

ATTACHMENT A

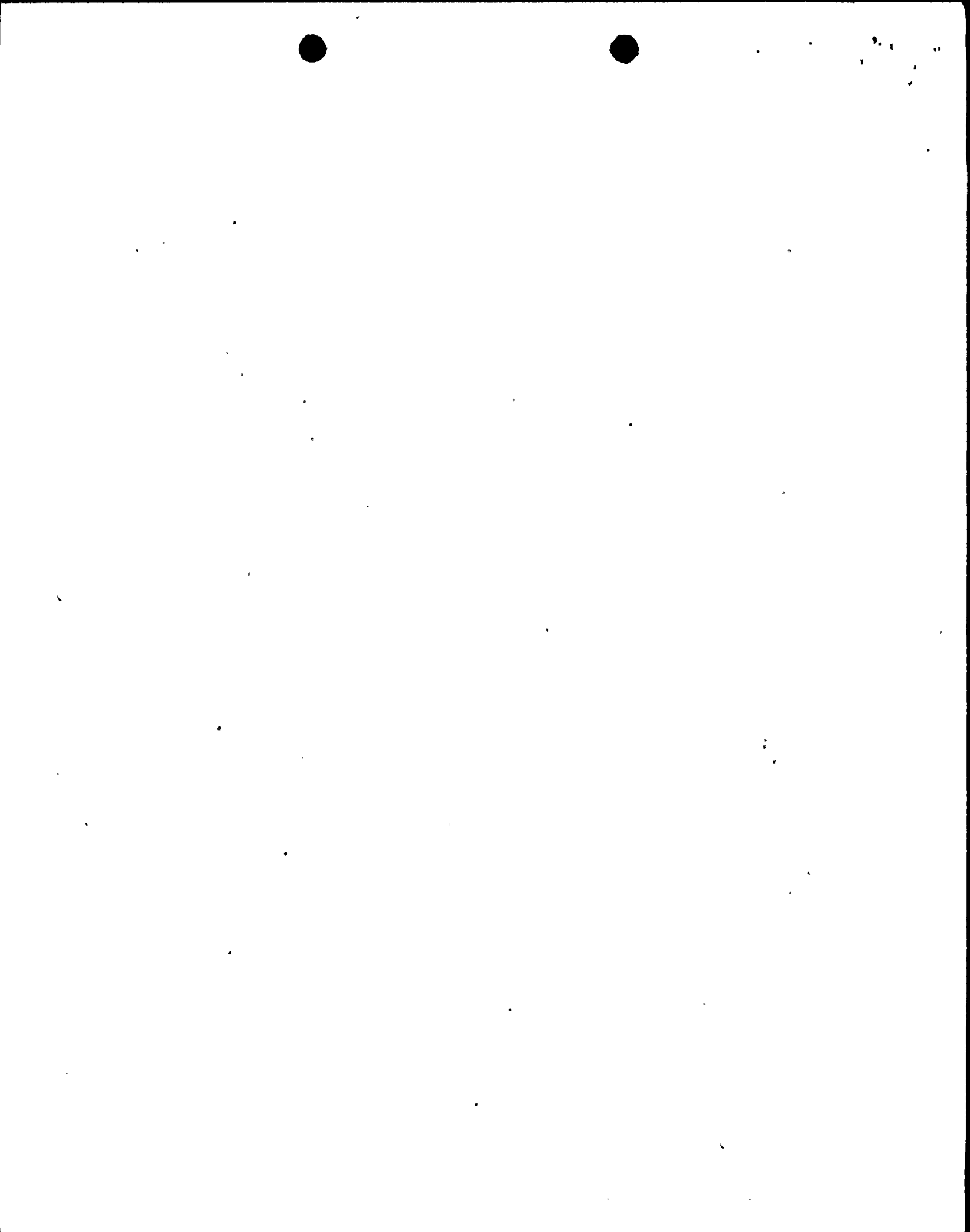
Niagara Mohawk Power Corporation

License No. DPR-63

Docket No. 50-220

Proposed Changes to Technical Specifications (Appendix B)

Replace Pages 4 and 7 with the attached revised pages.
These pages were completely retyped with changes as marked.



