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RECIP.NAME RECIPIENT AFFILIATION
VASSALLO,D.B. Operating Reactors Branch 2

SUBJECT: Submits addl info in support of 840823 application for amend to License DPR-52 re installation of analog trip sys during current major maint & refueling outage per B Long verbal request.

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TENNESSEE VALLEY AUTHORITY
CHATTANOOGA, TENNESSEE 37401

400 Chestnut Street Tower II

May 8, 1985

Director of Nuclear Reactor Regulation
Attention: Mr. Domenic B. Vassallo, Chief
Operating Reactors Branch No. 2
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Vassallo:

In the Matter of the) Docket No. 50-260
Tennessee Valley Authority)

Enclosed is additional information regarding the analog trip system instrumentation to be installed in Browns Ferry Nuclear Plant unit 2 during the current major maintenance and refueling outage. This information supports request for license amendment submitted by TVA letter from L. M. Mills to H. R. Denton dated August 23, 1984 (TVA BFNP TS 199).

This information is submitted in response to a verbal request from Bill Long of your staff.

If you need additional information, please get in touch with us through the Browns Ferry Project Manager.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

J. A. Domer

J. A. Domer, Chief
Nuclear Licensing Branch

Subscribed and sworn to before
me this 8th day of May 1985.

Paulette D. White
Notary Public
My Commission Expires 8-24-88

Enclosure
cc: See page 2

A001
1/1

cc (Enclosure):
Mr. Charles R. Christopher
Chairman, Limestone County Commission
P.O. Box 188
Athens, Alabama 35611

Dr. Ira L. Myers
State Health Officer
State Department of Public Health
State Office Building
Montgomery, Alabama 36104

Mr. R. J. Clark
U.S. Nuclear Regulatory Commission
Browns Ferry Project Manager
7920 Norfolk Avenue
Bethesda, Maryland, 20814

ENCLOSURE

ANALOG TRIP SYSTEM INFORMATION
BROWNS FERRY NUCLEAR PLANT

The instrumentation which will be installed as part of the analog trip system at Browns Ferry is the same or better than the instrumentation which is described in General Electric Company NEDO 21617. The following information demonstrates applicability of this topical report to the system proposed for Browns Ferry.

Attached are the following items:

Table 1 - Specific Instrument Loops

Table 2 - Environmental Interface Temperature and Humidity

Figure 1 - Trip Unit Cabinet

Figure 2 - Environmental Interface Seismic Response

Figure 3 -- Plant Interconnection

Table 1

ANALOG TRIP SYSTEM INFORMATION
BROWNS FERRY NUCLEAR PLANT

SPECIFIC INSTRUMENT LOOPS

Variable Name	Vendor Model No. Being Deleted	System Involved	Equipment Being Installed Transmitter Model No.	Equipment Being Installed Trip Unit Model No.	TVA Instrument Loop No. and Division	
Reactor Low Water Level	Barton Model No. 278	Reactor Protection	Rosemount 1153	Rosemount 710DU	L-3-203A (IA) L-3-203B (IB)	L-3-203C (IIA) L-3-203D (IIB)
Reator High Pressure	Barksdale Model No. B2T-A12SS	Reactor Protection	Rosemount 1153	Rosemount 710DU	P-3-22AA (IA) P-3-22BB (IB)	P-3-22C (IIA) P-3-22D (IIB)
Reactor Low Low Water Level	Yarway Model No.4418C	Primary Containment Isolation and ATWS Recirc Pump Trip	Rosemount 1153	Rosemount 710DU	L-3-56A (IA) L-3-56B (IB)	L-3-56C (IIA) L-3-56D (IIB)
Main Steamline Low Pressure	Barksdale Model No. B2T-A12SS	Primary Containment Isolation	Rosemount 1153	Rosemount 710DU	P-1-72 (IA) P-1-76 (IB)	P-1-82 (IIA) P-1-86 (IIB)
Main Steamline High Flow	Barton Model No. 278	Primary Containment Isolation	Rosemount 1153	Rosemount 710DU	dP-1-13A (IA) dP-1-25A (IA) dP-1-36A (IA) dP-1-50A (IA) dP-1-13B (IB) dP-1-25B (IB) dP-1-36B (IB) dP-1-50B (IB)	dP-1-13C (IIA) dP-1-25C (IIA) dP-1-36C (IIA) dP-1-50C (IIA) dP-1-13D (IIB) dP-1-25D (IIB) dP-1-36D (IIB) dP-1-50D (IIB)
Primary Containment High Pressure	Static-O-Ring Model No. 12N-AA4-X2PP	Reactor Protection and Primary Containment	Rosemount 1153	Rosemount 710DU	P-64-56A (IA) P-64-56B (IB)	P-64-56C (IIA) P-64-56D (IIB)
Turbine First Stage Pressure Permissive	Barksdale Model No.B2T-A12SS	Reactor Protection and Recirc Pump Trip	Rosemount 1153	Rosemount 710DU	P-1-91B (IA) P-1-91A (IB)	P-1-81B (IIA) P-1-81A (IIB)
Reactor High Pressure	Static-O-Ring Model No. 9N-AA4-X911	ATWS Recirc Pump Trip	Rosemount 1153	Rosemount 710DU	P-3-204A (IA) P-3-204B (IB)	P-3-204C (IIA) P-3-204D (IIB)
Reactor Low Water Level	Yarway Model No. 4418	Core Spray,RHR(LPCI), HPCI,RCIC	Rosemount 1153	Rosemount 710DU	L-3-58A (I) L-3-58B (I)	L-3-58C (II) L-3-58D (II)
Reactor Low Water Level	Yarway Model No. 4418	ADS	Rosemount 1153	Rosemount 710DU	L-3-184 (I)	L-3-185 (II)
Reactor Low Water Level	Yarway Model No. 4418	RHR (Containment Spray)	Rosemount 1153	Rosemount 710DU	L-3-52 (I)	L-3-62 (I)
Reactor Pressure	Barton Model No. 288/ Barksdale Model No. 288	Core Spray, Recirc, RHR(LPCI)	Rosemount 1153	Rosemount 710DU	P-3-74A (I) P-68-95 (I)	P-3-74B (II) P-68-96 (II)
HPCI Steamline Hi Flow	Barton Model No. 288	HPCI	Rosemount 1153	Rosemount 710DU	dP-73-1A (I)	dP-73-1B (II)

SPECIFIC INSTRUMENT LOOPS
(Continued)

Variable Name	Vendor Model No. Being Deleted	System Involved	Equipment Being Installed Transmitter Model No.	Equipment Being Installed Trip Unit Model No.	TVA Instrument Loop No. and Division	
RCIC Steamline Hi Flow	Barton Model No. 288	RCIC	Rosemount 1153	Rosemount 710DU	dP-71-1A (I)	dP-71-1B (II)
Primary Containment Pressure	Static-O-Ring Model No. 12N-AA4	Core Spray, HPCI, RHR(LPCI)	Rosemount 1153	Rosemount 710DU	P-64-58B (I) P-64-58D (I)	P-64-58A (II) P-64-58C (II)
Primary Containment Pressure	Static-O-Ring Model No. 12N-AA4	RHR (Containment Spray)	Rosemount 1153	Rosemount 710DU	P-64-58E (I) P-64-58G (I)	P-64-58F (II) P-64-58H (II)
Primary Containment Pressure	Static-O-Ring Model No. 12N-AA4	ADS	Rosemount 1153	Rosemount 710DU	P-64-57B (I) P-64-57D (I)	P-64-57A (II) P-64-57C (II)
Reactor High Water Level	Barton Model No. 288	HPCI, RCIC	Rosemount 1153	Rosemount 710DU	L-3-208A (I) L-3-208C (I)	L-3-208B (II) L-3-208D (II)
Primary Containment Pressure	Barton Model No. 289	Primary Containment	Rosemount 1153	Rosemount 710DU	dP-64-20 (I) dP-64-21 (I)	
HPCI Suction Pressure	Static-O-Ring Model No. 6N-AA-21V	HPCI	Rosemount 1153	Rosemount 710DU		P-73-29-1 (II)

