

UNITED STATES NUCLEAR REGULATORY COMMISSION
NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT NUCLEAR STATION, UNIT 2
DOCKET NO. 50-410
ENVIRONMENTAL ASSESSMENT AND FINAL FINDING OF
NO SIGNIFICANT IMPACT

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuing exemptions from certain requirements of 10 CFR Part 50 to the Niagara Mohawk Power Corporation (the applicant) for the Nine Mile Point Nuclear Station, Unit 2 (NMP-2), located at the applicant's site in Scriba, New York.

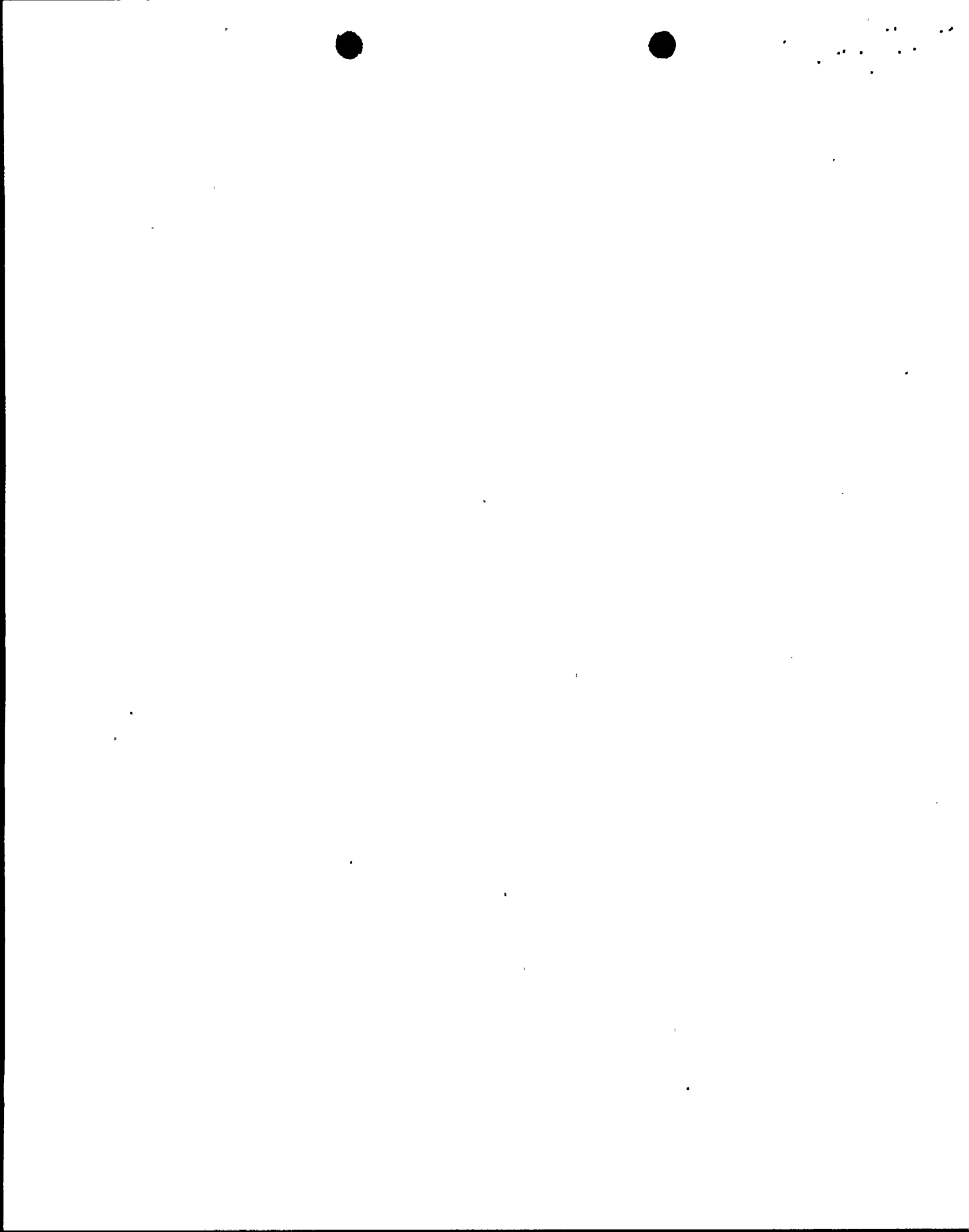
ENVIRONMENTAL ASSESSMENT

A. Deferral of the Completion of the Turbine Electrohydraulic Control System

Identification of Proposed Action: The proposed action would exempt the applicant from having the turbine electrohydraulic control (EHC) system operable prior to fuel load. The request for deferral and supporting justification are contained in a submittals from the applicant, dated July 2, and August 29, 1986.