2.0 LIMITING CONDITIONS FOR OPERATION

2.1 Thermal

2.1.1 Maximum ΔT

OBJECTIVE

The purpose of this Specification is to limit the thermal stress to the aquatic ecosystem by limiting the maximum ΔT across the main condenser inlet and the screenwell discharge bay.

SPECIFICATION

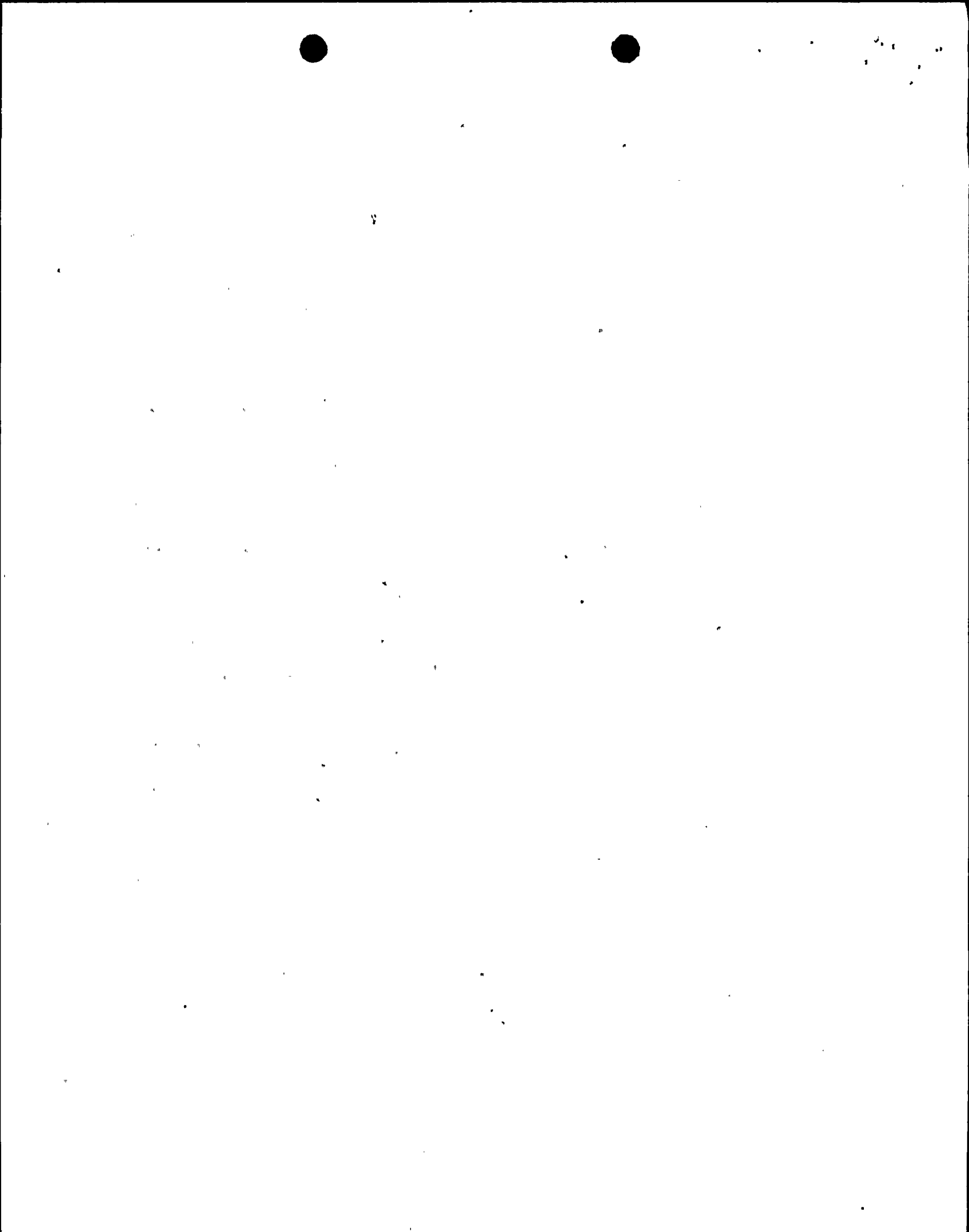
Maximum ΔT across the main condenser inlet and the screenwell discharge bay during normal Station operation shall be limited to 35°F. If during normal Station operation the ΔT exceeds 35°F for eight consecutive hours, the cause of this deviation shall be investigated and positive action shall be taken to prevent any such deviation in the future. In addition, a report shall be submitted in accordance with Section 5.6.2.

