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TO:
Mr. Edson G. Case

FROM:
LeBoeuf, Lamb, Leiby & MacRae
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DESCRIPTION

RJL 1/9/78 (2-P)

PLANT NAME: R.E. Ginna Unit No. 1

Note: PROP INFO CONTROLLED SEPARATELY

ENCLOSURE License No. DPR-18 Appl for Amend:
tech specs proposed change concerning operation
of the Ginna plant in connection with the comm-
encement of Fuel Cycle 8..notorized 1/4/78
w/att Certificate of Service....and reports
entitled, "Plant Transient Analysis for the R.
E. Ginna Unit 1 Nuclear Pwr. Plant" - XN-NF-77
-40, HR.E. Ginna Nuclear Plant Cycle 8 Safety
Analysis Rept." - XN-NF-77-53, and "ECCS
Analysis for the R.E. Ginna Reactor with ENC
WREM-2 RWR Evaluation Model" - XN-NF-77-58.

See Rpts

(2-P)+(1/2")

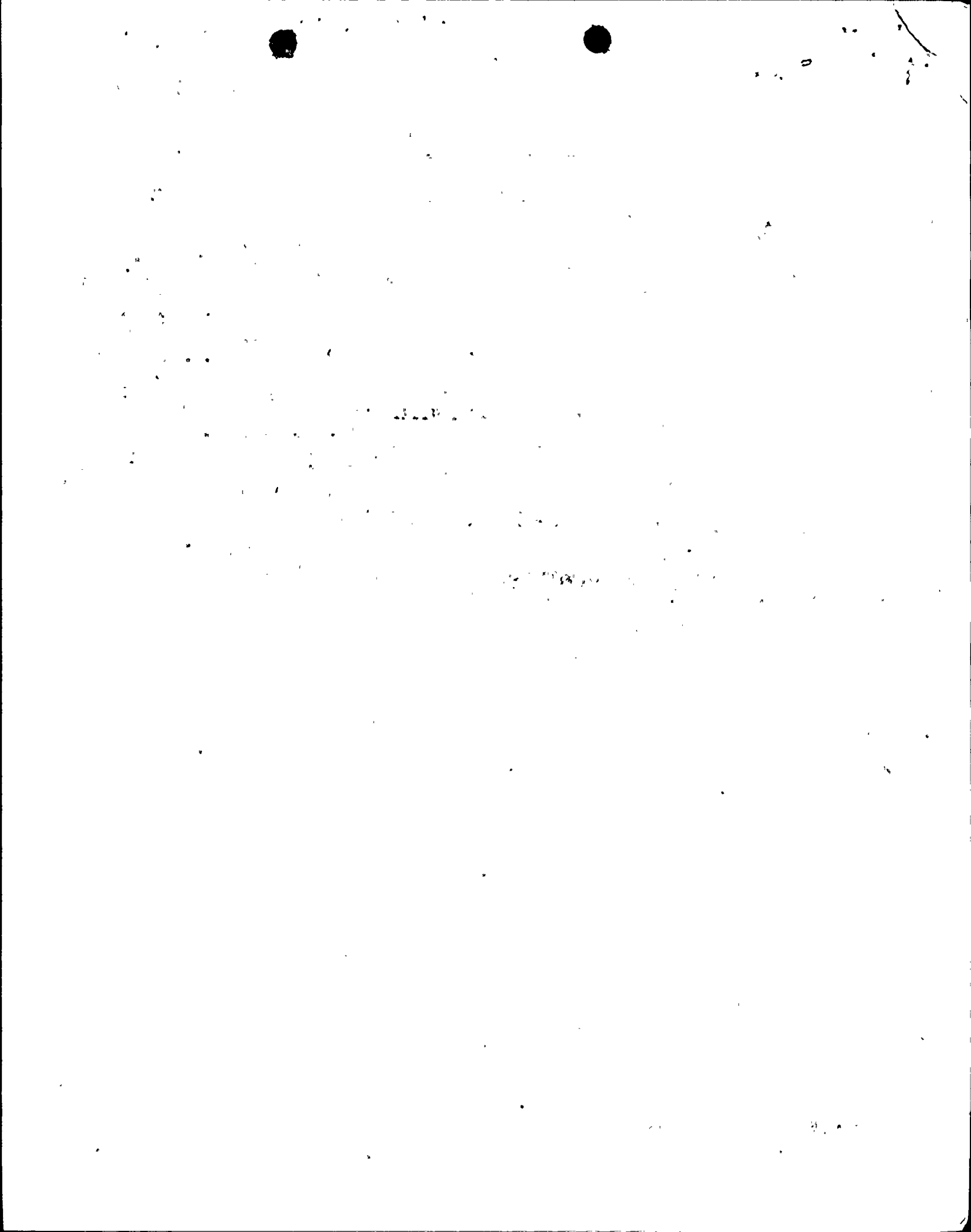
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LEBOEUF, LAMB, LEIBY & MACRAE

