MAR 29 1971

Docket No. 50-244

Rochester Gas and Electric Corporation
ATTN: Mr. Edward J. Nelson, President
89 East Avenue
Rochester, New York 14604

Change No. 3
License No. DPR-18

Gentlemen:

Your letter dated January 15, 1971, requested authority to assign protection factors to the use of respiratory equipment. Your four letters dated January 22, 1971, submitted Proposed Changes No. 4, 5, 6 and 7 to the Technical Specifications of Provisional Operating License No. DPR-18 for the Ginna Station Unit No. 1. The proposed changes would modify the frequency and acceptance criteria for containment leakage tests, modify the Environmental Radiation Survey Program, change the frequency for sampling the reactor primary coolant, and change the frequency of the battery load tests. We have redesignated your requests Proposed Change No. 3.

During our review of the proposed changes, we informed your staff that certain modifications were necessary to meet our regulatory requirements and to make your facility Technical Specifications consistent with specifications approved for other facilities. Your staff indicated that these modifications were acceptable.

On the basis of our review of your proposed changes, as modified, we have concluded that the changes proposed therein do not present significant hazards considerations not described or implicit in the Ginna Safety Analysis Report and that there is reasonable assurance that the health and safety of the public will not be endangered by operation of the Ginna Unit No. 1 in the proposed manner. The changes involving the respiratory protective factors, coolant sampling frequency, battery testing frequency and containment leakage test criteria improve and update the Technical Specifications. The change to the environmental radiation survey is a restatement of the original sampling frequency in accordance with actual practice.

DV

Accordingly, pursuant to Section 50.59 of 10 CFR Part 50, the Technical Specifications of Provisional Operating License No. DPR-18 are hereby changed as set forth in Attachment A to this letter.

Sincerely,

Peter A. Morris, Director
Division of Reactor Licensing

Enclosure:
Attachment A - Changes to
Technical Specifications

cc: LeBoeuf, Lamb, Leiby & MacRae
1821 Jefferson Place, N. W.
Washington, D. C. 20036

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UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

March 29, 1971

Docket No. 50-244

Rochester Gas and Electric Corporation
ATTN: Mr. Edward J. Nelson, President
89 East Avenue
Rochester, New York 14604

Change No. 3
License No. DPR-18

Gentlemen:

Your letter dated January 15, 1971, requested authority to assign protection factors to the use of respiratory equipment. Your four letters dated January 22, 1971, submitted Proposed Changes No. 4, 5, 6 and 7 to the Technical Specifications of Provisional Operating License No. DPR-18 for the Ginna Station Unit No. 1. The proposed changes would modify the frequency and acceptance criteria for containment leakage tests, modify the Environmental Radiation Survey Program, change the frequency for sampling the reactor primary coolant, and change the frequency of the battery load tests. We have redesignated your requests Proposed Change No. 3.

During our review of the proposed changes, we informed your staff that certain modifications were necessary to meet our regulatory requirements and to make your facility Technical Specifications consistent with specifications approved for other facilities. Your staff indicated that these modifications were acceptable.

On the basis of our review of your proposed changes, as modified, we have concluded that the changes proposed therein do not present significant hazards considerations not described or implicit in the Ginna Safety Analysis Report and that there is reasonable assurance that the health and safety of the public will not be endangered by operation of the Ginna Unit No. 1 in the proposed manner. The changes involving the respiratory protective factors, coolant sampling frequency, battery testing frequency and containment leakage test criteria improve and update the Technical Specifications. The change to the environmental radiation survey is a restatement of the original sampling frequency in accordance with actual practice.

Accordingly, pursuant to Section 50.59 of 10 CFR Part 50, the Technical Specifications of Provisional Operating License No. DPR-18 are hereby changed as set forth in Attachment A to this letter.

Sincerely,

Peter A. Morris, Director
Division of Reactor Licensing

Enclosure:
Attachment A - Changes to
Technical Specifications

cc: LeBoeuf, Lamb, Leiby & MacRae
1821 Jefferson Place, N. W.
Washington, D. C. 20036

ATTACHMENT A

Change No. 3 to Technical Specifications
Provisional Operating License No. DPR-18
Rochester Gas and Electric Corporation
Docket No. 50-244

1. Change "Test" and "Frequency" columns for Item 1 in Table 4.1-2 to read as follows and add the Notes at the end of the table:

"Test	Frequency
Gross Activity (beta - gamma)	3 times/weekly and at least every third day (1)
Radiochemical (2)	Monthly
$\overline{E}$ Determination	Semiannually (3)
Tritium Activity	Weekly
Cl, F, & O_2	Weekly

NOTES:

(1) A gross activity analysis shall consist of the quantitative measurement of the total radioactivity of the primary coolant in units of μCi/cc, and when activity levels exceed 25% of limits specified in 3.1.4 the sampling frequency shall be increased to a minimum of once/day.

(2) A radiochemical analysis shall consist of the quantitative measurement of each radionuclide with a half life greater than 30 minutes making up at least 95% of the total activity of the primary coolant.

(3) $\overline{E}$ determination will be redetermined if the primary coolant gross activity changes by more than 10 μCi/cc."

2. Change Specification 4.4.1.1.c to read:

"4.4.1.1.c The test shall be performed without preliminary leak detection survey or leak repairs. Leak repairs, if required or performed during the integrated leakage tests, shall be preceded and followed by a local leak rate measurement."

3. Change Specification 4.4.1.2.b to read:

"4.4.1.2.b The allowable operational leakage rate, which must be met prior to resumption of power operation following a test, shall not exceed 0.75 L_t. Local leak repairs made to reduce an acceptable integrated leakage rate to less than 0.75 L_t do not necessitate another containment integrated leakage test."

4. Change Specification 4.4.1.2.c to read:

"4.4.1.2.c The acceptable integrated leakage rate (L_t) at the reduced test pressure shall not exceed $L_t(P_t/P_p)^{1/2}$. The maximum allowable leakage rate that would be measured if the containment were pressurized with air to the accident pressure (L_p) is the maximum allowable leakage rate (L_a) of Section 4.4.1.2.a. The pressures are gauge pressures; the terms P_p and P_t refer to accident pressure and reduced test pressure, respectively."

5. Replace all of Specification 4.4.1.3 with:

"4.4.1.3 Frequency

Three integrated leakage rate tests shall be performed within 10 years of the preoperational integrated leakage rate test at approximately equal intervals."

6. Change the "Basis" at the end of Section 4.4 as indicated below:

a. On page 114, second paragraph:

(1) In line 10, delete "in a conservative manner,"
(2) In line 13, change "70% or" to read "75%"
(3) In line 14, delete "80%" and change "rates" to "rate"

b. On page 115, delete the last sentence of paragraph 2 which reads: "The specification allows for missing the projected refueling shutdown times by up to 3 months".

7. Change Specification 4.6.3.d to read:

"d. Each battery shall be subjected to a load test within a twelve-month period from the last load test; however, to permit the load test to coincide with a scheduled refueling, the period may extend for an additional three months. The battery voltage as a function of time shall be monitored to establish that the battery performs as expected during heavy discharge and that all electrical connections are tight."

8. Change the schedule in Specification 4.10.1 relating to "Marine Organisms" from "Every 3 months" to "Four times per year".

9. Change Specification 6.4.2 in its entirety to read:

"6.4.2 Radiation control procedures shall be maintained and made available to all station personnel. These procedures shall show permissible radiation exposure, and shall be consistent with the requirements of 10 CFR 20. This radiation protection program shall be organized, with the following exceptions, to meet the requirements of 10 CFR 20:

a. Paragraph 20.203 "Caution signs, labels, signals and controls." In lieu of the "control device" or alarm signal required by paragraph 20.203(c) (2), each high radiation area in which the intensity of radiation is 1000 mRem/hr to 100 mRem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit and any individual or group of individuals permitted to enter such areas shall be provided with a radiation monitoring device which continuously indicates the radiation dose rate in the area.

