



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 102 TO PROVISIONAL OPERATING LICENSE NO. DPR-21
NORTHEAST NUCLEAR ENERGY COMPANY
MILLSTONE NUCLEAR POWER STATION, UNIT NO. 1
DOCKET NO. 50-245

1.0 INTRODUCTION

By letter dated May 15, 1985, the licensee proposed to amend Operating License, DPR-21 by changing the Millstone Nuclear Power Station, Unit 1 Technical Specifications. The changes would allow periods of up to 48 hours without drywell to suppression chamber differential pressure of 1 psid (Technical Specification 3.7.A.2.a.) and oxygen concentration less than 4% (Technical Specification 3.7.A.6.a.). The proposed changes to the Technical Specifications would permit drywell entry at power for the purpose of performing inspection, equipment adjustments, and maintenance activities. The drywell entry conditions would be limited by personnel access factors including the purpose and duration of the entry, location in the drywell, drywell temperature and as low as reasonably achievable (ALARA) considerations. The proposed change would expand the Technical Specifications to allow containment entry without reactor shutdown as currently required by Technical Specifications 3.7.A.2.a.(1) and 3.7.A.6.b whenever containment is deinerted with the reactor in the operating mode. The licensee proposed two technical changes, i.e., addition of two new sections:

1. "Section 3.7.A.2.a.(3) Differential pressure may be less than 1 psid for a period not to exceed 48 hours for purposes of conducting a drywell entry."

2. "Section 3.7.A.6.c. Oxygen concentration may be greater than 4% by volume for a period not to exceed 48 hours for purposes of conducting a drywell entry"; and

two administrative changes to renumber affected sections, i.e., Section 3.7.A.2.a.(3) to 3.7.A.2.a.(4) and B.3.7.A.5 to B.3.7.A.6.

A Notice of Consideration of Issuance of Amendment to License and Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing related to the requested action was published in the Federal Register on May 24, 1985 (50 FR 21523). No comments or requests for hearing have been received at this time. However, as discussed below, recent information indicates that unless this amendment is issued prior to the normal 30-day waiting period, it is likely that the reactor will be required to shut down.

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2.0 EVALUATION

The licensee has reported that the proposed additional technical specifications presented above allow the same 48-hour period for drywell entry as is currently allowed for shutdown and startup by Technical Specifications 3.7.A.2.a.(1) and 3.7.A.6.b. The difference is that plant shutdown would not always be required, thereby reducing unnecessary thermal cycling of major plant components. The change would make it permissible to operate continuously at higher stable power levels than the restrictions of Technical Specifications 3.7.A.2.a.(1) and 3.7.A.6.b whereby power level must be decreased to shut down the reactor within the allowed 24-hour deinerted containment period and reinerted within a 24-hour period when the reactor is placed in "run" mode. The net effect of the proposed change is to permit reactor operation at higher power levels with normal steady operating conditions during the entire 48-hour deinerted containment period. The increased power level over the 48-hour deinerted containment period represents a negligible increase in the residual and decay heat levels following the postulated design bases accident and the resultant change in accident consequences would be insignificant. The probability of an accident during this period is insignificantly smaller with the changes than without the changes because there is less thermal (steady vs. unsteady) cycling of major plant components. Hence, the risk (probability times consequence) remains essentially unchanged. Also, the consequences of the previously analyzed design basis accident have not changed because the conditions for the proposed change remain within the previously analyzed accident (i.e., deinerted without 1 psid drywell to suppression pool pressure differential). The assumed accident conditions, accident probability, and consequences are unchanged. The administrative changes involve sequential number changes caused by the insertion of two new technical specifications and do not affect safety.

