UNITED STATES NUCLEAR REGULATORY COMMISSION

ROCHESTER GAS AND ELECTRIC CORPORATION

DOCKET NO. 50-244

NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENT TO PROVISIONAL OPERATING LICENSE AND PROPOSED NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION AND OPPORTUNITY FOR HEARING

The U. S. Nuclear Regulatory Commission (the Commission) is considering issuance of an amendment to Provisional Operating License No. DPR-18 issued to Rochester Gas and Electric Corporation (the licensee), for operation of the R. E. Ginna Nuclear Power Plant (Ginna), located in Wayne County, New York.

The amendment would allow spent fuel pool storage capacity expansion from 595 to 1016 spaces. The proposed expansion is to be achieved by reracking the six west most rack modules resulting in a spent fuel pool with two discrete regions. This amendment was requested in the licensee's application dated April 2, 1984 and supplemented by letter dated June 12, 1984.

Before issuance of the proposed license amendment, the Commission will have made findings required by the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations.

The Commission has made a proposed determination that the amendment request involves no significant hazards consideration. Under the Commission's regulations in 10 CFR 50.92, this means that operation of the facility in accordance with the proposed amendments would not (1) involve a significant increase in the probability or consequences of an accident

previously evaluated; or (2) create the possiblity of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

The technical evaluation of whether or not an increased spent fuel pool storage capacity involves significant hazards considerations is centered on three standards: (1) does increasing the spent fuel pool storage capacity significantly increase the probability or consequences of accidents previously evaluated? Reracking to allow closer spacing of fuel assemblies does not significantly increase the probability or consequences of accidents previously analyzed; (2) does increasing the spent fuel pool storage capacity create the possibility of a new or different kind of accident from any accident previously analyzed? With respect to Ginna, the staff has not identified any new categories or types of accidents as a result of reracking to allow closer spacing for the fuel assemblies. The proposed reracking does not create the possibility of a new or different kind of accident previously evaluated for the spent fuel pool. In all reracking reviews completed to date, all credible accidents postulated have been found to be conservatively bounded by the evaluations cited in the Safety Evaluation Reports (SERs) supporting each amendment; and (3) does increasing the spent fuel pool storage capacity significantly reduce a margin of safety? The staff has not identified significant reductions in safety margins due to increasing the storage capacity of the spent fuel pool. The expansion may result in a minor increase in pool temperature by a few degrees, but this heat load increase is generally well within the design limitations of the installed cooling systems. In some cases it may be necessary to increase the heat removal capacity by relatively minor changes in the cooling system, i.e., by increasing a pump capacity. But in all cases,

the temperature of the pool will remain below design values. The small increase in the total amount of fission products in the pool is not a significant factor in accident considerations. The increased storage capacity may result in an increase in the pool reactivity as measured by the neutron multiplication factor (K_{eff}). However, after extensive study, the staff determined in 1976 that as long as the maximum neutron multiplication factor was less than or equal to 0.95, then any change in the pool reactivity would not significantly reduce a margin of safety regardless of the storage capacity of the pool. The licensee has indicated that the K_{eff} would not exceed 0.95. The techniques utilized to calculate K_{eff} have been bench-marked against experimental data and are considered very reliable. Reracking to allow a closer spacing between fuel assemblies can be done by proven technologies.

In summary, replacing existing racks with a design which allows closer spacing between stored spent fuel assemblies is considered not likely to involve significant hazards considerations if two conditions are met. First, no new technology or unproven technology may be utilized in either the construction process or in the analytical techniques necessary to justify the expansion. Second, the K_{eff} of the pool must be maintained less than or equal to 0.95. Reracking to allow closer spacing satisfies these conditions.

The licensee's submittals included a discussion of the proposed action with respect to the issue of no significant hazards consideration. This discussion has been reviewed and the Commission finds it acceptable. Pertinent portions of the licensee's discussion, addressing each of the three standards, is provided herein.

The analysis of the proposed reracking was accomplished using currently acceptable codes and standards and conforms to staff guidance of April 1978. The results of the licensee's analysis in relation to the three standards is as follows:

First Standard - Involve a significant increase in the probability or consequences of an accident previously evaluated.

In the course of the analysis the licensee identified the following potential accident scenarios:

1. A spent fuel assembly drop in the spent fuel pool.
2. Loss of spent fuel pool cooling system flow.
3. A seismic event.
4. A spent fuel cask drop.

The probability of any of the four accidents is not affected by the racks themselves; thus reracking cannot increase the probability of these accidents. In consideration of a construction accident, the licensee does not intend to carry any rack directly over the stored spent fuel assemblies. All work in the spent fuel pool area will be controlled and performed in strict accordance with specific written procedures. The Auxiliary Building crane which will be used to access the spent fuel pool area has been addressed in the licensee's response to the NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants." This response demonstrated the licensee's compliance with Phase 1 of the NUREG-0612 criteria. The Ginna Technical Specifications prohibit the trolley of the Auxiliary Building crane from moving over racks containing spent fuel. While the trolley will not travel directly over any spent fuel, the trolley will pass over two to three empty rows of a rack containing spent fuel. Should a load drop occur, the distance between the rows and the cells containing spent

fuel will prevent fuel damage. By letter dated January 18, 1984, the NRC concluded that the control of heavy loads program (Phase 1) at Ginna satisfies the guidelines in NUREG-0612, Sections 5.1.1. and 5.3. This program provides for the safe handling of heavy loads in the vicinity of the Spent Fuel Pool.

Accordingly, the proposed rerack will not involve a significant increase in the probability of an accident previously evaluated.

The consequences of (1) a spent fuel assembly drop in the spent fuel pool are discussed in the licensee's Safety Analysis Report. For this accident condition, the criticality acceptance criterion is not violated. The radiological consequences of a fuel assembly drop are not changed from previous analysis. The proposed modification only affects storage of well cooled fuel; the maximum radiological releases would occur from the drop of an assembly in the region of the spent fuel pool which will not be changed. The results of the evaluation were transmitted to the licensee in November 1976. Thus, the consequences of this type accident will not be significantly increased from previously evaluated spent fuel assembly drops, and have been found acceptable by the NRC.

The consequences of (2) loss of spent fuel pool cooling system flow have been evaluated for both the current pool cooling system and the system to be installed in 1986. The structural integrity of the spent fuel pool will be maintained and no means of losing cooling water or flow have been identified. Previous evaluations concluded that there is sufficient time to provide an alternate means for cooling (i.e., the 100% capacity spare pump) in the event of a failure in the cooling system. A new spent fuel pool cooling system scheduled for completion in 1986 will use the existing system plus a skid

mounted backup unit operating in parallel to provide 100% backup capacity in the event of cooling system failure. Thus, the consequences of this type accident will not be significantly increased from previously evaluated loss of cooling system flow accidents. Additionally, the NRC has previously accepted this system design in a separate SER dated November 3, 1981.

The consequences of (3) a seismic event have been evaluated and are described in Section 4.0 of the Safety Analysis Report. The new racks will be designed and fabricated to satisfy the NRC staff accepted design criteria. The method of support of the new racks remains the same as for the existing racks which are freestanding on embedments in the pool floor and able to transfer normal and shear loads to the Spent Fuel Building. Shims will be installed under the modified racks to provide greater load transfer. The new racks are designed so that the floor loading from the racks filled with spent fuel assemblies does not exceed the structural capacity of the Auxiliary Building. Therefore, the integrity of the pool will be maintained and no new means of losing cooling water or flow have been identified. Thus, the consequences of a seismic event will not significantly increase from previously evaluated events.

The consequences of (4) a spent fuel cask drop accident are unchanged by the requested modification. The current Technical Specifications prohibit the movement of a cask in the Auxiliary Building. An application for Amendment to the Operating License has been submitted to the NRC to delete the restriction by modifying the crane to be single failure proof in accordance with the requirements of NUREG-0554. Approval of this request would obviate the need to evaluate the consequences of a cask drop accident.

Therefore, it is concluded that the proposed amendment to rerack the spent fuel pool will not involve a significant increase in the probability or consequences of an accident previously evaluated.

Second Standard - Create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed reracking will be evaluated in accordance with the guidance of the NRC position paper entitled, "OT Position for Review and Acceptance of Spent Fuel Storage and Handling Applications," appropriate NRC Regulatory Guides, appropriate NRC Standard Review Plans, and appropriate Industry Codes and Standards as listed in the Safety Analysis Report. In addition, several previous NRC SERs for rerack applications similar to this proposal have been reviewed. Neither the licensee nor the NRC staff could identify a credible mechanism for breaching the structural integrity of the spent fuel pool which could result in loss of cooling water such that cooling flow could not be maintained. As a result of this evaluation and these reviews, the proposed reracking does not, in any way, create the possibility of a new or different kind of accident from any accident previously evaluated for the Ginna Spent Fuel Pool Storage Racks.

