

NIAGARA
MOHAWK

NIAGARA MOHAWK POWER CORPORATION/300 ERIE BOULEVARD WEST, SYRACUSE, N.Y. 13202/TELEPHONE (315)

July 12, 1979

Office of Inspection and Enforcement
Region I
Attn: Mr. Boyce H. Grier, Director
U. S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Dear Mr. Grier:

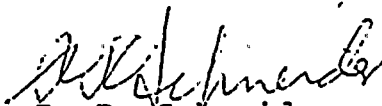
Re: Nine Mile Point Unit 1
Docket No. 50-220
DPR-63

On June 11, 1979, Niagara Mohawk provided documentation of equipment environmental qualification inside the Nine Mile Point Unit 1 primary containment. That information was submitted in response to I. E. Bulletin 79-01. The attached information supplements that response, and discusses equipment environmental qualification in the Reactor Building.

Additionally, we are continuing to investigate environmental documentation of ASCO solenoid valves. This information, in response to I. E. Bulletin 79-01A, will be provided by September 12, 1979.

Very truly yours,

NIAGARA MOHAWK POWER CORPORATION


R. R. Schneider
Vice President
Electric Production

ad2
ccp

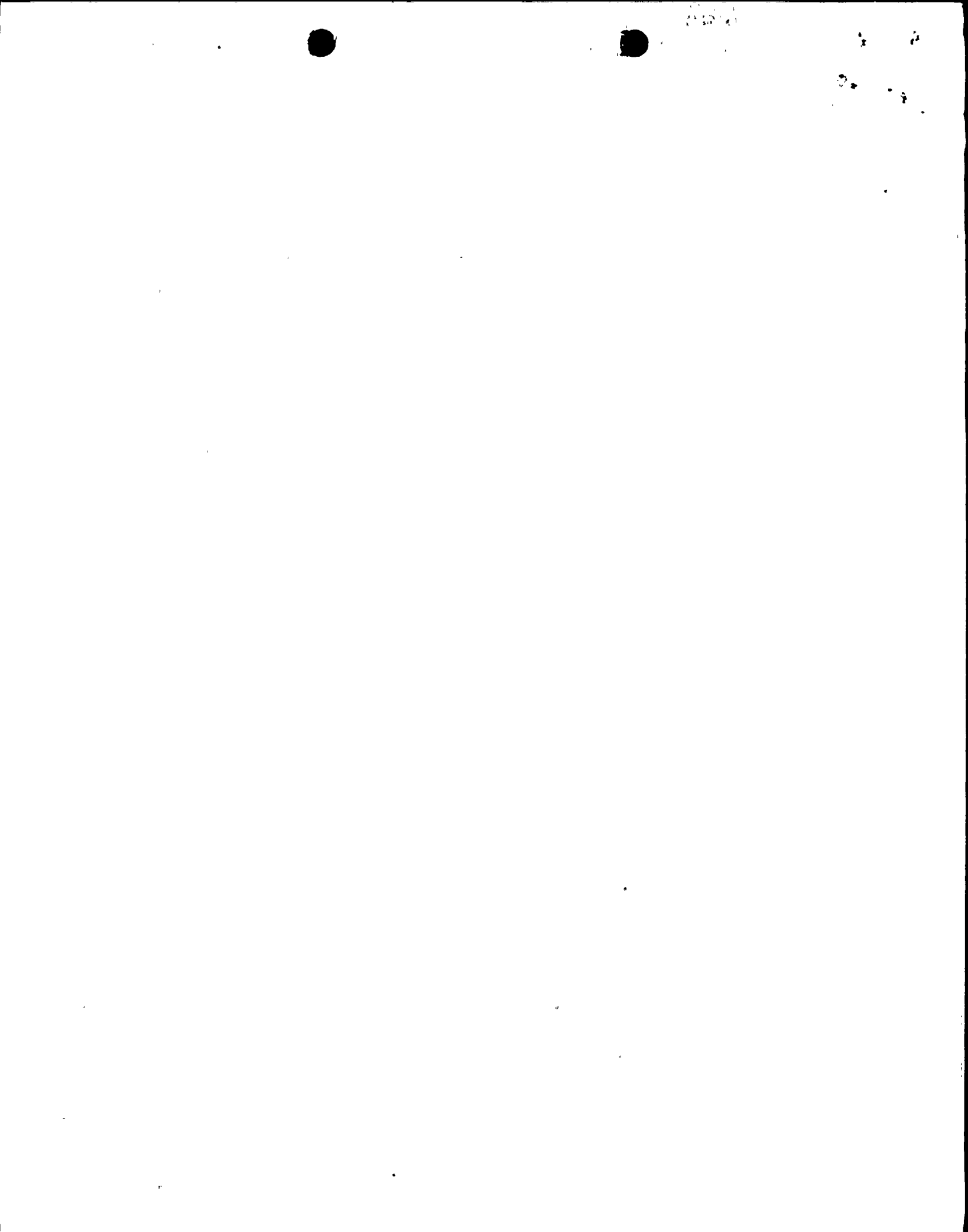
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Attachment

