



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

NIAGARA MOHAWK POWER CORPORATION

DOCKET NO. 50-410

NINE MILE POINT NUCLEAR STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 63
License No. NPF-69

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Niagara Mohawk Power Corporation (the licensee) dated November 3, 1993, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter 1;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. NPF-69 is hereby amended to read as follows:

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(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, as revised through Amendment No. 63 are hereby incorporated into this license. Niagara Mohawk Power Corporation shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. Accordingly, page 4 of Facility Operating License No. NPF-69 is hereby amended to read as follows:

2.C.(4) Turbine System Maintenance Program (Section 3.5.1.3.10.SER)

Niagara Mohawk Power Corporation shall submit for NRC approval by October 31, 1989, a turbine system maintenance program based on the manufacturer's calculations of missile generation probabilities. (Submitted by NMPC letter dated October 30, 1989, from C. D. Terry and approved by NRC letter dated March 15, 1990, from Robert Martin to Mr. Lawrence Burkhardt, III.)

4. This license amendment is effective as of the date of its issuance to be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION



Ledyard B. Marsh, Director
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachments:

1. Page 4 of License NPF-69
2. Changes to the Technical Specifications

Date of Issuance: February 14, 1995

* Page 4 is attached, for convenience, for the composite license to reflect this change.



(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated into this license. Niagara Mohawk Power Corporation shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Fuel Storage and Handling (Section 9.1, SSER 4)*

- a. Fuel assemblies, when stored in their shipping containers, shall be stacked no more than three containers high.
- b. When not in the reactor vessel, no more than three fuel assemblies shall be allowed outside of their shipping containers or storage racks in the New Fuel Vault or Spent Fuel Storage Facility.
- c. The above three fuel assemblies shall maintain a minimum edge-to-edge spacing of twelve (12) inches from the shipping container array and approved storage rack locations.
- d. The New Fuel Storage Vault shall have no more than ten fresh fuel assemblies uncovered at any one time.

(4) Turbine System Maintenance Program (Section 3.5.1.3.10, SER)

Niagara Mohawk Power Corporation shall submit for NRC approval by October 31, 1989, a turbine system maintenance program based on the manufacturer's calculations of missile generation probabilities. (Submitted by NMPC letter dated October 30, 1989 from C. D. Terry and approved by NRC letter dated March 15, 1990 from Robert Martin to Mr. Lawrence Burkhardt, III).

(5) Inservice Inspection (Sections 5.2.4.3 and 6.6.3, SSER 5)

Niagara Mohawk Power Corporation shall submit an inservice inspection program in accordance with 10 CFR § 50.55a(g)(4) for staff review by July 31, 1987.

* The parenthetical notation following the title of many license conditions denotes the section of the Safety Evaluation Report (SER) and/or its supplements wherein the license condition is discussed.



ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 63 TO FACILITY OPERATING LICENSE NO. NPF-69

DOCKET NO. 50-410

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B3/4 3-8

Insert Pages

viii
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3/4 3-103
B3/4 3-7
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INSTRUMENTATION

3/4.3.8

LIMITING CONDITIONS FOR OPERATION

THIS PAGE IS NOT USED



INSTRUMENTATION

BASES

MONITORING INSTRUMENTATION

3/4.3.7.8 LOOSE-PART DETECTION SYSTEM

The OPERABILITY of the loose-part detection system ensures that sufficient capability is available to detect loose metallic parts in the primary system and avoid or mitigate damage to primary system components. The allowable out-of-service times and surveillance requirements are consistent with the recommendations of RG 1.133, "Loose-Part Detection Program for the Primary System of Light-Water-Cooled Reactors," May 1981.

3/4.3.7.9 RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

The radioactive liquid effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in liquid effluents during actual or potential releases of liquid effluents. The alarm/Trip Setpoints for these instruments shall be calculated and adjusted in accordance with the methodology and parameters in the ODCM to ensure that the alarm/trip will occur before exceeding the limits of 10 CFR 20. The OPERABILITY and use of the instrumentation is consistent with the requirements of GDC 60, 63, and 64 of Appendix A to 10 CFR 50. The purpose of tank level indicating devices is to assure the detection and control of leaks that if not controlled could potentially result in the transport of radioactive materials to UNRESTRICTED AREAS.

3/4.3.7.10 RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

The radioactive gaseous effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in gaseous effluents during actual or potential releases of gaseous effluents. The alarm/Trip Setpoints for these instruments shall be calculated and adjusted in accordance with the methodology and parameters in the ODCM to ensure that the alarm/trip will occur before exceeding the limits of 10 CFR 20. The range of the noble gas is sufficiently large to envelope both normal and accident levels of noble gas recommendations of Regulatory Guide 1.97, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident," December 1980 and NUREG-0737, "Clarification of the TMI Action Plan Requirements," November 1980. This instrumentation also includes provisions for monitoring and controlling the concentrations and potentially explosive gas mixtures in the offgas system. The OPERABILITY and use of this instrumentation is consistent with the requirements of GDC 60, 63, and 64 of Appendix A to 10 CFR 50.

3/4.3.8 DELETED



INSTRUMENTATION

BASES

3/4.3.9 PLANT SYSTEM ACTUATION INSTRUMENTATION

The plant systems actuation instrumentation is provided: (1) to initiate action of the feedwater system/main turbine trip system in the event of feedwater controller failure and (2) to ensure the proper operation of the service water system during normal and accident conditions. Specified surveillance intervals have been determined in accordance with GENE-770-06-1, "Bases for Changes to Surveillance Test Intervals and Allowed Out-Of-Service Times for Selected Instrumentation Technical Specification," as approved by the NRC and documented in the SER (letter to R. D. Binz IV from C. E. Rossi dated July 21, 1992). When a channel is placed in an inoperable status solely for performance of required surveillances, entry into LCO and required ACTIONS may be delayed, provided the associated function maintains Feedwater System/Main Turbine Trip System actuation capability.





UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 63 TO FACILITY OPERATING LICENSE NO. NPF-69

NIAGARA MOHAWK POWER CORPORATION
NINE MILE POINT NUCLEAR STATION, UNIT 2

DOCKET NO. 50-410

1.0 INTRODUCTION

By letter dated November 3, 1993, Niagara Mohawk Power Corporation (the licensee or NMPC) submitted a request for changes to License Condition 2.C.(4) and to the Nine Mile Point Nuclear Station, Unit 2 (NMP-2), Technical Specifications (TS). The requested changes would modify License Condition 2.C.(4), "Turbine System Maintenance Program," and would delete TS 3/4.3.8, "Turbine Overspeed Protection System," and its associated Bases. License Condition 2.C.(4) required the licensee to submit for NRC approval a turbine system maintenance program based on the manufacturer's calculations of missile generation probabilities. The proposed change to License Condition 2.C.(4) would indicate that this requirement has been satisfied. The deletion of TS 3/4.3.8 would provide the licensee with the flexibility to implement the manufacturer's recommendations for turbine steam valve surveillance test requirements. Surveillance test requirements for the turbine steam valves based on the manufacturer's recommendations would be contained in the Updated Safety Analysis Report.

Section 182a of the Atomic Energy Act (the "Act") requires that applicants for nuclear power plant operating licenses state TS and that these TS be included as a part of the license. The Commission's regulatory requirements related to the content of TS are set forth in 10 CFR 50.36. That regulation requires that the TS include items in five specific categories, including (1) safety limits, limiting safety system settings and limiting control settings; (2) limiting conditions for operation; (3) surveillance requirements; (4) design features; and (5) administrative controls and states also that the Commission may include such additional TS as it finds to be appropriate. However, the regulation does not specify the particular TS to be included in a plant's license.

The Commission has provided guidance for the contents of TS in its "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors" ("Final Policy Statement"), 58 FR 39132 (July 22, 1993), in which the Commission indicated that compliance with the Final Policy Statement satisfies Section 182a of the Act. In particular, the Commission indicated that certain items could be relocated from the TS to licensee-controlled documents, consistent with the standard enunciated in *Portland General Electric Co.* (Trojan Nuclear Plant), ALAB-531, 9 NRC 263, 273 (1979). In that case, the Atomic Safety and Licensing Appeal Board indicated that "technical specifications are to be reserved for those matters as to which the imposition



of rigid conditions or limitations upon reactor operation is deemed necessary to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety."

Consistent with this approach, the Final Policy Statement identified four criteria to be used in determining whether a particular matter is required to be included in the TS, as follows: (1) Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary; (2) a process variable, design feature, or operating restriction that is an initial condition of a Design Basis Accident or Transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; (3) a structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a Design Basis Accident or Transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier; (4) a structure, system, or component which operating experience or probabilistic safety assessment has shown to be significant to public health and safety.*** As a result, existing Limiting Condition for Operation (LCO) requirements which fall within or satisfy any of the criteria in the Final Policy Statement must be retained in the TS, while those LCO requirements which do not fall within or satisfy these criteria may be relocated to other, licensee-controlled documents.

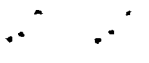
2.0 EVALUATION

2.1 License Condition 2.C.(4)

License Condition 2.C.(4), "Turbine System Maintenance Program," of NMP-2 Facility Operating License NPF-69 required NMPC to submit for NRC approval, by October 31, 1989, a turbine system maintenance program based on the manufacturer's calculations of missile generation probabilities. The proposed change to License Condition 2.C.(4) would state that the required program had been submitted on October 30, 1989, and had been approved by NRC letter dated March 15, 1990.

NMPC submitted the required program in a letter dated October 30, 1989. The program submitted by NMPC is based on the results of a probabilistic evaluation of low pressure turbines performed by the General Electric Company (GE). GE used the methodology of their proprietary report, "Probability of Missile Generation in General Electric Nuclear Turbines," dated January 1984 to perform this evaluation. By letter dated March 15, 1990, the NRC staff informed NMPC that we had reviewed the licensee's turbine system maintenance program and had concluded that License Condition 2.C.(4) had been satisfied.

The Commission recently promulgated a proposed change to 10 CFR 50.36, pursuant to which the rule would be amended to codify and incorporate these criteria (59 FR 48180, September 20, 1994). The Commission's Final Policy Statement specified that the Reactor Core Isolation Cooling, Isolation Condenser, Residual Heat Removal, Standby Liquid Control, and Recirculation Pump Trip are included in the TS under Criterion 4 (58 FR 39132, July 22, 1993).



Therefore, we conclude that the proposed change to License Condition 2.C.(4) is acceptable.

2.2 TS 3/4.3.8

The NMP-2 turbine generator has several sets of steam valves to control turbine speed during normal operation and to protect it from overspeed during abnormal operations. These valves are the four high pressure Turbine Control Valves, the four high pressure Turbine Stop Valves, and the six Turbine Combined Stop and Intercept Valves all of which are controlled during normal operation by the turbine Electrohydraulic Control (EHC) System.

The Turbine Overspeed Protection System consists of separate mechanical and electrical sensing mechanisms each capable of independently initiating fast closure of the turbine steam valves during abnormal conditions. The mechanical overspeed trip will actuate to trip the turbine and initiate fast closure of the turbine steam valves at 110 percent of rated speed. The electrical overspeed trip (also called the backup overspeed trip) provides an additional overspeed trip and additional overspeed protection since it will actuate at 112 percent of rated speed.

TS 3/4.3.8 requires at least one Turbine Overspeed Protection System to be OPERABLE in OPERATIONAL CONDITIONS 1 and 2 and provides surveillance requirements for periodic testing and inspection of the turbine steam valves. The surveillance requirements include weekly cycling of each of the valves through at least one complete cycle. Cycling of the valves introduces the potential for causing plant transients which are detrimental to plant safety.

In its submittal of November 3, 1993, NMPC proposed that TS 3/4.3.8 and its associated Bases be deleted. The proposed change would also relocate the surveillance requirements to the NMP-2 Updated Safety Analysis Report. The relocated surveillance requirements would be based on the manufacturer's recommendations and operational experience. Surveillance testing in accordance with the manufacturer's recommendations will permit NMPC to optimize testing and inspection frequencies such that unnecessary testing and inspections will be reduced. Reduction of unnecessary testing and inspections will assist in reducing plant transients and may thereby enhance safety.

To date, the maintenance and test histories of the turbine steam valves have been satisfactory.

A favorable turbine orientation exists at NMP-2. The center of the reactor building is on a line extended through the longest axis of the turbine generator; this orientation minimizes the possible impact of a turbine fragment on safety-related equipment. The potential effects of turbine missiles were evaluated in Section 3.5.1.3 of NUREG-1047, "Safety Evaluation Related to the Operation of the Nine Mile Point Nuclear Station, Unit 2." In that evaluation, the NRC staff determined that NMPC should develop and submit to the NRC a turbine system maintenance program based upon manufacturer's



recommendations by October 31, 1989. This program was required by License Condition 2.C.(4) and was approved by NRC letter dated March 15, 1990. The NUREG-1047 evaluation also concluded that with the implementation of this turbine system maintenance program, the overall probability for unacceptable damage by turbine missiles for NMP-2 is considered acceptable.

The NRC staff also notes that the proposed deletion of TS 3/4.3.8 would make the NMP-2 TS consistent with the guidance provided in the NRC's Standard Technical Specifications, General Electric Plants, BWR/6 (NUREG-1434) in that the NRC's Standard Technical Specifications do not include TS requiring the operability of a Turbine Overspeed Protection System.

The licensee has proposed changes to TS 3/4.3.8 to remove the requirements related to the operability of the turbine overspeed controls, and related surveillance requirements. In the amendment application, the licensee committed to include the surveillance program into Section 10.2.2.2 of the Updated Safety Analysis Report (USAR).

The turbine is equipped with control valves and stop valves which control turbine speed during normal plant operation and protect it from overspeed during abnormal conditions. The turbine overspeed protection system consists of separate mechanical and electrical sensing mechanisms which are capable of initiating fast closure of the steam valves. Currently, TS 3/4.3.8 requires particular operability and surveillance requirements for these steam control and stop valves to minimize the potential for fragment missiles that might be generated as the result of a turbine overspeed event. The licensee has proposed to relocate these provisions to the USAR such that future changes to the operation and surveillance of the turbine overspeed features could be changed under 10 CFR 50.59.

Although the design basis accidents and transients include a variety of system failures and conditions which might result from turbine missiles striking various plant systems and equipment, system failures and plant conditions could be caused by other events as well as turbine failures. In view of the low likelihood of turbine missiles this scenario does not constitute a part of the primary success path to prevent or mitigate such design basis accidents and transients. Similarly, the turbine overspeed control is not part of an initial condition of a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

Probabilistic safety assessments (PRA) and operating experience have demonstrated that proper maintenance of the turbine overspeed control valves is important to minimize the potential for overspeed events and turbine damage; however that experience has also demonstrated that there is low likelihood of significant risk to public health and safety because of turbine overspeed events. Further, the potential for and consequences of turbine overspeed events are diminished by the favorable orientation of the turbine, relative to the likely path of any turbine missiles, and the licensee's inservice inspection program, which must comply with 10 CFR 50.55(a), and a surveillance program for the turbine control and stop valves derived from the manufacturer's recommendations.



Accordingly, the staff concluded that the requirements for turbine overspeed controls do not meet the TS criteria in the Final Policy Statement. The limiting conditions for operation and surveillance requirements for turbine overspeed controls were removed from the standard technical specifications.

On this basis, the staff concludes that these requirements are not required to be in the TS under 10 CFR 50.36 or Section 182a of the Atomic Energy Act, and are not required in order to provide adequate protection to the health and safety of the public. Further, they do not fall within any of the four criteria set forth in the Commission's Final Policy Statement, discussed above. In addition, the NRC staff finds that sufficient regulatory controls exist under 10 CFR 50.59 to ensure that future changes to these requirements are acceptable. Accordingly, the staff has concluded that these requirements may be relocated from the TS to the USAR.

The NRC staff has no objection to the deletion of the Bases associated with TS 3/4.3.8.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the New York State official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (58 FR 64611). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Donald S. Brinkman

Date: February 14, 1995