MONITORING REQUIREMENT

The ΔT across the main condenser inlet and the screenwell discharge bay shall be monitored and recorded once per hour. Two resistance temperature detectors (RTD) shall measure the temperature in each location. The RTD's shall be accurate to $\pm 1.0^\circ\text{F}$.

BASES

Lake studies and operating experience indicate that mortality of plankton, eggs, and larvae entrained in the condenser will not have a significant effect on the lake population of the species involved.^{2,3} With the main condenser operating at design heat load and circulating water at 95% design flow, the condenser temperature rise should not exceed 36°F. Since the service water discharges downstream of the condenser outlet, the corresponding station cooling water temperature rise across the plant should not exceed 35°F.



2.1.5 Heat Treatment of Circulating Water System

OBJECTIVE

To limit the thermal stress to the aquatic ecosystem by limiting the circulating water temperature increase over lake ambient temperature resulting from tempering and reverse flow procedures.

SPECIFICATION

When the lake inlet temperature is between 32°F and 50°F, the discharge temperature shall not exceed the lake inlet temperature by more than 50°F, except during reverse flow operations. At no time during tempering, except during reverse flow operations, shall the discharge temperature exceed 85°F.

Following a flow reversal, the discharge temperature shall not exceed the lake inlet temperature by more than the following values:

- 70°F for the first hour following flow reversal
- 60°F for the second hour following flow reversal
- 50°F two hours following flow reversal and thereafter

