AUG 29 1974

Docket Nos. 50-254
and 50-265

Commonwealth Edison Company
ATTN: Mr. J. S. Abel
Nuclear Licensing Administrator
Boiling Water Reactor
P. O. Box 767
Chicago Illinois 60690

Amendment Nos. 13 and 07 to
License Nos. DPR-29 and DPR-30

Change No. 21 to Tech. Specs.

Gentlemen:

Your letters dated July 20, 1973, November 14, 1973, and April 5, 1974, proposed changes to operating licenses DPR-29 and DPR-30, Appendix B Non-radiological Technical Specifications.

The proposed changes were requested to provide:

(1) relief from the limiting conditions of operation 1.1 Chlorine Effluent; and

(2) a suspension of certain parts of the environmental monitoring program during the construction and changeover to the closed cycle cooling system.

Item (1) has been the subject of a special test program.[1,2,3] This program was reviewed and approved by the staff. The ensuing results were evaluated by the staff and the proposed change was considered.[4] Item (2) was requested earlier,[5] but had to be reviewed in conjunction with the semiannual and special reports of the environmental monitoring programs through 1973.[6-12] The reports were reviewed and evaluated by the staff and the proposed change was considered.[13]

The proposed changes to Appendix B Non-radiological Technical Specifications as presented in the April 5, 1974, letter are approved with the following minor modifications as agreed upon by your staff:

1. Reference 3, page 4 is as follows: Letter Mr. J. S. Abel to Mr. D. J. Skovholt, "Quad-Cities Stations Hypochlorination Test Program," dated March 12, 1974.

2. On Page 9, SURVEILLANCE REQUIREMENT 2.3 Fish Impingement:

   Paragraph two is changed to read, (underlined words added) "All fish except gizzard shad and carp will be counted..."
   and the following sentence added: "The number and weight of gizzard shad and carp shall be estimated by appropriate subsampling."

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AEC-318 (Rev. 9-53) AECM 0240 ☆ U. S. GOVERNMENT PRINTING OFFICE: 1974-526-166

3. On page 12, LIMITING CONDITIONS FOR OPERATION 1.4 Chemical Effluent Part A Other Chemicals, is changed to read, "These chemicals are discharged to the circulating water system. No other chemicals shall be discharged. The amount of chemicals discharged may vary as operations require, but will remain within the annual limits above."

The above changes are associated only with environmental effects and do not involve any radiological or reactor safety considerations. Accordingly, Amendment Nos. 13 and 07 to Facility Operating Licenses Nos. DPR-29 and DPR-30, respectively, are enclosed revising the Appendix B, Technical Specifications thereto to authorize the requested changes. A copy of a notice which is being forwarded to the Office of the Federal Register for publication relating to this action also is enclosed for your information.

Sincerely,

/s/ Signed

Karl R. Goller, Assistant Director
for Operating Reactors
Directorate of Licensing

Enclosures:
1. Negative Declaration
2. Amendment Nos. 13 and 07 to License DPR-29 and DPR-30
3. Federal Register Notice
4. Revised Appendix B

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cc's: w/enclosures

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Iowa-Illinois Gas and
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Rock Island, Illinois 61201

Mr. Leroy Stratton
Bureau of Radiological Health
Illinois Department of Public Health (w/cy of CEC's ltr 7/20/73, 11/14/73, &
Springfield, Illinois 62706 4/5/74)

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ESB - J. Bolen
RO (3)
AEC-PDR
LOCAL-PDR

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References

1. Letter Mr. J. S. Abel to Mr. D. J. Skovholt, dated September 25, 1973.

2. Letter Mr. J. S. Abel to Mr. D. J. Skovholt, dated November 14, 1973.

3. Letter Mr. J. S. Abel to Mr. D. J. Skovholt, dated March 12, 1974.

4. Memorandum H. Denton to D. R. Muller, TAR No. 405, dated June 19, 1974.

5. Letter Mr. Byron Lee, Jr. to Mr. D. J. Skovholt, dated July 20, 1973.

6. "Operational Environmental Monitoring in the Mississippi River near Quad Cities Stations, February 1973 through July 1973."

7. Semiannual Report to Commonwealth Edison Company, "Operational Environmental Monitoring in the Mississippi River near Quad Cities Station, February 1973 through July 1973," Industrial Biotest Laboratories, Inc., Northbrook, Illinois.

