

UNITED STATES NUCLEAR REGULATORY COMMISSION

NIAGARA MOHAWK POWER CORPORATION

DOCKET NO. 50-220

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

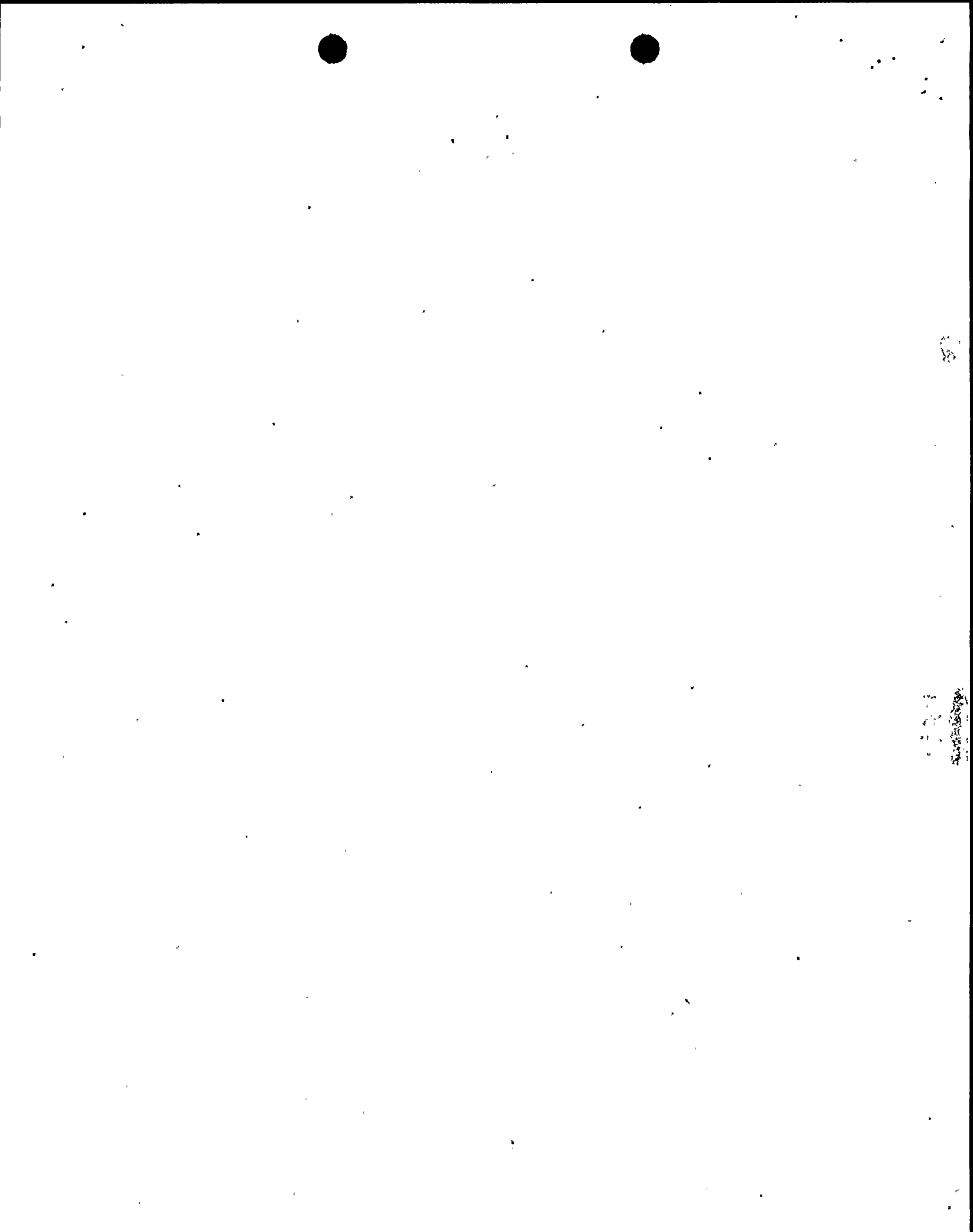
The U.S. Nuclear Regulatory Commission (the Commission or NRC) is considering issuance of an amendment to Facility Operating License No. DRP-63 issued to Niagara Mohawk Power Corporation (NMPC or the licensee) for operation of Nine Mile Point Nuclear Station, Unit 1 (NMP1), located in the town of Scriba, Oswego County, New York.