The above procedure shall also apply to each high radiation area in which the intensity of radiation is greater than 1000 mRem/hr, except that locked doors shall be provided to prevent unauthorized entry into these areas and the keys to these locked doors shall be maintained under the administrative control of the Shift Foreman on duty.

b. Pursuant to 10 CFR 20.103(c) (1) and (3), allowance can be made for the use of respiratory protective equipment in conjunction with activities authorized by the operating license for this plant in determining whether individuals in restricted areas are exposed to concentrations in excess of the limits specified in Appendix B, Table I, Column 1, of 10 CFR 20, subject to the following conditions and limitations:

1) The limits provided in Section 20.103 (a) and (b) are not exceeded.

2) If the radioactive material is of such form that intake through the skin or other additional route is likely, individual exposures to radioactive material shall be controlled so that the radioactive content of any critical organ from all routes of intake averaged over 7 consecutive days does not exceed that which would result from inhaling such radioactive material for 40 hours at the pertinent concentration values provided in Appendix B, Table I, Column 1, of 10 CFR 20.

3) In nonroutine operations in which adequate limitation of the inhalation of radioactive material by the use of process or other engineering controls is impracticable, the licensee may permit an individual in a restricted area to use respiratory protective equipment to limit the inhalation of airborne radioactive material, provided:

   (a) The limits specified in paragraphs 1) and 2) of this section are not exceeded.

   (b) Individual exposures to airborne radioactive material are controlled so that the quantity of radioactive material inhaled within any period of 24 consecutive hours during any portion of which respirators are used does not exceed that intake which would result from inhaling such material for 8 hours at the pertinent concentration values provided in Appendix B, Table I, Column 1, of 10 CFR 20. For the purposes of this subparagraph, the concentration of radioactive material that is inhaled when respirators are worn may be determined by dividing the ambient airborne concentration by the protection factor specified in Table I, appended to this specification, for the respirator protective equipment worn.

   (c) The licensee advises each respirator user that he may leave the area at any time for relief from respirator use in case of equipment malfunction, physical or psychological discomfort, or any other condition that might cause reduction in the protection afforded the wearer.

(d) The licensee maintains a respiratory protective program adequate to assure that the requirements of subparagraphs (a) and (b) of this specification are met. Such a program shall include:

(i) Air sampling and other surveys sufficient to identify the hazards, to evaluate individual exposure, and to permit proper selection of respiratory protective equipment.

(ii) Procedures to assure proper selection, supervision and training of personnel using such protective equipment.

(iii) Procedures to assure the adequate fitting of respirators and the testing of respiratory protective equipment for operability.

(iv) Procedures for maintenance to assure full effectiveness of respiratory protective equipment, including issuance, cleaning and decontamination, inspection, repair and storage.

(v) Bioassays of individuals and other surveys, as appropriate, to evaluate exposures and to assess protection actually provided.

(vi) Records sufficient to permit periodic evaluation of the adequacy of the respiratory protective program.

(e) The licensee has evaluated the respiratory protective equipment and has determined that, when used to protect against radioactive material under the conditions of use to be encountered, such equipment is capable of providing a degree of protection at least equal to the protection factors listed in Table I of this specification.

(f) The licensee shall not assign protection factors in excess of those specified in Table I of this specification in selecting and using respiratory equipment.

4) This section (paragraph b) shall be superseded by adoption of proposed changes to 10 CFR 20, Section 20.103, which would make this specification unnecessary.

b. The protection factors apply:

(i) Only for individually fitted respirators worn by trained individuals and used and maintained under supervision in a well-planned respiratory protection program.

(ii) For air-purifying respirators only when high efficiency particulate filters and/or sorbents appropriate to the hazard are used in atmospheres not deficient in oxygen.

(iii) For atmosphere-supplying respirators only when supplied with adequate respirable air.

(3) Excluding radioactive contaminants that present an absorption or submersion hazard.

(4) Appropriate protection factors must be determined taking account of the permeability of the suit to the contaminant under conditions of use. No protection factor greater than 1000 shall be used except as authorized by the Commission.

