

Docket No. 50-346

License No. NPF-3

Serial No. 1046

April 18, 1984



RICHARD P. CROUSE  
Vice President  
Nuclear  
(419) 259-5221

Director of Nuclear Reactor Regulation  
Attention: Mr. John F. Stolz  
Operating Reactor Branch No. 4  
Division of Operating Reactors  
United States Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Stolz:

This letter is in response to a verbal request from Mr. A. W. DeAgazio for additional information concerning Adequacy of Test Results - Degraded Voltage Study for Davis-Besse Nuclear Power Station Unit No. 1. Attached is a revised table for the Degraded Grid Voltage Test - Voltage Analysis Tabulation submitted January 23, 1984 (Serial No. 1022).

The difference between the test and the analytical results as shown in the original table submitted January 23, 1984, depict the conservatism used in the analysis. The analytical voltage is determined using the previous bus voltage. This process is done in series through the buses, and the result is that voltage conservatisms are compounded. This always insures that the test results are in the conservative direction.

The revised table depicts the analytical values and the differences for the buses C1, C2, E1, and YE1, after compensating for the conservatism of the computer program. To obtain these values, the analytical bus voltages were multiplied by the ratio of test to analytical voltage values of the upstream bus. The differences have also been revised accordingly.

In addition, we have since determined that the transformer supplying bus YE1, is a universal type with a ratio of 460V/120V vs. 480V/120V which was previously used in the analysis. The analytical values for bus YE1, has been corrected by a ratio of 480/460.

The revised table indicates that there is an excellent correlation between the test and the analytical values.

Very truly yours,

RPC:GAB:lah  
attachment

cc: DB-1 NRC Resident Inspector

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DEGRADED GRID VOLTAGE TEST  
VOLTAGE ANALYSIS TABULATION

BUS (VOLTS)	STEADY STATE VOLTAGE VALUES			TRANSIENT VOLTAGE VALUES					
	TEST	ANALYTICAL	*DIFFERENCE	TEST	RCP START ANALYTICAL	DIFFERENCE	TEST	CONDENSATE PUMP START ANALYTICAL	DIFFERENCE
'J' (345KV)	342	342	0	342	342	0	342	342	0
'A' (13.8KV)	14	13.67	2.4% ABOVE	12.5	12.17	2.7% ABOVE	13.9	13.20	5.2% ABOVE
C1 (4.16KV)	4.25	4.28	.7% BELOW	3.81	3.81	0%	3.9	4.03	3.2% BELOW
C2 (4.16KV)	4.28	4.25	.7% ABOVE	3.84	3.81	.8% ABOVE	4.0	3.9	2.6% ABOVE
E1 (480)	485	482	.6% ABOVE	445	429.4	3.6% ABOVE	457	447.5	2.1% ABOVE
YE1 (120V)	128.1	125.98	1.7% ABOVE	115.6	115.5	0%	120.6	118.6	1.7% ABOVE

\* DIFFERENCE =  $\frac{VT-VA}{VA} \times 100 = \text{ } \%$  ABOVE OR BELOW THE ANALYTICAL VALUE

WHERE VT = VOLTAGE VALUE, TEST  
VA = VOLTAGE VALUE, ANALYTICAL

Revised 3/30/84