The proposed amendment would change Technical Specification (TS) 5.5, "Storage of Unirradiated and Spent Fuel," for NMP1. The changes would reflect a planned modification to increase the number of fuel assemblies that can be stored in the spent fuel pool from 2776 to 4086. The changes would also delete an erroneous reference within TS 5.5 to 10 CFR 70.55 for calculational methods approved by the Commission involving special arrays.

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 amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety. As

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required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

The operation of NMP1, in accordance with the proposed amendment, will not involve a significant increase in the probability or consequences of an accident previously evaluated.

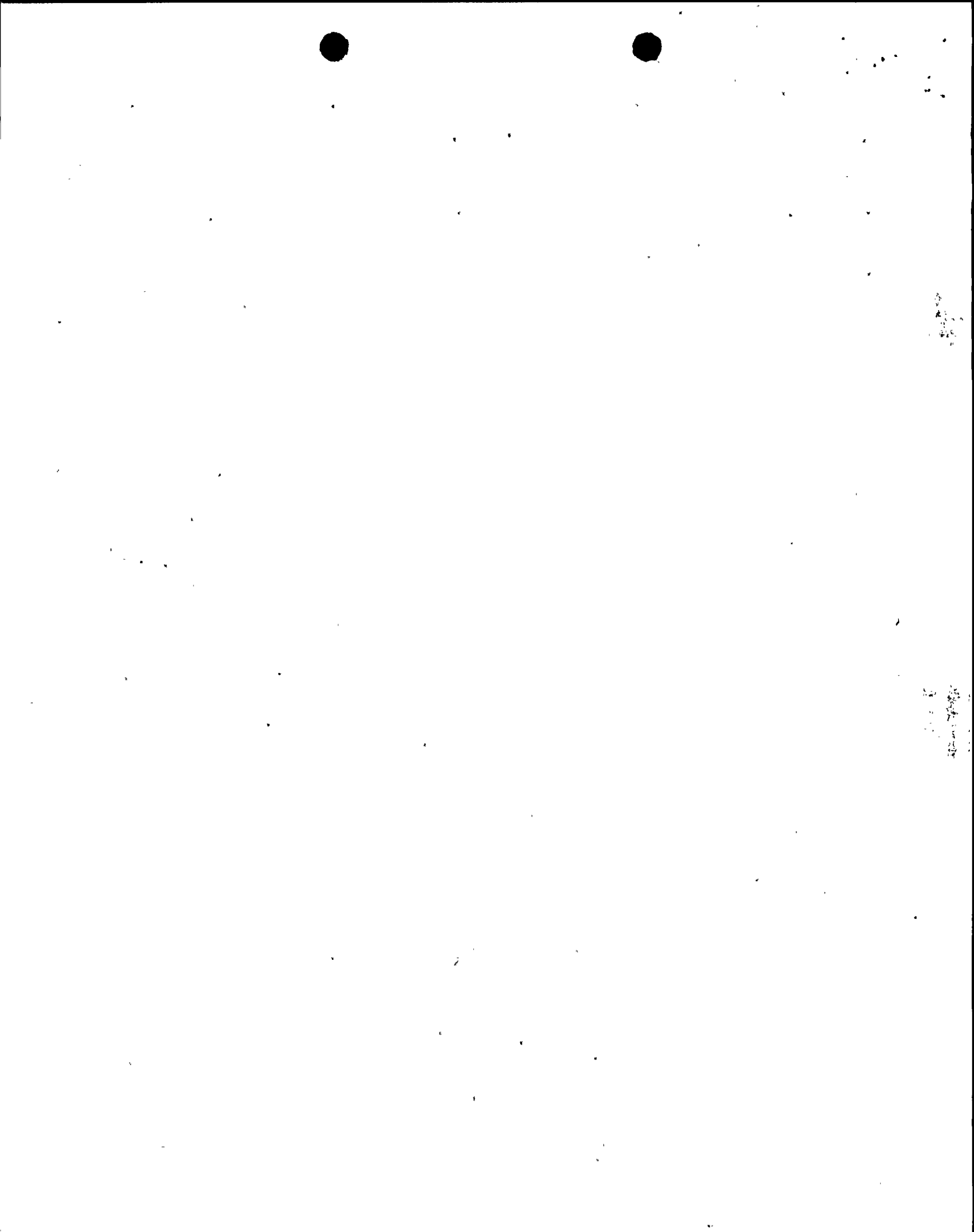
Analysis of issues concerning the expanded spent fuel pool storage capacity modification has considered the following potential scenarios:

1. A spent fuel assembly drop in the spent fuel pool.
2. Loss of spent fuel pool cooling flow.
3. A seismic event.
4. A cask drop in the spent fuel pool.
5. An accidental drop of a rack module during construction activity in the pool.

The probability that any of the first four scenarios in the above list can occur is not significantly increased by the proposed Technical Specification changes and the associated modification activities. Spent fuel pool activities such as fuel assembly movement as well as Spent Fuel Pool Cooling System operation will continue to be performed in accordance with approved plant procedures. A cask drop into the pool is considered an unlikely event based on the design/maintenance of the main hoist, the controlled cask movement path and the cask drop protection system (hydraulic guide cylinder). None of these features are affected by the proposed change. Concerning installation activities, whether conducted during power operation or shutdown, the reactor building crane will be utilized for handling all heavy loads (i.e., old and new racks) during the reracking operation. The main hoist is equipped with a redundant hoisting system which will prevent the dropping of heavy loads in the event that a cable or other critical part of the main hoist equipment should fail. Operability of the cranes will be checked and verified before the re-racking operation. All lift rigging and the refueling crane/hoist system will be inspected and all heavy load lifts will comply with NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants," per plant procedures. Accordingly, the probability of a heavy load drop will not significantly increase.

Therefore, the proposed modification and associated Technical Specification changes do not involve a significant increase in the probability of an accident previously evaluated.

UFSAR [Updated Final Safety Analysis Report] Section 15.c.3, "Refueling Accident," discusses the accident in which a fuel bundle is accidentally dropped onto the top of the core during refueling operations and the subsequent radiological effects. Fuel assembly density in the core is essentially equivalent to that of the assemblies stored in the replacement spent fuel racks. Accordingly, the consequence of a fuel assembly dropped on the core (as analyzed in UFSAR Section 15.c.3), is not significantly increased. Also, analysis shows that such an accident will not distort the racks sufficiently to impair their functionality and the minimum subcriticality margin, k_{eff} [neutron multiplication factor] [less than or equal to] 0.95, will be maintained. Thus, the consequences of such an accident remain acceptable and are not greater than those of previously evaluated accidents.



The consequences of a loss of spent fuel pool cooling have been evaluated and found acceptable. In the unlikely event that all pooling cooling is lost, sufficient time is available for the operators to re-establish cooling before the onset of pool boiling. Also, the consequences of a design basis seismic event have been evaluated and found acceptable. The new and the existing racks have been analyzed in their new configuration and found safe and impact-free during seismic motion. The structural capability of the pool will not be exceeded under dead weight, thermal, and seismic loads and the reactor building and the crane structure will retain the necessary safety margins during a seismic event. Thus, the consequences of a seismic event are not significantly increased.