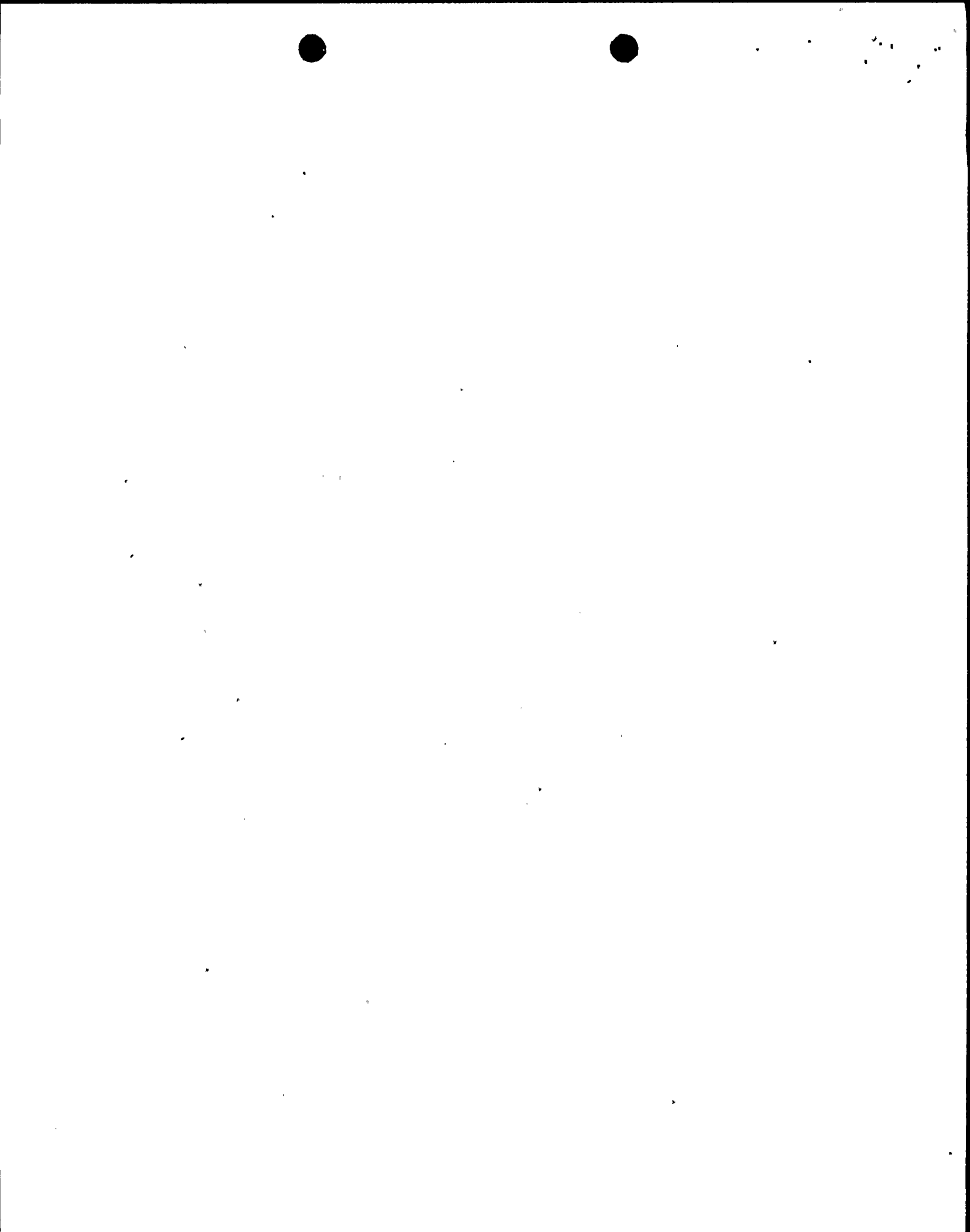
MONITORING REQUIREMENT

The discharge temperature shall be monitored and recorded hourly as provided in the Monitoring Requirement of Section 2.1.1.

BASES

When lake temperature is less than 50°F, part of the discharge flow in the screenwell may be recirculated to the intake to maintain condenser inlet temperature between 40°F and 50°F. This procedure is known as "tempering". The maximum circulating water temperature rise due to tempering is 18°F and occurs when the lake temperature is 32°F. When this is added to the 35°F ΔT , the maximum rise is 53°F over lake inlet temperature. Maintaining the condenser inlet temperature at no more than 50°F during tempering ensures that the discharge temperature will not exceed 85°F during tempering.

The amount of tempering is controlled by moving a gate in the screenwell, and is normally adjusted to maintain the optimal condenser inlet temperature of approximately 45°F. The gate can be adjusted to achieve this temperature within an error of approximately 5°F. This error includes minor tempering gate leakages which may be present at any time including when lake temperature is in excess of 50°F. This leakage is not considered tempering for the purpose of this specification.



ATTACHMENT B

NIAGARA MOHAWK POWER CORPORATION

LICENSE NO. DPR-63

DOCKET NO.. 50-220.

