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Rockwell
International

December 14, 1982

In reply refer to 82ESG-8933

U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive
Arlington, Texas 76012

Attention: Mr. John Collins, Administrator
Region IV

References: ESG Letters, D. C. Empey to John Collins, 82ESG7725
dated October 21, 1982; 82ESG8085 dated November 3, 1982;
and 82 ESG7948 dated November 3, 1982.

Gentlemen:

Subject: Report of Defect (10CFR21)

As a result of ESG's IEEE 323 qualifications testing as described in each of the References, the post-LOCA Hydrogen Recombiner component noted below has been determined to be likely to fail due to a combination of aging and radiation.

COMPONENT DESCRIPTION

Microswitch, DPST toggle switch, rated 15A, 125-250 VAC; ½ hp, 125 VAC, P/N 12TSI-2.

Test Results

During the IEEE Environmental Qualification testing, both poles of the switch failed to close when the switch was actuated during the post-LOCA environmental cycling test. During the post-seismic functional test, the switch operation appeared to be weak and not firm as normal. Disassembly and examination of the switch revealed that the plastic sliders were missing and there was considerable debris around the operating handle. The failure analysis of this component concluded that the plastic slider was sufficiently degraded during the thermal and radiation aging that it broke into many pieces due to the vibration and shock from the seismic test and snap action when operated.

The switch is used in the control circuits of the reversing motor starters for the hydrogen recombiner motor operated valves (3). The switch is normally closed and if the slider broke following a LOCA (due to some seismic or other forces), the switch could open and disable the operation of the motor operated valves. Thus the safety function of the hydrogen recombiners could be impacted.

IE:19

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Corrective Action/Comments

The purpose of the switch is to permit dis-enabling the motor starter control circuit during periods of trouble-shooting the electrical system and is not essential for design or operation. Recent designs have eliminated the switch. Field bulletins have been issued to install jumpers bypassing the switch such that recombiner operation, in performance of its safety function, is not impacted by the switch.

Affected Plants

<u>Customer Name</u>	<u>NRC Licensed Facility/Activity</u>	<u>GO</u>	<u>Qty</u>	<u>Date Shipped</u>
Detroit Edison	Fermi 2 NPS	04056	2	08-76
Long Island Lighting Co.	Shoreham 1 NPS	04093	2	02-22-77
Philadelphia Electric Company	Limerick 1 & 2 NPS	04097	4	06-30-77
Georgia Power Co.	Hatch 2 NPS	04154	2	06-14-77 (1)
Niagara Mohawk Power Corporation	Nine Mile Point 2 NPS	04193	2	02-23-79
Commonwealth Edison Co.	LaSalle County 1 & 2 NPS	04198	2	08-29-78 (1)

NOTE: (1) Operating Plant

Notifications

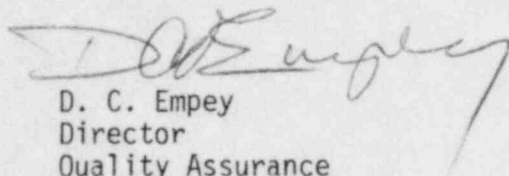
Each listed plant operator has been notified of the results of our IEEE-323 qualification testing along with the above mentioned bulletin on bypassing of the switch. Additional components which failed to function properly following the qualification program are given in the References.

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If you require further information or clarification, please call me at
(213) 700-3926.

Very truly yours,



D. C. Empey
Director
Quality Assurance

cc w/enclosure

cc: (3) Director, Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Enclosure: Bulletin No. LAS-6



Rockwell International
Energy Systems Group

TECHNICAL SERVICES FIELD ENGINEERING BULLETIN

BULLETIN NO. LAS-6

DATE 11 Oct 82

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Pub. 523-K-28 REV. 5-78

- APPLICABLE TO: La Salle County Station
Commonwealth Edison Company
Thermal Hydrogen Recombiners
Serial Nos. 211A and 211B
- SUBJECT: Operation of Hydrogen Recombiner System With
Disconnect Switch Part Number 9422-RC-1 and Micro Toggle Switches
Part Number 12TS1-2 Bypassed.
- REFERENCE: Operation and Maintenance Manual N1160MM120002
Thermal Hydrogen Recombiner System.
- PURPOSE: To provide instructions for bypassing (a) the main disconnect
switch, HS-10, for the recombinder skid 480 Vac 3-phase, power
bus for inlet, recirculating gas and cooling water valve operator
circuits, and (b) the three micro toggle switches that act as
disconnect switches for the inlet gas, HS-11, recirculating gas,
HS-12, and cooling water valve, HS-13, operator motor starters.
- NOTES: 1. The subject switches failed during IEEE environmental qualification
testing.
2. The bypassing of the disconnect switch and micro toggle switches
will not compromise the safety or reliability of the recombinder
system.
3. The disconnect function will revert to the valve operator switch
in the control cabinet.
4. The instruction sheet (bulletin) used when performing this modifica-
tion shall be signed by a Quality Assurance Manager and a copy of
the signed sheet must be returned to ESG as follows:

Rockwell International
Energy Systems Group
8900 De Soto Avenue
Canoga Park, California 91304

Attention: Don Empey, KB44



Rockwell International
Energy Systems Group

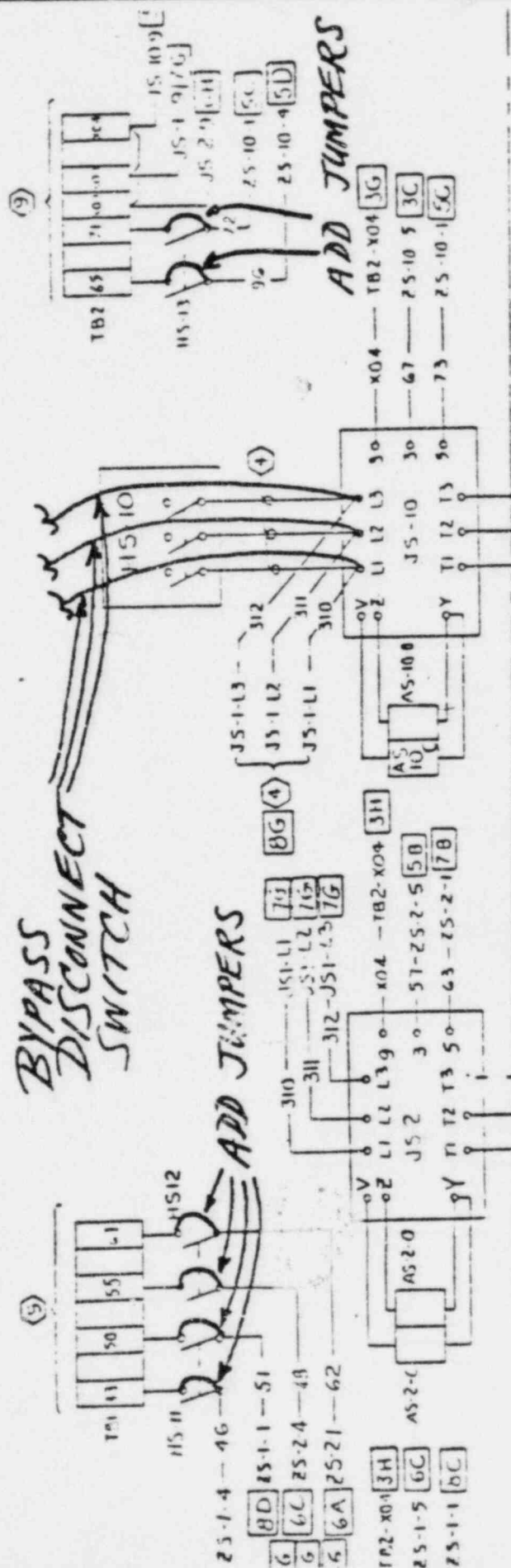
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Step	Activity	Compliance	
		Yes	No
1.	Disconnect all power sources to the recombiner.		
2.	Remove wires numbered 310, 311, and 312 connecting L1, L2, and L3 to HS-10 (See drawing N116000121).		
3.	Connect facility 12AWG power wires 480 Vac 3-phase 60 Hz directly to JS-10, terminals L1, L2, and L3 Phase A, B, and C, respectively.		
4.	Add warning decal to bypass switch cover as follows: CAUTION 480 VOLTS AC WARNING Disconnect switch bypassed; turn off facility power to recombiner before opening this cabinet.		
5.	Install bypass jumpers to the following toggle switches in the valve operator starter cabinet (See drawing N116000121). a. At switch HS-11 add jumper connecting wire 43 to 46 and wire 50 to 51. b. At switch HS-12 add jumper connecting wire 48 to 55 and wire 61 to 62. c. At switch HS-13 add jumper connecting wire 65 to 96 and wire 71 to 72.		
6.	Restore all power sources to recombiner systems.		
7.	Energize valves and verify proper valve direction of rotation.		
8.	Perform complete periodic testing in accordance with the Operation and Maintenance Manual.		
	Approval: _____ Quality Assurance Manager		



WIRING DIAGRAM
HYDROGEN RECOMBINER
SKID
DNG NO.
N116000121