cc. Office of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

7908210/75

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ENVIRONMENTAL QUALIFICATION OF SAFETY RELATED EQUIPMENT
 IN THE NINE MILE POINT UNIT 1 REACTOR BUILDING
 WHICH OPERATES DURING ACCIDENTS

<u>EQUIPMENT</u>	<u>SYSTEM DESCRIPTION</u>	<u>ENVIRONMENTAL CONDITION</u>	<u>ENVIRONMENTAL QUALIFICATION</u>
Motors-Containment Spray Pumps	General Electric 4000V, 3 ϕ type k, Frame No. 6328P24 Class B Insulation	Temp. 150 F Press. 028 psig R.H. 100% Rad. 1×10^4 Rads	Not Available
Motors-Core Spray Pumps	General Electric 4000V, 3 ϕ , type k, Frame No. 6336P24 Class B Insulation	Same as Above	Not Available
Motors-Control Rod Drive	General Electric 600V, 3 ϕ	Same as Above	Not Available
Motors-Liquid Poison	General Electric 600V, 3 ϕ	Same as Above	Not Available
Motors-Core Spray Topping Pumps	General Electric 4000V, 3 ϕ	Same as Above	Not Available

period. These new conditions were then held constant for approximately 101 hours. At that time, it was determined that conditions had stabilized to the point where no additional, meaningful data could be expected to be obtained. Because of this and because the test had run sufficiently long to qualify the terminal block/box combinations for the core deluge system, the test was terminated.

TEST ELECTRICAL PARAMETERS

The extreme terminal points on both ends of each of the terminal blocks under test were energized to 525 volts. The terminal points immediately adjacent to these energized point were grounded. All other terminal points on each block were wired in series into a low-voltage, 20-ampere current source. The two 525-volt terminal points on each terminal board were connected to their power supply by a double-pole knife switch, allowing for quick isolation of a given terminal block. Further isolation of a given terminal point was possible by open circuiting the wiring between one pole of the knife switch and the terminal point in question. The power supplies for the 525-volt energized terminal points were protected by one-ampere circuit breakers. To conservatively represent the 480 volt plant electrical system, 525 volts was used as the test voltage. The 20-ampere current circuits were designed to conservatively present the 17 ampere locked rotor current of the core deluge valves. The terminal blocks were energized with voltage and current continuously throughout the test period, except when certain terminal points were isolated, for short periods, while Insulation Resistance (IR) readings were taken.

It should be recognized that this test setup conservatively simulated the dielectric paths to ground, when compared to the normal three-phase electrical system at the plant. During normal plant operation, the dielectric paths to ground would only be stressed at approximately 277 volts, instead of 525 volts.

