



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 192

TO FACILITY OPERATING LICENSE NO. DPR-65

NORTHEAST NUCLEAR ENERGY COMPANY

THE CONNECTICUT LIGHT AND POWER COMPANY

THE WESTERN MASSACHUSETTS ELECTRIC COMPANY

MILLSTONE NUCLEAR POWER STATION, UNIT NO. 2

DOCKET NO. 50-336

1.0 INTRODUCTION

By letter dated October 6, 1995, as supplemented October 23, November 2, and November 15, 1995, the Northeast Nuclear Energy Company (the licensee) submitted a request for changes to the Millstone Nuclear Power Station, Unit No. 2 Technical Specifications (TS). The requested changes would add footnotes to Action Statement (AS) 3.8.1.1.a of the TS and its bases to allow a one-time extension of the allowed outage time (AOT) for an inoperable offsite power source from the current 72 hours to 7 days.

The October 23, November 2, and November 15, 1995, letters provided clarifying information and slight modifications to the original request that did not change the initial proposed no significant hazards consideration determination.

2.0 BACKGROUND

In its letter of October 6, 1995, supplemented by letters dated October 23, November 2, and November 15, 1995, the licensee proposed that TS 3.8.1.1 and its bases for the electrical power systems at Millstone Unit 2, be revised on an exigent basis. The proposed amendment adds footnotes to AS 3.8.1.1.a of the TS and its bases to allow a one-time extension of the AOT for an inoperable offsite power source from the current 72 hours to 7 days. The licensee's review of work planned for the upcoming Millstone Unit 1 refueling outage (No. 15) revealed that maintenance on the cross-tie, which is one of the offsite power sources for Millstone Unit 2, may take more than 72 hours. The current TS requires that Millstone Unit 2 be shut down should the cross-tie maintenance activities extend beyond the TS allowed 72 hours. The licensee, therefore, found it necessary to request a one-time AOT extension of TS AS 3.8.1.1.a for an inoperable offsite power source from 72 hours to 7 days. The Millstone Unit 1 refueling outage began on October 27, 1995, and work on the cross-tie and its 14H bus is scheduled to start on about November 29, 1995.

Until recently, the licensee had interpreted the two offsite circuits required at Millstone Unit 2 under the TS to be the four 345 kV transmission circuits between the offsite transmission network and the switchyard and had not recognized that the operability of the cross-tie from Millstone Unit 1 was not a limiting condition for operation of Millstone Unit 2. However, during a recent TS review (documented in Licensee Event Report 95-35) on September 6, 1995, the licensee determined that its interpretation with regard to the two offsite circuits between the switchyard and the onsite emergency buses was incorrect and identified them as (1) the Unit 2 reserve station service transformer (RSST-2) and (2) a manual cross-tie to either of emergency buses, via bus 14H and Unit 1 reserve station service transformer (RSST-1). The licensee states that this interpretation is consistent with General Design Criterion (GDC) 17 of Appendix A to Part 50 of Title 10 of the Code of Federal Regulations and Section 8.1.1 of the Unit 2 Final Safety Analysis Report.

### 3.0 EVALUATION

The Millstone Unit 2 onsite electric power system consists of the normal station service transformer (NSST), which is powered by the main generator and provides normal power to two onsite 4-kV non-emergency buses, 24A and 24B. Non-emergency buses 24A and 24B supply power to 4-kV emergency buses 24C and 24D. If Unit 2 should trip, the emergency buses (24C and 24D) would transfer to the RSST-2 by a fast transfer scheme. The licensee refers to this circuit as a "preferred offsite power source." If neither the NSST nor RSST-2 is available, RSST-1 can be cross-tied manually to either bus 24C or 24D via the 14H bus. The licensee refers to this circuit as an "alternate (delayed) offsite power source." Breakers from RSST-1 are interlocked with a locally operated Kirk key switch to restrict power from RSST-1 to only one emergency bus. On complete loss of offsite power, two emergency buses are designed to connect automatically to their respective emergency diesel generators. As part of the safety system functional inspection, the NRC staff reviewed the Millstone Unit 2 offsite power system configuration and concluded that the offsite power system complies with the requirements of GDC 17.

The licensee informed the staff that bus 14H is scheduled to be deenergized for 48 hours, beginning November 29 and ending November 30, 1995. The work scope for the 14H bus maintenance includes inspecting, cleaning, and testing the bus and its cubicle. The circuit breakers for the cross-tie connection will also be inspected, serviced, and tested. Unit 1 personnel believe that the scheduled work will be completed during the outage window and that it is unlikely that the 72-hour AOT will be exceeded. However, in case the cross-tie maintenance activities cannot be completed within the TS allowed 72 hours, the licensee believes that it is prudent to request the one-time AOT extension of TS AS 3.8.1.1.a for an inoperable offsite power source from 72 hours to 7 days for Unit 2.

The staff has reviewed the proposed TS changes for Millstone Unit 2, and its evaluation follows.

### 3.1 Addition of Footnotes in TS AS 3.8.1.1.a and its BASES

The licensee proposes to add the following footnote (\*\*) in TS AS 3.8.1.1.a to extend the current 72-hour AOT to 7 days (at the bottom of page 3/4 8-1):

"Except that once during the Millstone Unit No. 1 Cycle 15 Refueling Outage, this 72-hour Allowed Outage Time can be extended to 7 days."

To support the above AOT extension, the licensee also proposes to add the following footnote (\*) in the bases section (at the bottom of page B 3/4 8-1):

"A probabilistic safety assessment has examined the effect of extending the allowed outage time to seven (7) days for the electrical cross-tie from Unit 1 to Unit 2 during the Unit 1 Refueling Outage 15. The results show that the risk is negligible provided that two diesel generators are available."

To justify the proposed AOT extension of the alternate offsite circuit, the licensee has performed an integrated review and assessment of the design basis, plant operations, and plant risk. As a result, the licensee has developed specific compensatory actions that limit work on the ac power sources to Unit 2 by restricting work on the 345 kV lines into the switchyard, the RSST-2, and the diesel generators as well as maximizing the availability of the auxiliary feedwater system. In the unlikely event that unanticipated problems should arise, personnel from General Electric's Apparatus Service Center would be onsite to help solve them. To enforce the above restriction and minimize plant risk, the licensee has instituted an on-line risk monitoring program that uses the Unit 2 probabilistic risk assessment model to ensure planned maintenance and surveillance activities are carefully managed.

In addition, the licensee has evaluated the dominant sequences affecting plant risk when the Unit 1 cross-tie is unavailable by using probabilistic safety analysis (PSA) techniques. The analysis recognizes that when the 14H cross-tie is unavailable, the core damage frequency during power operation increases. The licensee's analysis also considered the risk associated with a controlled shutdown and startup. Considering the core damage probabilities (CDPs) associated with transition and operating the plant with the 14H cross-tie unavailable, the licensee finds that the overall risk extending the AOT to 7 days is small and does not involve a significant reduction in the margin of safety.

Although the staff has not validated the licensee's PSA, the results appear reasonable, provided that severe weather conditions that could cause a loss of offsite power do not exist during the requested 7 day AOT. Because the Millstone Units 1 and 2 have been subject to loss of offsite power events in the past due to salt spray associated with hurricane weather, the staff is concerned with severe weather conditions during this period. Therefore, the licensee should consider the weather conditions prior to making the cross-tie unavailable and the abnormal operating procedure 2560, Rev. 6, "Storms, High Winds, and High Tides" should be in effect.

On the basis of the licensee's information, the staff finds that the licensee has developed proper compensatory actions and instituted an on-line risk monitoring program for the work to ensure the availability of all onsite and offsite power sources for Unit 2. The staff also finds that the risk of extending the AOT from 3 days to 7 days is small so long as the inclement weather concerns are properly considered prior to beginning the work. The staff concludes that the proposed footnotes to TS AS 3.8.1.1.a and its bases for Millstone Unit 2 to allow a one-time extension of the AOT for the inoperable cross-tie offsite power source from 72 hours to 7 days when the Millstone Unit 1 is in a refueling outage are acceptable.

#### 4.0 EXIGENT CIRCUMSTANCES

Pursuant to 10 CFR 50.91(a)(6), the licensee requested the proposed amendment on an exigent basis. The proposed changes would add footnotes to AS 3.8.1.1.a of the TS and its bases to allow a one-time extension of the AOT for an inoperable offsite power source from the current 72 hours to 7 days. The licensee's review of work planned for the upcoming Millstone Unit 1 refueling outage (No. 15) revealed that maintenance on the cross-tie, which is one of the offsite power sources for Millstone Unit 2, may take more than 72 hours. The current TS requires that Millstone Unit 2 be shut down should the cross-tie maintenance activities extend beyond the TS allowed 72 hours. The licensee, therefore, found it necessary to request a one-time AOT extension of TS AS 3.8.1.1.a for an inoperable offsite power source from 72 hours to 7 days. The licensee initially informed the staff that the Millstone Unit 1 refueling outage was scheduled to begin October 27, 1995, and the work on the relevant electrical cross-tie equipment was scheduled to start on or about November 5, 1995. The delay in starting work on the relevant cross-tie equipment in this instance obviated the need for exigent treatment of this request.

Notice of the staff's proposed determination that this proposed amendment involves no significant hazards consideration was published in the Federal Register on October 17, 1995, (60 FR 53812). Given that this notice has provided 30 days notice as required by 10 CFR 50.91(a)(2), there is no need for the Commission to make a final determination that the proposed amendment does not involve a significant hazards consideration.

#### 3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Connecticut 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. 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 (60 FR 53812). 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 Contributors: P. Kang  
D. O'Neal

Date: November 22, 1995