The Code of Federal Regulations Title 10 Part 50, Appendix A, General Design Criterion (GDC) 29 requires the protection and reactivity control systems to be designed to assure an extremely high probability of accomplishing their safety functions in the event of anticipated operational occurrences. The Code of Federal Regulations Title 10 Part 50, Appendix A, GDC 4 is also dependent, in part, upon the EHC system to reduce the turbine missile risk.

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GDC 4 requires that structures, systems, and components important to safety shall be appropriately protected against dynamic effects, including the effects of missiles. The evaluation of the turbine missile risk is based, in part, on the availability of the EHC system. Therefore, the EHC system is required to be operable to meet GDC 4.

The applicant has stated that the EHC system controls the bypass valves, the control valves, and the turbine stop valve position switches that supply a scram signal to the reactor protective system. However, since there will be no steam in the main steam lines prior to reactor heatup, there is no need to initiate a scram from stop valve closure. Therefore, the turbine electro-hydraulic control system is not required to be operational prior to reactor heatup. In addition, before opening both of the MSIVs the turbine cannot be brought to an overspeed condition, therefore the EHC system would not be needed to reduce the probability of a turbine missile.

Need for the Proposed Action: The exemption is required in order to provide the applicant with the ability to load fuel without having the turbine EHC system operational. Preoperational testing of this system will be completed prior to opening both of the MSIVs, when the system is required to be operational. This exemption would provide the applicant with greater preoperational flexibility and, therefore, expedite the start of power operation.

Environmental Impact of the Proposed Action: The exemption would allow the applicant to defer operability of the turbine EHC system until after the fuel is loaded but prior to opening both of the MSIVs.

Since no steam exists in the main steam lines prior to opening both of the MSIVs after reactor heatup, the staff concludes that granting the proposed relief will not increase the probability of an accident and will not result in



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post-accident radiological releases that are greater than those previously determined for the Nine Mile Point Nuclear Station, Unit 2. Moreover, the proposed relief will not otherwise affect radiological plant effluents, nor result in any significant occupational exposure. Likewise, the relief does not affect non-radiological plant effluents and has no other environmental impact. Therefore, the Commission concludes that there are no significant radiological or non-radiological environmental impacts associated with this proposed relief.

Alternative to the Proposed Action: The staff has concluded that there is no measurable environmental impact associated with the proposed exemption. Any alternatives to the exemption will have either no environmental impact or greater environmental impact.

The principal alternative would be to deny the requested relief and exemption. Such action would not reduce environmental impacts of the Nine Mile Point Nuclear Station, Unit 2 operations and would result in reduced operational flexibility and unwarranted delays in power ascension.

B. Deferral of the Completion of the Off-Gas System

Identification of Proposed Action: The proposed action would exempt the applicant from having the off-gas system operable prior to fuel load. The request for deferral and supporting justifications are contained in letters from the applicant dated May 7, July 3, and August 29, 1986.



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The Code of Federal Regulations Title 10 Part 50, Appendix A, General Design Criterion (GDC) 60 and Part 50, Appendix I require, in part, that the nuclear power unit design include means to control the release of radioactive materials in gaseous effluents.

Prior to opening both of the MSIVs, steam will not be introduced into the main turbine condenser and no radioactive gaseous effluents can be generated, therefore the off-gas system is not needed.

Need for Proposed Action: The exemption is required in order to provide the applicant with the ability to load fuel without having the off-gas system operational. Preoperational testing of the off-gas system will be completed prior to opening both of the MSIVs after initial startup. This exemption would provide the applicant with greater flexibility and, therefore, expedite the start of power operations.

Environmental Impact of the Proposed Action: The exemption would allow the applicant to defer operability of the off-gas system until after fuel loading, but prior to opening both of the MSIVs after initial startup.

Prior to opening both of the MSIVs after startup, this system is not required, and the main turbine condenser is not utilized.

The staff concludes that the probability of an accident will not be increased and the post-accident radiological releases will not be greater than previously determined as a result of the proposed relief. Moreover, the proposed relief will not otherwise affect radiological plant effluents, nor result in any significant occupational exposure. Likewise, the relief does not affect non-radiological plant effluents and has no other environmental impact. Therefore, the Commission concludes that there are no significant radiological or non-radiological environmental impacts associated with this proposed relief.



