM 0240 GPO 843-16-81465-1 445-678

Docket No. 50-410

January 30, 1973

Dr. Isaac Van der Hoven, Chief
Air Resources Environ. Laboratory
National Oceanic & Atmospheric Admin.
8060 - 13th Street
Silver Spring, Maryland 20910

Subject: Niagara Mohawk Power Corp. (Nine Mile Point Unit 2)

The following documents concerning our review of the subject facility are transmitted for your information:

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/_/ Draft Environmental Statement, dated _____.

/_/ Final Environmental Statement, dated _____.

/_/ Safety Evaluation, or Supplement No. ___, dated _____.

/_/ Notice of Hearing on Application for Construction Permit.

/_/ Notice of Consideration of Issuance of Facility Operating License.

/_/ Application and Safety Analysis Report, Vol. _____.

/X/ Amendment No. 6 to Application/SAR, dated Jan. 29, 1973.

/_/ Construction Permit No. CPPR-_____, dated _____.

/_/ Facility Operating License No. DPR-_____, dated _____.

/_/ Technical Specifications, or Change No._____, dated _____.

/_/ Other:_____

Directorate of Licensing

Enclosures:
As stated

cc:

OFFICE ▶	L:GCR					Consult
SURNAME ▶	HGearin					
DATE ▶	1/30/73					

Docket No. 50-410 January 11, 1973

Dr. Isaac Van der Hoven, Chief
Air Resources Environ. Laboratory
National Oceanic & Atmospheric Admin.
8060 - 13th Street
Silver Spring, Maryland 20910

Subject: Niagara Mohawk Power Corp. (Nine Mile Point Unit 2)

The following documents concerning our review of the subject facility are transmitted for your information:

/_/ Notice of Receipt of Application.

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/_/ Final Environmental Statement, dated _____.

/_/ Safety Evaluation, or Supplement No. ___, dated _____.

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/_/ Notice of Consideration of Issuance of Facility Operating License.

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/X/ Amendment No. 5 to Application/SAR, dated Jan. 10, 1973.

/_/ Construction Permit No. CPPR-_____, dated _____.

/_/ Facility Operating License No. DPR-_____, dated _____.

/_/ Technical Specifications, or Change No._____, dated _____.

/_/ Other:_____

Directorate of Licensing

Enclosures:
As stated

cc:

OFFICE ▶	L:GCR					Daniel
SURNAME ▶	HGearin					
DATE ▶	1/11/73					

DEC 12 1972

Docket No. 50-410

Dr. Isaac Van der Hoven, Chief
Air Resources Environmental
Laboratory
National Oceanic & Atmospheric
Administration
8060 - 13th Street
Silver Spring, Maryland 20910

Application: Niagara Mohawk Power Corporation
(Nine Mile Point Unit 2)

Dear Dr. Van der Hoven:

This supplements previous correspondence with you concerning the above application. The following amendment to that application is enclosed for your information and use:

Amendment No. 4, dated December 7, 1972

This amendment consists of supplemental information to be inserted in the Preliminary Safety Analysis Report.

Sincerely,

Original signed by
Robert A. Clark

Robert A. Clark, Chief
Gas Cooled Reactors Branch
Directorate of Licensing

Enclosure:
As stated

Distribution:
Docket File
GCR Reading
H. Gearin
A. Bournia

OFFICE ▷	L:GCR	L:GCR				
SURNAME ▷	HGearin:nb by	RAClark				Consult
DATE ▷	12/12/72	12/12/72				

NOV 30 1972

Docket No. 50-410

Dr. Isaac Van der Hoven, Chief
Air Resources Environmental
Laboratory
National Oceanic & Atmospheric
Administration
8060 - 13th Street
Silver Spring, Maryland 20910

Application: Niagara Mohawk Power Corporation
(Nine Mile Point Unit 2)

Dear Dr. Van der Hoven:

This supplements previous correspondence with you concerning the above application. The following amendment to that application is enclosed for your information and use:

Amendment No. 3, dated November 27, 1972

This amendment consists of supplemental information to be inserted in the Preliminary Safety Analysis Report.

Sincerely,

Original signed by:
Steven A. Varga

Robert A. Clark, Chief
Gas Cooled Reactors Branch
Directorate of Licensing

Enclosure:
As stated
Distribution:
Docket File
GCR REading
H. Gearin (2)
A. Bournia

OFFICE ▷	L:GCR	L:GCR				
SURNAME ▷	HGearin:nb	RAClark				
DATE ▷	11/30/72	11/ /72				

Distribution:
Docket File
GCR Reading
A. Bournia
H. Gearin (2)

NOV 1 7 1972

Docket No. 50-410

Dr. Isaac Van der Hoven, Chief
Air Resources Environmental
Laboratory
National Oceanic & Atmospheric
Administration
8060 - 13th Street
Silver Spring, Maryland 20910

Application: Niagara Mohawk Power Corporation
(Nine Mile Point Unit 2)

Dear Dr. Van der Hoven:

This supplements previous correspondence with you concerning the above application. The following amendment to that application is enclosed for your information and use:

Amendment No. 2, dated November 14, 1972 (first part only)

This amendment consists of supplemental information to be inserted in the Preliminary Safety Analysis Report.