8. "Results of Temperature Surveys of Quad Cities Nuclear Power Station, February 1973 through August 1973," Iowa Institutes of Hydraulic Research, University of Iowa, Iowa City, Iowa.

9. Report on Side Jet Operation at the Quad Cities Station submitted October 3, 1972, entitled, "Determination of Thermal Effects in the Mississippi River near Quad Cities Station," January-July 1972, Vol. 1 and Vol. 2.

10. Quad Cities Stations Semiannual Nonradiological Environmental Report, submitted March 15, 1973, revised April 20, 1973, entitled, "Determination of Thermal Effects in the Mississippi River near Quad Cities Station," August 1972 through January 1973, Vol. 1 and 2.

11. Quad Cities Nuclear Power Stations Semiannual Report Section II, submitted August 27, 1973, entitled, "Radiological Waste and Environmental Monitoring," January through June 1973.

12. Performance of the Diffuser-Pipe System for Discharging Condenser Cooling Water at the Quad Cities Nuclear Power Station, September 14, 1973. (Item 10 was omitted by error from Item 11, above.)

13. Memorandum H. Denton to D. R. Muller, TAR No. 644, dated June 19, 1974.

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NEGATIVE DECLARATION AND ENVIRONMENTAL IMPACT APPRAISAL

REGARDING PROPOSED CHANGES

TO THE

TECHNICAL SPECIFICATIONS APPENDIX B

OF

LICENSE NOS. DPR-29 AND DPR-30

QUAD-CITIES NUCLEAR POWER STATION UNITS 1 AND 2

DOCKET NOS. 50-254 AND 50-265

AUG 29 1974

NEGATIVE DECLARATION

The Atomic Energy Commission (the Commission) has considered the issuance of changes to the Technical Specifications Appendix B of Facility Operating License Nos. DPR-29 and DPR-30. These changes would authorize the Commonwealth Edison Company (the licensee) to operate the Quad-Cities Nuclear Power Station Units 1 and 2 with increased concentrations of total free and combined chlorine and a suspension of certain portions of the environmental monitoring program.

The U. S. Atomic Energy Commission, Directorate of Licensing, has prepared an environmental impact appraisal for the proposed change to the Technical Specifications Appendix B, of License Nos. DPR-29 and DPR-30, Quad-Cities Nuclear Power Station, described above. On the basis of this appraisal, we have concluded that an environmental impact statement for this particular action is not warranted because there will be no environmental impact attributable to the proposed action other than that which has already been predicted and described in the Commission's Final Environmental Statement for the Quad-Cities Nuclear Power Station Units 1 and 2 published in September 1972. The environmental impact appraisal, which follows, is available for public inspection.

ENVIRONMENTAL IMPACT APPRAISAL

1. Description of the Proposed Action

By letters dated July 20, 1973, November 11, 1973, and April 5, 1974, the Commonwealth Edison Company (CECo) submitted proposed changes to the Technical Specifications Appendix B to License Nos. DPR-29 and DPR-30. The proposed changes were requested to provide:

a. relief from the limiting conditions of operation 1.1 Chlorine Effluent; and

b. a suspension of certain portions of the environmental monitoring program during the construction and changeover to a closed-cycle condenser cooling system.

Item a. was requested because the condenser chlorination program was not successful and the concentrations of total free and combined chlorine in the condenser discharge water exceeded the limiting conditions of operation. In order to solve the problem a test program was initiated which was reviewed and approved by the staff. The test program was initiated to determine a technique for successful condenser chlorinators and yet have an acceptable effluent for return to the Mississippi River. The test program was completed and the results reported to the staff.

Item b. came about when construction of a four foot diffuser became necessary to complete the spray-canal condenser cooling water system. The construction, along with the mixed mode operation, made most of the data meaningless. A full year of data has been collected while operating the sixteen foot diffuser in an open cycle mode and additional data would not prove to be of value until the conversion to the closed-cycle condenser cooling system is completed and in operation.

The applicant is presently licensed to possess and operate the Quad-Cities Nuclear Power Station Units 1 and 2 located in Rock Island County, Illinois, at power levels up to 2,511 MWt each. The proposed changes do not result in an increase in power levels.

2. Environmental Impacts of the Proposed Action

Potential environmental impacts associated with the proposed action are: (1) those which might be ascribed to any condenser cooling water chlorination system in a once-through mode of operation, and (2) those which might be associated with the termination of any environmental monitoring program.