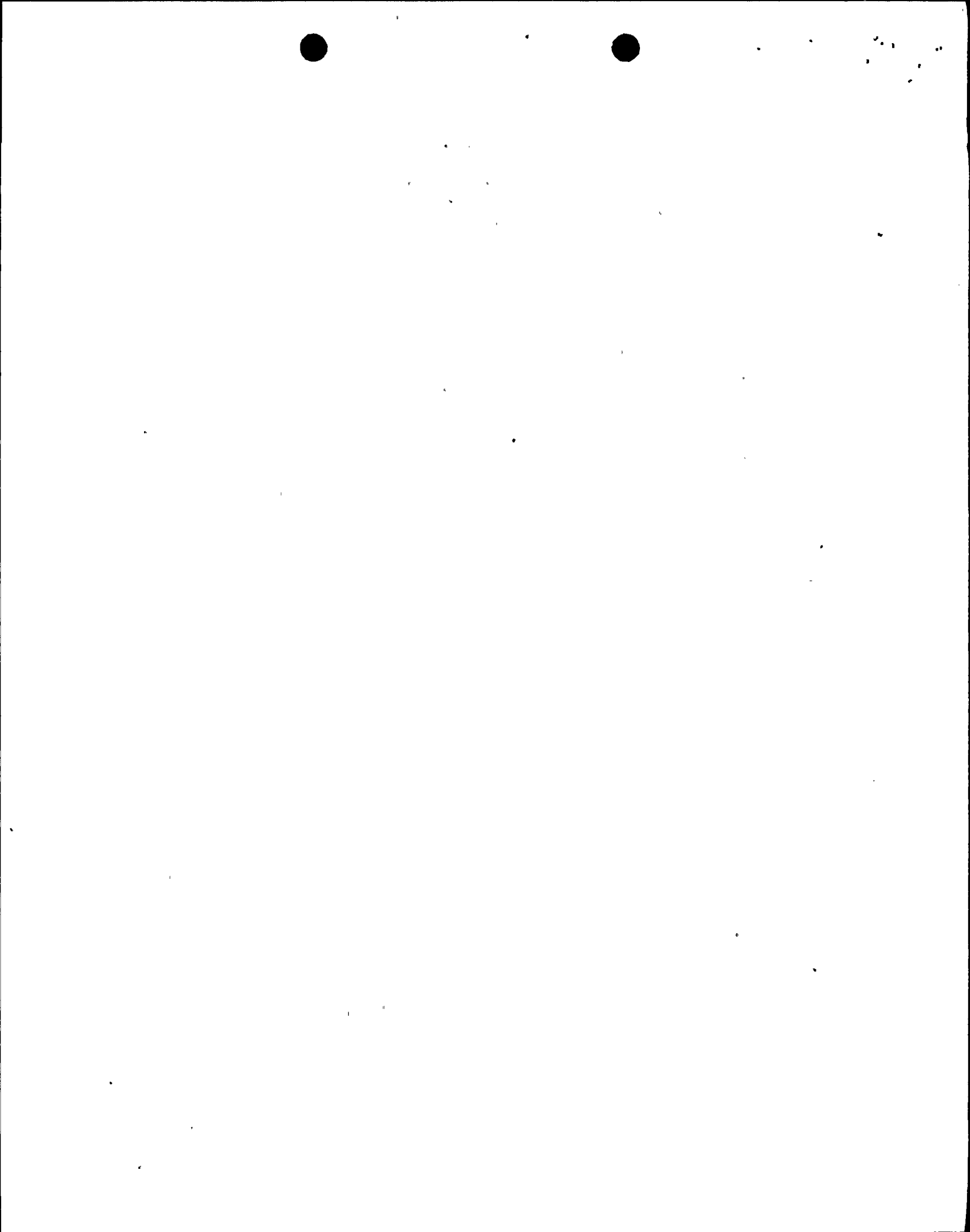
Supporting Information

Changes to Sections 2.1.1, 2.1.5, and Bases of the Environmental Technical Specifications relating to thermal limits are herein proposed by Niagara Mohawk Power Corporation. These changes request the maximum ΔT across the main condenser inlet and the screenwell discharge bay during normal Station operation be increased to 35°F.

Attachment 1 is Niagara Mohawk's request to the NYSDEC for NPDES permit modification which supports increasing the ΔT limitations. The report concludes that implementation of the proposal will have no adverse environmental effects. This conclusion is supported in the report by the following considerations:

1. The dynamics and shape of the discharge plume will remain similar to existing conditions.
2. Only a slight increase in plume temperature and discharge zone will occur.
3. The aquatic community will remain intact with no appreciable harm resulting from the increase.

The above information provides justification for the proposed revision. Corrective actions currently required in the event of a violation of Environmental Technical Specifications will remain in effect. The New York State Department of Environmental Conservation has reviewed this increase in the ΔT limitation and has indicated that this request is reasonable and will not violate thermal criteria or the water quality standards (Attachment 2).



ATTACHMENT C

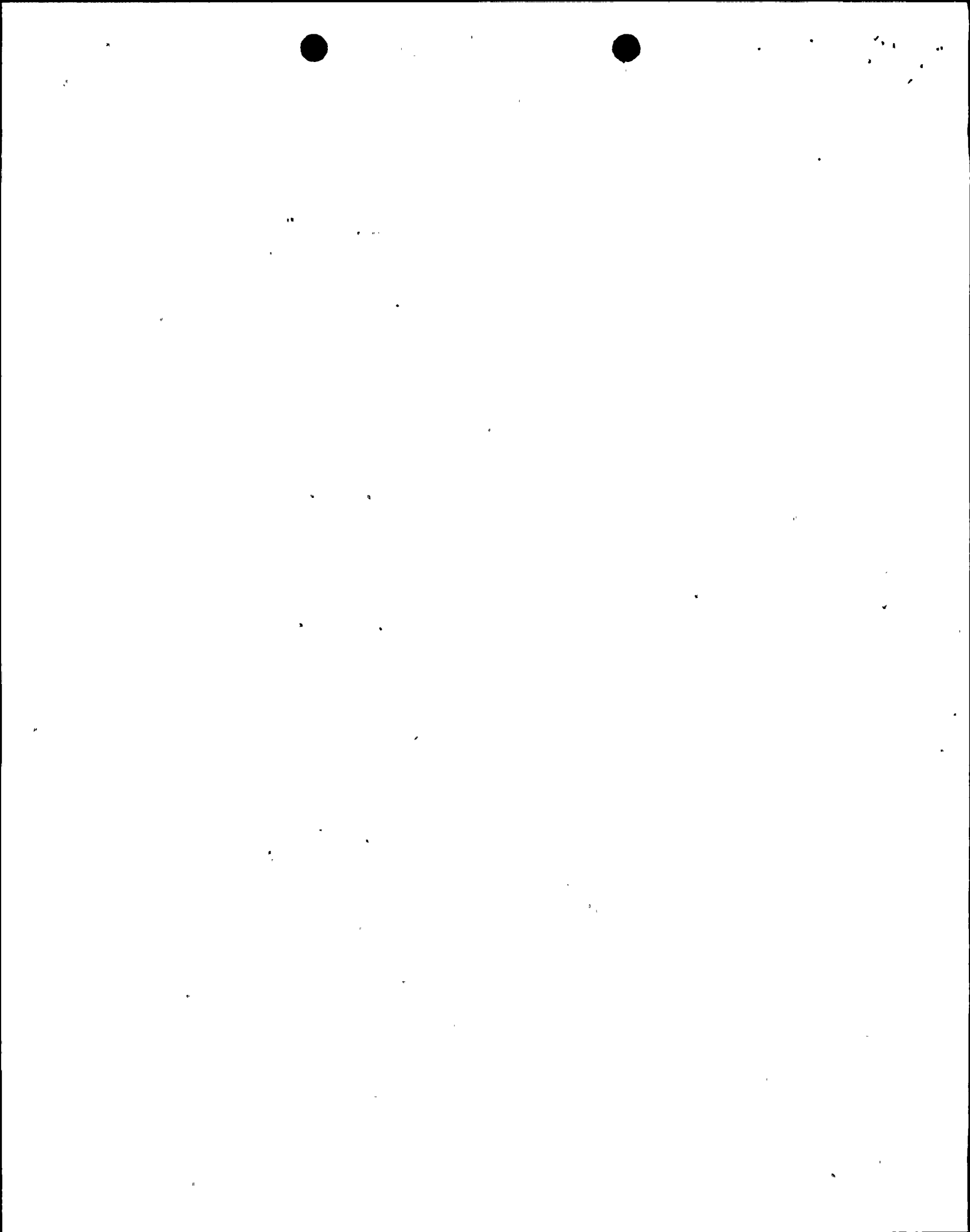
NIAGARA MOHAWK POWER CORPORATION

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Amendment Classification

The proposed amendment to the Operating License has been evaluated and determined to fall within the definition of Class II of 10CFR 170.22 thereby requiring a fee of one thousand two hundred dollars (\$1,200.00).