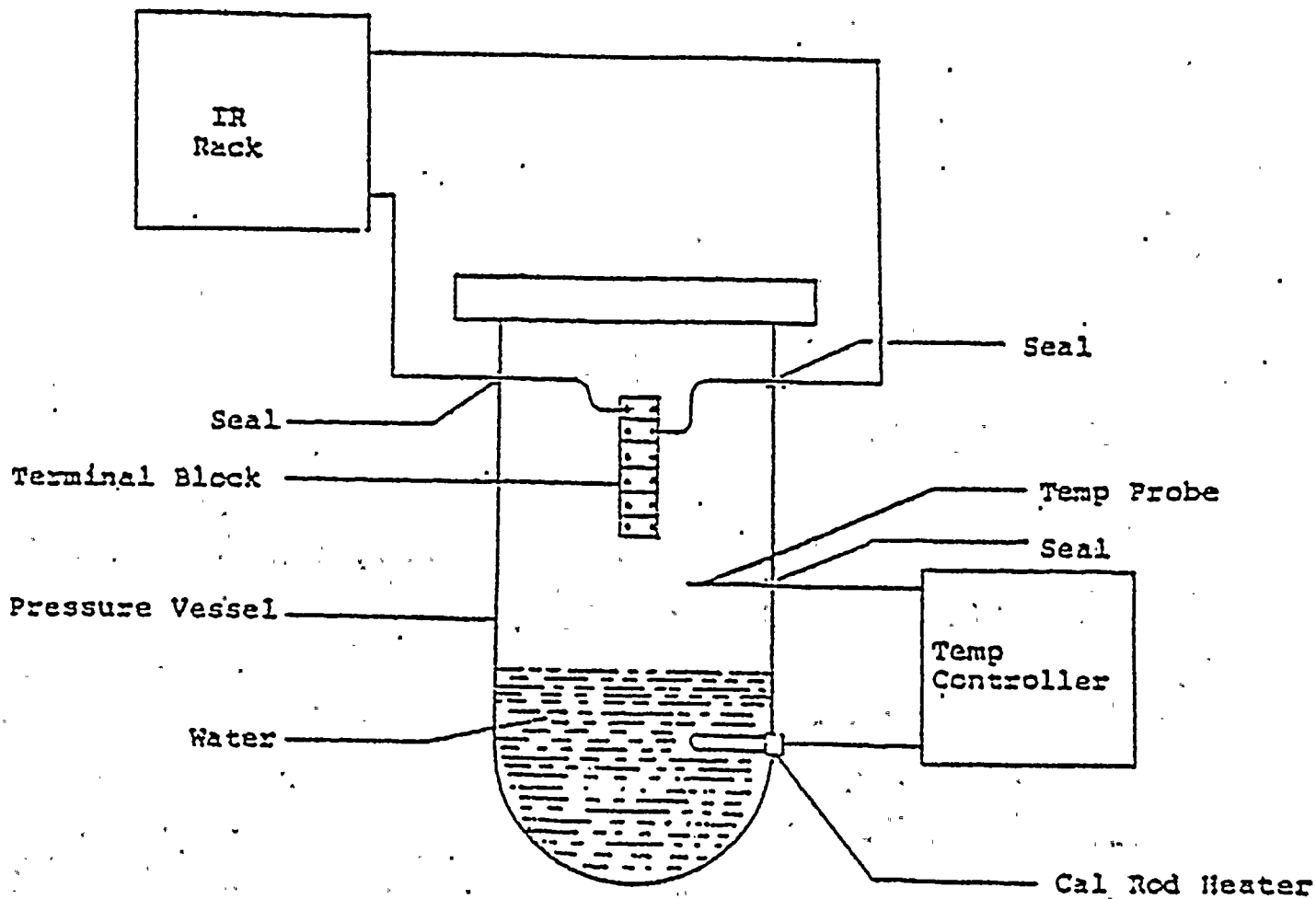
ENVIRONMENTAL QUALIFICATION OF SAFETY RELATED EQUIPMENT
 IN THE NINE MILE POINT UNIT 1 REACTOR BUILDING
 WHICH OPERATES DURING ACCIDENTS

EQUIPMENT	SYSTEM DESCRIPTION	ENVIRONMENTAL CONDITION	ENVIRONMENTAL QUALIFICATION
Pressure Transmitter GE/MAC 551	Containment Spray Control Rod Drive Core Spray Liquid Poison Feedwater Emergency Cooling	Temp. 150 F Press. 028 psig R.H. 100% Rad. 1×10^4 Rads	GE Qualification Summary #248A9417 (attached)
Flow Transmitter GE/MAC 553	Containment Spray Control Rod Drive Core Spray Feedwater	Same as Above	Electronics are Same as 551 above
Pressure Transmitter GE/MAC 555	Feedwater	Same as Above	Military Standard MIL-E-5272 200°F @ 100% Humidity
Differential Pressure Switch BARTON 288	Containment Spray	Same as Above	To 200°F From Vendor Data
Pressure Switch MERCROID DA543-2	Containment Spray	Same as Above	Not Available
Level Transmitter FISHER 2321	Core Spray	Same as Above	To 160°F from Vendor Data

ENVIRONMENTAL QUALIFICATION OF SAFETY RELATED EQUIPMENT
 IN THE NINE MILE POINT UNIT 1 REACTOR BUILDING
 WHICH OPERATES DURING ACCIDENTS

<u>EQUIPMENT</u>	<u>SYSTEM DESCRIPTION</u>	<u>ENVIRONMENTAL CONDITION</u>	<u>ENVIRONMENTAL QUALIFICATION</u>
Motors-Containment Spray Pumps	General Electric 4000V, 3 ϕ type k, Frame No. 6328P24 Class B Insulation	Temp. 150 F Press. 028 psig R.H. 100% Rad. 1×10^4 Rads	Not Available
Motors-Core Spray Pumps	General Electric 4000V, 3 ϕ , type k, Frame No. 6336P24 Class B Insulation	Same as Above	Not Available
Motors-Control Rod Drive	General Electric 600V, 3 ϕ	Same as Above	Not Available
Motors-Liquid Poison	General Electric 600V, 3 ϕ	Same as Above	Not Available
Motors-Core Spray Topping Pumps	General Electric 4000V, 3 ϕ	Same as Above	Not Available.