Movements of heavy loads over the pool will continue to comply with applicable guidelines (e.g., NUREG-0612) and procedures. As previously mentioned, no heavy loads (e.g., racks, casks) will be transported over any region of the spent fuel pool containing fuel. The consequences of an accidental drop of a rack module into the pool during reracking activities have been evaluated indicating that very limited damage to the liner could occur. Therefore, the consequences of a heavy load drop are not increased.

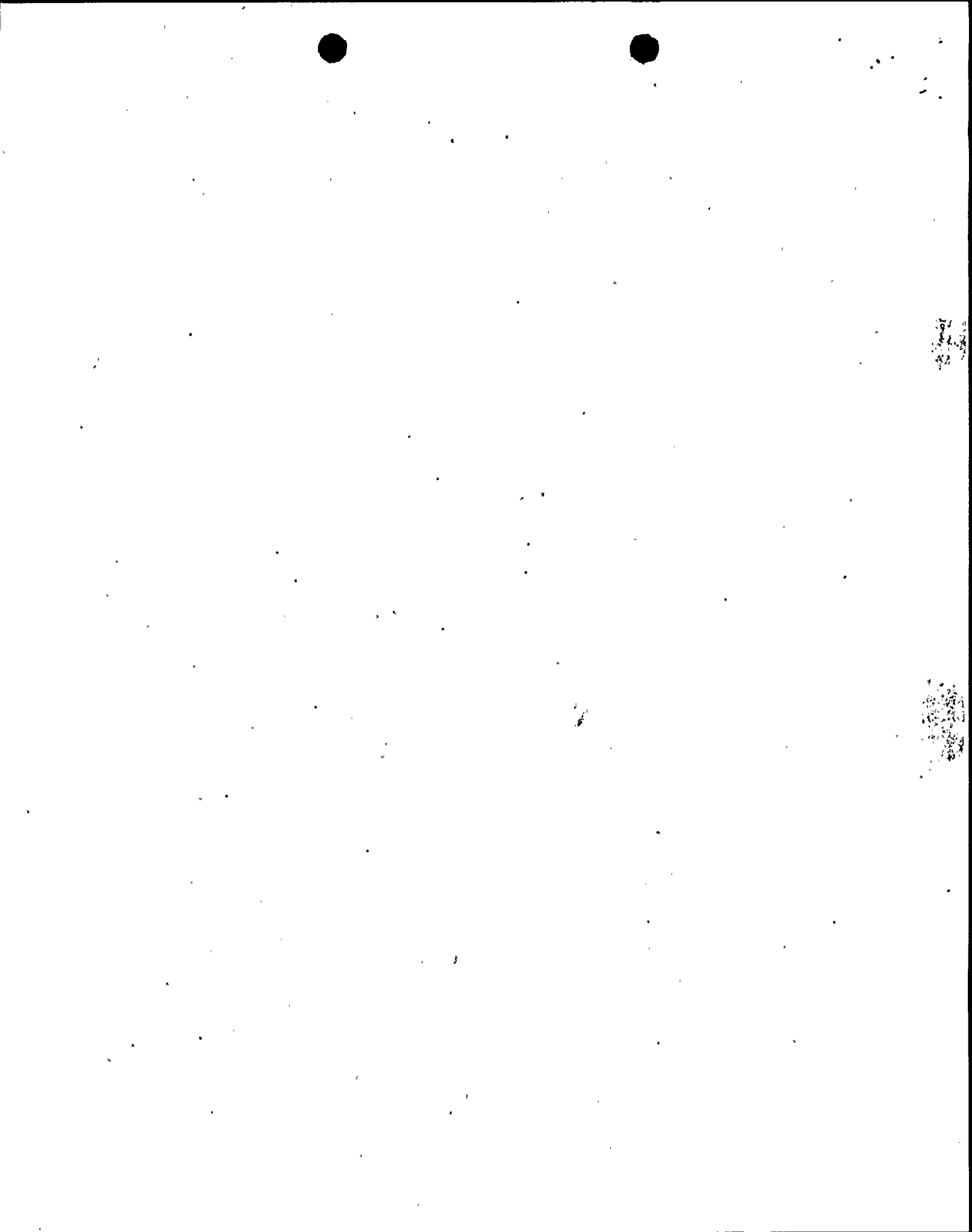
During rack removal and installation activities, interim configurations will exist (i.e., various combinations of old and new racks). These combinations have been evaluated and indicate that no thermal-hydraulic, criticality and structural concerns exist.

