

New York State Department of Environmental Conservation
Division of Environmental Permits, Region 8
6274 East Avon-Lima Road, Avon, New York 14414-9519
Phone: (585) 226-2466 • FAX: (585) 226-2830
Website: www.dec.state.ny.us



Erin M. Crotty
Commissioner

January 23, 2003

Mr. Joseph Widay
Vice President
Rochester Gas and Electric Corporation
89 East Ave.
Rochester, N.Y. 14649-0001

Re: Application ID # 8-5434-00010/00003
SPDES Permit Modification Issuance
RG&E Ginna Nuclear Power Plant
Ontario (T), Wayne (C)

Dear Mr. Sawyko:

Enclosed is the modified and renewed State Pollutant Discharge Elimination System (SPDES) permit issued for the operation of the subject facility. Please replace the old permit with this new permit in its entirety. Please note the effective and expiration dates.

This permit modification includes revised effluent discharge limits for Boron from 40 to 140 pounds per day, a new entrainment study, and the addition of the reverse osmosis water treatment system including the addition of ETA to the secondary system.

Please review the enclosed modified permit. Please note that under 6 NYCRR Part 621.7(f) of the Uniform Procedures Act, if a permit for a project is denied, or is issued with significant conditions attached and an adjudicatory public hearing was not held, then the applicant may request that one be held. Such a request must be made within 30 calendar days of the date of the mailing of either the notice of denial or the permit with conditions.

If any questions arise or if problems develop with the facility during the life of this permit, please contact David Persson with the Division of Water at this office at 585-226-5451.

Sincerely

Kimberly A. Merchant
Environmental Analyst I

Enclosure: Modified Permit

cc with Permit:

D. Persson, DOW
M. Calaban, Bureau of Habitat, NYSDEC, C.O.
P. Kolakowski, DOW Central Office
W. Little, Legal Division, NYSDEC, C.O.
Monroe County Health Dept.
USEPA Region 2
Bureau of Water Permits, DOW Central Office
Regulatory Fee Unit, NYSDEC Central Office
J. Prill, RG&E
P. Sawyko, RG&E
V. Barr, NYSDOS
R. Schaaf, NRC ✓
M. Sackschewsky, Battelle

cc without Permit:

T. Pearson, Regional Water Engineer, Region 8
F. Ricotta, Regional Engineer, NYSDEC, Region 8
W. Pearsall, Fisheries, NYSDEC, Region 8
L. Kuwik, Environmental Permits, NYSDEC, C.O.
Supervisor, Town of Ontario



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
State Pollutant Discharge Elimination System (SPDES)
DISCHARGE PERMIT
Special Conditions (Part 1)

First 3.99

Industrial Code: 4911
 Discharge Class (CL): 03
 Toxic Class (TX): T
 Major Drainage Basin: 03
 Sub Drainage Basin: 02
 Water Index Number: Ontario
 Compact Area:

SPDES Number: NY-0000493
 DEC Number: 8-5434-00010/00003-0
 Effective Date (EDP): 2/1/03
 Expiration Date (ExDP): 2/1/08
 Modification Dates:
 Attachment(s): General Conditions (Part II) Date: 11/90

This SPDES permit is issued in compliance with Title 8 of Article 17 of the Environmental Conservation Law of New York State and in compliance with the Clean Water Act, as amended, (33 U.S.C. §1251 et seq.) (hereinafter referred to as "the Act").

PERMITTEE NAME AND ADDRESS

Name: Rochester Gas & Electric Corporation
 Street: 89 East Avenue
 City: Rochester

Attention: Joseph Widay, VP & Plant Manager
 State: NY Zip Code: 14649

is authorized to discharge from the facility described below:

FACILITY NAME AND ADDRESS

Name: Ginna Nuclear Power Plant - Station 13
 Location (C,T,V): Ontario (T)
 Facility Address: 1503 Lake Road
 City: Ontario
 NYTM -E: 312.669
 From Outfall No.: 001

County: Wayne
 NY 14519
 State: NY Zip Code:
 NYTM - N: 4794.248
 at Latitude: 43 ° 16 ' 44 " & Longitude: 77 ° 18 ' 34 "

into receiving waters known as: Lake Ontario Class: A Special

and; (list other Outfalls, Receiving Waters & Water Classifications)

001A to 001D	Lake Ontario	Class A - Special
002, 003	Lake Ontario	Class A - Special
004, 005, 006	Mill Creek	Class D - C

in accordance with the effluent limitations, monitoring requirements and other conditions set forth in Special Conditions (Part I) and General Conditions (Part II) of this permit.