NOTE 1: Protection factors for respirators, as may be approved by the U.S. Bureau of Mines according to approval schedules for respirators to protect against airborne radionuclides, may be used to the extent that they do not exceed the protection factors listed in the Table. These protection factors may not be appropriate to circumstances where chemical or other respiratory hazards exist in addition to radioactive hazards. The selection and use of respirators for such circumstances should take into account approach of the U.S. Bureau of Mines in accordance with their applicable schedules.

NOTE 2: Radioactive contaminants for which the concentration values in Appendix B, Table I of 10 CFR 20 are based on internal dose due to inhalation may, in addition, present external exposure hazards at higher concentrations. Under such circumstances, limitations on occupancy may have to be governed by external dose limits.

TABLE I TO SPECIFICATION 6.4.2

PROTECTION FACTOR FOR RESPIRATORS

Description	(1) Modes	(2) Protection Factors (3) Particulates, Vapors and Gases, Except Tritium Oxide	(2) Protection Factors Tritium Oxide
I. Air-Purifying Respirators			
Facepiece, Half-Mask		10	1
Facepiece, Full		100	1
II. Atmosphere-Supplying Respirators			
A. Air Line Respirators			
Facepiece, Full	CF	1000	2
Facepiece, Full	PD	1000	2
Hood	CF	1000	2
Suit	CF	(4)	(4)
B. Self-Contained Breathing Apparatus	PD	1000	2
III. Combination Respirator			
Any combination of air purifying and atmosphere supplying respirator.		Protection factor for type and mode of operation as listed above.	

(1) CF: Continuous Flow
PD: Pressure Demand (i.e., always positive pressure)

(2) a. For purposes of this specification, the protection factor is a measure of the degree of protection afforded by a respirator, defined as the ratio of the concentration of airborne radioactive material outside the respiratory protective equipment to that inside the equipment (usually inside the facepiece) under conditions of use. It is applied to the airborne concentration to determine the concentration inhaled by the wearer, according to the following formula:

$$\text{Concentration Inhaled} = \frac{\text{Airborne Concentration}}{\text{Protection Factor}}$$ "

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

MAR 29 1971

File (Docket No. 50-244)
THRU: D. L. Ziemann, Chief, ORB #2, DRL

REVIEW OF TECHNICAL SPECIFICATION CHANGES REQUESTED BY ROCHESTER GAS AND ELECTRIC CORPORATION FOR THE GINNA STATION

INTRODUCTION

By a letter dated January 15, 1971, and four letters dated January 22, 1971, the Rochester Gas and Electric Corporation (RG&E) requested authorization to assign protective factors to the use of respiratory equipment and proposed changes to the Technical Specifications of Provisional Operating License No. DPR-18 which would change the reactor primary coolant sampling frequency, modify the containment leakage test frequency and acceptance criteria, change the frequency of the battery load tests, and modify the Environmental Radiation Survey Program. We redesignated the requested authorization and RG&E changes numbered 4, 5, 6 and 7 as Proposed Change No. 3.

During our review of the proposed changes, we informed the RG&E staff that certain modifications were necessary to meet our regulatory requirements and to make their Technical Specifications consistent with specifications approved for other facilities. They indicated that these modifications were acceptable.

DISCUSSION

Rochester Gas and Electric requested that the frequency of radiochemical analysis of the reactor coolant be reduced from 5 days/week and that a gross β determination be made 5 times per week. Present practice at other reactor facilities is to perform a radiochemical analysis once per month and supplement it with a gross β,γ activity measurement 5 days/week. However, if the gross coolant activity exceeds 25% of the maximum allowable as stated in the Technical Specifications, the gross activity would be determined once per day. The proposed reduced frequency of radiochemical analysis is consistent with the current requirements provided that it be supplemented with a gross β,γ activity determination. Therefore, the requested change should be granted and included as part of a general updating of the appropriate section of the specifications. Item 1 of Table 4.1-2 should be revised to be as shown in item 1 of Attachment A to the letter authorizing Proposed Change No. 3.

The requested change to the containment leakage test criteria would increase the time between tests and change the extrapolation factor used to calculate an integrated leakage rate at the accident pressure from the reduced pressure leakage test. The acceptable time interval between tests has been increased since the Ginna Technical Specifications were issued. More recent specifications require only three tests in the 10-year period after the original preoperational leak test. Therefore, it is recommended that this test frequency be adopted for Ginna. The extended test period enables RG&E to perform the next leakage test during a major refueling outage planned for the spring of 1972, as requested, instead of during the fall of 1971 as is presently specified. The extrapolation factor used to calculate the integrated leakage rate in the specifications is the lesser of a ratio of test pressures or a ratio of preoperational leakage test results. The leakage test ratio is suspect because the low pressure leakage rate obtained during preoperational test was negative. The low pressure leakage result was believed to be affected by off-gassing of the concrete after the containment pressure was reduced from the accident test pressure (60 psig) to the reduced test pressure (35 psig). Since the leakage rate measured at the low pressure may have been too low, and hence the ratio in error, it is recommended that the leakage test rates ratio not be used. The other factor is the pressure ratio. This factor is acceptable and can be used to provide an extrapolation factor for the next integrated leakage test. The above described changes were discussed with Messrs. Fairtile and Norian. They indicated the changes would be consistent with a guide being developed. To incorporate these two proposed changes, paragraphs 4.4.1.1 through 4.4.1.3 should be revised per items 2, 3, 4 and 5 of Attachment A to the letter authorizing Proposed Change No. 3.

The Technical Specifications presently require that the station batteries be load tested twice a year. RG&E requested that the test period be extended to coincide with the refueling outages which are anticipated to occur approximately once per year. The "IEEE Criteria for Class IE Electric Systems for Nuclear Power Generating Stations", IEEE 308, September 11, 1969, recommends that batteries be load tested annually. Therefore, the battery load test should be performed within a 12-month period from the last test. However, should a refueling be planned shortly after the expiration of the 12-month period, the period may be extended to 15 months to preclude an additional reactor shutdown. Paragraph d of Section 4.6.3 should be changed to read per item 7 of Attachment A to the letter authorizing Proposed Change No. 3.

The requested change in the Environmental Radiation Survey would change the frequency of sampling marine organisms from Lake Ontario from every

three months to four times a year. This change is requested because going on the lake to take samples during the winter months of high winds and ice is hazardous. RG&E's proposal of taking samples only during the period of favorable weather is reasonable and will provide a better record of the environs during the time that others may be fishing or otherwise removing marine organisms from the lake. Since the proposed change meets the intent of the existing specifications, Section 4.10.1 should be changed as proposed and as shown in item 8 of Attachment A to the letter authorizing Proposed Change No. 3.

The respiratory protective factors requested by RG&E are similar to those requested and approved for other licensed reactor facilities. The approved schedule of respiratory protective factors is based upon information from the U. S. Bureau of Mines. One exception to the requested schedule is that the maximum factor authorized for general use of respiratory equipment is 1000 rather than the 5000 requested for some specific types of respiratory equipment. Protection factors greater than 1000 may be only authorized by the Commission for a particular situation when the airborne radionuclides are specified, the exact working conditions are known, and the respiratory equipment completely identified. The approved schedule of respiratory protective factors will be incorporated into the Technical Specifications. To incorporate the appropriate credits for respiratory protection and to make other minor wording changes for consistency with current practices, Section 6.4.2 of the Technical Specifications should be changed to that of item 9 of Attachment A to the letter authorizing Proposed Change No. 3.

CONCLUSION

Based on the above considerations, we have concluded that the changes proposed herein, as modified, do not present significant hazards considerations not described or implicit in the Ginna Safety Analysis Report and that there is reasonable assurance that the health and safety of the public will not be endangered.

T. J. Carter

T. J. Carter
Operating Reactors Branch #2
Division of Reactor Licensing

cc: D. J. Skovholt
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