

July 16, 1997

Dr. Robert C. Mecredy
Vice President, Nuclear Operations
Rochester Gas and Electric Corporation
89 East Avenue
Rochester, NY 14649

SUBJECT: ISSUANCE OF EXEMPTION FROM THE REQUIREMENTS OF 10 CFR 70.24 -
R. E. GINNA NUCLEAR POWER PLANT (TAC NO. M98926)

Dear Dr. Mecredy:

By letter dated June 5, 1997, you requested an exemption from the requirements of 10 CFR 70.24 concerning criticality monitors. Based upon the information provided, there is reasonable assurance that irradiated and unirradiated fuel will remain subcritical; furthermore, you maintain radiation monitors in accordance with General Design Criterion (GDC) 63. The low probability of a criticality together with your adherence to GDC 63 constitutes good cause for granting an exemption from 10 CFR 70.24.

The Commission has issued the enclosed exemption for the R. E. Ginna Nuclear Power Plant. The exemption is being forwarded to the Office of the Federal Register for publication.

Sincerely,

/s/

Guy S. Vissing, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-244

Enclosure: Exemption

cc w/encl: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001
July 16, 1997

Dr. Robert C. Mecredy
Vice President, Nuclear Operations
Rochester Gas and Electric Corporation
89 East Avenue
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Sincerely,

A handwritten signature in cursive script, appearing to read "Guy S. Vissing".

Guy S. Vissing, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket No. 50-244

Enclosure: Exemption

cc w/encl: See next page

Dr. Robert C. Mecredy

R.E. Ginna Nuclear Power Plant

cc:

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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)	

EXEMPTION

I.

The Rochester Gas and Electric Corporation (the licensee) is the holder of Facility Operating License No. DPR-18, which authorizes operation of the R. E. Ginna Nuclear Power Plant. The license provides that the licensee is subject to all rules, regulations, and orders of the U.S. Nuclear Regulatory Commission (NRC or the Commission) now or hereafter in effect.

The facility consists of a pressurized-water reactor at the licensee's site located in Wayne County, New York.

II.

The Code of Federal Regulations at 10 CFR 70.24, "Criticality Accident Requirements," requires that each licensee authorized to possess special nuclear material shall maintain a criticality accident monitoring system in each area in which such material is handled, used, or stored. Sections 70.24 a(1) and a(2) specify detection and sensitivity requirements that these monitors must meet. Section 70.24 a(1) also specifies that all areas subject to criticality accident monitoring must be covered by two detectors. Section 70.24(a)(3) requires licensees to maintain emergency procedures for each area in which this licensed special nuclear material is

handled, used, or stored and provides (1) that the procedures ensure that all personnel withdraw to an area of safety upon the sounding of a criticality accident monitor alarm, (2) that the procedures must include drills to familiarize personnel with the evacuation plan, and (3) that the procedures designate responsible individuals for determining the cause of the alarm and placement of radiation survey instruments in accessible locations for use in such an emergency. Section 70.24(b)(1) requires licensees to have a means by which to quickly identify personnel who have received a dose of 10 rads or more. Section 70.24(b)(2) requires licensees to maintain personnel decontamination facilities, to maintain arrangements for a physician and other medical personnel qualified to handle radiation emergencies, and to maintain arrangements for the transportation of contaminated individuals to treatment facilities outside the site boundary. Section 70.24(c) exempts Part 50 licensees from the requirements of 10 CFR 70.24(b) for special nuclear material used or to be used in the reactor. Subsection 70.24(d) states that any licensee who believes that there is good cause why he should be granted an exemption from all or part of 10 CFR 70.24 may apply to the Commission for such an exemption and shall specify the reasons for the relief requested.

III.

The special nuclear material that could be assembled into a critical mass at the R. E. Ginna Nuclear Power Plant is in the form of nuclear fuel; the quantity of special nuclear material other than fuel that is stored on site is small enough to preclude achieving a critical mass. The Commission's technical staff has evaluated the possibility of an inadvertent criticality of

the nuclear fuel at the R. E. Ginna Nuclear Power Plant and has determined that such an accident is unlikely to occur if the licensee meets the following eight criteria:

1. Plant procedures do not permit more than one PWR fuel assembly or three BWR fuel assemblies to be in storage or transit between their associated shipping cask or storage rack at one time.
2. The requirement is met that k -effective not exceed 0.95, at a 95% probability, 95% confidence level with the fresh fuel storage racks filled with fuel of maximum permissible U-235 enrichment and flooded with pure water.
3. The requirement is met that k -effective not exceed 0.98, at a 95% probability, 95% confidence level with the fresh fuel storage racks filled with fuel at the maximum permissible U-235 enrichment and flooded with moderator at the (low) density corresponding to optimum moderation.
4. The requirement is met that k -effective not exceed 0.95, at a 95% probability, 95% confidence level with the spent fuel storage racks filled with fuel of the maximum permissible U-235 enrichment and flooded with pure water.
5. The quantity of forms of special nuclear material, other than nuclear fuel, such as sources or detectors, that are stored onsite in one area, is less than that necessary for a critical mass.
6. Radiation monitors, as required by GDC 63, are provided in fuel storage and handling areas to detect excessive radiation levels and to initiate appropriate safety actions.
7. The maximum nominal U-235 enrichment is 5 wt%.

8. Training is provided to the appropriate personnel for safely handling fresh fuel.

By letter dated June 5, 1997, Rochester Gas and Electric Corporation requested an exemption from 10 CFR 70.24. In this exemption request, the licensee addressed the eight criteria given above. The NRC staff has reviewed the licensee's submittal and has determined that the R. E. Ginna Nuclear Power Plant meets the criteria for prevention of inadvertent criticality; therefore, the staff has determined that an inadvertent criticality is highly unlikely in special nuclear material handling or storage areas at the R. E. Ginna Nuclear Power Plant.

The purpose of the criticality monitors required by 10 CFR 70.24 is to ensure that if a criticality were to occur during the handling of special nuclear material, personnel would be alerted to that fact and would take appropriate action. Although the staff has determined that it is highly unlikely that such an accident could occur, the licensee has radiation monitors, as required by General Design Criterion 63 (GDC), in fuel storage and handling areas. These monitors will alert personnel to excessive radiation levels and allow them to initiate appropriate safety actions. The low probability of an inadvertent criticality, together with the licensee's adherence to GDC 63, constitutes good cause for granting an exemption to the requirements of 10 CFR 70.24.

IV.

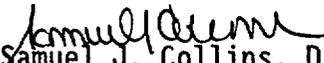
The Commission has determined that, pursuant to 10 CFR 70.14, this exemption is authorized by law, will not endanger life or property or the common defense and security, and is otherwise in the public interest; therefore, the Commission hereby grants the following exemption:

The Rochester Gas and Electric Corporation is exempt from the requirements of 10 CFR 70.24 for the R. E. Ginna Nuclear Power Plant.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will have no significant impact on the quality of the human environment 62 FR 38590.

This exemption is effective upon issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Samuel J. Collins, Director
Office of Nuclear Reactor Regulation

Dated at Rockville, Maryland,
this 16th day of July 1997.