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Alternative to the Proposed Action: The staff has concluded that there is no measurable environmental impact associated with the proposed exemption. Any alternatives to the exemption will have either no environmental impact or greater environmental impact.

The principal alternative would be to deny the requested relief and exemption. Such action would not reduce environmental impacts of the Nine Mile Point Nuclear Station, Unit 2 operations and would result in reduced operational flexibility and unwarranted delays in power ascension.

C. Deferral of the Completion of Portions of the Containment Atmospheric Monitoring System

Identification of Proposed Action: The proposed action would exempt the applicant from having portions of the containment atmospheric monitoring system related to the humidity monitors, containment and drywell H₂/O₂ concentration monitors, containment pressure monitors, and suppression pool and drywell excess flow instrument line check valves operable until after fuel load. The specific requests for deferral and supporting justifications are contained in submittals from the applicant dated May 7, 1986, July 3, 1986, and June 18, 1986 (date should read July 18, 1986).

The Code of Federal Regulations Title 10 Part 50, Appendix A, General Design Criterion (GDC) 41 requires that, in part, systems to control fission products, hydrogen, oxygen, and other substances in the reactor containment be provided. GDC 64 requires, in part, that means be provided for monitoring the reactor containment atmosphere for radioactive releases.

The applicant has stated that the monitors identified above, for which the deferrals are being requested, are not needed prior to initial criticality. Since the reactor coolant temperature during open vessel testing



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is maintained at less than 140°F, no decay heat is present so a loss of coolant accident would not result in the formation of hydrogen, and prior to initial criticality no appreciable quantities of fission products are present in the fuel. Therefore, no significant release of radioactivity is possible.

Need for the Proposed Action: The exemption is required in order to provide the applicant with the ability to load fuel without having fully operational portions of the containment monitoring system as identified in the applicant's May 7, 1986 submittal. The operational testing of the portions of the containment monitoring system identified will be complete prior to initial criticality. This exemption would provide the applicant with greater preoperational flexibility and, therefore, expedite the start of power operation.

Environmental Impact of the Proposed Action: Requiring that the portions of the containment monitoring system identified in the applicant's May 7, 1986, submittal to be fully operational at fuel load would result in a hardship for the applicant without a compensating increase in safety. The staff concludes that the probability of an accident will not be increased and the post-accident radiological releases will not be greater than previously determined due to the proposed relief. Moreover, the proposed relief will not otherwise affect radiological plant effluents, nor result in any significant occupational exposure. Likewise, the relief does not affect non-radiological plant effluents and has no other environmental impact. Therefore, the Commission concludes that there are no significant radiological or non-radiological environmental impacts associated with this proposed relief.



Alternative to the Proposed Action: The staff has concluded that there is no measurable environmental impact associated with the proposed exemption. Any alternatives to the exemption will have either no environmental impact or greater environmental impact.

The principal alternative would be to deny the requested relief and exemption. Such action would not reduce environmental impacts of the Nine Mile Point Nuclear Station, Unit 2 operations and would result in reduced operational flexibility and unwarranted delays in power ascension.

D. Deferral of the Completion of the Reactor Coolant and ECCS Leak Detection System

Identification of Proposed Action: The proposed action would exempt the applicant from having the reactor coolant and ECCS leak detection system operable prior to fuel load. The specific requests for deferral and supporting justification are contained in submittals from the applicant dated May 7, 1986, and July 3, 1986.

The Code of Federal Regulations Title 10 Part 50, Appendix A, General Design Criterion (GDC) 30 requires, in part, that means be provided for detecting and identifying the location of the source of reactor coolant leakage. GDC 64 requires, in part, that means be provided for monitoring the containment atmosphere, spaces containing components for recirculation of loss-of-coolant accident fluids, effluent discharge paths and plant environs for radioactivity. Operability of the leak detection system is normally demonstrated during the preoperational testing based on the acceptance criteria specified in these operational test specifications.



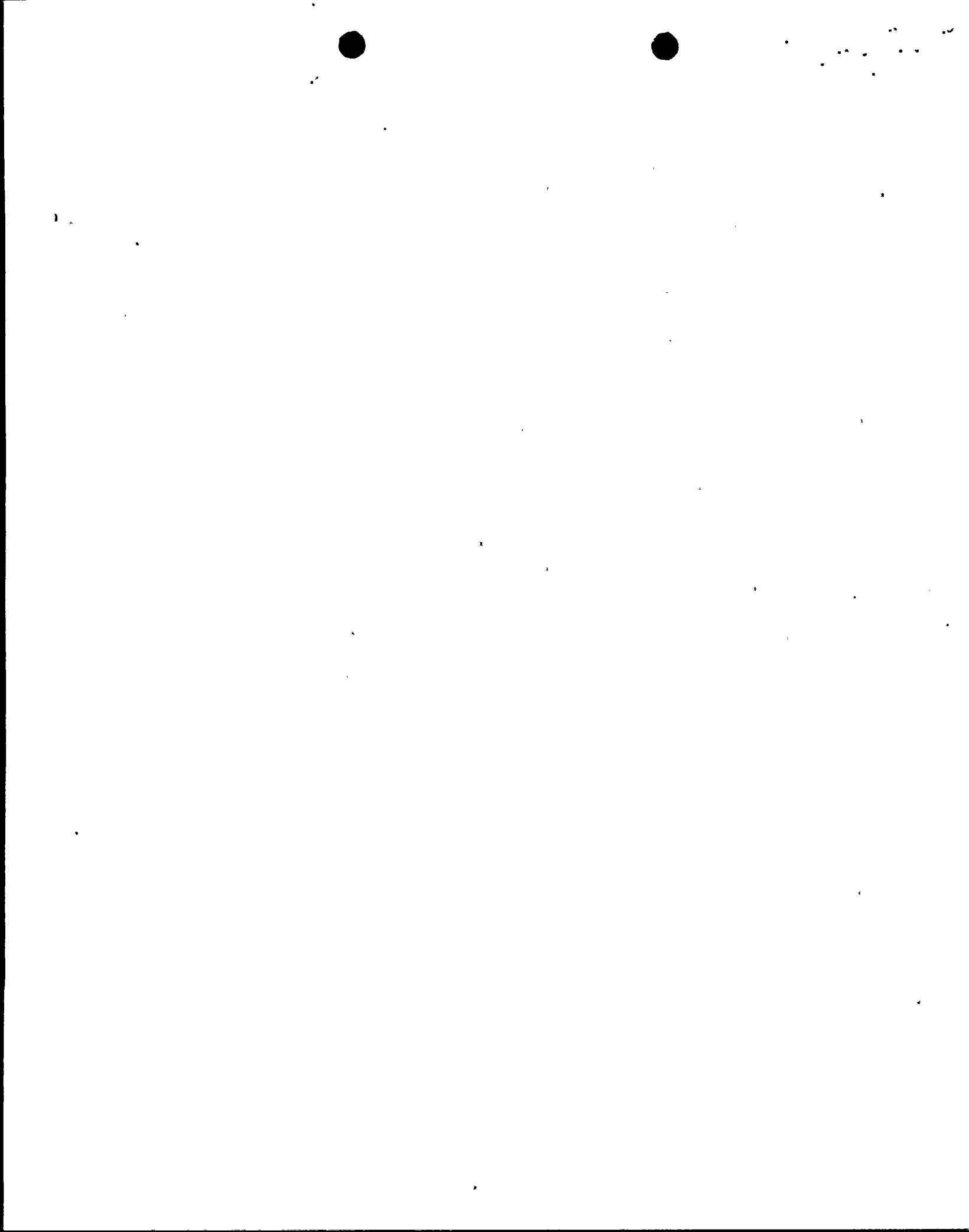
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Until the reactor attains initial criticality, significant fuel exposure or buildup of radioactive fission products in the core should not occur. Hence, there should not be significant heat generation in the core from fuel or fission products, nor a significant buildup of the radioactivity in the coolant. Therefore, the applicant has stated that the reactor coolant and ECCS leak detection system, for which the deferral is being requested, is not required prior to initial criticality.

Need for the Proposed Action: The exemption is required in order to provide the applicant with the ability to load fuel without having the reactor coolant and ECCS leak detection system operational. Preoperational testing of this system will be completed prior to initial criticality. This exemption would provide the applicant with greater preoperational flexibility and, therefore, expedite the start of power operation.

Environmental Impact of the Proposed Action: The proposed exemption would allow the applicant to defer the operability of the reactor coolant and ECCS leak detection system until after fuel loading but before initial criticality. During initial fuel loading and precritical testing, the reactor will remain at essentially ambient temperatures and atmosphere conditions. Under these conditions, no radioactive species will be produced; therefore, there are no environmental impacts associated with the proposed action.