The Final Environmental Statement evaluated the impact of a maximum concentration of 0.1 ppm total free and combined chlorine in the water released to the river. The maximum level of total free and combined chlorine permitted in the river to assure that the aquatic biota will not be adversely effected is also 0.1 ppm. Due to the difficulty of making accurate measurements of small quantities of chlorine in the vicinity of the diffuser the limit of 0.1 ppm was placed on the amount of total free and combined chlorine permitted in the discharge bay. This was to assure that no more than 0.1 ppm would be experienced by the aquatic biota in the river. The test program showed that the concentrations of total and combined chlorine in the river were limited to 0.05 ppm with the new higher concentrations of total free and combined chlorine in the discharge bay, at the same time the condensers were maintained in an operable condition. Therefore, based on the test results, the concentrations of the total free and combined chlorine in the discharge bay can be allowed to increase to 0.5 ppm with all pumps operating and proportionately higher concentrations with fewer pumps to a maximum of 1.5 ppm with two pumps operating without increasing the level of total free and combined chlorine in the river above that evaluated in the Final Environmental Statement.

The environmental monitoring program was designed to show changes in the aquatic biota in the river due to the operation of the station. Cessation of the program would not be an environmental impact per se, but could permit an impact to go unnoticed. In view of the fact that a full years data has been collected, that the construction would make some data collection difficult and/or meaningless, that the portion of the program that required fish count has been retained, and that a new requirement on chemical effluent limitations has been added, we conclude that suspension of certain portions of the environmental monitoring program is justified.

For the above operating conditions no environmental impact other than that described in the Commission's Final Environmental Statement (FES) for the Quad Cities Nuclear Power Station Units 1 and 2, Docket Nos. 50-254 and 50-265, dated September 1972 can be predicted for the proposed action.

3. Conclusion and Basis for Negative Declaration

On the basis of the foregoing analysis and the staff evaluation,[1,2] it is concluded that there will be no environmental impact attributable to the proposed action other than has already been predicted and described in the Commission's FES for the Quad Cities Nuclear Power Station Units 1 and 2. Having made this conclusion, the Commission has further concluded that no environmental impact statement for the proposed action need be prepared, and that a negative declaration to this effect is appropriate.

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1 Memo H. R. Denton to D. R. Muller (TAR 405) dated July 19, 1974.

2 Memo H. R. Denton to D. R. Muller (TAR 644) dated July 19, 1974.

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COMMONWEALTH EDISON COMPANY

DOCKET NOS. 50-254 AND 50-265

QUAD-CITIES NUCLEAR POWER STATION UNITS 1 & 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment Nos. 13 and 07
License Nos. DPR-29 and 30

1. The Atomic Energy Commission (the Commission) has found that:

   A. The applications for amendment by Commonwealth Edison Company (the licensee) dated July 20, 1973, November 14, 1973, and April 5, 1974, comply with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public, and

   E. Prior public notice of this amendment is not required since the amendment does not involve a significant hazards consideration.

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2. Accordingly, Paragraphs 3.B of Facility License Nos. DPR-29 and DPR-30 is hereby amended to read as follows:

"(3) Technical Specifications:

The Technical Specifications contained in Appendices A and B, attached to Facility Operating License Nos. DPR-29 and DPR-30 are revised as indicated in the attachment to this license amendment. The Technical Specifications, as revised, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications, as revised by issued changes thereto through Change No. 21."

3. This license amendment is effective as of the date of its issuance.

FOR THE ATOMIC ENERGY COMMISSION

Karl R. Goller, Assistant Director
for Operating Reactors
Directorate of Licensing

Attachment:
Change No. 21 to Technical
Specifications

Date of Issuance: AUG 29 1974

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UNITED STATES ATOMIC ENERGY COMMISSION

DOCKET NUMBERS 50-254 AND 50-265

QUAD-CITIES STATION, UNITS 1 AND 2

COMMONWEALTH EDISON COMPANY

NOTICE OF ISSUANCE OF FACILITY LICENSE AMENDMENTS

Notice is hereby given that the U.S. Atomic Energy Commission (the Commission) has issued Amendment No. 13 to Facility Operating License No. DPR-29 and Amendment No. 07 to Facility Operating License No. DPR-30 to the Commonwealth Edison Company. Amendment No. 13 and Amendment No. 07 revise Technical Specifications Appendix B for operation of Quad-Cities Station, Units 1 and 2, respectively, located in County of Rock Island, State of Illinois.