TEST CIRCUIT DIAGRAM



0:
248A9417

TITLE ENVIRONMENTAL QUALIFICATION SUMMARY
PRESSURE TRANSMITTER, GE MODEL 551
FIRST MADE FOR STANDARD PLANT

Instruction Manual

PROJECT DRAWING NO. 145C3006 TYPE INSTRUMENT

REVISIONS

MANUFACTURER GE/INSTRUMENT DEPARTMENT MODEL NO. 551

DESCRIPTION A SINGLE-ENDED PRESSURE TRANSMITTER COMPRISED OF A BOURDON TUBE
PRESSURE SENSOR COUPLED TO AN ELECTRICAL FORCE-BALANCE SYSTEM WHICH PRODUCES A
CURRENT PROPORTIONAL TO THE FORCE UNBALANCE MADE BY THE PRESSURE.

Att: Dave
Bainchill
X 7414
2 Sheets
Sh 1 of 2

QUALIFICATION REQUIREMENTS:

ESSENTIAL FUNCTION THE PRESSURE TRANSMITTER MUST PROVIDE A 10 TO 50ma DC
OUTPUT WITHIN A ±0.5% OF SPAN ACCURACY.

ENVIRONMENT (23A2929) NORMAL 40 TO 130°F - 90% R/H
WORST CASE 212°F - 100% R/H

QUALIFICATION RESULTS:

REFERENCE NO.'S	SUMMARY OF RESULTS
VFF 145C3006-10 (#241)	TESTS SHOW THAT THE TRANSMITTER HAS AN ACCURACY WITHIN ±0.5%.
VFF 145C3006-10 (#241)	TESTS SHOW THAT THE TRANSMITTER HAS A 10 TO 50ma OUTPUT.
VFF 145C3006-11 (#228)	TESTS SHOW TRANSMITTER WILL FUNCTION UP TO 212°F.
VFF 145C3006-11 (#228)	TESTS SHOW TRANSMITTER WILL FUNCTION UP TO 95% R/H.

BASIS FOR QUALIFICATION THE PRESSURE TRANSMITTER HAS THE REQUIRED ACCURACY AND
OUTPUT AND WILL FUNCTION UP TO 212°F AND 95% RELATIVE HUMIDITY.

3
68

APPROVALS:

DESIGN ENGINEER DATE
DESIGN REVIEW BOARD CHAIRMAN DATE

PRINTS

APPROVED: *[Signature]* DATE: *[Date]*

DATE: *[Date]*

248A9417

1-105-1-RO

Seismic Test Report

GENERAL ELECTRIC

INSTALLATION AND
SERVICE
ENGINEERING
DIVISION

GENERAL ELECTRIC COMPANY 3532 JAMES STREET, P.O. BOX 4841
SYRACUSE, NEW YORK 13221, Phone (315) 456-7321

G-EA1-8-11

CC: NIAGARA MOHAWK POWER CORP.

Subject: Electrical Terminal Block
Testing

T. J. Perkins, NMP 1
T. E. Lempges, NMP 1
C. V. Mangan, Syracuse

GENERAL ELECTRIC COMPANY:

January 31, 1978

P. A. Ahearn, Syracuse
T. R. Augello, San Jose
J. W. Shaver, NMP 1

Mr. W. Nowicki
Niagara Mohawk Power Corporation
300 Erie Boulevard, West
Syracuse, New York 13093

Dear Bill:

Several utilities have recently made inquiries on the qualification tests run by General Electric Company on electrical terminal blocks. The interest stems from laboratory tests conducted at Franklin Institute on two types of terminals. These are Marathon model number M6012 and Westinghouse model number 542247. The equipment was evaluated for performance when exposed to pressure, temperature and humidity conditions resulting from a Loss of Coolant Accident. The test was performed on unprotected terminal blocks defined as not installed in sealed or vented metal enclosures. The Marathon terminal block failed to survive the twenty-four hour test duration while the Westinghouse terminal block passed the test.

Part of the General Electric electrical penetration qualification testing program, recently reviewed by the NRC during a quality audit, was to evaluate the effect of the high temperature, pressure and humidity experienced during a LOCA on terminal blocks. The types of terminal blocks tested were GE type CR151 and States Company type NT. These were selected for testing since they are used in some power and control applications that could potentially be utilized in safety circuits which would be required to function in a LOCA environment. Terminal blocks for thermocouples were not included since these are not required to function during a LOCA.