Third Standard - Involve a significant reduction in a margin of safety.

The NRC staff safety evaluation review process has established that the issue of margin of safety, when applied to a reracking modification, will need to address the following areas:

1. Nuclear criticality considerations.
2. Thermal-hydraulic considerations.
3. Mechanical, material, and structural considerations.

The established acceptance criteria for criticality is that the neutron multiplication factor in spent fuel pools shall be less than or equal to 0.95, including all uncertainties, under all conditions. This margin of safety has been adhered to in the criticality analysis methods for the new rack design as discussed in the licensee's Safety Analysis Report.

The methods to be used in the criticality analysis conform with the applicable portions of the codes, standards, and specifications listed in the Safety Analysis Report. In meeting the acceptance criteria for criticality in the spent fuel pool, such that K_{eff} is always less than 0.95, including uncertainties of a 95/95 probability confidence level, the proposed amendment to rerack the spent fuel pool will not involve a significant reduction in the margin of safety for nuclear criticality.

Conservative methods are used to calculate the maximum fuel temperature and the increase in temperature of the water in the spent fuel pool. The NRC reviewed and approved (November 3, 1981) proposed spent fuel pool cooling modifications. The modifications scheduled for completion in 1986 would provide sufficient cooling capacity for projected discharges through year 2009 with a full core discharge in year 2010 (1360 fuel assemblies total). This cooling capacity exceeds the maximum that would be required under the proposed modifications to the racks (1016 fuel assemblies total). The current projected refueling cycles are consistent with the assumptions of this safety analysis. Thus, there is no significant reduction in the margin of safety for thermal-hydraulic or spent fuel cooling concern.

The main safety function of the spent fuel pool and the racks is to maintain the spent fuel assemblies in a safe configuration through all normal and abnormal loadings, such as an earthquake, impact due to a spent fuel cask drop, drop of a spent fuel assembly, or drop of any other heavy object. The mechanical, material, and structural considerations of the proposed rerack are described in Section 4.0 of the Safety Analysis Report. The proposed racks are to be designed in accordance with applicable portions of the "NRC Position for Review and Acceptance of Spent Fuel Storage and Handling Applications," dated April 14, 1978, as modified January 18, 1979; and Standard Review Plan 3.8.4. The rack materials used are compatible with the spent fuel pool and the spent fuel assemblies. The structural considerations of the new racks address margins of safety against tilting and deflection or movement, including impact on each other or the pool walls, damage of spent fuel assemblies, and criticality concerns. The results of the analysis satisfied NRC accepted design criteria. As previously stated, neither the licensee nor the NRC staff could identify a credible mechanism for breaching the structural integrity of the spent fuel pool which could result in loss of cooling water such that cooling flow could not be maintained. Thus, the margins of safety are not significantly reduced by the proposed rerack.

The licensee's request to expand Ginna's spent fuel storage pool capacities satisfies the following conditions: (1) the storage expansion method consists of modifying a portion of the existing racks with a design which allows closer spacing between stored spent fuel assemblies; (2) the storage expansion method does not involve rod consolidation or double tiering;

(3) the K_{eff} of the pool is maintained less than or equal to 0.95; and (4) no new technology or unproven technology is utilized in either the construction process or the analytical techniques necessary to justify the expansion. Consequently, the request does not involve significant hazards consideration in that it: (1) does not involve a significant increase in the probability or consequences of an accident previously evaluated, (2) does not create the possibility of a new or different kind of accident from any accident previously evaluated, and (3) does not involve a significant reduction in a margin of safety.

Accordingly, the Commission proposes to determine that these changes do not involve a significant hazards consideration.

The Commission is seeking public comments on this proposed determination. Any comments received within 30 days after the date of publication of this notice will be considered in making any final determination. The Commission will not normally make a final determination unless it receives a request for a hearing.

Comments should be addressed to the Secretary of the Commission, U. S. Nuclear Regulatory Commission, Washington, D.C. 20555, ATTENTION: Docketing and Service Branch.

By August 27, 1984 , the licensee may file a request for a hearing with respect to issuance of the amendment to the subject provisional operating license and any person whose interest may be affected by this proceeding and who wishes to participate as a party in the proceeding must file a written petition for leave to intervene. Requests for a hearing and petitions for leave to intervene shall be filed in accordance with the Commission's "Rules of Practice for Domestic Licensing Proceedings" in 10 CFR Part 2. If a

request for a hearing or petition for leave to intervene is filed by the above date, the Commission or an Atomic Safety and Licensing Board, designated by the Commission or by the Chairman of the Atomic Safety and Licensing Board Panel, will rule on the request and/or petition and the Secretary or the designated Atomic Safety and Licensing Board will issue a notice of hearing or an appropriate order.

As required by 10 CFR §2.714, a petition for leave to intervene shall set forth with particularity the interest of the petitioner in the proceeding and how that interest may be affected by the results of the proceeding. The petition should specifically explain the reasons why intervention should be permitted with particular reference to the following factors: (1) the nature of the petitioner's right under the Act to be made a party to the proceeding; (2) the nature and extent of the petitioner's property, financial, or other interest in the proceeding; and (3) the possible effect of any order which may be entered in the proceeding on the petitioner's interest. The petition should also identify the specific aspect(s) of the subject matter of the proceeding as to which petitioner wishes to intervene. Any person who has filed a petition for leave to intervene or who has been admitted as a party may amend the petition without requesting leave of the Board up to fifteen (15) days prior to the first prehearing conference scheduled in the proceeding, but such an amended petition must satisfy the specificity requirements described above.

Not later than fifteen (15) days prior to the first prehearing conference scheduled in the proceeding, a petitioner is required to file a supplement to the petition to intervene which must include a list of the contentions which are sought to be litigated in the matter, and the bases for each contention set forth with reasonable specificity, pursuant to 10 CFR §2.714(b).

Contentions shall be limited to matters within the scope of the amendment under consideration. A petitioner who fails to file such a supplement which satisfies these requirements with respect to at least one contention will not be permitted to participate as a party.

The Commission hereby provides notice that this proceeding is on an application for a license amendment falling within the scope of Section 134 of the Nuclear Waste Policy Act of 1982 (NWPA), 42 U.S.C. §10154. Under Section 134 of the NWPA, the Commission, at the request of any petitioner or party to the proceeding, is required to employ hybrid hearing procedures with respect to "any matter which the Commission determines to be in controversy among the parties." Section 134 procedures provide for oral argument on those issues "determined to be in controversy", preceded by discovery under the Rules of Practice, and the designation, following argument, of only those factual issues that involve a genuine and substantial dispute, together with any remaining questions of law to be resolved at an adjudicatory hearing. Actual adjudicatory hearings are to be held only on those issues found to meet the criteria of Section 134 and set for hearing after oral argument on the proposed issues. However, if no petitioner or party requests the use of the hybrid hearing procedures, then the usual 10 CFR Part 2 procedures apply.

At this time, the Commission does not have effective regulations implementing Section 134 of the NWPA although it has published proposed rules. See Hybrid Hearing Procedures for Expansion of Onsite Spent Fuel Storage Capacity at Civilian Nuclear Power Reactors, 48 Fed. Reg. 54,499 (December 5, 1983).

Subject to the above requirements, and any limitations in the order granting leave to intervene, those permitted to intervene become parties to the proceeding and have the opportunity to participate fully in the conduct of the hearing, including the opportunity to present evidence and cross-examine witnesses.

If a hearing is requested, the Commission will make a final determination on the issue of no significant hazards consideration. The final determination will serve to decide when the hearing is held.

If the final determination is that the amendment request involves no significant hazards consideration, the Commission may issue the amendment and make it effective, notwithstanding the request for a hearing. Any hearing would take place after issuance of the amendment.

If the final determination is that the amendment involves a significant hazards consideration, any hearing held would take place before the issuance of any amendment.

Normally, the Commission will not issue the amendment until the expiration of the 30-day notice period. However, should circumstances change during the notice period such that failure to act in a timely way would result, for example, in derating or shutdown of the facility, the Commission may issue the license amendment before the expiration of the 30-day notice period, provided that its final determination is that the amendment involves no significant hazards consideration. The final determination will consider all public and State comments received. Should the Commission take this action, it will publish a notice of issuance and provide for opportunity for a hearing after issuance. The Commission expects that the need to take this action will occur very infrequently.

A request for a hearing or a petition for leave to intervene must be filed with the Secretary of the Commission, U. S. Nuclear Regulatory Commission, Washington, D.C. 20555, ATTENTION: Docketing and Service Branch, or may be delivered to the Commission's Public Document Room, 1717 H Street, N. W., Washington, D.C., by the above date. Where petitions are filed during the last ten (10) days of the notice period, it is requested that the petitioner promptly so inform the Commission by a toll-free telephone call to Western Union at (800) 325-6000 (in Missouri (800) 342-6700). The Western Union operator should be given Datagram Identification Number 3737 and the following message addressed to Dennis M. Crutchfield: petitioner's name and telephone number; date petition was mailed; plant name; and publication date and page number of this FEDERAL REGISTER notice. A copy of the petition should also be sent to the Executive Legal Director, U. S. Nuclear Regulatory Commission, Washington, D.C. 20555, and to Mr. Harry H. Voigt, Esquire, LeBoeuf, Lamb, Leiby, and MacRae, 1333 New Hampshire Avenue, N.W., Suite 1100, Washington, D.C. 20036, attorney for the licensee.

Nontimely filings of petitions for leave to intervene, amended petitions, supplemental petitions and/or requests for hearing will not be entertained absent a determination by the Commission, the presiding officer or the Atomic Safety and Licensing Board designated to rule on the petition and/or request, that the petitioner has made a substantial showing of good cause for the granting of a late petition and/or request. The determination will be based upon a balancing of the factors specified in 10 CFR 2.714(a)(1)(i)-(v) and 2.714(d).

For further details with respect to this action, see the application for amendment which is available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C., and at the Rochester Public Library, 115 South Avenue, Rochester, New York 14604.

Dated at Bethesda, Maryland, this 24 day of July 1984.

FOR THE NUCLEAR REGULATORY COMMISSION

Walter A. Paulson

Walter A. Paulson, Acting Chief
Operating Reactors Branch #5
Division of Licensing

INITIAL

NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

AND NOTICING ACTION

Docket No. 50-244 Facility: R. E. Ginna Nuclear Power Plant

Licensee: Rochester Gas & Electric Corp. Date of application April 2, 1984, as supplemented June 12, 1984

Request for: The proposed amendment would allow spent fuel pool storage capacity expansion from 595 to 1016 spaces.

Initial Determination:

(XXX) Proposed determination - amendment request involves no significant hazards considerations (NSHC).

( ) Final determination - amendment request involves significant hazards considerations (SHC).

Basis for Determination:

( ) License's NSHC discussion has been reviewed and is accepted. See attached amendment request.

( ) Basis for this determination is presented in the attached notice.

(XXX) Other (state). Basis for this determination is presented in the attached notice.

Initial Noticing Action: (Attach appropriate notice of input for monthly FRN

1. ( ) Monthly FRN. Notice of opportunity for hearing (30 days) and request for comments on proposed NSHC determination -- monthly FRN input is attached.

2. (XXX) Individual FRN. Same notice matter as above. Notice includes the opportunity to request a "hybrid hearing" under the Nuclear Waste Policy Act.

3. ( ) No initial FRN. Valid exigent circumstances exist (evaluated below). Local media notice requesting public comments on proposed NSHC determination is attached.

4. ( ) No initial FRN or local media notice. A valid emergency situation exists (evaluated below) and there is no time for public notice on proposed NSHC determination.

5. ( ) Individual FRN. Licensee's claim of exigent or emergency circumstances is invalid (evaluated below). Notice of opportunity for hearing (30 days) and request for comments on proposed NSHC determination is attached. Letter of explanation to licensee is also attached.

6. ( ) Individual FRN. The amendment request involves SHC. Notice of opportunity for prior hearing is attached. Letter to licensee also attached.

Evaluation of exigent or emergency circumstances (if applicable): _____

Approvals:

		Date
1.	George F. Dick George F. Dick Jr. 7/13/84 (Project Manager)	7/09/84
2.	Dennis M. Crutchfield Walter R. Paulson FOR D.M. CRUTCHFIELD (Branch Chief)	7-9-84
3.	~~Mitzi Young~~ Mary Wagner Mary G. Wagner w/noted changes (OELD)	7-12-84
4.	~~Frank J. Miraglia~~ D. Crutchfield for (Assistant Director)	7/20/84
5.	_____ (Director, Division of Licensing)	_____