



THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

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Serving The Best Location in the Nation

Dalwyn R. Davidson
VICE PRESIDENT
SYSTEM ENGINEERING AND CONSTRUCTION

August 26, 1982

**Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555**

**Perry Nuclear Power Plant
Docket Nos. 50-440; 50-441
SER Confirmatory Item - No. 34
Undervoltage Protection**

Dear Mr. Schwencer:

The following information is provided to amend our June 8, 1982, letter regarding SER Confirmatory Item No. 34 on undervoltage protection. (Ref. FSAR question 430.77).

In an effort to optimize the design of the Class 1E undervoltage protection scheme, we have further analyzed our system design. This review has identified some refinements in the design which will necessitate the following changes to our original response.

To avoid tripping the offsite breakers during normal load sequencing, the setpoint for the first level of undervoltage protection has been changed to trip at 75% of motor rated voltage instead of 86%. The three second fixed time delay will still remain in effect.

Additionally, the diesel generator start signal after the 15 second time delay from the second level of undervoltage has been eliminated. In order to prevent unnecessary engine starts, this timer will alarm only, allowing operator initiation if the diesels are needed.

The undervoltage protection will not be bypassed during load sequencing operations. The setpoint values have been selected to prevent tripping of safety busses during sequencing operations.

Boo!

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Undervoltage Protection
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The attached sketches are provided to clarify the logic for a typical bus undervoltage protection scheme.

As stated in our June 8 letter, the final design and setpoints will be established after a review of our onsite preoperational test results. Any changes to this design would be reviewed with the staff prior to implementation.

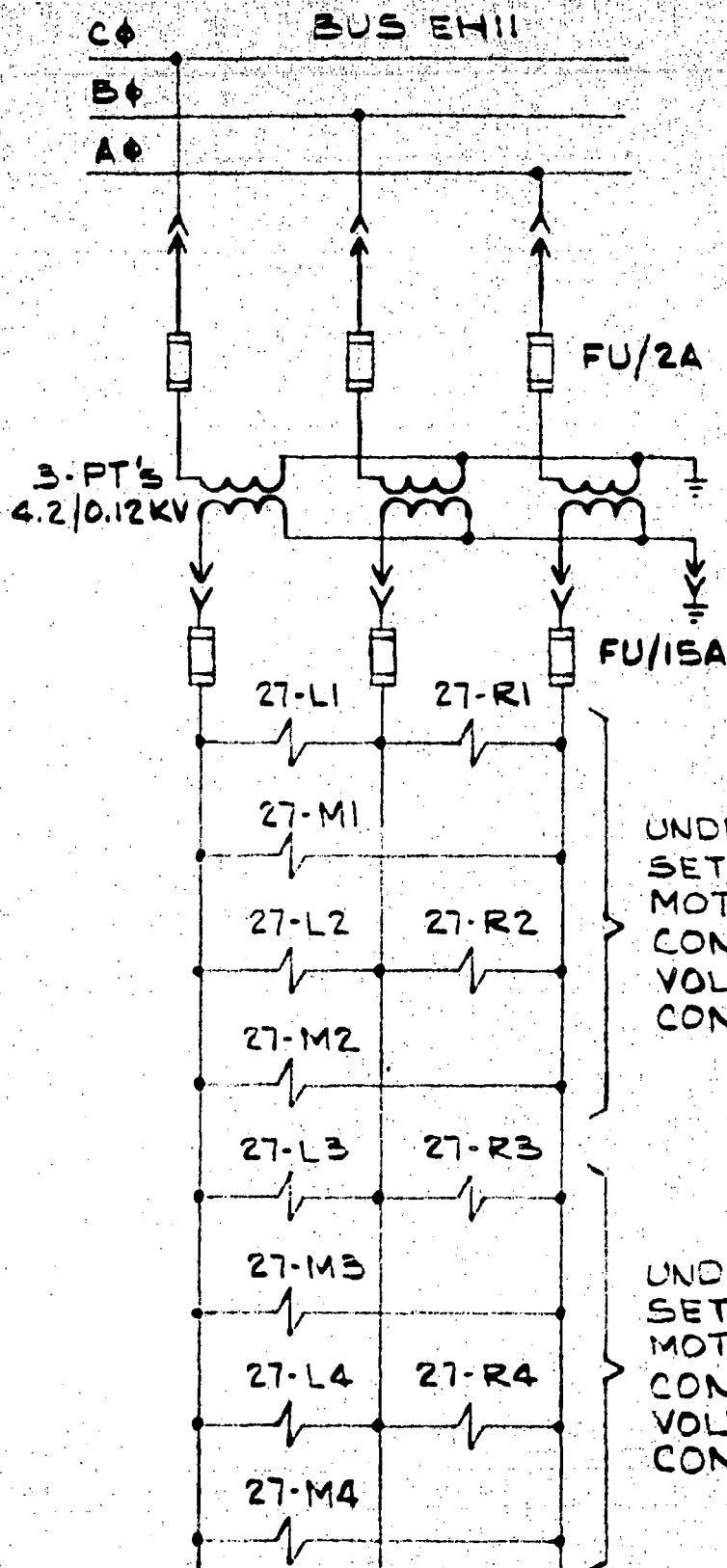
Very truly yours,



Dalwyn R. Davidson
Vice President
System Engineering and Construction

DRD:mb

cc: Jay Silberg, Esq.
John Stefano
Max Gildner
S. Rhow



UNDERVOLTAGE RELAYS
SET TO TRIP AT 75% OF
MOTOR RATED VOLTAGE.
CONTACTS CLOSE WHEN BUS
VOLTAGE IS BELOW NORMAL.
CONTACTS SHOWN ON SHEET 2.

UNDERVOLTAGE RELAYS
SET TO TRIP AT 96% OF
MOTOR RATED VOLTAGE.
CONTACTS CLOSE WHEN BUS
VOLTAGE IS BELOW NORMAL.
CONTACTS SHOWN ON SHEET 2.

TITLE

UNDERVOLTAGE RELAY

TRIP LOGIC

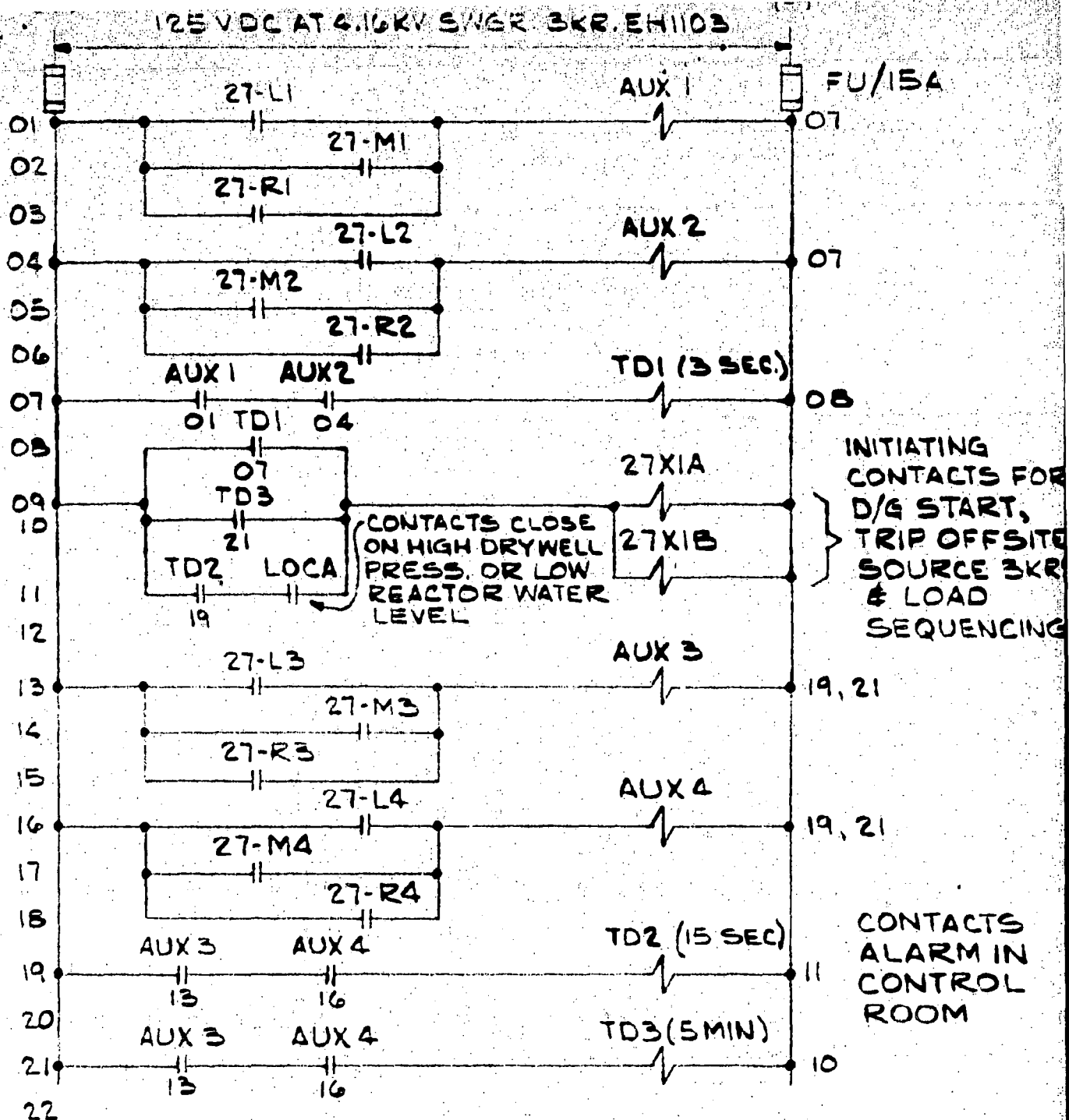
PERRY NUCLEAR POWER PLANT

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

CLEVELAND
OHIO

DWG. NO.

AGM SH.1 OF 2



TD1, 2 & 3 - G.E. TYPE SAMI1 TIMING RELAYS
 AUX 1, 2, 3 & 4 } AUX. CONTROL RELAYS
 27X1A & B

TITLE	
UNDERVOLTAGE RELAY	
TRIP LOGIC	
PERRY NUCLEAR POWER PLANT	
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY	
CLEVELAND OHIO	DWG. NO. AGM SH. 2 OF 2