DISCHARGE MONITORING REPORT (DMR) MAILING ADDRESS

Mailing Name: Ginna Nuclear Power Plant - Station 13
 Street: 89 East Avenue
 City: Rochester
 Responsible Official or Agent: John Prill

State: NY Zip Code: 14649
 Phone: 585-771-2711

This permit and the authorization to discharge shall expire on midnight of the expiration date shown above and the permittee shall not discharge after the expiration date unless this permit has been renewed, or extended pursuant to law. To be authorized to discharge beyond the expiration date, the permittee shall apply for permit renewal not less than 180 days prior to the expiration date shown above.

DISTRIBUTION:

Bureau of Water Permits
 DOW, Region 8
 Regulatory Fee Unit
 USEPA Region 2

Permit Administrator: Robert K. Scott	
Address: 6274 East Avon-Lima road Avon, NY 14414-9519	
Signature:	Date: 1/23/03

FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning February 1, 2003
and lasting until February 1, 2008
the discharges from the permitted facility shall be limited and monitored by the permittee as specified below:

Outfall Number & Effluent Parameter	Discharge Limitations		Units	Minimum Monitoring Requirements	
	Daily Avg.	Daily Max.		Measurement Frequency	Sample Type
<u>001 Circulating Cooling Water</u>					
Flow	Monitor	490	MGD	Continuous	Pump Logs
Discharge Temperature	Monitor	102	°F	Continuous	Recorder
*Intake-Discharge Temperature	Difference	28	°F	Continuous	Recorder
Total Residual Chlorine	Monitor	0.2	mg/l	Continuous during period ^a of chlorination	
pH (Range)		6.0 - 9.0	SU	Weekly	Grab
<u>001-A House Service Boiler Blowdown</u>					
Flow	Monitor	Monitor	GPD	Annual	Estimate
Oil & Grease	Monitor	15	mg/l	Annual	Grab
Suspended Solids	30	100	mg/l	Annual	Grab ^b
pH (Range)	6.0 - 9.0		SU	Annual	Grab ^b
Iron	NA	4.0	mg/l	Annual	Grab
Copper	NA	1.0	mg/l	Annual	Grab
<u>001-B High Conductivity Waste Tank Discharge (Includes Steam Generator Blowdown)</u>					
Flow	NA	Monitor	GPD	Quarterly	Instantaneous
Oil & Grease	Monitor	15	mg/l	2/year	Grab
Suspended Solids	NA	50	mg/l	Quarterly	Grab
Chromium, Total	NA	1.5	mg/l	Monthly	Grab
Copper	NA	1.0	mg/l	Monthly	Grab
Zinc	NA	0.3	mg/l	Monthly	Grab
Boron	NA	20	mg/l	Monthly	Grab
Iron	NA	4.0	mg/l	Monthly	Grab
Arsenic	NA	0.15	mg/l	Monthly	Grab

* One second temperature readings of untempered intake and discharge water will be used to compute the hourly average temperature difference. Twenty four hourly average temperatures would be used to compute the daily average temperature difference. The highest hourly temperature difference recorded during the day would be the maximum reported.

FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning EDM
 and lasting until ExDP
 the discharges from the permitted facility shall be limited and monitored by the permittee as specified below:

Minimum Monitoring Requirements

Outfall Number & Sample Effluent Parameter	Discharge Limitations		Units	Measurement	
	Daily Avg.	Daily Max.		Frequency	Type
<u>001-C Radiation Waste Holdup and Treatment System (Includes Condensate Tank, A&B Monitor Tanks, Laundry Tanks)</u>					
Flow	NA	Monitor	GPD	Quarterly	Grab
Oil & Grease	NA	15	mg/l	Quarterly	Grab
Suspended Solids	30	100	mg/l	Quarterly	Grab
pH (Range)	6.0 - 9.0		SU	Quarterly	Grab ^b
Boron	140	NA	lbs/day	Quarterly	Grab

001-D Screenwash Return Water

(No monitoring required)

NOTES:

- a. Chlorine may be discharged up to 120 minutes per day.
- b. The pH limit may be exceeded when conductivity is less than 10 micro mhos per cm². Conductivity monitoring is only required when the pH limit is exceeded.

FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning February 1, 2003

and lasting until February 1, 2008

the discharges from the permitted facility shall be limited and monitored by the permittee as specified below:

Outfall Number & Effluent Parameter	Discharge Limitations		Units	Minimum Monitoring Requirements	
	Daily Avg.	Daily Max.		Measurement Frequency	Sample Type
002 - Storm Water Runoff & Low Volume Wastes					
(No monitoring required)					
002-A Retention Tank (Includes Demineralizer Regeneration Wastes and Floor Drains)					
Flow	Monitor	Monitor	GPD	Monthly	Instantaneous
Oil & Grease	Monitor	15	mg/l	Monthly	Grab
Suspended Solids	30	100	mg/l	Monthly	Grab
pH*	6.0 - 9.0 (Range)		SU	Continuous	Recorder
Copper	NA	1.0	mg/l	Monthly	Grab
Iron	NA	4.0	mg/l	Monthly	Grab

003 - Storm Water Runoff

(No monitoring required)

004 - Storm Water Runoff

(No monitoring required)

005 - Storm Water Runoff

(No monitoring required)

006 - Redundant House Service Water Testing

Flow	Monitor	Monitor	Each Discharge	Estimate
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*Where pH is continuously recorded, the permittee is allowed excursions from the designated, allowable pH range, subject to the following conditions:

- (1) The total time during which the pH values of each discharge are outside the required range shall not exceed 7 hours and 26 minutes in any calendar month.
- (2) No individual excursion shall exceed 60 minutes in duration.
- (3) No excursion shall cause or contribute to a contravention of water quality standards.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTSDuring the period beginning February 1, 2003and lasting until February 1, 2008

the discharges from the permitted facility shall be limited and monitored by the permittee as specified below:

Outfall Number & Effluent Parameter	Discharge Limitations		Units	Minimum Monitoring Requirements	
	Daily Avg.	Daily Max.		Measurement Frequency	Sample Type
<u>Outfall 001</u>					
Chlorine, Total Residual	N/A	0.1	mg/l	Daily*	Grab

* Samples shall be collected and analyzed daily for Total Residual Chlorine during periods of chlorine addition for Zebra Mussel control.

Special Conditions

The chlorine program for zebra mussel control, approved by letter dated June 24, 1993 to J. Williams of RG&E, is allowed with the following conditions concerning circulating cooling water:

- Each individual chlorine zebra mussel control shall be limited to a maximum of 30 days of continuous treatment.
- Chlorine treatments for zebra mussel control shall be limited to a maximum of four treatments annually. Treatment shall be separated by at least 30 days.
- Records of chlorine dosage concentration, effluent flow and effluent concentration of total residual chlorine during addition and discharge must be maintained. The flow shall be measured at the frequency specified for flow elsewhere in this permit or at the frequency of the parameter specified above, whichever is more frequent.
- The Regional Water Engineer shall be notified not less than 48 hours prior to initiation of zebra mussel control program.
- The reports describing the results of the effectiveness of the zebra mussel control program and effluent analysis for total residual chlorine shall be submitted to the Regional Water Engineer, NYSDEC, by March 1st of the year following such treatments.
- This permit modification is issued based on the best environmental and aquatic toxicity information available at this time. This authorization is subject to modification or revocation any time new information becomes available which justifies such modification or revocation.

