

January 4, 1977

Serial No. 179

Docket No. 50-346



LOWELL E. ROE  
Vice President  
Facilities Development  
14151 259-5242

Mr. John F. Stolz  
Chief Light Water Reactors  
Branch No. 1 Division of Project Management  
United States Nuclear Regulatory Commission  
Washington, D. C. 20555

Dear Mr. Stolz:

Your letter to us dated October 1, 1976, described equipment failures during a degraded grid voltage condition at Millstone, Unit 2. Our letter to you dated November 3, 1976, partially gave the results of an investigation of degraded grid voltage at Davis-Besse No. 1. Our letter of December 21, 1976 was intended to be the remainder of the response; however, there were some errors. Therefore, we are superseding the content of that latter. The content of this letter forms the remainder of our response to your October 1, 1976, inquiry.

Item 4

Provide a description of any proposed actions or modifications to your facility based on the results of the analyses performed in response to Items 1-3 above.

Response:

The following modifications are to be made to the facility based on the results of the analyses performed in response to Items 1-3:

1. The existing setting of 59% of rated bus voltage will be kept but its time delay setting will be reduced from 1.0 second to 0.5 second to clear the bus and to start the diesel generator. In addition a one second time delay will be added to the diesel generator breaker closure only if the diesel has already been started and is ready to accept load.
2. Addition under voltage relays will be added with a setting of 90% and a 10 second time delay to trip incoming 4.16 KV breakers from their source.

The time delay added in Item 1 above will not adversely affect the response time of the ECCS equipment for the following reasons:

1. If the Safety Actuation (SA) signal and the loss of voltage occur simultaneously, the new timer will have timed out before the diesel generator will be ready to accept load.
2. If the diesel is running and ready to accept load, then the new one second time delay will be less than the diesel start time in the accident analysis and the ECCS equipment will be started within the required time.

The time delay added in Item 2 can only affect the ECCS equipment start time if a SA signal occurred simultaneously with a voltage condition that was less than 90% and greater than 59%. In this very improbable case the diesel would not be started until the incoming 4.16 KV breakers had been tripped.

These modifications are made to protect against degraded grid voltage conditions such as those which occurred at Millstone, Unit 2.

Very truly yours,

A handwritten signature in cursive script, reading "Lowell E. Roe". The signature is written in dark ink and is positioned below the typed name "Lowell E. Roe".