The amendments terminate certain nonradiological environmental monitoring requirements. The application for amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter 1, which are set forth in the license amendments.

For further details with respect to these actions, see (1) the applications for the amendment dated July 20, 1973, November 14, 1973, and April 5, 1974; (2) Amendment No. 13 (14) to License No. DPR-29, (3) Amendment No. 07 (08) to License No. DPR-30, and (4) the negative Declaration.

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All of the above items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C., 20545, and at Moline Public Library, 504 17th Street Moline, Illinois.

A copy of items (2) thru (4) may be obtained upon request addressed to the United States Atomic Energy Commission, Washington, D.C. 20545, ATTN: Deputy Director for Reactor Projects, Directorate of Licensing, Regulation.

Dated at Bethesda, Maryland, this 29th day of August 1974.

FOR THE ATOMIC ENERGY COMMISSION

/s/
Gordon K. Dicker, Chief
Environmental Projects Branch #2
Directorate of Licensing

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DATE ➤	7/15/74	7/ /74	7/ /74	7/ /74		

ATTACHMENT TO LICENSE AMENDMENT NO. 13 AND 07

CHANGE NO. 21 TO TECHNICAL SPECIFICATIONS

FACILITY OPERATING LICENSE NOS. DPR-29 AND DPR-30

Replace Appendix entirely by the attached revised Appendix B.

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APPENDIX B

TO

OPERATING LICENSES DPR-29 AND DPR-30:

NON-RADIOLOGICAL TECHNICAL SPECIFICATIONS

AND BASES

FOR

QUAD CITIES STATION UNITS 1 AND 2

ROCK ISLAND COUNTY, ILLINOIS

COMMONWEALTH EDISON COMPANY

AND

IOWA-ILLINOIS GAS AND ELECTRIC COMPANY

DOCKET NUMBERS 50-254 AND 50-265

Revised
August 29, 1974

TABLE OF CONTENTS

1.0 Limiting Conditions for Operation

1.1 Chlorine Effluent Specification

A. Normal Operation

1. The chlorination injection rate shall be maintained at a set value to be determined weekly. A change needed not be made for rate variation less than 1 gpm.

2. The total (free and combined) chlorine in the Discharge Bay shall not exceed the values below as averaged over the injection cycle.

Circulating Water Pumps Operating	Max. Chlorine Conc. (PPM)
2	1.50
3	1.00
4	.75
5	.60
6	.50

B. Operation with inoperable components

After the Flow Integrator is found to be inoperable, chlorination may continue if visual observation verifies normal operation of the flow controller.

2.0 Surveillance Requirements

2.1 Chlorine Effluents Specification

A. Normal Operation

1. Inlet circulating water samples shall be analyzed two times per week, to determine free chlorine consumption. These results shall be used to determine the injection rate for the following week.

2. At least four times per calendar month, it shall be verified by chemical analysis that the total chlorine in the Discharge Bay does not exceed Specification 1.1.A.2 as averaged over the injection cycle.

3. The injection cycle shall be visually observed at least once per week for normal operation.

B. Operation with inoperable components

During chlorination with an inoperable flow integrator, normal operation of the flow controller shall be visually verified immediately, and daily thereafter.

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
C. Corrective Action If the total chlorine content of the water in the Discharge Bay exceeds the values in Specification 1.1.A.2 as averaged over the injection cycle, or if the flow controller is found to be inoperable, chlorination shall cease until the system is operating properly.	C. Monitoring 1. Periodically during chlorination, but at least four times per calendar month, the total chlorine content of the water in the discharge bay shall be analyzed in order to characterize the condenser effluent prior to discharge into the Mississippi river. Representative samples shall also be analyzed when not chlorinating to ascertain background conditions. 2. Periodically during chlorination, but at least four times per calendar month, the total chlorine content of the water downstream of the diffuser pipes shall be analyzed in order to judge the impact of condenser effluent after discharge into the Mississippi River. Representative samples shall also be analyzed when not chlorinating to ascertain background conditions.

Limiting Condition of Operation Bases

1.1 Chlorine Effluent

Each Quad Cities unit has its own main condenser. The design of these condensers is such that each main condenser is divided and has two parallel water flow paths. This physical division results in each condenser consisting of two condenser halves, with each condenser half containing an inlet, outlet, and center water box. The water flow in both condenser havles may also be reversed. As such the end water boxes may be either inlet or outlet water boxes depending on the direction of flow.

Chlorination for condenser cleaning purposes is accomplished by the injection of a sodium hypochlorite solution into the in let water box. The duration of the injection is controlled by a timer. Present practice is to inject 3 times per day for 10 minutes in each condenser half.

The existing system has an automatic operating mode to control the injection rate based on the center water box residual. The response characteristics of this mode, however, have not been adequate and therefore the system will be operated in the manual mode only at a set injection rate.

The chlorination injection rate is established in the manner described below to insure that the chlorine residual in the discharge bay is kept as low as practicable consistent with maintaining satisfactory condenser performance.

Free chlorine consumption of the river water is measured routinely because of variations in its chemical composition. These measurements are averaged weekly. An excess of free chlorine, sufficient for effective condenser cleaning, is added. The hypochlorite injection flow rate is then determined according to the equation.

ACCORDING TO THE EQUATION:

$$\text{INJECTION FLOW} = \frac{(\text{CHLORINE DOSE}) \times N}{1.92}$$

WHERE:

N = Maximum Number of operating circulating water pumps for either condenser

Limiting Condition for Operation Bases

$$\text{CHLORINE DOSE} = \text{Free chlorine consumption} + \text{excess.}$$

$$1.92 = \frac{150{,}000 \text{ PPM Free Chlorine per GPM Injection}}{78{,}500 \text{ GPM/Circ. pump/Cond. Half.}}$$

This injection flow rate will then be used for chlorination.

The limiting condition of operation of Specification 1.1.A.2 will allow effective chlorination under varying conditions of free chlorine consumption. This LCO allows for equal dilution into the river at levels resulting in less than 0.05 PPM for all possible circulating water flow rates.

To assure that chlorine limits are not exceeded, grab sampling locations are specified to insure that representative samples are obtained.

References:

(1) Quad-Cities Hypochlorination Test Program Part 1 - Preliminary Measurements and Part 2A - Short-Term Laboratory Tests submitted to AEC September 25, 1973.

(2) Quad-Cities Hypochlorination Test Program Part 2B - Short-Term Field Tests submitted to AEC November 8, 1973.

(3) Letter Mr. J. S. Abel to Mr. D. J. Shovholt, "Quad-Cities Stations Hypochlorination Test Program" dated March 12, 1974.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
1.2 TEMPERATURE LIMITATIONS Heated effluent from the plant shall meet the following restrictions beyond a mixing zone 600 feet downstream of the diffuser pipes: A. The normal daily and seasonal temperature fluctuations that existed before the addition of heated effluent shall be maintained. B. The maximum temperature rise at any time (or place) above natural, ambient temperatures shall not exceed 5°F. C. The rate of change of temperature due to heated effluent from the diffuser pipes shall not exceed 2°F per hour (during controlled changes in operation of the plant).	2.2 TEMPERATURE LIMITATIONS Ambient river water temperature and discharge temperatures will be monitored. Temperature sensors will be used to define the temperature regime above and below the plant. Measurements from the sensors are telemetered into the station control room and are recorded on a strip chart recorder. Four temperature sensors are located approximately 600' downstream of the diffuser pipes, one temperature sensor is located in the discharge bay and two temperature sensors are located in the intake area to record ambient river temperature. Temperature information collected from this system is recorded. Figure 2.2.1 shows the location of temperature sensors.