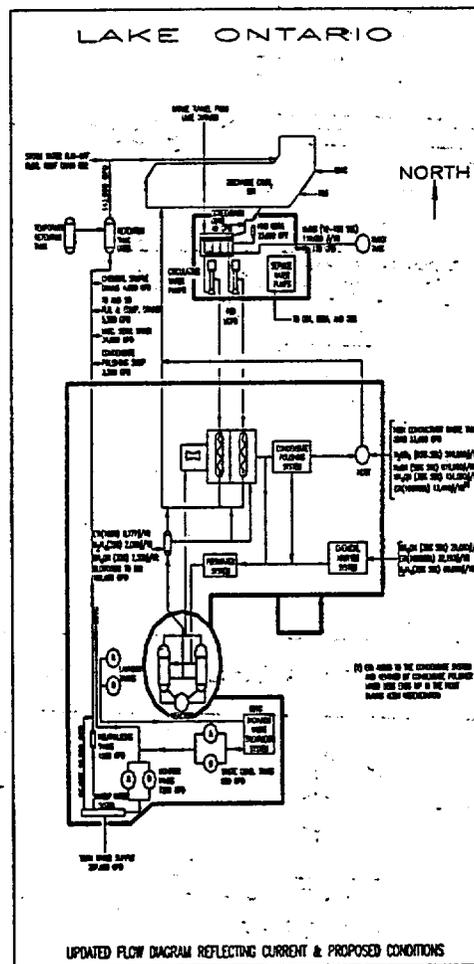
DEFINITIONS OF DAILY AVERAGE AND DAILY MAXIMUM

The daily average discharge is the total discharge by weight or in other appropriate units as specified herein, during a calendar month divided by the number of days in the month that the production or commercial facility was operating. Where less than daily sampling is required by this permit, the daily average discharge shall be determined by the summation of all the measured daily discharges in appropriate units as specified herein divided by the number of days during the calendar month when measurements were made.

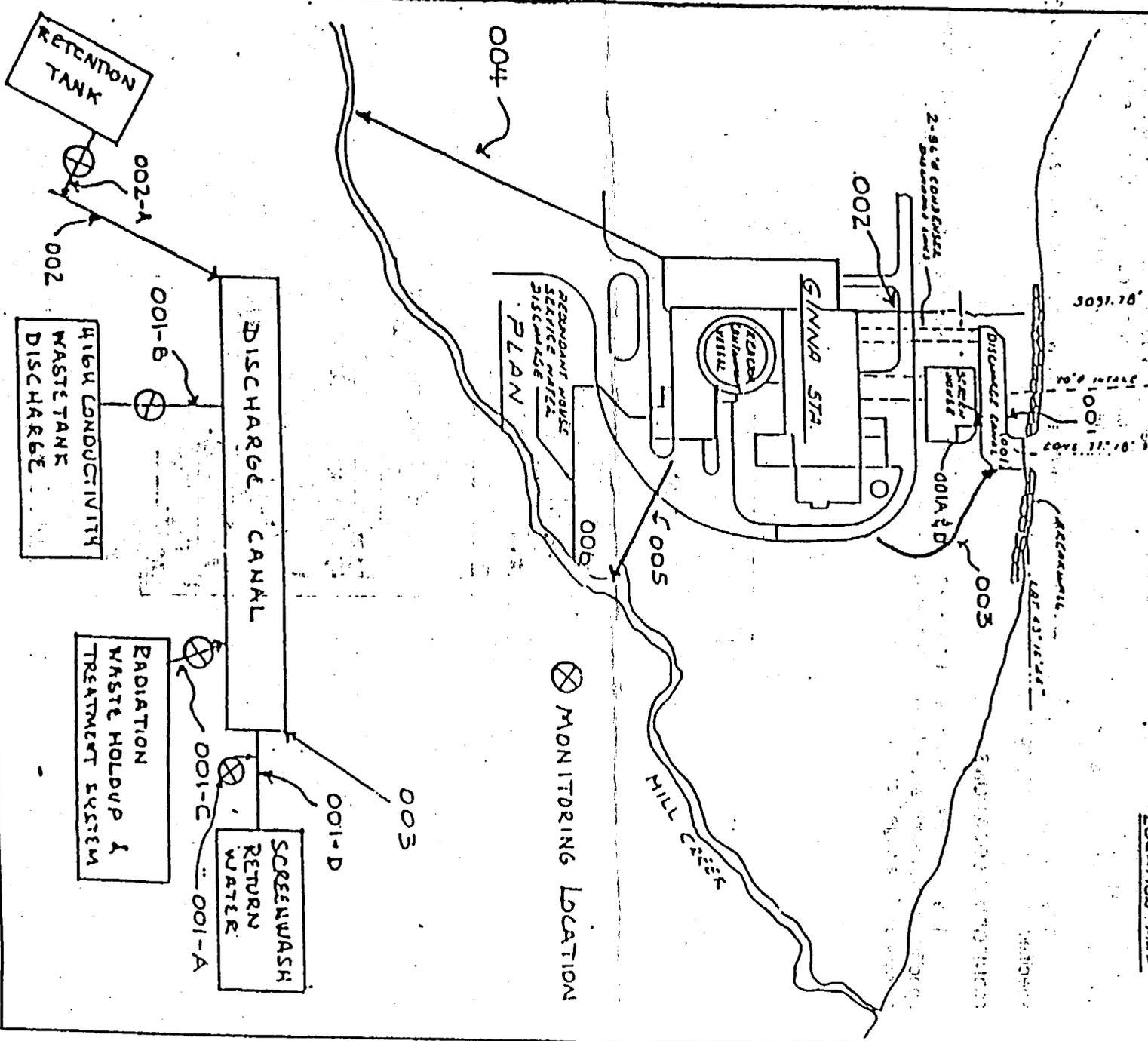
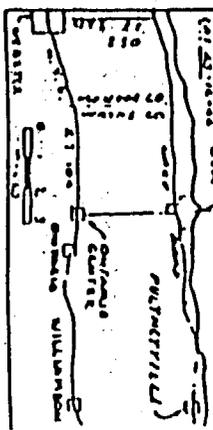
The daily maximum discharge means the total discharge by weight or in other appropriate units as specified herein, during any calendar day.