Sincerely,

Original signed by
Robert A. Clark

Robert A. Clark, Chief
Gas Cooled Reactors Branch
Directorate of Licensing

Enclosure:
As stated

OFFICE ▷	L:GCR	L:GCR				
SURNAME ▷	HGearin:nb	RAClark				
DATE ▷	11/17/72	11/17/72				

SEP 1 1972

Docket No. 50-410

Dr. Isaac Van der Hoven, Chief
Air Resources Environmental
Laboratory
National Oceanic & Atmospheric
Administration
8060 - 13th Street
Silver Spring, Maryland 20910

Application: Niagara Mohawk Power Corporation (Nine Mile Point Unit 2)

Dear Dr. Van der Hoven:

This supplements previous correspondence with you concerning the above application. The following amendment to that application is enclosed for your information and use:

Amendment No. 1, dated August 16, 1972 (transmitted by letter dated August 18, 1972, from LeBeouf, Lamb, Leiby & MacRae)

This amendment consists of revised and supplemental information to be inserted in the Preliminary Safety Analysis Report.

Sincerely,

Original signed by
Robert A. Clark

Robert A. Clark, Chief
Gas Cooled Reactors Branch
Directorate of Licensing

Enclosure:
As stated
Distribution:
Docket File H. Smith (2)
RP Reading
GCR REading
H. Denton
A. Bournia

OFFICE ▷	L:BWR	L:GCR				
SURNAME ▷	H. Smith:nb	RAClark				
DATE ▷	8/1/72	8/1/72				

Form AEC-318 (Rev. 9-53) AECM 0240 GPO e13—16—81465-1 445-678

Distribution
Docket Files
GCR Reading File
W. Gammill
A. Bournia
H. Smith
G. Williams

AUG 23 1972

Docket No. 50-410

Dr. Isaac Van der Hoven, Chief
Air Resources Environmental
Laboratory
National Oceanic & Atmospheric
Administration
8060 - 13th Street
Silver Spring, Maryland 20910

Application: Niagara Mohawk Power Corporation
(Nine Mile Point Unit 2)

Dear Dr. Van der Hoven:

This supplements previous correspondence with you concerning the above application. The following amendment to that application is enclosed for your information and use:

Amendment No. 1, dated August 18, 1972

This amendment consists of revised and supplemental information to be inserted in the Preliminary Safety Analysis Report.

Sincerely,

Robert A. Clark, Chief
Gas Cooled Reactors Branch
Directorate of Licensing

Enclosure:
As stated

OFFICE ▶	L:BWR	GCR:L				
SURNAME ▶	GWilliams	RAClark				
DATE ▶	8/23/72	8/23/72				

AUG 2 3 1972

Distribution
Docket Files
GCR Reading File
W. Gammill
A. Bournia
H. Smith
G. Williams

T:bWR GCR:
GWilliams MAClarke
8/23/72 8/23/72

February 15, 1973

Docket No. 50-410

Mr. James Devine, Seismology Group
National Oceanic & Atmospheric Admin.
Environmental Research Laboratories
Washington Science Center
Rockville, Maryland 20852

Subject: Niagara Mohawk Power Corp. (Nine Mile Point, Unit 2)

The following documents concerning our review of the subject facility are transmitted for your information:

/_/ Notice of Receipt of Application.

/_/ Draft Environmental Statement, dated _____.

/_/ Final Environmental Statement, dated _____.

/_/ Safety Evaluation, or Supplement No. ___, dated _____.

/_/ Notice of Hearing on Application for Construction Permit.

/_/ Notice of Consideration of Issuance of Facility Operating License.

/_/ Application and Safety Analysis Report, Vol. _____.

/X/ Amendment No. 7 to Application/SAR, dated 2-13-73.

/_/ Construction Permit No. CPPR-_____, dated _____.

/_/ Facility Operating License No. DPR-_____, dated _____.

/_/ Technical Specifications, or Change No._____, dated _____.