The last paragraph in Section 5.5 states that calculations for k_{eff} values have been based on methods approved by the NRC covering special arrays (10 CFR 70.55). 10 CFR 70.55, "Inspections," discusses inspections of special nuclear material and the premises and facilities where special nuclear material is used; not methods used to determine k_{eff} . Therefore, this is an inaccurate reference. Also, although the NRC does review and approve our methods to determine k_{eff} (as part [of] the Technical Specification Amendment approval process) this information is not considered critical design feature information. Accordingly, it does not belong in Section 5.0, "Design Features," of the Technical Specifications. Based on the above, deletion of this paragraph will not have any adverse affect on safety and will eliminate any potential confusion involving the reference to 10 CFR 70.55.

Therefore, the proposed changes do not significantly increase the consequences of any accident previously evaluated.

The operation of NMP1, in accordance with the proposed amendment, will not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed modification activities and associated Technical Specification amendment does not introduce any new modes of plant operation or accident precursors which could initiate a new or different kind of accident, affect the operation or function of any equipment necessary for the safe operation or shutdown of the plant, or involve any changes to plant operating parameters. The only physical alterations of plant configuration will involve the removal of currently installed non-poison and Boraflex spent fuel racks and the installation of new high density Boral racks. Heavy load movements (i.e., the old and new racks, casks) will continue to be performed in accordance with NUREG-0612. Accordingly, a drop of heavy loads onto spent fuel during and following installation activities need not be considered. As previously discussed, installation of the



new racks does not constitute a thermal-hydraulic, criticality or structural concern. Therefore, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The operation of NMP1, in accordance with the proposed amendment, will not involve a significant reduction in a margin of safety.

The proposed modification activities and associated Technical Specification Amendment involves replacing the currently install non-poison flux trap and Boraflex storage racks with new high density Boral racks. The proposed Technical Specification changes will not reduce the equipment required by Technical Specifications, affect any Technical Specification system setpoints, or adversely affect the ability of plant equipment to respond to an accident.

The design and technical considerations applied to the reracking modification included addressing the following areas:

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

Concerning criticality considerations, the replacement high density spent fuel storage racks are designed to assure that the neutron multiplication factor (k_{eff}) is equal to or less than 0.95 with the racks fully loaded with fuel of the highest anticipated reactivity and the pool flooded with unborated water at a temperature corresponding to the highest reactivity. The maximum calculated reactivity includes a margin for uncertainty in reactivity calculations and in mechanical tolerances, statistically combined, such that the true k_{eff} will be equal to or less than 0.95 with a 95% probability at a 95% confidence level. Reactivity effects of abnormal and accident conditions have also been evaluated to assure that under credible abnormal conditions, the reactivity will be less than the limiting design basis value. Accordingly, the proposed change does not involve a significant reduction in a margin of safety in that the existing racks maintain a k_{eff} of less than 0.95.