2.1 State Consultation and Final No Significant Hazards Consideration Determination

The State of Connecticut was notified on May 29, 1985 of the NRC intention to issue the amendment to the Millstone-1 license without waiting for the full 30-day notice period to expire on June 24, 1985. The State expressed appreciation for the thorough telephone assessment of the proposed amendment request and expressed no concern over the change. The belt involved has been in continuous operation for more than 300 days. Large motor-driven circulators control the containment atmospheric temperature by forcing large volumes of the atmosphere through coolers. Loss of this atmospheric cooling capability due to belt slippage or failure causes containment temperatures to rise to the limiting conditions for operation. By telephone conference the staff was informed that, based on the recent containment drywell and containment cooling systems data, excessive fan belt slippage or failure is projected before the normal 30-day prenotice period expires. It appears in the judgment of NNECO that without the amendment it would be necessary to shut the plant down because containment temperature and humidity will otherwise reach the operating limits.

On the basis of the information provided by the licensee, the staff has concluded that the proposed change will not increase the number of hours the reactor can operate with deinerted containment beyond those permitted by the current Technical Specifications, and therefore, core safety margins and the risk to the health and safety of the public are unchanged from the previously analyzed design basis accident. Therefore, the staff concludes that the requested action does not involve a significant hazards consideration.

For these reasons the staff has concluded that pursuant to 10 CFR 50.91(a)(5) an emergency situation exists in that failure to act in a timely way would result in shutdown of the plant and that the proposed changes should be authorized without waiting for the 30-day notice period to expire.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20. The 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 made a final finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this 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 this amendment.

4.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated, does not create the possibility of an accident of a type different from any evaluated previously, and does not involve a significant reduction in a margin of safety, the amendment does not involve a significant hazards considerations, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

5.0 ACKNOWLEDGEMENT

This Safety Evaluation has been prepared by James J. Shea.

Dated: June 5, 1985.



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

Docket No. 50-245

Mr. John F. Opeka, Senior Vice President
Nuclear Engineering and Operations
Northeast Nuclear Energy Company
Post Office Box 270
Hartford, Connecticut 06141

Dear Mr. Opeka:

SUBJECT: REACTOR OPERATION WITH DEINERTED CONTAINMENT DRYWELL

Re: Millstone Nuclear Power Station, Unit No. 1

The Commission has issued the enclosed Amendment No. to Provisional Operating License No. DPR-21 for the Millstone Nuclear Power Station, Unit No. 1. This amendment is in response to your application dated May 15, 1985.

This amendment changes the Appendix A Technical Specifications to permit reactor operation with deinerted reactor containment drywell for up to 48 hours. The changes allow safe drywell entry for the purposes of performing inspection, equipment adjustments, and maintenance activities. *Important to safety* Based on the information you have provided, the staff has concluded that the proposed changes will not result in more frequent operation with deinerted containment than would result without the changes and that neither reactor safety nor the health and safety of the public has been reduced.

A Notice of Consideration of Issuance of Amendment to License and Proposed No Significant Hazards Consideration Determination and Opportunity for Hearing related to the requested action was published in the Federal Register on May 24, 1985 (50 FR 21523). ~~No comments or requests for hearing were received.~~ Pursuant to 10 CFR 50.91(a)(5) an emergency

~~[Exempt from SER, p. 3]~~ situation exists in that failure to act in a timely way would result in shutdowns of the plant and that the proposed changes should be authorized without waiting for the 30-day notice period to expire.



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MILLSTONE NUCLEAR POWER STATION, UNIT NO. 1

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1.0 INTRODUCTION

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below recent information indicates that unless this amendment is issued prior to the 30 day waiting period, the reactor will be required to shut down. it is likely that