/_/ Other:_____

Directorate of Licensing

Enclosures:
As stated

cc:

OFFICE ▶	L:GCR					Consult
SURNAME ▶	HGearin					
DATE ▶	2/13/72					

Form AEC-318 (Rev. 9-53) AECM 0240 GPO 643-16-81465-1 445-678

Docket No. 50-410 January 30, 1973

Mr. James Devine
U. S. Oceanic & Atmospheric Admin.
Environmental Research Laboratories
Washington Science Center
Rockville, Maryland 20852

Subject: Niagara Mohawk Power Corp. (Nine Mile Point Unit 2)

The following documents concerning our review of the subject facility are transmitted for your information:

/_/ Notice of Receipt of Application.

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/_/ Final Environmental Statement, dated _____.

/_/ Safety Evaluation, or Supplement No. ___, dated _____.

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/_/ Notice of Consideration of Issuance of Facility Operating License.

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/_/ Construction Permit No. CPPR-_____, dated _____.

/_/ Facility Operating License No. DPR-_____, dated _____.

/_/ Technical Specifications, or Change No._____, dated _____.

/_/ Other:_____

Directorate of Licensing

Enclosures:
As stated

cc:

OFFICE ▶	L:GCR					consult
SURNAME ▶	HGearin					
DATE ▶	1/30/73					

Form AEC-318 (Rev. 9-53) AECM 0240 GPO e43-16-81465-1 445-678

Docket No. 50-410 January 11, 1973

Mr. James Devine, Seismology Group
National Oceanic & Atmospheric Admin.
Environmental Research Laboratories
Washington Science Center
Rockville, Maryland 20852

Subject: Niagara Mohawk Power Corp. (Nine Mile Point Unit 2)

The following documents concerning our review of the subject facility are transmitted for your information:

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/_/ Facility Operating License No. DPR-_____, dated _____.

/_/ Technical Specifications, or Change No._____, dated _____.

/_/ Other:_____

Directorate of Licensing

Enclosures:
As stated

cc:

OFFICE ▶	L:GCR					Consult
SURNAME ▶	HGearin					
DATE ▶	1/11/73					

Form AEC-318 (Rev. 9-53) AECM 0240 GPO e43—16—81465-1 445-678

DEC 12 1972

Docket No. 50-410

Mr. James Devine
Seismology Group
U. S. National Oceanic & Atmospheric
Administration
Environmental Research Laboratories
Washington Science Center
Rockville, Maryland 20852

Application: Niagara Mohawk Power Corporation
(Nine Mile Point Unit 2)

Dear Mr. Devine:

This supplements previous correspondence with you concerning the above application. A copy of an amendment to that application is enclosed for your information and use:

Amendment No. 4, dated December 7, 1972

This amendment consists of supplemental information to be inserted in the Preliminary Safety Analysis Report.

Sincerely,

Original signed by
Robert A. Clark

Robert A. Clark, Chief
Gas Cooled Reactors Branch
Directorate of Licensing

Enclosure:
As stated

Distribution:
Docket File
GCR Reading
H. Gearin
A. Bournia

OFFICE ▷	L:GCR	L:GCR				
SURNAME ▷	HGearin:nb by	RAClark				Concurred
DATE ▷	12/12/72	12/12/72				

NOV 30 1972

Docket No. 50-410

Mr. James Devine
U. S. Department of Commerce
National Oceanic & Atmospheric
Administration
National Ocean Survey
Washington Science Center
Rockville, Maryland 20852

Application: Niagara Mohawk Power Corporation
(Nine Mile Point Unit 2)

Dear Mr. Devine:

This supplements previous correspondence with you concerning the above application. A copy of an amendment to that application is enclosed for your information and use:

Amendment No. 3, dated November 27, 1972

This amendment consists of supplemental information to be inserted in the Preliminary Safety Analysis Report.

Sincerely,

Original signed by:
Steven A. Varga

Robert A. Clark, Chief
Gas Cooled Reactors Branch
Directorate of Licensing

Enclosure:
As stated
Distribution:
Docket File
GCR R ading
H. Gearin
A. Bournia

OFFICE ▷	L:GCR	L:GCR				Concurr
SURNAME ▷	HGearin:nb	RAClark				
DATE ▷	11/30/72	11/ /72				

Distribution:
Docket File
GER reading
A. Bournia
H. Gearin (2)

NOV 17 1972

Docket No. 50-410

Mr. James Devine
U. S. Department of Commerce
National Oceanic & Atmospheric
Administration
National Ocean Survey
Washington Science Center
Rockville, Maryland 20852

Application: Niagara Mohawk Power Corporation
(Nine Mile Point Unit 2)

Dear Mr. Devine:

This supplements previous correspondence with you concerning the above application. A copy of an amendment to that application is enclosed for your information and use:

Amendment No. 2, dated November 14, 1972 (first part only)

This amendment consists of supplemental information to be inserted in the Preliminary Safety Analysis Report.