June 11, 1980

Mr. George K. Hansen, P.E.
 Chief, SPDES Permit Section
 Room 201
 New York State Department
 of Environmental Conservation
 50 Wolf Road
 Albany, NY 12233

Re: Niagara Mohawk Power Corporation
 Request for NPDES Permit Modification
 NPDES Permit Number NY0001015
 Nine Mile Point Unit 1 and Unit 2
 Scriba (T), Oswego County

Dear Mr. Hansen:

In accordance with Condition 2 of the Nine Mile Point NPDES Permit (NY0001015), Niagara Mohawk Power Corporation herein requests modification to Conditions 10.b.(1)(a), 10.b.(1)(b), and 10.b.(1)(c) of said permit concerning thermal discharge limitations for Unit No. 1.

The maximum circulating water temperature rise of 32°F appearing in the NPDES Permit (Condition 10.b.(1)(a)) was originally computed based on a design objective condenser temperature heat rejection of 4.0×10^9 Btu/hr, a condenser flow nominally rated by the manufacturer at 250,000 gpm, minimum service water flow of 18,000 gpm and service water heat rejection of $.18 \times 10^9$ Btu/hr.

Based on current operating experience, it has been found that values for condenser heat rejection and condenser flow rate for conditions of maximum plant generation would not be the same as those values used in the original computation, necessitating a change in the permit. For operation of the plant with maximum generation, considering plant and condenser efficiencies, the steady state condenser heat rejection has been estimated not to exceed 4.2×10^9 Btu/hr making the total heat addition (including service water heat) not to exceed 4.38×10^9 Btu/hr. Also, the condenser flow has been found to be operationally rated at 246,000 gpm. With 95% condenser and service water pump effectiveness, the minimum steady state cooling water flow expected is $.95 (246,000 + 18,000) = 250,800$ gpm.



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Based on a total flow of 250,800 gpm and total heat addition of 4.38×10^9 Btu/hr, the maximum expected temperature rise across the circulating water is 34.9°F or 35°F .

Since maximum discharge temperature is based on a maximum 80°F summer lake temperature, maximum expected discharge temperature is 115°F .

On the basis of the above, Niagara Mohawk Power Corporation requests that the limitations for thermal discharge be changed as follows:

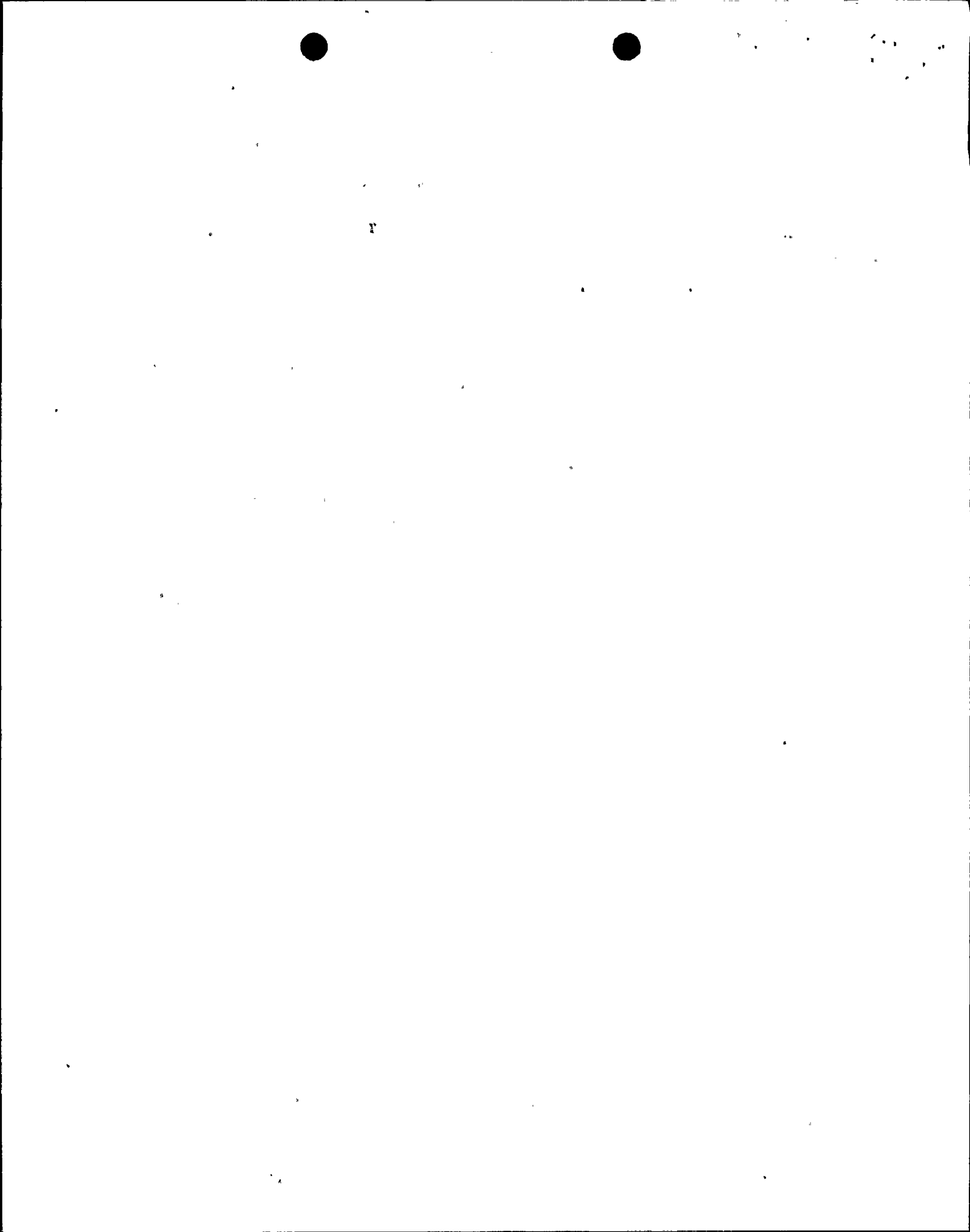
	<u>Net Rate of Addition of Heat</u>		<u>Intake-Discharge Temperature Difference*</u>		<u>Discharge Temperature</u>	
	<u>Billion Kilocalories/Hr.</u>	<u>Billion Btu/Hr.</u>	<u>$^\circ\text{C}$</u>	<u>$^\circ\text{F}$</u>	<u>$^\circ\text{C}$</u>	<u>$^\circ\text{F}$</u>
Existing NPDES and Draft SPDES Limit	1.06	4.20	17.8	32	44.5	112
Requested Change	1.11	4.38	19.4	35	46.1	115

*The temperature of the intake water refers to that temperature which is present after intake water tempering.

Therefore, Conditions 10.b. (1) (a), 10.b. (1) (b), and 10.b. (1) (c) should be modified to read as follows:

- 10.b. (1) (a): "The discharge temperature shall not exceed 46.1°C (115°F)".
- 10.b. (1) (b): "The discharge-intake temperature difference shall not exceed 19.4°C (35°F)".
- 10.b. (1) (c): "The net rate of addition of heat to the receiving water shall not exceed 1.11 billion kilocalories/hr (4.38 Billion Btu/hr)".

A biological evaluation in support of the requested modifications is attached.



June 11, 1980

Any questions regarding this request for modification to NPDES Permit Number NY0001015 should be directed to Mr. Gene P. Metti in our Syracuse office at (315) 474-1511, ext. 7373.

Thank you for your attention to this matter.

Very truly yours,



John M. Toennies
Environmental Affairs Director

FJG:jw

Attachment

bxc: M. Silliman (w/attach.)
T. Perkins (w/o attach.)
T. Roman (w/o attach.)
H. Flanagan (w/o attach.)
G. Metti (w/attach.)
C. Blum (w/o attach.)
F. Grabowski (w/o attach.)

