

# NORTHEAST UTILITIES



THE CONNECTICUT LIGHT AND POWER COMPANY  
WESTERN MASSACHUSETTS ELECTRIC COMPANY  
HOLYOKE WATER POWER COMPANY  
NORTHEAST UTILITIES SERVICE COMPANY  
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November 25, 1985

Docket No. 50-245  
B11902

Mr. Dennis M. Crutchfield  
Assistant Director for Safety Assessment  
Division of Licensing  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Gentlemen:

Millstone Nuclear Power Station, Unit No. 1  
Momentary Loss of AC Power

On November 21, 1985 Northeast Nuclear Energy Company (NNECO) activated the Millstone Nuclear Power Station Emergency Plan for a brief period by declaring an ALERT following a loss of normal power for Millstone Unit No. 1. Although normal reporting procedures and communication channels are being followed, this informational letter is being provided to inform the Staff of the circumstances surrounding the events which occurred during the afternoon of November 21, 1985.

On November 21, Millstone Unit No. 1 was in the 26th day of a normal refueling outage. With the Reserve Station Service transformer out of service for normal outage related preventative maintenance, off-site power was being received by backfeeding through the main transformer and the 23 kV line (the "Flanders line") into the station was available. As a part of routine outage maintenance the Emergency Diesel Generator was not inservice.

During switchyard transfer-trip preventative maintenance testing involving 345 kV breakers 5T-2 and 6T-2, both breakers were inadvertently opened, resulting in a momentary loss of AC power for Millstone Unit No. 1. Because of the plant configuration for the refueling outage, there was not automatic initiation of the loss of normal power (LNP) logic as all logic requirements were not satisfied. Technical Specifications for this particular plant configuration would have allowed up to a four hour period without on-site power before being reportable. The LNP logic was manually initiated to strip the loads from the emergency buses in preparation for the start and sequencing of the gas turbine generator so that loads may be restored to the buses in a controlled manner. During the gas turbine start sequence, the gas turbine tripped as a result of a high exhaust temperature indication. Since the 23 kV line feeder breaker opens with the initiation of a LNP signal for emergency bus load sequencing purposes, the failure of the gas turbine resulted in a loss of on-site AC power.

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Following the loss of the 5T-2 and 6T-2 breakers, the reason for their loss was determined to be a manual tripping by test personnel in the switchyard. Thus, following the loss of on-site power the Connecticut Valley Exchange (CONVEX) was requested to reclose the switchyard breakers and the 345 kV line was reconnected within 1½ minutes of its loss. During this period the incoming Flanders line was still available to the station at the bus breaker but the breaker was open as a result of the load sequencing logic.

While this event was not reportable under 10CFR50.72 and 50.73 and power from the Flanders line was still available to the station Revision 0 of the Millstone Nuclear Power Station Emergency Plan<sup>(1)</sup> specifies in Table 4-1A that NNECO designate an ALERT condition for loss of off-site power and loss of all on-site AC power for less than 15 minutes. The actual time that power was not on the emergency buses was between three (3) and four (4) minutes. While perhaps not technically required because off-site power to the station was never truly unavailable, the decision was made to be conservative and declare the ALERT. With the unit in its 26th day of a refueling outage and no core alterations in progress, the decay heat load was minimal and the implications of the event correspondingly low.

Throughout the events described above, Millstone Unit No. 2 remained on line in normal operation at 100% power. The circumstances of this event similarly had no impact on Millstone Unit No. 3, which is undergoing final preparations for initial fuel load.

Informal discussions with the Staff have revealed that considerable confusion may exist within the NRC regarding what happened at Millstone Unit No. 1 on November 21, and the significance of the events. The following considerations are relevant:

- o The event occurred twenty-six (26) days into a refueling outage, at which time the decay heat load is an extremely small fraction (approximately 0.7%) of the decay heat load following a trip from 100% power.
- o The event is not reportable pursuant to 10CFR50.72 and 50.73 criteria.
- o The plant was in a unique configuration with respect to on-site and off-site power availability for the purposes of conducting tests and maintenance on AC power-related components. This configuration and consequently the sequence of events which unfolded could not have occurred during power operation.
- o Although conservatively classified as a loss of off-site and on-site power for purposes of activating the emergency response organization, off-site power was available to the unit at all times through both the main transformer and the Flanders line. Operator actions were necessary to bring power to the plant buses from either of the two sources available.

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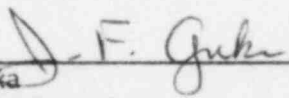
(1) J. F. Opeka letter to E. J. Butcher, "Millstone Nuclear Power Station Emergency Plan," dated October 31, 1985.

- o The emergency plan incident classification criteria are clearly conservative, perhaps excessively so. The criterion which requires declaration of an ALERT following a loss of all on-site and off-site (a debatable point in this instance) power does not distinguish between 100% power operation and refueling outages or other periods where the decay heat load is very small. We will be evaluating the appropriateness of any changes to the incident classification scheme.

We are hopeful that the factual information provided above will put the November 21, 1985 event in its proper perspective. In particular, we believe it would be misleading to characterize this event as a "station blackout," unless considerable amplification accompanied this term. As always, we would be happy to answer any questions you may have on this matter.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

  
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J. F. Opeka  
Senior Vice President