Sincerely,

Original signed by
Robert A. Clark

Robert A. Clark, Chief
Gas Cooled Reactors Branch
Directorate of Licensing

Enclosure:
As stated

OFFICE ▷	L:GCR	L:GCR				Consult
SURNAME ▷	HGearin:nb	RAClark				
DATE ▷	11/17/72	11/17/72				

NOV 1 2 1992

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Mr. James Devine
U. S. Department of Commerce
National Oceanic & Atmospheric
Administration
National Ocean Survey
Washington Science Center
Rockville, Maryland 20852

Application: Niagara Mohawk Power Corporation (Nine Mile Point Unit 2)

Dear Mr. Devine:

This supplements previous correspondence with you concerning the above application. The following amendment to that application is enclosed for your information and use:

Amendment No. 1, dated August 16, 1972 (transmitted by letter dated August 18, 1972, from LeBeouf, Lamb, Leiby & MacRae)

This amendment consists of revised and supplemental information to be inserted in the Preliminary Safety Analysis Report.

Sincerely,

Original signed by
Robert A. Clark

Robert A. Clark, Chief
Gas Cooled Reactors Branch
Directorate of Licensing

Enclosure:
As stated

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GCR Reading
H. Denton
A. Bournia H. Smith (2)

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DATE ▶	8/1/72	8/1/72				

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Docket No. 50-410

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Mr. James Devine
U. S. Department of Commerce
National Oceanic & Atmospheric
Administration
National Ocean Survey
Washington Science Center
Rockville, Maryland 20852

Application: Niagara Mohawk Power Corporation
(Nine Mile Point Unit 2)

Dear Mr. Devine:

This supplements previous correspondence with you concerning the above application. A copy of an amendment to that application is enclosed for your information and use:

Amendment No. 1, dated August 18, 1972

This amendment consists of revised and supplemental information to be inserted in the Preliminary Safety Analysis Report.

Sincerely,

Robert A. Clark, Chief
Gas Cooled Reactors Branch
Directorate of Licensing

Enclosure:
As stated

OFFICE ▶	L:BWR	GCR:L				
SURNAME ▶	GWilliams	RAClark				
DATE ▶	8/23/72	8/23/72				

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JUN 29 1972

Docket No. 50-410

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A. Bournia

Mr. James Devine
U. S. Department of Commerce
National Oceanic & Atmospheric
Administration
National Ocean Survey
Washington Science Center
Rockville, Maryland 20852

Dear Mr. Devine:

In accordance with the understandings which were reflected in the Chairman's letter of October 3, 1963, to Admiral Karo, I am forwarding the Preliminary Safety Analysis Report filed by Niagara Mohawk Power Corporation for its Nine Mile Point Unit 2 to be located in Oswego County, New York. The proposed reactor is of the boiling water type and is designed for initial operation at approximately 3300 megawatts thermal

We would appreciate receiving a report from the National Ocean Survey concerning seismological characteristics of the proposed reactor location which may have a bearing upon our safety evaluation of the proposed site. Your prompt review and comments will be appreciated.

Reimbursement for services rendered in connection with this review should be charged to Order No. WA-1943-72.

Sincerely,

/S/

Robert A. Clark, Chief
Gas Cooled Reactors Branch
Directorate of Licensing

Enclosures:
Vols. 1-6, PSAR (Exh. D)

OFFICE ▶	L:BRR	L:BCR				
SURNAME ▶	HSmith:et	RAClark				
DATE ▶	6/28/72	6/29/72				

Form AEC-318 (Rev. 9-53) AECM 0240 GPO e43-16-81465-1 445-678

Docket No. 50-410

JUN 29 1972

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H. Smith
A. Bournia

Dr. Isaac Van der Hoven, Chief
Air Resources Environmental
Laboratory
National Oceanic & Atmospheric
Administration
8060 - 13th Street
Silver Spring, Maryland 20910

Dear Dr. Van der Hoven:

Niagara Mohawk Power Corporation has filed an application for a construction permit and facility operating license to authorize construction and operation of a nuclear reactor designated as Nine Mile Point Unit 2 to be located in Oswego County, New York. The Preliminary Safety Analysis Report for the proposed reactor is enclosed.

We would appreciate receiving a report from the Air Resources Environmental Laboratory, National Oceanic & Atmospheric Administration, on the meteorological aspects of the proposed reactor location which might have a bearing upon our safety review. Your prompt review and comments will be appreciated.

Sincerely,

/S/
Robert A. Clark, Chief
Gas Cooled Reactors Branch
Directorate of Licensing

Enclosures:
Vols. 1-6, PSAR

OFFICE ▶	L:BWR	L:GCR				
SURNAME ▶	HSmith:et	RAClark				
DATE ▶	6/28/72	6/29/72				

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