1757 N STREET, N.W.
WASHINGTON, D. C. 20036

TELEPHONE 202 457-7500

CABLE ADDRESS

LEBWIN, WASHINGTON, D.C.

TELEX: 440274

RANDALL J. LeBOEUF, JR. 1929-1975
ADRIAN C. LEIBY 1952-1976

OF COUNSEL

ARVIN E. UPTON

140 BROADWAY
NEW YORK, N.Y. 10005

TELEPHONE 212 269-1100

CABLE ADDRESS

LEBWIN, NEW YORK

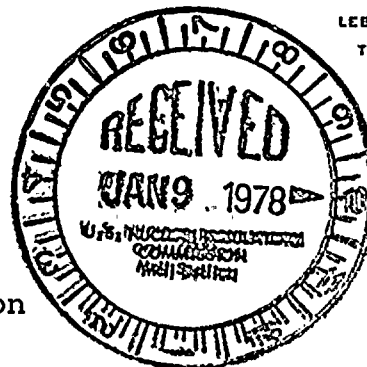
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January 6, 1977

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*RESIDENT PARTNERS WASHINGTON OFFICE
*ADMITTED TO THE DISTRICT OF COLUMBIA BAR



Mr. Edson G. Case
Acting Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: Rochester Gas and Electric Corporation
R. E. Ginna Nuclear Power Station, Unit No. 1
Docket No. 50-244

Dear Mr. Case:

As counsel for Rochester Gas and Electric Corporation, we hereby transmit three (3) signed originals and nineteen (19) copies of a document entitled, "Application for Amendment to Operating License." This Application seeks to amend the Technical Specifications set forth in Appendix A to Provisional Operating License No. DPR-18 to permit operation of the Ginna plant in connection with the commencement of Fuel Cycle 8. The proposed technical specifications changes are set forth in Attachment A to this Application, and a safety evaluation is set forth in Attachment B. Forty (40) copies of these two documents are transmitted herewith.

Attachment B references a report XN-76-40 and Addendum. That report is a topical report which was submitted to the NRC by Exxon Nuclear Company in February 1977. Attachment B also refers to a report entitled "R. E. Ginna Nuclear Plant Cycle 8 Safety Analysis Report - December 1977" prepared by Exxon Nuclear Company, Inc. (XN-NF-77-53). Forty (40) copies of that report are supplied herewith.

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The report XN-NF-77-53 references in turn three other reports prepared by Exxon Nuclear Company, as follows:

1. XN-NF-77-40, "Plant Transient Analysis for the R. E. Ginna Unit 1 Nuclear Power Plant," November 1977;
2. XN-NF-77-58, "ECCS Analysis for the R. E. Ginna Reactor with ENC WREM-2 PWR Evaluation Model," December 1977;
3. XN-NF-77-52(P), "R. E. Ginna Reload Fuel Design," December 1977.

Forty (40) copies of each of these reports are also transmitted with this letter. XN-NF-77-52(P), listed above as item (3), contains information of a proprietary and confidential nature to Exxon Nuclear Company, Inc. Accordingly, the Applicant requests that XN-NF-77-52(P) be withheld from public disclosure in accordance with Sections 2.790 and 9.5 of the Commission's regulations. The basis for our request for confidential treatment is set forth in detail in the enclosed affidavit of Roy Nilson, sworn to on December 22, 1977.

Finally, a Certificate of Service is also enclosed.

Very truly yours,



LeBoeuf, Lamb, Leiby & MacRae
Attorneys for Rochester Gas
and Electric Corporation



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BEFORE THE UNITED STATES
NUCLEAR REGULATORY COMMISSION

In the Matter of)
)
ROCHESTER GAS AND ELECTRIC)
CORPORATION) Docket No. 50-244
(R. E. Ginna Nuclear Power)
Station, Unit No. 1))

CERTIFICATE OF SERVICE

I hereby certify that I have served a document entitled, "Application for Amendment to Operating License" together with copies of the following documents transmitted with that Application:

1. Attachment A (Proposed Technical Specifications Changes);
2. Attachment B (Safety Evaluation);
3. XN-NF-77-53, "R. E. Ginna Nuclear Plant Cycle 8 Safety Analysis Report," December 1977;
4. XN-NF-77-40, "Plant Transient Analysis for the R. E. Ginna Unit 1 Nuclear Power Plant," November 1977;
5. XN-NF-77-58, "ECCS Analysis for the R. E. Ginna Reactor with ENC WREM-2 PWR Evaluation Model," December 1977;
6. Affidavit of Roy Nilson, December 22, 1977,

by mailing copies thereof first class, postage prepaid to each of the following persons this 6th day of January, 1977:



2

3

4

Mr. Michael L. Slade
1250 Crown Point Drive
Webster, New York 14580

Warren B. Rosenbaum, Esq.
One Main Street East
707 Wilder Building
Rochester, New York 14614

Auburn L. Mitchell, Esq.
Office of the Executive
Legal Director
U.S. Nuclear Regulatory
Commission
Washington, D.C. 20555


Edward Luton, Esq.
Atomic Safety and Licensing
Board
U.S. Nuclear Regulatory
Commission
Washington, D.C. 20555

Dr. Emmeth A. Luebke
Atomic Safety and Licensing
Board
U.S. Nuclear Regulatory
Commission
Washington, D.C. 20555

Dr. A. Dixon Callihan
Union Carbide Corporation
P. O. Box Y
Oak Ridge, Tennessee 37830

Mr. Robert N. Pinkney
Supervisor
Town of Ontario
107 Ridge Road West
Ontario, New York 14519

Jeffrey L. Cohen, Esq.
New York State Energy Office
Swan Street Building
Core 1, Second Floor
Empire State Plaza
Albany, New York 12223



Lex K. Larson

LeBoeuf, Lamb, Leiby & MacRae
Attorneys for Rochester Gas
and Electric Corporation

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
)
Rochester Gas and Electric Corporation) Docket No. 50-244
(R. E. Ginna Nuclear Power Plant,)
Unit No. 1))

APPLICATION FOR AMENDMENT
TO OPERATING LICENSE

Pursuant to Section 50.90 of the regulations of the U.S. Nuclear Regulatory Commission (the "Commission"), Rochester Gas & Electric Corporation ("RG&E"), holder of Provisional Operating License No. DPR-18, hereby requests that the Technical Specifications set forth in Appendix A to that license be amended. This request for a change in the technical specifications is submitted as a result of analysis performed in designing Ginna fuel Cycle 8.

The proposed technical specifications change is set forth in Attachment A to this Application. A safety evaluation is set forth in Attachment B. This evaluation also demonstrates that the proposed change does not involve a significant change in the types or a significant increase in the amounts of effluents or any change in the authorized power level.



WHEREFORE, Applicant respectfully requests that Appendix A to Provisional Operating License No. DPR-18 be amended in the form attached hereto as Attachment A.

Rochester Gas and Electric Corporation

By *L. D. White, Jr.*
L. D. White, Jr.
Vice President,
Electric and Steam Production