Amendment No. 54 to the NMP1 [Operating License which changed the] Technical Specifications, dated February 1, 1984, increased the spent fuel storage capacity to the current maximum of 2776 assemblies. In [its] Safety Evaluation, Section 2.4, "Spent Fuel Pool Cooling Considerations," the NRC indicated acceptance of NMPC's thermal-hydraulic analysis based on: 1) with the maximum normal heat load assumed and one cooling train in operation, pool water is calculated to 125 degrees F which is below the 140 degrees F limit recommended in Standard Review Plan (SRP) Section 9.1.3; and 2) with the maximum abnormal heat load assumed and two cooling trains operating, the maximum pool temperature is calculated to be below 124 degrees which is below the boiling temperature limit set forth in SRP Section 9.1.3.

The SRP requires that with a maximum normal heat load and a single failure, pool temperatures should be kept below 140 degrees F and that with an abnormal heat load, pool temperatures should be kept below boiling. For the abnormal heat load case, consideration of a single failure is not required. The analysis provided in Section 5, Attachment C of this submittal [the licensee's May 15, 1998] indicates how the proposed



change meets the requirements of the SRP and, accordingly, that no significant decrease in a margin of safety occurs.

In SRP 9.1.3, a normal spent fuel pool heat load is considered to be a core shuffle. NMPC has evaluated the core shuffle using the SRP guidance as Case 1, in previously referenced Section 5 of Attachment C. This evaluation indicates that a maximum pool temperature of 119 degrees F will be reached, thereby meeting the SRP maximum temperature requirement of 140 degrees F. Because a "normal heat load" now potentially involves a full core offload, NMPC has also reviewed this discharge scenario (Case 3, Section 5) as a normal case and therefore assumed a single failure. As delineated in Case 3, calculations will be performed to determine the days after reactor shutdown when all assemblies can be transferred to the pool, as a function of reactor building cooling water temperatures, such that a 140 degrees F bulk pool temperature will not be exceeded. Therefore, the SRP bulk pool temperature limit of 140 degrees F for a maximum normal heat load (both shuffle and full core offload) will not be exceeded.

The SRP also requires that for an abnormal maximum heat load (emergency condition), without a single failure, that pool temperatures should be maintained below boiling. Using the guidelines provided in the SRP, calculations were performed that found the maximum pool temperature to be 135 degrees F which is well below the SRP criteria (Case 2).

The mechanical, material, and structural design of the spent fuel racks is in accordance with applicable portions of NRC's position in "OT Position for Review and Acceptance of Spent Fuel Storage and Handling Applications," dated April 14, 1978 (as modified January 18, 1979), as well as other applicable NRC guidance and industry codes. The primary safety function of the spent fuel racks is to maintain the fuel assemblies in a safe configuration through normal and abnormal loading conditions. Abnormal loadings that have been evaluated with acceptable results include the effect of an earthquake and the impact due to the drop of a fuel assembly. The rack materials used are compatible with the fuel assemblies and the environment in the spent fuel pool. The structural design for the new racks provides tilting, deflection, and movement margins such that the racks do not impact each other or the spent fuel pool walls in the active fuel region during the postulated seismic events. Also, the spent fuel assemblies themselves remain intact and no criticality concerns exist. In addition, the structural adequacy of the spent fuel pool was demonstrated.

During rack removal and installation activities, interim configurations will exist (i.e., various combinations of old and new racks). These combinations have been evaluated and indicate that no thermal-hydraulic, criticality and structural concerns exist.

Therefore, the proposed change will not result in a significant reduction in a margin of safety.

The NRC staff has reviewed the licensee's analysis and, based upon this review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment request involves no significant hazards consideration.



By December 24, 1998, licensee may file a request for a hearing with respect to issuance of the amendment to the subject facility operating license and any person whose interest may be affected by this proceeding and who wishes to participate as a party in such proceeding must file a written request for a hearing and a petition for leave to intervene. Requests for a hearing and a petition 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. Interested persons should consult a current copy of 10 CFR 2.714 which is available at the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC, and at the local public document room located at the Reference and Documents Department, Penfield Library, State University of New York, Oswego, New York 13126. If a request for a hearing and 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 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 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



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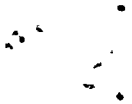
Board up to 15 days prior to the first prehearing conference scheduled in the proceeding, but such an amended petition must satisfy the specificity requirements described above.