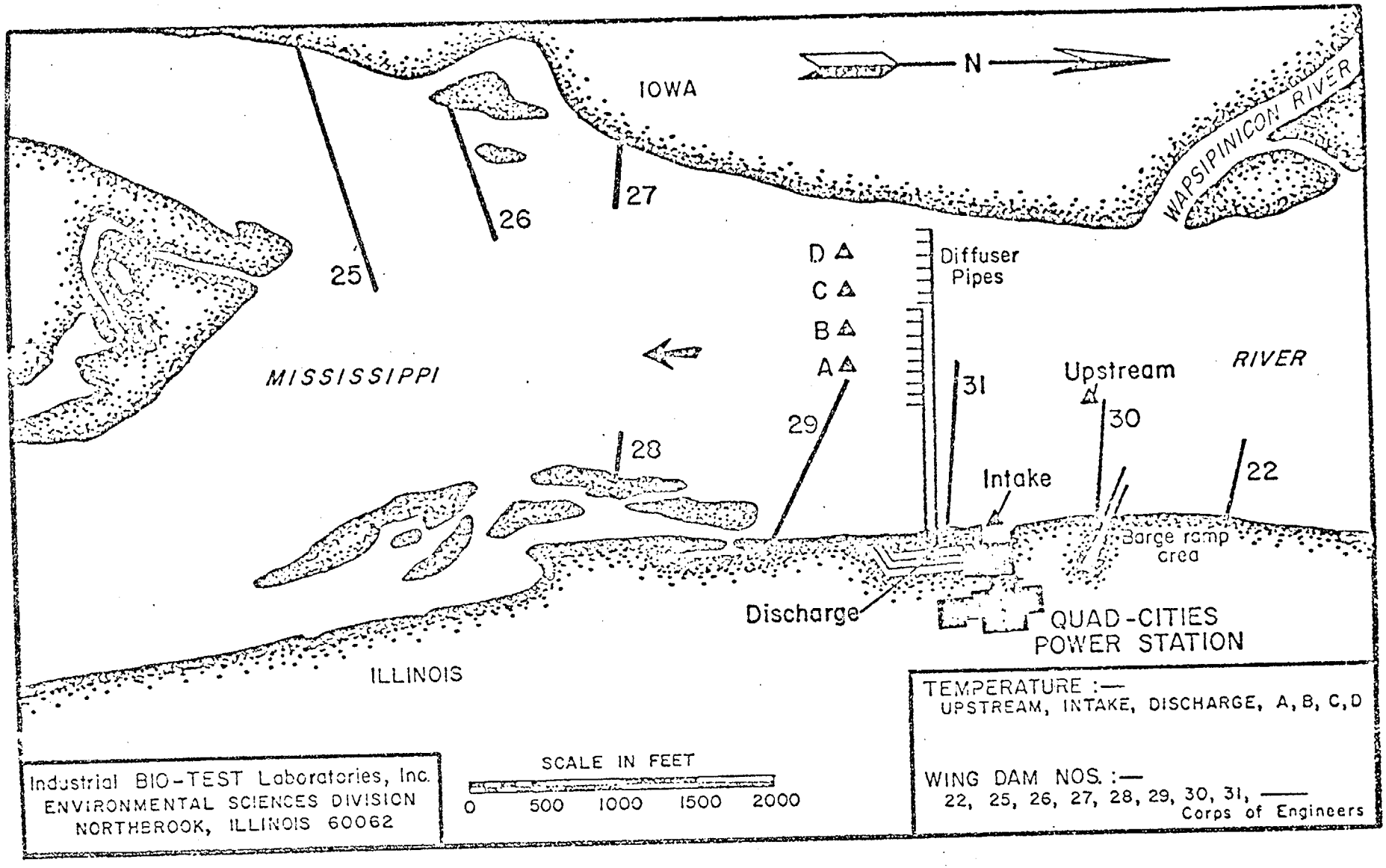

Figure 2.2.1 Monitoring locations for water temperature.

1.2 Temperature Limitations

After full and open public hearings in the States of Iowa and Illinois, permits to operate Quad-Cities Station with a diffuser system (until a closed-cooling-canal system is completed) have been issued.

Evidence in the record of these hearings indicates that thermal transients in the waters of the Mississippi River will be minimized by judicious use of the Diffuser Pipe System (as described in "Supplementary Information to the Quad-Cities Units 1 and 2 Environmental Report filed under AEC Dockets 50-254 and 50-265" submitted to the Division of Reactor Licensing on November 1, 1971; see Pages 5.8 - 5.38 in particular).

Environmental Studies and monitoring conducted during operation, using the diffuser pipe discharge system were conducted from August 1972 through January 1974 and are still being conducted. The comprehensive biological and limnological monitoring has conclusively shown that there has been no detectable effect on any biotic or abiotic component in the river. Consequently, the impact of operation within the limiting conditions on the aquatic biota in the receiving water will be insignificant.

State regulatory agencies, in discussions with the U.S. Environmental Protection Agency, have agreed on the following salient requirements for thermal discharges in the Mississippi River:

a) Temperature standards should state that 5°F maximum over upstream natural (ambient water) temperature be maintained.

b) No greater than 2°F per hour rate of change should be permitted (during controlled changes in operation of the plant).

c) No stream wide temperature barrier should be created.

d) Mixing zone concepts should be honored on a "case by case" basis established by the state authorities but acceptable to Environmental Protection Agency. No fixed area or linear limits were agreed upon.

The rate of change limitation of 2°F per hour is, in part, designed to prevent "cold shock" and other metabolism hazards to the adjacent biology due to sharp variations in the volume and/or temperature of thermal effluents.

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
1.3 Fish Impingement	**2.3 Fish Impingement**
A. Identify, count, obtain size range, total weight per species and document incidences of external parasites of fish impinged on the traveling screens of the intake structure to further investigate the impact of the plant.	A. The contents of the travelling screen trash basket will be removed twice per week. Each day will represent a 24-hour time period. All fish except gizzard shad and carp will be counted, identified, sized, weighed and observed for external parasitism. The number and weight of gizzard shad and carp shall be estimated by appropriate subsampling.

1.3 Fish Impingement

Objective: To continue counting, sizing, and evaluating, fish removed on the travelling screens during open cycle operation.

Bases: Fish that are in the forebay are becoming impinged on the travelling screens and are removed from the river and are deposited in the trash baskets. The fish species that accounts for 95-99% of the current impingement counts are gizzard shad, a rough fish having no commercial or sport importance.

The determination of the species and numbers of fish trapped and removed will provide the basis for determination of the impact of the station.

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
1.4 Chemical Effluent	2.4 Chemical Effluent
A. Corrosion Inhibitors & pH Control	A. Corrosion Inhibitors & pH Control
The amount of corrosion inhibitors and water treatment chemicals discharged to the river shall not exceed the following cumulative annual amounts:	The total amount of corrosion inhibitor and pH Control Chemical usage will be recorded and reported at the end of the calendar year in the second semi-annual operating report. These data will give an accurate account of quantities added to the environment.
$Na\ NO_2$ - 1000 lb/yr	
$Na\ SO_3$ - 1000 lb/yr	
Na OH - 1000 lb/yr	
Na_3PO_4 - 1000 lb/yr	
Morpholine - 500 lb/yr	

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
These chemicals are discharged to the circulating water system. No other chemicals shall be discharged. The amount of chemicals discharged may vary as operations require, but will remain in the annual limits above.	
B. Other Chemicals The amount of other chemicals (not specified in Section 1.1 or 1.4.A) used to regenerate the demineralizer shall not exceed the following: Water Treatment Chemicals $H_2 SO_4$ (98%) 120,000 gals/year Na OH (50%) 120,000 gals/year	B. Other Chemicals The total amount of chemicals used for regeneration of makeup demineralizer will be recorded and reported at the end of the calendar year in the second semi-annual operating report.

LIMITING CONDITION FOR OPERATION BASES

1.4 Chemical Effluent

A. Corrosion Inhibitors

Objective: To avoid a possible degradation in the river's water quality by limiting the discharge of corrosion inhibitor chemicals required for operation of the station.

Basis: The chemicals used for corrosion inhibition within the station are required to provide safe and efficient operation of the various unit operations. All chemicals are added to unit systems on a "as needed basis".

The only release of corrosion - inhibitor chemicals in plant operation is that required for the heating boilers. Chemical additions, concentrations and releases of the heating boiler system are well controlled in the plant. The heating boiler water blowdown, as described, is diluted by the circulating water flow at the outfall and is further diluted in the river. Annual release limits are based on previous operating experience allowing for plant variations. Morpholine is released at such a low concentration that no effects on the biota are anticipated.

Controlled discharge of chemicals from the heating boiler system is within the above limits and will provide protection of the river environment and compliance with river quality standards.

B. These chemical releases are required for plant operation, principally for water supply. Discharge from demineralizer regenerations in the plant are diluted by the circulating water flow and further diluted in the river.

3.0 REPORTING REQUIREMENTS

3.1 Chlorine Effluent Reports

A. A letter shall be sent to the Directorate of Licensing (within 30 days after a Limiting Condition of Operation is exceeded) describing the occurrence and justifying corrective action.

B. A report shall be composed semi-annually (covering six month periods commencing January 1 and July 1) describing the results of the chlorine analyzing and monitoring program. This report shall be sent to the Directorate of Licensing within 60 days after a six-month period has elapsed.

3.2 Temperature Limitations

A. Upstream and downstream temperatures recorded in accordance with Section 2.2 will be reported in the semi-annual operating report.

3.3 Fish Impingment

A. Semi-annual reports will be compiled on the results obtained from impingement counts. Results of the effectiveness of the diversion system will be reported.

3.4 Chemical Effluent

Chemical usage will be documented in the second semi-annual operating report of each calendar year.