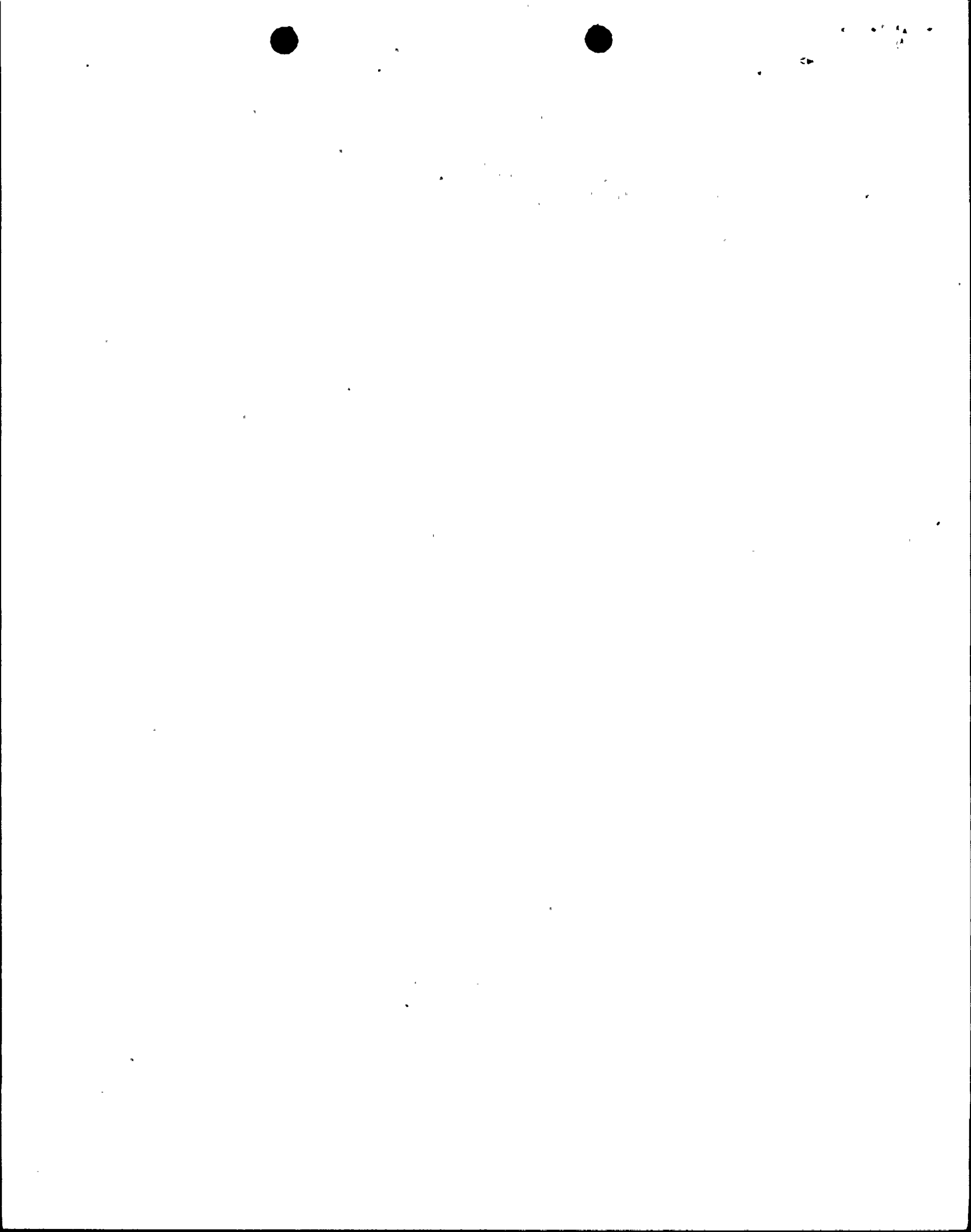
Subscribed and sworn to before
me this *4th* day of January, 1978.

Sharon G. Cavaleri

SHARON G. CAVALERI
NOTARY PUBLIC, State of N. Y., Monroe County
My Commission Expires March 30, 1979