Table 2

ENVIRONMENTAL INTERFACE TEMPERATURE AND HUMIDITY

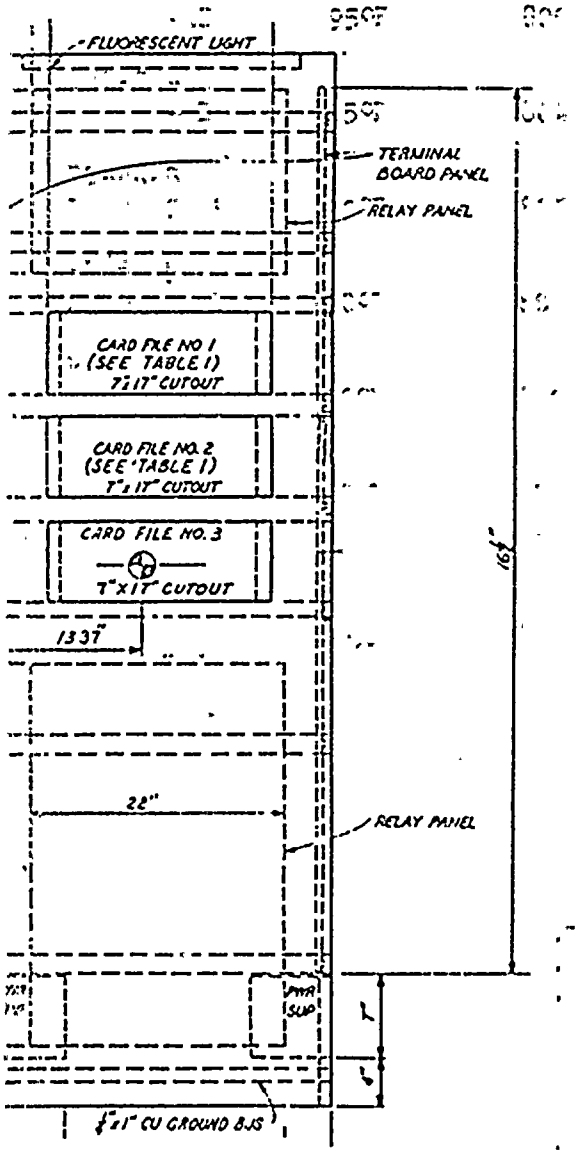
Transmitter No.	Normal Temp.(1)	Normal Humidity(1)	Accident Temp.(1)	Accident Humidity(1)	Qualified Temp.(1)	Qualified Humidity(1)
LT-3-203 A, B, C, D	90°F	80%	183°F	100%	303°F	100%
PT-3-22 A, B, C, D	90°F	80%	183°F	100%	303°F	100%
LT-3-56 A, B, C, D	90°F	80%	183°F	100%	350°F	100%
PDT-1-13 A, B, C, D	95°F	80%	119°F	100%	350°F	100%
PDT-1-25 A, B, C, D	95°F	80%	119°F	100%	350°F	100%
PDT-1-36 A, B, C, D	95°F	80%	119°F	100%	350°F	100%
PDT-1-50 A, B, C, D	95°F	80%	119°F	100%	350°F	100%
PT-64-56 A, B, C, D	90°F	80%	127°F	100%	303°F	100%
PT-3-204 A, B, C, D	90°F	80%	100°F	100%	303°F	100%
PT-1-72 76, 82, 86	90°F	80%	N/A(2)	N/A(2)	303°F	100%
PT-1-81 A, B, 91A, B	90°F	80%	N/A(2)	N/A(2)	303°F	100%
LT-3-58 A, B, C, D	90°F	80%	183°F	100%	303°F	100%
LT-3-184 -185	90°F	80%	127°F	100%	303°F	100%
LT-3-52 -62	90°F	80%	183°F	100%	350°F	100%
PT-3-74 A, B	90°F	80%	183°F	100%	303°F	100%

Transmitter No.	Normal Temp.(1)	Normal Humidity(1)	Accident Temp.(1)	Accident Humidity(1)	Qualified Temp.(1)	Qualified Humidity(1)
PT-68-95 -96	90°F	80%	163°F	100%	303°F	100%
PdT-73-1A -1B	95°F	80%	183°F	100%	350°F	100%
PdT-71-1A -1B	95°F	80%	120°F	100%	350°F	100%
PT-64-58 E, F, G, H	90°F	80%	127°F	100%	303°F	100%
PT-64-58 A, B, C, D	90°F	80%	127°F	100%	303°F	100%
PT-64-57 A, B, C, D	90°F	80%	127°F	100%	303°F	100%
LT-3-208 A, B, C, D	90°F	80%	183°F	100%	303°F	100%
PT-64-20 -21	90°F	80%	127°F	100%	303°F	100%
PDT-73-29-1	90°F	80%	183°F	100%	303°F	100%

(1) Maximum
(2) Equipment located where it will not be subjected to environmental conditions produced by LOCAs and HELBs.

TEB:CLB
3/14/85
B65072.C1

Figure 1



		RPS A1 PANEL 9-83	RPS A2 PANEL 9-85	RPS B1 PANEL 9-84	RPS B1 PANEL 9-86	ECCS DIV 1 PANEL 9-81	ECCS DIV 2 PANEL 9-82
	1	DPIS-1-13A	DPIS-1-13C	DPIS-1-13B	DPIS-1-13D	LIS-3-52	LIS-3-62
	2						
C	3	DPIS-1-25A	PDIS-1-25C	PDIS-1-25B	PDIS-1-25D	LIS-3-58B	LIS-3-58D
A	4	Accident	Accident	Accident	Accident	LS-3-58B	LS-3-58D
	5	PDIS-1-36A	PDIS-1-36C	PDIS-1-36B	PDIS-1-36D	LIS-3-58A	LIS-3-58C
D	6					LS-3-58A	LS-3-58C
	7	PDIS-1-50A	PDIS-1-50C	PDIS-1-50B	PDIS-1-50D	PIS-3-74A	PIS-3-74B
F	8					PS-3-74A	PS-3-74B
I	9	PIS-1-72	PIS-1-82	PIS-1-76	PIS-1-86	LIS-3-184	LIS-3-185
L	10						
E	11	PIS-1-91B	PIS-1-81B	PIS-1-91A	PIS-1-81A	PIS-64-57B	PIS-64-57A
	12					PIS-64-57D	PIS-64-57C
1	13	XIS-99-1	XIS-99-2	XIS-99-1B	XIS-99-2B	XIS-71-60 -1	XIS-71-60 -2
	14						

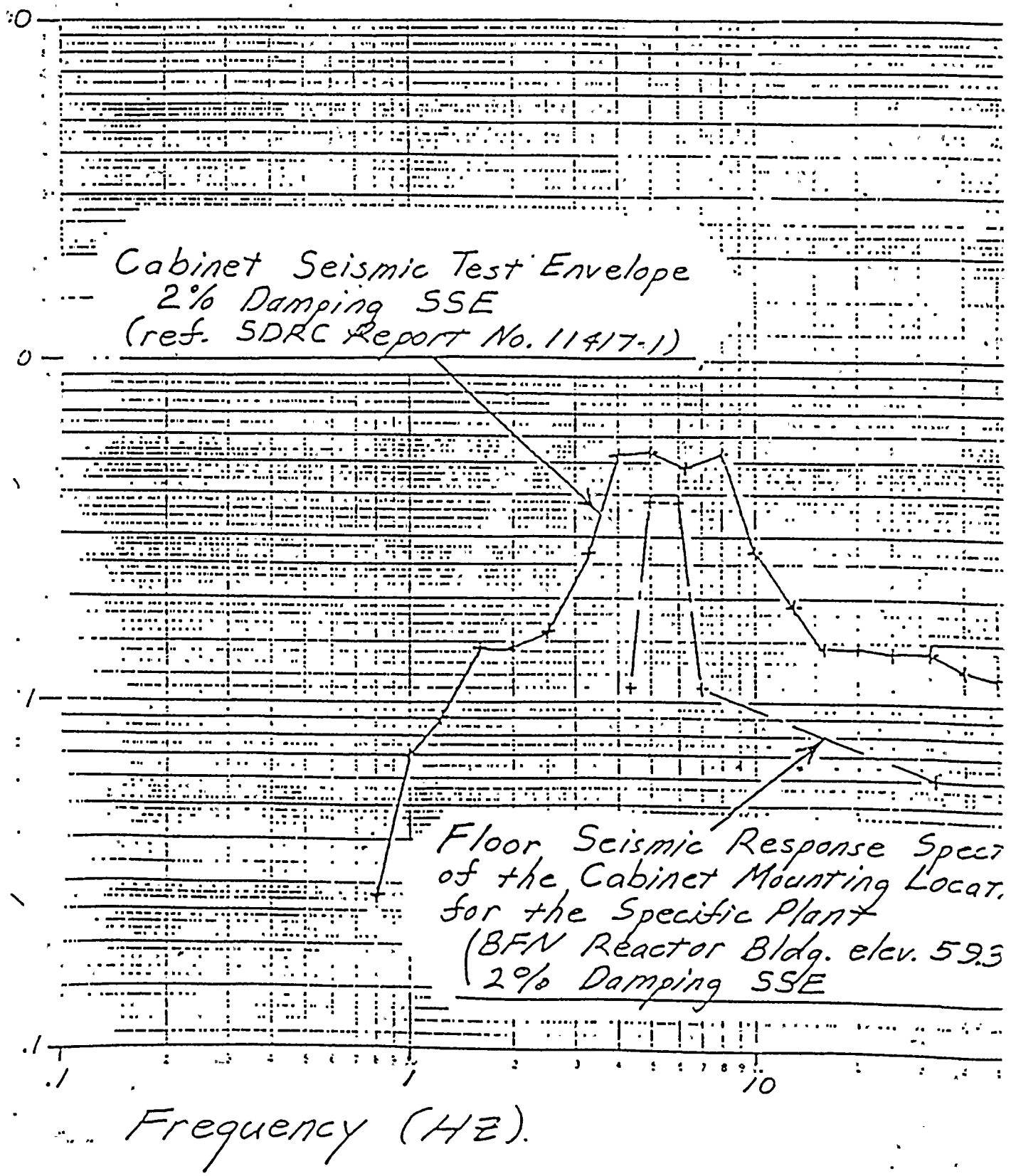
	1	PIS-3-22AA	PIS-3-22C	PIS-3-22BB	PIS-3-22D	PIS-64-58B	PIS-64-58A
	2	LIS-3-56A	LIS-3-56C	LIS-3-56B	LIS-3-56D		
C	3	LIS-3-203A	LIS-3-203C	LIS-3-203B	LIS-3-203D	PIS-64-58D	PIS-64-58C
A	4	LS-3-56A	LS-3-56C	LS-3-56B	LS-3-56D		
R	5	PIS-3-204A	PIS-3-204C	PIS-3-204B	PIS-3-204D	PIS-64-58E	PIS-64-58F
D	6						
	7	PIS-64-56A	PIS-64-56C	PIS-64-56B	PIS-64-56D	PIS-64-58G	PIS-64-58H
F	8						
I	9					PIS-68-95	PIS-68-96
L	10					PS-68-95	PS-68-96
E	11					PDIS-71-1A	PDIS-71-1B
2	12					PDIS-73-1A	PDIS-73-1B
	13	XIS-99-1A	XIS-99-2A	XIS-99-1BB	XIS-99-2BB	XIS-71-60 -1A	XIS-71-60 -2A
	14						

	1					LIS-3-208A	LIS-3-208B
	2					LIS-3-208C	LIS-3-208D
C	3						PDIS-73-29-1
A	4					PDIS-64-20	
R	5					PDIS-64-21	
D	6						
	7						
F	8						
I	9						
L	10						
E	11						
3	12						
	13					XIS-73-91	XIS-73-92
	14						

TRIP UNIT CABINET

Figure

ENVIRONMENTAL INTERFACE
SEISMIC RESPONSE



Figure

Environmental Interface

All equipment except the transmitters are located in the preferred location in accordance with paragraph 5.1.4.