Not later than 15 days prior to the first prehearing conference scheduled in the proceeding, a petitioner shall 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. Each contention must consist of a specific statement of the issue of law or fact to be raised or controverted. In addition, the petitioner shall provide a brief explanation of the bases of the contention and a concise statement of the alleged facts or expert opinion which support the contention and on which the petitioner intends to rely in proving the contention at the hearing. The petitioner must also provide references to those specific sources and documents of which the petitioner is aware and on which the petitioner intends to rely to establish those facts or expert opinion. Petitioner must provide sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact. Contentions shall be limited to matters within the scope of the amendment under consideration. The contention must be one which, if proven, would entitle the petitioner to relief. 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.

Those permitted to intervene become parties to the proceeding, subject to any limitations in the order granting leave to intervene, 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 immediately effective,



notwithstanding the request for a hearing. Any hearing held would take place after issuance of the amendment.

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

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.

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 in the FEDERAL REGISTER 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 and a petition for leave to intervene must be filed with the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Rulemakings and Adjudications Staff, or may be delivered to the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC, by the above date. A copy of the petition should also be sent to the Office of the General Counsel, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to Mr. Mark J. Wetterhahn, Winston & Strawn, 1400 L Street, NW., Washington, DC 20005-3502, attorney for the licensee.

Untimely 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



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Commission, the presiding officer or the presiding Atomic Safety and Licensing Board that the petition and/or request should be granted based upon a balancing of the factors specified in 10 CFR 2.714(a)(1)(I)-(v) and 2.714(d).

Pursuant to the Commission's regulations, 10 CFR 2.1107, the Commission hereby provides notice that this is a proceeding 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 party to the proceeding, must use hybrid hearing procedures with respect to "any matter which the Commission determines to be in controversy among the parties."

The hybrid procedures in section 134 provide for oral argument on matters in controversy, preceded by discovery under the Commission's rules¹ 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 in an adjudicatory hearing. Actual adjudicatory hearings are to be held on only those issues found to meet the criteria of section 134 and set for hearing after oral argument.

The Commission's rules implementing section 134 of the NWPA are found in 10 CFR Part 2, Subpart K, "Hybrid Hearing Procedures for Expansion of Spent Fuel Storage Capacity at Civilian Nuclear Power Reactors" (published at 50 FR 41662 dated October 15, 1985). Under those rules, any party to the proceeding may invoke the hybrid hearing procedures by filing with the presiding officer a written request for oral argument under 10 CFR 2.1109. To be timely, the request must be filed within ten (10) days of an order granting a request for hearing or petition to intervene. The presiding officer must grant a timely request for oral argument. The presiding officer may grant an untimely request for oral argument only upon a showing of good cause by the requesting party for the failure to file on time and after providing the other parties an



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opportunity to respond to the untimely request. If the presiding officer grants a request for oral argument, any hearing held on the application must be conducted in accordance with the hybrid hearing procedures. In essence, those procedures limit the time available for discovery and require that an oral argument be held to determine whether any contentions must be resolved in an adjudicatory hearing. If no party to the proceeding timely requests oral argument, and if all untimely requests for oral argument are denied, then the usual procedures in 10 CFR Part 2, Subpart G apply.

For further details with respect to this action, see the application for amendment dated May 15, 1998, as supplemented September 25 and October 13, 1998, which are available for public inspection at the Commission's Public Document Room, the Gelman Building, 2120 L Street, NW., Washington, DC, and at the local public document room located at the Reference, and Documents Department, Penfield Library, State University of New York, Oswego, New York 13126.

Dated at Rockville, Maryland, this 18th day of November 1998.

FOR THE NUCLEAR REGULATORY COMMISSION



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Office of Nuclear Reactor Regulation