ATTACHMENT A

1. Replace Technical Specification pages 3.10-4 and 3.10-8c with the enclosed pages:



- 3.10.2.4. If the quadrant to average power tilt ratio exceeds 1.02 but is less than 1.12 for a sustained period of more than 24 hours without known cause, or if such a tilt recurs intermittently without known cause, the reactor power level shall be restricted so as not to exceed 50% of rated power. If the cause of the tilt is determined, continued operation at a power level consistent with 3.10.2.2 above, shall be permitted. | 16
- 3.10.2.5 Except for physics test, if the quadrant to average power tilt ratio is 1.12 or greater, the reactor shall be put in the hot shutdown condition utilizing normal operating procedures. Subsequent operation for the purpose of measuring and correcting the tilt is permitted provided the power level does not exceed 50% of rated power and the Nuclear Overpower Trip "set point is reduced by 50%".
- 3.10.2.6 Following any refueling and at least every effective full power month thereafter, flux maps, using the movable detector system, shall be made to confirm that the hot channel factor limits of Specification 3.10.2.2 are met.
- 3.10.2.7 The reference equilibrium indicated axial flux difference as a function of power level (called the target flux difference) shall be measured at least once per equivalent full power quarter. The target flux difference must be updated at least each equivalent full power month using a measured value or by interpolation using the most recent measured value and the predicted value at the end of the cycle life. The target flux difference shall be between +5.0 and -7.5% at the beginning of cycle life and between +2.0 and -7.5% at the end of cycle life. Linear interpolation shall be used to determine values at other times in cycle life. 16
- 3.10.2.8 Except during physics tests, control rod exercises, excore detector calibration, and except as modified by 3.10.2.9 through 3.10.2.12, the indicated axial flux difference shall be maintained within $\pm 5\%$ of the target flux difference (defines the target band on axial flux difference). Axial flux difference for power distribution control is defined as the average value for the four excore detectors. If one excore detector is out of service, the remaining three shall be used to derive the average. 16

different from those resulting from operation within the target band. The instantaneous consequence of being outside the band, provided rod insertion limits are observed, is not worse than a 10 percent increment in peaking factor for flux difference in the range +14 percent to -14 percent (+11 percent to -11 percent indicated) increasing by +1 percent of each 2 percent decrease in rated power. Therefore, while the deviation exists the power level is limited to 90 percent or lower depending on the indicated flux difference.

If, for any reason, flux difference is not controlled within the ± 5 percent band for as long a period as one hour, then xenon distributions may be significantly changed and operation at 50 percent is required to protect against potentially more severe consequences of some accidents.

As discussed above, the essence of the limits is to maintain the xenon distribution in the core as close to the equilibrium full power condition as possible. This is accomplished, without part length rods, by using the chemical volume control system to position the full length control rods to produce the required indication flux difference.

The effect of exceeding the flux difference band at or below half power is approximately half as great as it would be at 90% of rated power, where the effect of deviation has been evaluated.

The reason for requiring hourly logging is to provide continued surveillance of the flux difference if the normal alarm functions are out of service. It is intended that this surveillance would be temporary until the alarm functions are restored.

The quadrant power tilt ratio limit assures that the radial power distribution satisfies the design values used in the power capability analysis. Radial power distribution measurements are made during startup testing and periodically during power operation.

The limit of 1.02 at which corrective action is required provides DNB and linear heat generation rate protection with x-y plane power tilts. A limiting tilt of 1.025 can be tolerated before the margin for uncertainty in F_q is depleted. Therefore, the limiting tilt has been



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ATTACHMENT B

The R.E. Ginna Nuclear Plant will be refueled in March 1978. The reload will consist of 32 new fuel assemblies supplied by Exxon Nuclear Corporation and 89 previously exposed Westinghouse fuel assemblies. Detailed discussions of the safety analysis performed by Exxon Nuclear for reload (Cycle 8) operation are presented in or referenced in the enclosed report, "Cycle 8 Reload Safety Analysis Report", XN-NF-77-53.

The change to Technical Specification 3.10.2.7 is required to meet the conditions of Power Distribution Control (PDC 1) as described in, "Exxon Nuclear Power Distribution Control for Pressurized Water Reactors", XN-76-40 and Addendum.

The change to the bases of the Technical Specifications on pages 3.10-8c is required for clarity and to reflect a different methodology used by Exxon Nuclear in the nuclear design. The revised basis is consistent with the Nuclear Regulatory Commission's Standard Technical Specifications.

Prior to operation of Cycle 8 a Startup Physics Test Program will be completed. This program will consist of the following:

1. Boron endpoints at all rods out (ARO), D bank in, and D + C bank in.
2. Isothermal temperature coefficient at ARO and D bank in.
3. Differential and integral bank worths for bank D and bank C with D bank in.
4. Zero power flux maps at ARO and D bank in.
5. Full core flux map prior to operation at 50% of rated power.

The results of this test program will be reviewed prior to power operation by the Ginna Station Nuclear Engineer.



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