MONITORING LOCATIONS

The permittee shall take samples and measurements, to comply with the monitoring requirements specified in this permit, at the location(s) indicated below: (Show sampling locations and outfalls with sketch or flow diagram as appropriate) (see page 7 of 13)



LAKE ONTARIO



DISCHARGE AND IMPACT FOR GILWAU STATION, TOWN OF ONTARIO, WAYNE COUNTY - APPLICATION BY DOCKMASTER GAS AND ELECTRIC CORP.	SCALE
GILWAU STA.	MONITOR GAS & ELECTRIC CORP.
DATE: 05/11/11	DATE: 05/11/11
NT-2	

Additional Requirements

1. The permittee shall submit written notification, which shall include detailed descriptions and appropriate figures, to the DEC Chief, Bureau of Environmental Protection, Regional Fisheries Manager and Regional Engineer at least 60 days in advance of any change which results in the alteration of the location, design, construction, operations or capacity of the cooling water intake structure. The permittee shall submit, with its written notification a demonstration that the change reflects the best technology currently available for minimizing adverse environmental impact. Prior DEC approval is required before initiating such change. A permit modification may be required.
2. Each impingement report submitted during this permit period shall include figures and a complete description of the cooling water intake system including trash racks; traveling screen type, size, mesh, and standard operating procedures; screen washwater discharge sluice configuration and disposition of screen washings, and the nature and estimated quantities of debris collected at this facility.
3. Impingement Monitoring Program.
 - a. An annual impingement monitoring program is required in order to document the impact of this facility on the aquatic environment of Lake Ontario. The methodologies described in Ginna Nuclear Power Station Impingement Plan of Study, RG&E Report No. B-13-293 (July 1985) are required with the following modification:
 - i. The wire mesh collection basket that fits into the screenwash sluiceway shall be constructed of mesh that is approximately 1/2 of the bar mesh of the traveling screens in order to minimize loss of organisms washed off the traveling screens.

- b. At the permittee's option a modified impingement abundance program may be submitted for DEC review and approval. The goal of the modified program would be to reduce the cost of impingement monitoring while continuing to provide adequate information for the department's determination to 6NYCRR 704 and the Clean Water Act Section 316. The impingement program identified in 3.a above shall continue in effect until an alternative is approved by the DEC.

4. Impingement Mitigation

- a. During any time when a circulating pump is operational each traveling screen shall be washed for approximately fifteen (15) minutes each hour, excepting when a screen is inoperable due to required maintenance.
- b. No sampling gear other impediments to the return of impinged fish to Lake Ontario shall be placed in the washwater sluice excepting those necessary to conduct studies approved by the DEC.

5. The thermal discharge from this facility shall assure the protection and propagation of a balanced indigenous population of shellfish, fish and wildlife in and on Lake Ontario. In this regard, the Department has approved the permittee's request for alternative effluent limitations pursuant to Section 316(a) of the Clean Water Act for the 5 year life of the permit. The effluent limitations in this permit reflect this approval. The water temperature at the surface of Lake Ontario shall not be raised more than three Fahrenheit degrees over the temperature that existed before the addition of heat of artificial origin except that in a mixing zone consisting of an area of 320 acres from the point of discharge, this temperature may be exceeded.

6. Reporting

- a. A copy of all reports pertaining to environmental impacts on water resulting from this facility, which the applicant submits to any federal, state or local agency, shall also be submitted to the Department of Environmental Conservation offices in Avon and Albany. The permittee shall also notify the Department within one week from the time of submission to the Nuclear Regulatory Commission of any requested change in the environmental technical specifications which could effect the requirements of this permit.

- b. Report(s) submitted in fulfillment of permit conditions shall clearly identify on the title page the permit number and the specific section(s) by character and number that the report(s) fulfill. Each section of the text of such report shall identify the section(s) of the permit that it fulfills.
 - c. The annual impingement monitoring report shall be submitted by July 1 of the following year. The analyses, content and appendices shall follow that provided in previous impingement abundance reports as in RG&E Report No. B-13-357- Rochester Gas and Electric Corporation Fish Impingement Program Analysis Report.
7. A one year study shall be conducted to monitor the entrainment of aquatic organisms in the station's cooling water flow. The goals of the study are to determine the abundance, species composition and life stage of organisms entrained, and help ascertain whether the operation of the cooling water intake system constitutes best technology available for minimizing adverse environmental impact. By EDM + 6 months, the permittee shall submit for review and approval a scope of work to conduct the study, consistent with the following guidelines.
- a. One 24-hour sample will be collected each week from April 1st through September 30th. Each collection will be scheduled to take place within the first two days of each seven day period, so that the remainder of the period is available for an alternate collection should plant operation or equipment malfunction prevent a collection on the day initially scheduled.
 - b. Each sample shall be divided into four discrete 6 hour periods (sub-samples). Total daily sample volume is to be at least 200 cubic meters. The volume of water sampled is to be accurately recorded using calibrated flow meters. If a pump sampler is to be used (e.g. trash pump), excessive flow rates are to be avoided that may cause extrusion of organisms through the net mesh and loss of sample.
 - c. At the beginning of each 6 hour subsample, water quality measurements (temperature and dissolved oxygen) are to be taken at both the intake and cooling water discharge canal.
 - d. If samples are collected from within the screenhouse, they shall be taken from multiple depths unless it can be demonstrated to the Department's Satisfaction that adequate mixing exists and organisms are not stratified within the water column at that location.
 - e. Ichthyoplankton nets used for sample collection shall have a mesh size of 505 microns or less.

- f. All samples are to be analyzed for ichthyoplankton, *Mysis relicta*, and *Pontoporeia affinis*. Ichthyoplankton are to be identified by species and life stage (egg, yolk-sac larvae, post yolk-sac larvae, and juvenile). From each sample up to 30 individuals per life stage per species will be measured to the nearest 0.1 mm.
- g. All methods for sample collection and handling, sample processing, quality control and quality assurance shall be fully described in the scope of work.
8. Within 6 months after the completion of the study, a final report shall be submitted to DEC describing the results of the study. The report shall describe all methods used and present data on the density and abundance of species and life stages entrained over the diel cycle, making liberal use of tabular data. Plant operational data such as weekly cooling water flows, timing of outages etc. as well as all excursions or deviations from the approved scope of work shall also be included. All reports and all other required information shall be submitted to the following Department Offices: NYSDEC Chief, Bureau of Habitat, 625 Broadway, 5th Floor, Albany, NY 12233-4756; and a copy each to the NYSDEC Region 8 Supervisor of Natural Resources, Regional Fisheries Manager and Regional Water Engineer, 6274 East Avon-Lima Road, Avon, NY 14414.
9. DEC will review the results of the permittee's entrainment monitoring study, and any other relevant information, to determine whether the cooling water intake at the Ginna Nuclear Generating Station represents best technology available for minimizing adverse environmental impact as required under NYCRR Part 704.5, and section 316(b) of the Clean Water Act, 33 U.S.C. Section 1326(b).
- a. If DEC determines that the cooling water intake is causing an adverse environmental impact and requires mitigative action be taken, then the permittee must, within 9 months of DEC notification, submit an intake technology report to the offices listed in No. 2. The report shall discuss the range of mitigation alternatives available for reducing impacts in terms of their engineering feasibility, reliability, cost, and the degree of mitigation likely to be achieved.
- b. DEC shall determine, from the alternatives presented and from other relevant information available, appropriate mitigation for the facility that minimizes adverse environmental impact, consistent with the considerations listed above. Within 12 months of DEC approval, the permittee shall submit plans and a schedule for the construction, operation and maintenance of the selected alternative(s), and if determined to be necessary, a plan to verify the effectiveness of the alternative(s) to minimize adverse environmental impact.

10. Biological specimens may be required to be submitted to NYSDEC upon request if notice by the Department is given prior to collection.
11. There shall be no discharge of auxiliary boiler chemical cleaning wastes and other metal cleaning wastewaters other than those using boric acid.
12. In regards to general condition #11.5 items c and d shall be reported annually to NYSDEC offices in Avon.
13. The permittee shall submit on an annual basis a report to the Department's offices in Albany and Avon by the 28th of the month next following the end of the period:
 - a. Daily minimum, average, and maximum station electrical output shall be determined and logged.
 - b. Daily minimum, average, and maximum water use shall be directly or indirectly measured or calculated and logged.
 - c. Daily minimum, average, and maximum intake and discharge temperatures shall be logged.
 - d. Measurement in a, b, and c shall be taken on an hourly basis.
14. There shall be no discharge of PCB's from this facility.
15. Radioactivity: Concentrations of radioactivity in effluent are subject to the requirements of the U.S. Nuclear Regulatory Commission license conditions.
16. Ethanolamine (ETA) used for iron transport control at the Ginna secondary system through the feed-water supply shall be maintained at a concentration in Outfall 001 of less than or equal to 0.7 mg/l. Method of determination of this concentration in outfall 00q shall be calculated by the feed rate. A log shall be maintained subject to the reporting requirements of the WTCFX.

RECORDING, REPORTING AND ADDITIONAL MONITORING REQUIREMENTS

- a) The permittee shall also refer to the General Conditions (Part II) of this permit for additional information concerning monitoring and reporting requirements and conditions.
- b) The monitoring information required by this permit shall be summarized, signed and retained for a period of three years from the date of the sampling for subsequent inspection by the Department or its designated agent. Also;
- (if box is checked) monitoring information required by this permit shall be summarized and reported by submitting completed and signed Discharge Monitoring Report (DMR) forms for each 1 month reporting period to the locations specified below. Blank forms are available at the Department's Albany office listed below. The first reporting period begins on the effective date of this permit and the reports will be due no later than the 28th day of the month following the end of each reporting period.
- Send the original (top sheet) of each DMR page to:
- Department of Environmental Conservation
Division of Water
Bureau of Watershed Compliance Programs
50 Wolf Road
Albany, New York 12233-3506
Phone: (518) 457-3790
- Send the first copy (second sheet) of each DMR page to:
- Department of Environmental Conservation
Regional Water Engineer
Region 8
~~6274 East Avon-Lima Road~~
Avon, New York 14414
- c) A monthly "Wastewater Facility Operation Report..." (form 92-15-7) shall be submitted (if box is checked) to the Regional Water Engineer and/or County Health Department or Environmental Control Agency listed above.
- d) Noncompliance with the provisions of this permit shall be reported to the Department as prescribed in the attached General Conditions (Part II).
- e) Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.
- f) If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the results of this monitoring shall be included in the calculations and recording on the Discharge Monitoring Reports.
- g) Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.
- h) Unless otherwise specified, all information recorded on the Discharge Monitoring Report shall be based upon measurements and sampling carried out during the most recently completed reporting period.
- i) Any laboratory test or sample analysis required by this permit for which the State Commissioner of Health issues certificates of approval pursuant to section five hundred two of the Public Health Law shall be conducted by a laboratory which has been issued a certificate of approval. Inquiries regarding laboratory certification should be sent to the Environmental Laboratory Accreditation Program, New York State Health Department Center for Laboratories and Research, Division of Environmental Sciences, The Nelson A. Rockefeller State Plaza, Albany, New York 12201.