2.0 EVALUATION

The licensee has reported that the proposed additional technical specifications presented above allow the same 48-hour period for drywell entry as is currently allowed for shutdown and startup by Technical Specifications 3.7.A.2.a.(1) and 3.7.A.6.b. The difference is that plant shutdown would not always be required, thereby reducing unnecessary thermal cycling of major plant components. The change would make it permissible to operate continuously at higher stable power levels than the restrictions of Technical Specifications 3.7.A.2.a.(1) and 3.7.A.6.b whereby power level must be decreased to shut down the reactor within the allowed 24-hour deinerted containment period and reinerted within a 24-hour period when the reactor is placed in "run" mode. The net effect of the proposed change is to permit reactor operation at higher power levels with normal steady operating conditions during the entire 48-hour deinerted containment period. The increased power level over the 48-hour deinerted containment period represents a negligible increase in the residual and decay heat levels following the postulated design bases accident and the resultant change in accident consequences would be insignificant. The probability of an accident during this period is insignificantly smaller with the changes than without the changes because there is less thermal (steady vs. unsteady) cycling of major plant components. Hence, the risk (probability times consequence) remains essentially unchanged. Also, the consequences of the previously analyzed design basis accident have not changed because the conditions for the proposed change remain within the previously analyzed accident (i.e., deinerted without 1 psid drywell to suppression pool pressure differential). The assumed accident conditions, accident probability, and consequences are unchanged. The administrative changes involve sequential number changes caused by the insertion of two new technical specifications and do not affect safety.

2.1 State Consultation and Final No Significant Hazards Consideration Determination

The State of Connecticut was notified on May 29, 1985 of the NRC intention to issue the amendment to the Millstone-1 license without waiting for the full 30-day notice period to expire on June 24, 1985. ~~Failure to issue the amendment in a timely way could result in an unjustified and possibly unplanned shutdown of the plant to adjust the belt tension on a motor-driven fan. The belt involved has been in continuous operation for more than 300 days. Large motor-driven circulators control the containment atmospheric temperature by forcing large volumes of the atmosphere through coolers. Loss of this atmospheric cooling capability due to belt slippage or failure causes containment temperatures to rise to the limiting conditions for operation.~~ *Insert 2*

~~Such activity inside containment, with the containment fully inerted, involves an unacceptable risk to the health and safety of the craftsmen who must perform the tasks. According to the licensee, the most opportune time for containment access is June 8-9, 1985. However, if continued operation will not cause unacceptable degradation of working conditions within containment, i.e., too hot or humid, the licensee has agreed to delay containment deinerting and access to allow the full 30-day prenotice period to expire before putting the amendment into effect.~~ *Insert 1*

Plant Procedures -

~~Based on recent projections of containment~~

~~Based on the most recent~~

~~Based on the projection of the most
recent containment cooling system
data~~

~~Insert 1. By telephone conference on 1/13/77~~

Based on the recent containment dry well
and containment cooling system data, excessive
fan belt slippage or failure is projected
before the normal 30 day pre-notice period

It appears in the judgment of NRC that,
expires. Without the amendment it

Would ^{not} be necessary to shut the plant

down because containment temperatures

and humidity ^{will} otherwise reach

the ^{operating} limiting ~~scade~~ ^{limits} for operation.
operating limits

Insert 2
The State expressed appreciation for the thorough telephone assessment of the proposed amendment request and expressed no concern over the change.

On the basis of the information provided by the licensee, the staff has concluded that the proposed change will not increase the number of hours the reactor can operate with deinerted containment beyond those permitted by the current Technical Specifications, and therefore, core safety margins and the risk to the health and safety of the public are unchanged from the previously analyzed design basis accident. Therefore, the staff concludes that the requested action does not involve a significant hazards consideration.

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For these reasons the staff has concluded that the proposed changes should be authorized without waiting for the 30-day notice period to expire. *in that failure to act in a timely way would result in shutdown of the plant and*

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This amendment involves a change in the installation or use of facility components located within the restricted area as defined in 10 CFR Part 20. The 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 made a final finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this 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 this amendment.

4.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated, does not create the possibility of an accident of a type different from any evaluated previously, and does not involve a significant reduction in a margin of safety, the amendment does not involve a significant hazards considerations, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

5.0 ACKNOWLEDGEMENT

This Safety Evaluation has been prepared by James J. Shea.

Dated: