

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8510010419 DOC. DATE: 85/09/26 NOTARIZED: NO DOCKET #  
 FACIL: 50-400 Shearon Harris Nuclear Power Plant, Unit 1, Carolina 05000400  
 AUTH. NAME: AUTHOR AFFILIATION  
 ZIMMERMAN, S. R. Carolina Power & Light Co.  
 RECIP. NAME: RECIPIENT AFFILIATION  
 DENTON, H. R. Office of Nuclear Reactor Regulation, Director

SUBJECT: Forwards Westinghouse Field Change Notice CQLM-10593 re mods to solid state logic protection sys necessary to eliminate potentially undetectable test circuit failure. Info completes response to SER Confirmatory Item 16.

DISTRIBUTION CODE: B001D COPIES RECEIVED: LTR 1 ENCL: 41 SIZE: 7  
 TITLE: Licensing Submittal: PSAR/FSAR Amdts & Related Correspondence.

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTR ENCL
	NRR/DL/ADL	1 0	NRR LB3. BC.	1 0
	NRR LB3 LA	1 0	BUCKLEY, B 01	1 1
INTERNAL:	ACRS 41	6 03	ADM/LFMB	1 0
	ELD/HDS1	1 0	IE, FILE	1 1
	IE/DEPER/EPB 36	1 1	IE/DQAVT/QAB21	1 1
	NRR ROE, M. L.	1 1	NRR/DE/AEAB	1 0
	NRR/DE/CEB 11	1 1	NRR/DE/EHEB	1 1
	NRR/DE/EQB 13	2 2	NRR/DE/GB 28	2 2
	NRR/DE/MEB 18	1 1	NRR/DE/MTEB 17	1 1
	NRR/DE/SAB 24	1 1	NRR/DE/SGEB 25	1 1
	NRR/DHFS/HFEB40	1 1	NRR/DHFS/LQB 32	1 1
	NRR/DHFS/PSRB	1 1	NRR/DL/SSPB	1 0
	NRR/DSI/AEB 26	1 1	NRR/DSI/ASB	1 1
	NRR/DSI/CPB 10	1 1	NRR/DSI/CSB 09	1 1
	NRR/DSI/ICSB 16	1 1	NRR/DSI/METB 12	1 1
	NRR/DSI/PSB 19	1 1	NRR/DSI/RAB 22	1 1
	NRR/DSI/RSB 23	1 1	REG FILE 04	1 1
	RGN2	3 3	RM/DDAMI/MIB	1 0
EXTERNAL:	24X	1 1	BNL (AMDTS ONLY)	1 1
	DMB/DSS (AMDTS)	1 1	LPDR 03	1 1
	NRC PDR 02	1 1	NSIC 05	1 1
	PNL GRUEL, R	1 1		



[Illegible text due to extreme contrast and noise. Faint traces of words like "THE" and "OF" are visible.]

[Illegible text due to extreme contrast and noise. Faint traces of words like "THE" and "OF" are visible.]

[A small, dark, illegible mark or symbol.]



Carolina Power & Light Company

SERIAL: NLS-85-320

SEP 2 6 1985

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
United States Nuclear Regulatory Commission  
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT  
UNIT NO. 1 - DOCKET NO. 50-400  
SOLID STATE LOGIC PROTECTION SYSTEM TEST CIRCUIT

Dear Mr. Denton:

Carolina Power & Light Company hereby submits the additional information necessary to resolve the Shearon Harris Nuclear Power Plant (SHNPP) Safety Evaluation Report Confirmatory Item No. 16. This confirmatory item was identified by the Instrumentation and Controls Systems Branch and addresses modifications to the Solid State Logic Protection System (SSPS) needed to eliminate a potentially undetectable test circuit failure. Attached is a copy of the Westinghouse Field Change Notice No. CQLM-10593, which provided the SSPS modification to the output relay test panel to ensure detection of the potentially undetectable test circuit failure. The modification described by the Westinghouse Field Change Notice has been incorporated into the plant design as documented by the SHNPP Field Change Request No. I-886. The SHNPP FSAR Section 7.3.3 does not need to be modified since this level of detail is not included in the FSAR. This information completes the SHNPP response to Confirmatory Item No. 16.

If you have any further questions on the subject or require additional information, please contact me.

Yours very truly,

S. R. Zimmerman  
Manager

Nuclear Licensing Section

SRZ/JDK/mf (1892JDK)

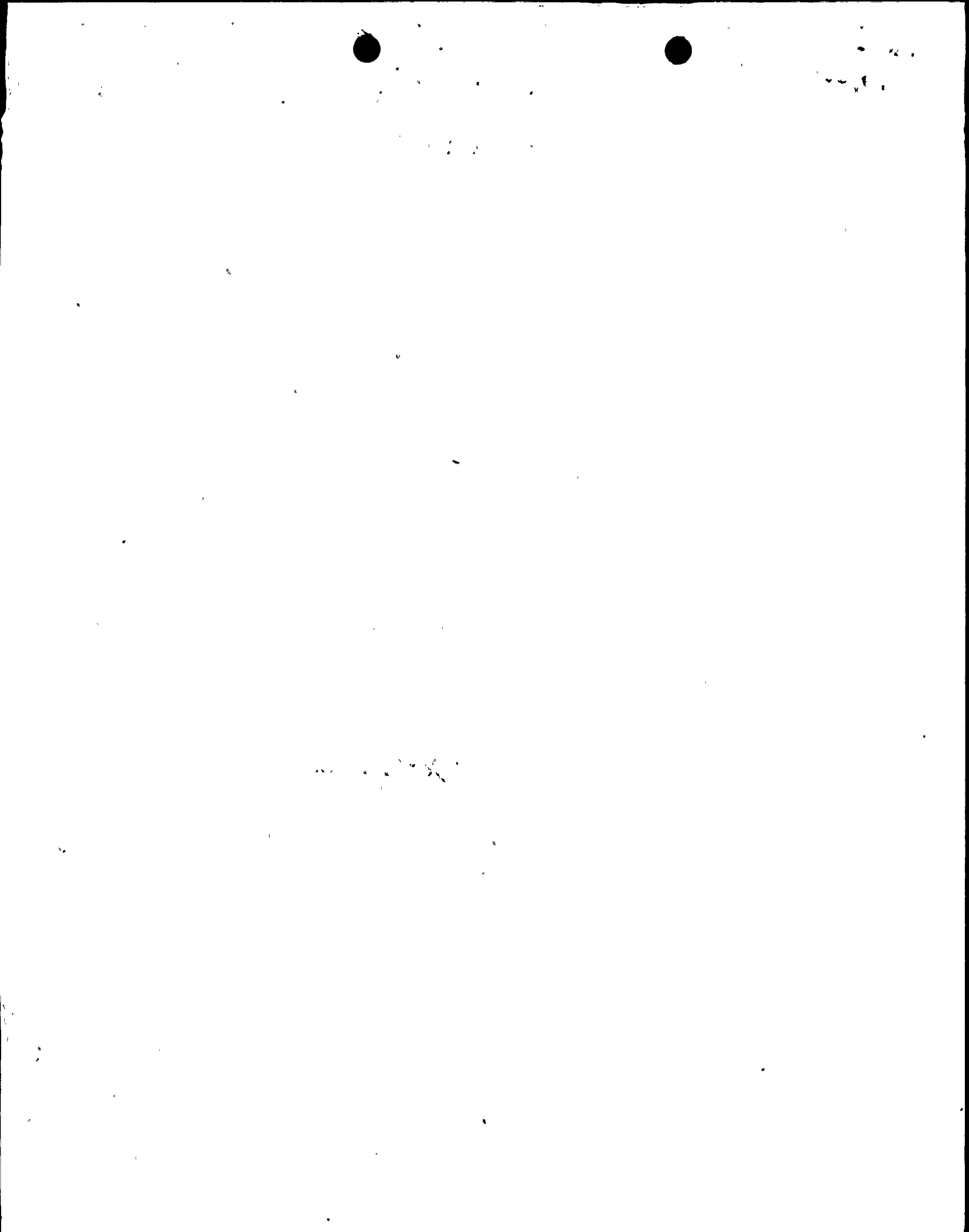
Attachment

cc: Mr. B. C. Buckley (NRC)  
Mr. G. F. Maxwell (NRC-SHNPP)  
Dr. J. Nelson Grace (NRC-RII)  
Mr. Travis Payne (KUDZU)  
Mr. Daniel F. Read (CHANGE/ELP)  
Wake County Public Library

Mr. Wells Eddleman  
Mr. John D. Runkle  
Dr. Richard D. Wilson  
Mr. G. O. Bright (ASLB)  
Dr. J. H. Carpenter (ASLB)  
Mr. J. L. Kelley (ASLB)  
Mr. H. C. Li (NRC-ICSB)

8510010419 850926  
PDR ADOCK 05000400  
E PDR

*Boo!*  
*1/11*



FIELD CHANGE (FCN)  
WESTINGHOUSE FORM

MAR 9 1984

Water Reactor Divisions

GB

E&CS/NC(84)-192

FCRI-886  
PAGE 3 OF 8

FCN NUMBER  
CQLM-10593  
SHOP ORDER NUMBER  
CQL-387

ITEM NAME Output Relay Test Panel Mod.		ITEM NUMBER	SYSTEM Reactor Protection System	PROJECT CQL
SPIN ESELSP01	CHANGE CONTROL NUMBER (if applicable) 6156	ORIGINAL PURCHASE ORDER	NEW PURCHASE REQ. NUMBER (if applicable) 463816	
ARE DRAWING REVISIONS REQUIRED? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		APPLICABLE DRAWINGS AND REVISIONS See Below		
IF YES, METHOD GENERAL ASSEMBLY <input type="checkbox"/>		DESIGN/SHOP DWGS. <input type="checkbox"/> MASTER DWG. LIST <input checked="" type="checkbox"/>		
DRAWINGS TO BE REVISED BY <input type="checkbox"/> WRD <input type="checkbox"/> OTHER (SPECIFY) <input checked="" type="checkbox"/> VENDOR		UPDATED DRAWINGS/ATTACHMENTS <input checked="" type="checkbox"/> ATTACHED <input checked="" type="checkbox"/> TO FOLLOW <input type="checkbox"/> WILL NOT BE SENT		DRAWING STATUS DRAWINGS REVISED (Date) MASTER DRAWING LIST REVISED (Date)
DESCRIPTION OF CHANGE (INCLUDE NATURE, REASON, ETC.)				

SUBJECT: Modify the Solid State Protection System (SSPS) output relay test panel for Shearon Harris to insure detection of a potentially undetectable test circuit failure.

REFERENCE DRAWINGS: The following attached drawings have been marked to reflect the necessary information to complete this change. Revised schematic and wire list will be formally transmitted at a later date.

- Wire List - Output Relay Test Panel 2380A48 Sheet 18 Rev. D  
Sheet 19 Rev. D
- System Schematic - 1083H61 Sheet 27 Rev. E

PAGE 1 OF 3

ARE IMPACTED? (IF YES, SPECIFY IN FCN BODY)	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	SAFETY CLASS YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	FOR VALVES ONLY CODE CLASS _____	FOR ELECTRICAL ONLY CLASS 1E YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>																					
QA REQUIREMENTS QUALITY RELEASE REQUIRED? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> ADDITIONAL REQUIREMENTS: ite Quality Assurance Requirements Apply.		<table border="1"> <thead> <tr> <th colspan="2">WRD APPROVALS</th> <th>GATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>INITIATING PRODUCT LINE COG. DESIGN ENGINEER K. P. Litzinger <i>K. Litzinger</i></td> <td></td> </tr> <tr> <td>2</td> <td>PRODUCT LINE SHOP ORDER HOLDER D. N. Katz <i>D. N. Katz</i></td> <td>3/7/8</td> </tr> <tr> <td>3</td> <td>QA ENGINEER F. Word <i>F. Word</i></td> <td>3-7-8</td> </tr> <tr> <td>4</td> <td>PROJECT MANAGER R. L. Whitney <i>R. L. Whitney</i></td> <td>3/12/8</td> </tr> <tr> <td>5</td> <td>SERVICE DEPT. S. Yackovich <i>S. Yackovich</i></td> <td>3/16/8</td> </tr> <tr> <td>6</td> <td>SITE MGR.: WORK COMPLETE &amp; ACCEPTABLE O. F. Painter</td> <td></td> </tr> </tbody> </table>			WRD APPROVALS		GATE	1	INITIATING PRODUCT LINE COG. DESIGN ENGINEER K. P. Litzinger <i>K. Litzinger</i>		2	PRODUCT LINE SHOP ORDER HOLDER D. N. Katz <i>D. N. Katz</i>	3/7/8	3	QA ENGINEER F. Word <i>F. Word</i>	3-7-8	4	PROJECT MANAGER R. L. Whitney <i>R. L. Whitney</i>	3/12/8	5	SERVICE DEPT. S. Yackovich <i>S. Yackovich</i>	3/16/8	6	SITE MGR.: WORK COMPLETE & ACCEPTABLE O. F. Painter	
WRD APPROVALS		GATE																							
1	INITIATING PRODUCT LINE COG. DESIGN ENGINEER K. P. Litzinger <i>K. Litzinger</i>																								
2	PRODUCT LINE SHOP ORDER HOLDER D. N. Katz <i>D. N. Katz</i>	3/7/8																							
3	QA ENGINEER F. Word <i>F. Word</i>	3-7-8																							
4	PROJECT MANAGER R. L. Whitney <i>R. L. Whitney</i>	3/12/8																							
5	SERVICE DEPT. S. Yackovich <i>S. Yackovich</i>	3/16/8																							
6	SITE MGR.: WORK COMPLETE & ACCEPTABLE O. F. Painter																								
REQUIRED FEEDBACK TO PRODUCT LINE COG. DESIGN ENGINEER:																									

FCN 02LM-10593  
E&CS/NC(84)-192  
PAGE 2

PROCEDURE:

1.0 Perform the following wiring changes at the rear of the Output Relay Test Panels in both SSPS Logic Trains A&B.

1.1 Remove and save the following wires from the Output Relay Test Panel.

<u>WIRE NO.</u>	<u>FROM</u>	<u>TO</u>	<u>WIRE SIZE (AWG)</u>
029	S603A-1	S602-12	18
	S603A-1	S603B-1	20
027	S603A-2	S602-9	18

1.2 Using one of the wires removed from 1.1, add the following wire to the Output Relay Test Panels.

<u>WIRE NO.</u>	<u>FROM</u>	<u>TO</u>	<u>WIRE SIZE (AWG)</u>
027	S602-5	S602-9	18
029	S602-12	S603B-1	18

2.0 Check the point-to-point wiring changes listed above with an ohmmeter or buzzer.

3.0 Insure that all terminations are tight and that all wire bundles are secured.

4.0 Perform the Output Relay Testing portion of the SSPS periodic test as stated in Section 6.0 of the SSPS Technical Manual.

FCN (QLM-10573)  
E&CS/NC(84)-192  
PAGE 3

MATERIAL:

The following parts are recommended. Quantities given are for both trains.

<u>QTY.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
4	3T889	Amp Wire Terminals (#18-22 Wire at Switch)

WIRE NO.	FROM			COLOR	SIZE	NOTES	WIRE NO.	TO			COLOR	SIZE	NOTES
	PIN	UNIT	UNIT					PIN	UNIT	PIN			
13-1	C	S601E	S601D	C	20		13-005	1	S602	TB657	1	14	
2	C						13-006	1		DS617	1	20	
3	1						13-003	2		6FU1	2	12	
4	2						13-012	3		+15V BUS	-	12	1
5	3						13-004	4		6FU2	2	12	
6	4						13-100	5		L BUS	-	18	1
7	5		K519	14	22	1	027	5		S602	9	18	
8	6						014	6		TB642	1	14	
9	7						025	6		DS617	2	20	
10	8	ADD	THESE				026	7		S601A	C	20	1
11	9						027	7					
12	10						027	8		S602	5	18	
13-134	C	S601F	TB508	10	20	1	027	9		S603	1	12	
14	1						027	10					
15	2	DELETE	THIS				027	10					
16	3						028	11		L BUS	-	12	1
17	4						031	11		K524	9	20	1
18	5						029	12		S6038	1	18	
19	6	ADD	THIS				030	12		S517	C	20	1
20	7						035	13		K646	2	20	
21	8						033	14		TB508	11	20	1
22	9						032	15		XA204	4	22	1
23	10						15	15					
24	11												
25	12												
95	12		S506G	C	22	1							

NOTES:

1 = "A" Wire Bundle

L = Logic Common Bus

ENGINEERS REFERENCE COPY, NOT FOR MICROFILM

WIRING DIAGRAM	WESTINGHOUSE ELECTRIC CORP. NUCLEAR INSTRUMENTATION AND CONTROL DEPARTMENT BALTIMORE, MD., U.S.A.	DWG. NO. 2380A48	REV. D
		SHEET 15	



WIRE NO.	FROM		TO		COLOR	SIZE	NOTES
	NO.	UNIT	UNIT	PIN			
	<del>DELETE THESE</del>						
	<del>1</del>	<del>S603A</del>	<del>S602</del>	<del>12</del>		<del>18</del>	
	<del>1</del>		<del>S603B</del>	<del>1</del>		<del>20</del>	
	<del>2</del>		<del>S602</del>	<del>9</del>		<del>18</del>	
	2	CHANGE THIS					
	1	S603B	S602	12		18	
	1		DS601	3		20	
3E	2		K650	14		20	
	2						
	1	S603C					
	1						
	2						
	2						

WIRE NO.	FROM		TO		COLOR	SIZE	NOTES
	PIN	UNIT	UNIT	PIN			
							NOTE : All terminals of TB657 are jumpered on Assy. Dwg.
13-							
005	1	TB657	S602	1		14	
007	1		K650	9		20	
008	2		K651	9		20	
009	3		K652	9		20	
010	4		K653	9		20	
011	5		DS601	1		20	
	6						

2 = "5" Wire Bundle

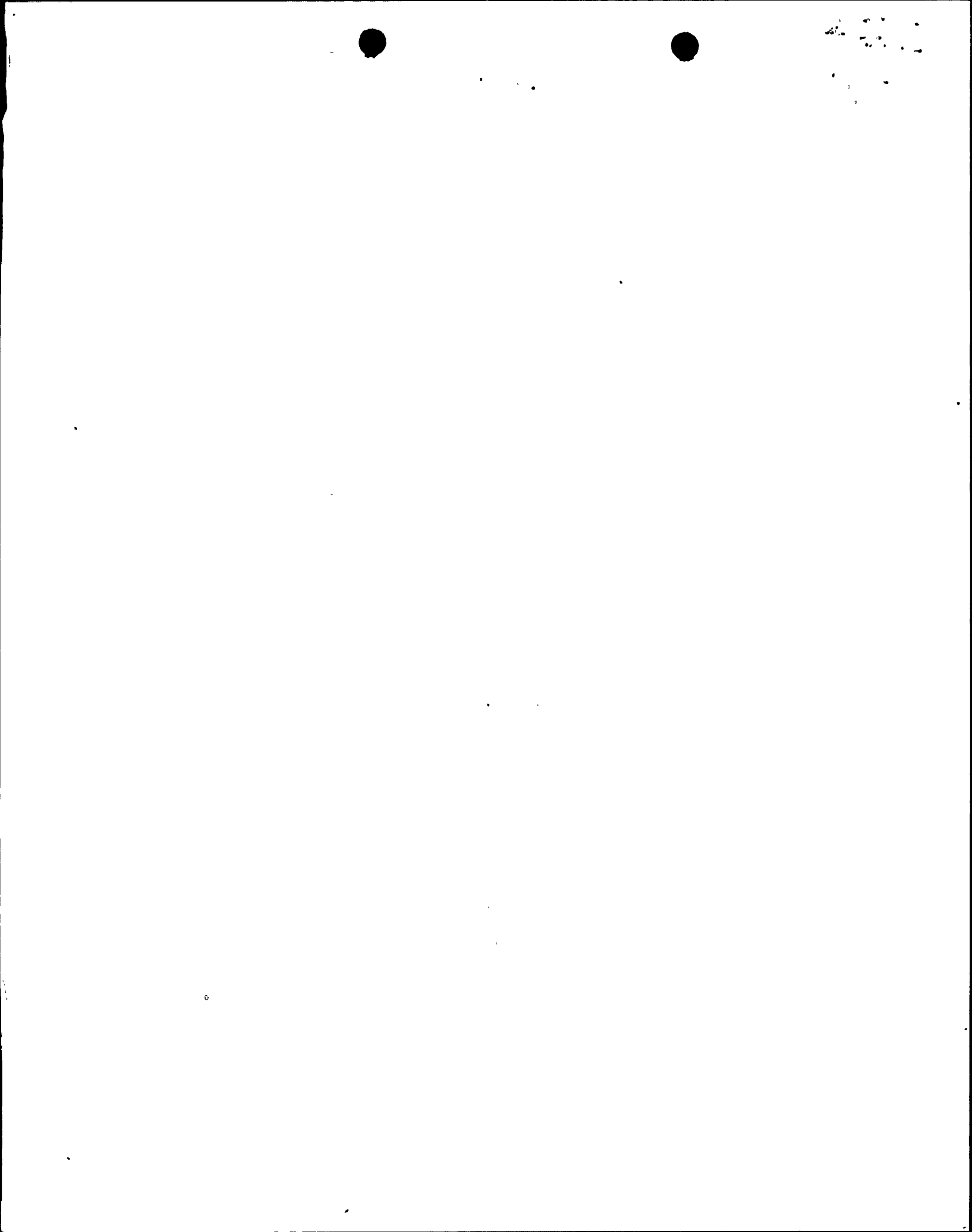
ENGINEERING REFERENCE COPY  
NOT FOR MICROFILM

WIRING DIAGRAM

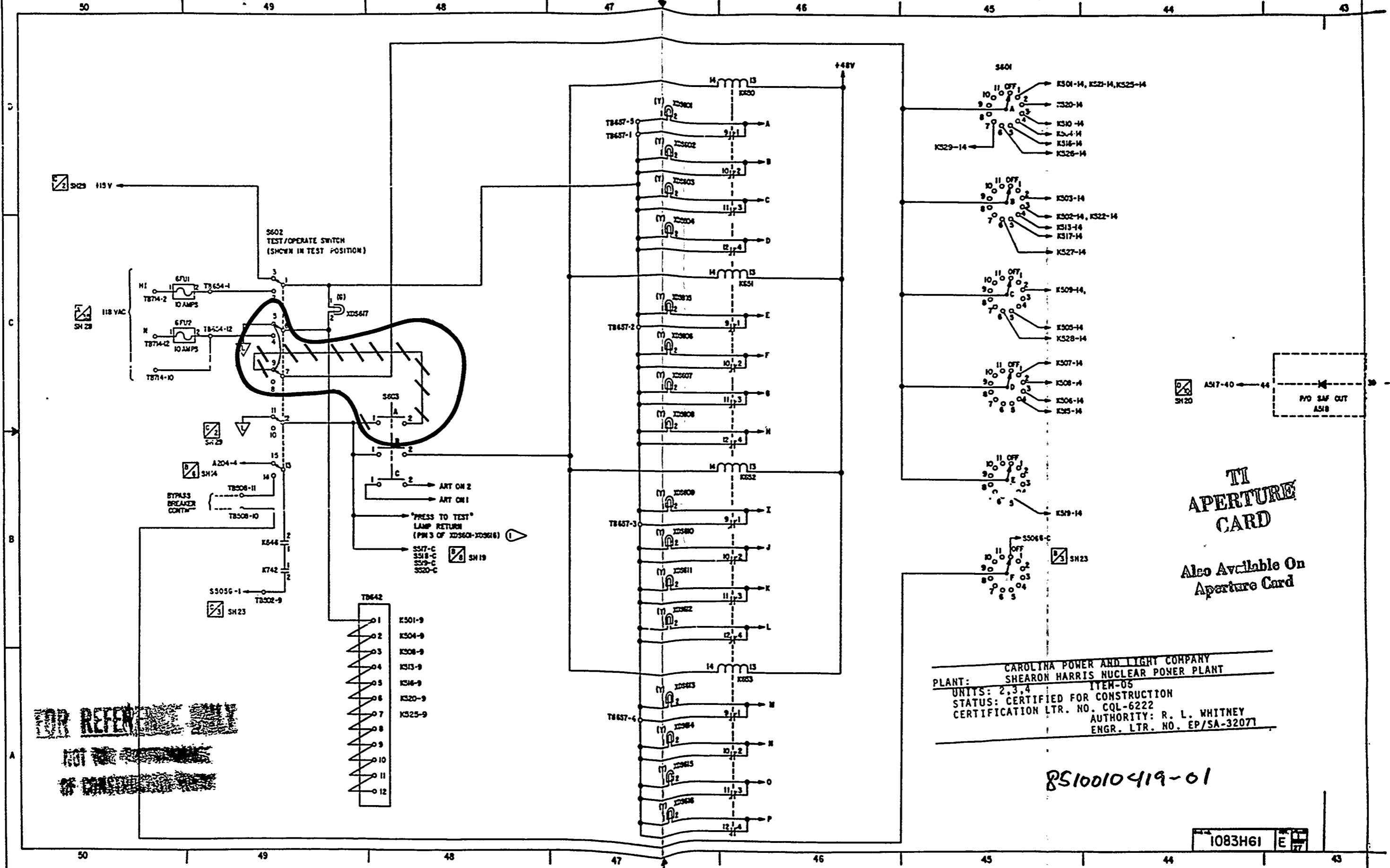
WESTINGHOUSE ELECTRIC CORP.  
NUCLEAR INSTRUMENTATION AND CONTROL DEPARTMENT  
BALTIMORE, MD., U.S.A.

DWG. NO. 280A43  
SHEET 1 of 1

REV. D



1083HE1



**FOR REFERENCE ONLY**  
 NOT TO BE USED  
 OF CONSTRUCTION

**TI APERTURE CARD**  
 Also Available On Aperture Card

CAROLINA POWER AND LIGHT COMPANY  
 PLANT: SHEARON HARRIS NUCLEAR POWER PLANT  
 UNITS: 2,3,4 ITEM-05  
 STATUS: CERTIFIED FOR CONSTRUCTION  
 CERTIFICATION LTR. NO. CQL-6222  
 AUTHORITY: R. L. WHITNEY  
 ENGR. LTR. NO. EP/SA-32071

8510010419-01

1083HG1 E 7

1950

1950  
1951  
1952  
1953  
1954  
1955  
1956  
1957  
1958  
1959  
1960

1961  
1962  
1963  
1964  
1965  
1966  
1967  
1968  
1969  
1970