The staff concludes that the probability of an accident will not be increased and the post-accident radiological releases will not be greater than previously determined as a result of the proposed relief. Moreover, the proposed relief will not otherwise affect radiological plant effluents, nor result in



any significant occupational exposure. Likewise, the relief does not affect non-radiological plant effluents and has no other environmental impact. Therefore, the Commission concludes that there are no significant radiological or non-radiological environmental impacts associated with this proposed relief.

Alternative to the Proposed Action: The staff has concluded that there is no measurable environmental impact associated with the proposed exemption. Any alternatives to the exemption will have either no environmental impact or greater environmental impact.

The principal alternative would be to deny the requested relief and exemption. Such action would not reduce environmental impacts of the Nine Mile Point Nuclear Station, Unit 2 operations and would result in reduced operational flexibility and unwarranted delays in power ascension.

E. Deferral of the Completion of the Design Basis Accident (DBA) Hydrogen Recombiner System

Identification of Proposed Action: The proposed action would exempt the applicant from having the DBA hydrogen recombiner system operable prior to fuel load. The request for deferral and the supporting justification are contained in submittals from the applicant, dated June 13, 1986 and July 3, 1986.

GDC 41 requires a containment atmosphere cleanup system to control hydrogen and oxygen following a DBA to ensure that containment integrity is maintained. Inspection and periodic testing of the containment atmosphere cleanup system are required by GDC 42 and GDC 43, respectively. 10.CFR 50.44 contains requirements for combustible gas control systems which will be met, in part, by the DBA hydrogen recombiner system when it is fully tested.



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The applicant has stated that the DBA recombiners can only perform a function during a post-LOCA with degraded core condition. The applicant further stated that this condition is not possible until after initial power operation.

Need for the Proposed Action: The exemption is required in order to provide the applicant with the ability to load fuel without having the DBA hydrogen recombiner system operational. Preoperational testing of this system will be completed prior to initial criticality. This exemption would provide the applicant with greater preoperational flexibility and, therefore, expedite the start of power operations.

Environmental Impact of the Proposed Action: The exemption would allow the applicant to defer operability of the DBA hydrogen recombiner system until after the fuel is loaded but prior to initial criticality.

Since prior to initial criticality the DBA hydrogen recombiner system performs no function as DBA-post LOCA conditions are not possible until after initial criticality, the staff concludes that granting the proposed relief will not increase the probability of an accident and will not result in post-accident radiological releases that are greater than those previously determined for the Nine Mile Point Nuclear Station, Unit 2. Moreover, the proposed relief will not otherwise affect radiological plant effluents, nor result in any significant occupational exposure. Likewise, the relief does not affect non-radiological plant effluents and has no other environmental impact. Therefore, the Commission concludes that there are no significant radiological or non-radiological environmental impacts associated with this proposed relief.



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Alternative to the Proposed Action: The staff has concluded that there is no measurable environmental impact associated with the proposed exemption. Any alternatives to the proposed exemption will have either no environmental impact or greater environmental impact.

The principal alternative would be to deny the requested relief and exemption. Such action would not reduce environmental impacts of the Nine Mile Point Nuclear Station, Unit 2 operations and would result in reduced operational flexibility and unwarranted delays in power ascension.

Alternative Use of Resources: These actions associated with the granting of the proposed exemptions as detailed above do not involve the use of resources not previously considered in connection with the "Final Environmental Statement Related to Operation of Nine Mile Point Nuclear Station, Unit No. 2", dated May 1985.

Agencies and Persons Consulted: The NRC staff reviewed the applicant's submittals that support the requested exemptions A through E above. The NRC staff did not consult other agencies or persons.

FINDING OF NO SIGNIFICANT IMPACT

The Commission has determined not to prepare an environmental impact statement for the proposed exemptions.

Based upon the foregoing environmental assessments, the Commission concludes that the proposed actions will not have a significant effect on the quality of the human environment.



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For further details with respect to this action, see the requests for the exemptions as listed herein, which are available for public inspection at the Commission's Public Document Room, 1717 H Street, N.W., Washington, D.C. 20555, and at the Penfield Library, State University College, Oswego, New York 13126.

Dated at Bethesda, Maryland, this 3rd day of Sept 1986.

FOR THE NUCLEAR REGULATORY COMMISSION

Elinor G. Adensam

Elinor G. Adensam, Director
BWR Project Directorate No. 3
Division of RWR Licensing



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