Cabinet Seismic Test Envelope
EIA Drawing SSE
Test SSE Response

PLANT INTERCONNECTION

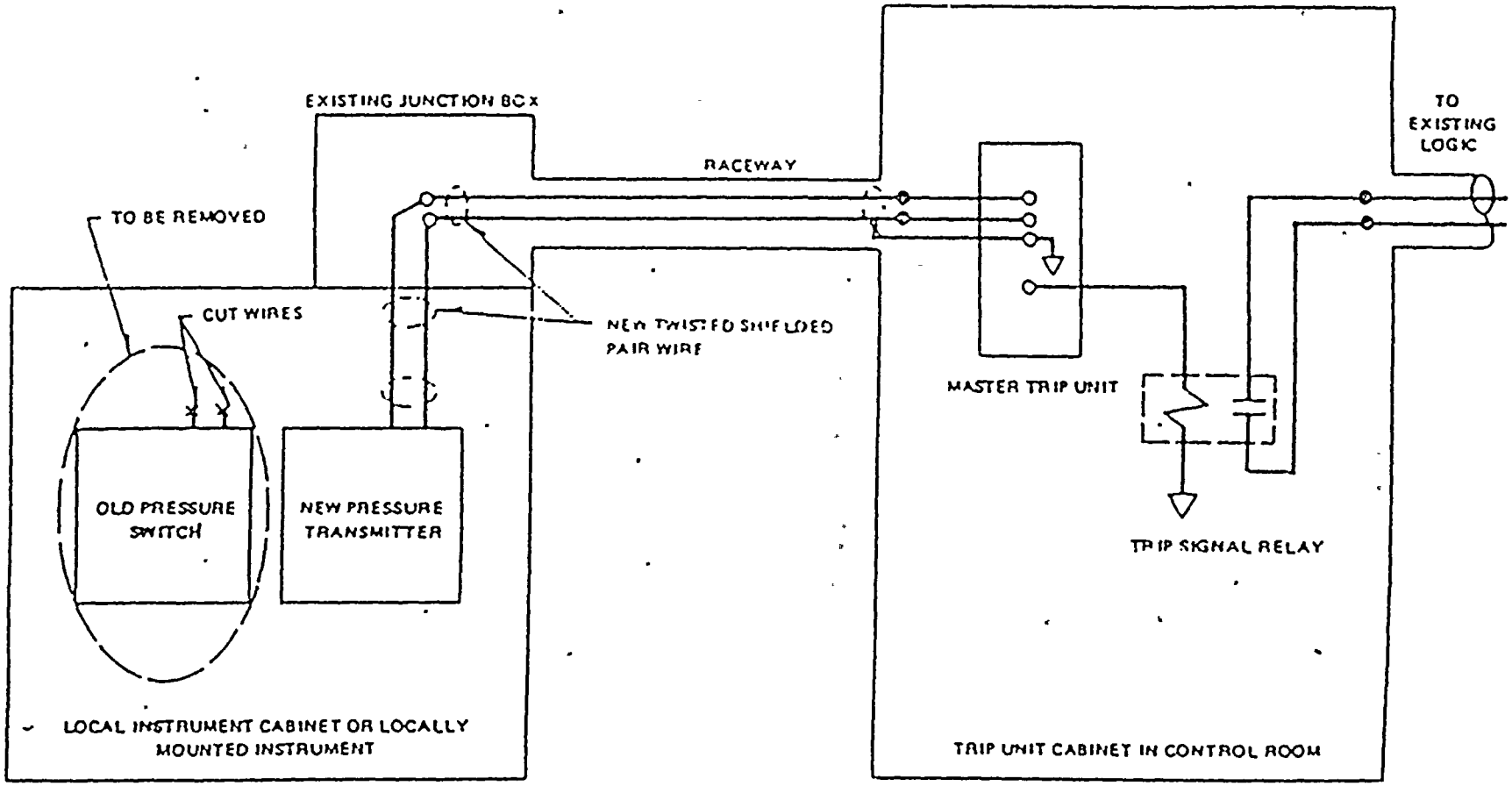


Figure 3