The test was conducted with two adjacent terminals of each terminal block connected to an IR rack with #16AWG wire passing through two sealed ports in the pressure vessel. (See Test Circuit Diagram attached)

GENERAL  ELECTRIC

Mr. W. Nowicki
 Page 2
 January 31, 1978

G-EA1-8-11

The insulation resistance was measured between the two terminals with 500 vdc power supply at ambient condition. The terminal blocks were then subjected to the LOCA condition, as shown in Table 1. The insulation resistance was recorded at least once a day and at each significant temperature condition during the test. After completion of the ten-day test, the cover was removed and the vessel was left open for 36 hours before final insulation resistance measurements were recorded.

Table 1

Temperature °F	250	320	340	320	260
Pressure PSIG	21	75	103	75	21
Relative Humidity	100	100	100	100	100
Duration	1.5 days	1.5 hrs	3 hrs	4.5 hrs	8 days

The results of this test showed that the insulation resistance dropped but remained at a sufficient level to assure the continued function of electrical equipment without circuit overload. Once the steam environment was removed, the terminal block insulation resistance recovered almost fully to pretest values. Each type showed no deterioration after testing except for some slight discoloration of the phenolic material.

It should be noted that while this test was evaluated for unprotected terminal blocks, the terminal blocks provided with General Electric penetrations are mounted in sealed boxes mounted on the penetration thus making the test more conservative than the actual field application of the equipment.

If any questions arise as a result of this information, please contact me.

Sincerely,



T. Collopy, Service Manager
 Mechanical & Nuclear Service
 Installation & Service Engineering
 EMPIRE DISTRICT

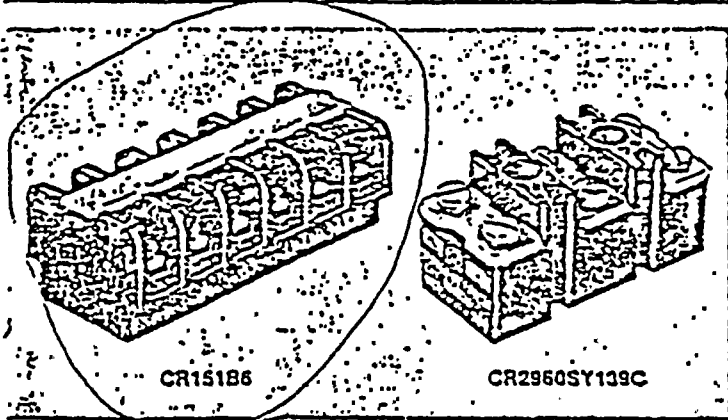
js

C-5, D-5G,
D-5H, D-5K

ONE-PIECE TERMINAL BOARDS

600 Volts Max

CR151B
CR2960SY



MOLDED TERMINAL BOARDS FOR POWER CIRCUITS

CR2960 50-, 100-, 150-amperes

These heavy-duty terminal boards are for use in primary or power circuits up to the amp rating listed. Blocks have binding screws for both incoming and outgoing lines.

FEATURES

CR151 TYPE B TERMINAL BOARDS*

- Rated 30-amperes, 600-volts for control circuits.
- Available with 4-, 6-, and 12-points.
- Screws, captive saddle-clamp, or washer head screw terminals on one side, clamp terminals on the other.
- Terminals accept wires through size #10.
- Write-on marking strips, 15-32-in. wide, provided with boards.

CR2960 TERMINAL BOARDS

- Power circuit boards rated 50-, 100-, and 150-amperes at 600-volts; available with 3 points per board.
- All types have screw terminals.

APPLICATION

MOLDED TERMINAL BOARDS FOR CONTROL CIRCUITS

CR151 Type B 30-ampere

These molded terminal boards are for use in wiring of control panels. They are available with 4, 6, or 12 points and the terminals accommodate wire up to No. 10.

A new write-on marking strip markable with ink or pencil is included. Terminal boards may be mounted end-to-end without spacing.

PRICING INFORMATION

Molded Terminal Boards For Control Circuits—30-Ampere

No. of Points (Circuits) Per Board	Screw Type Both Sides	List Price, GO-10G	Screw Type One Side, Saddle Clamp Other Side	List Price, GO-10G	Saddle-Clamp Both Sides	List Price, GO-10G	Washer Head Screw, Both Sides	List Price, GO-10G
	Catalog Number		Catalog Number		Catalog Number		Catalog Number	
4	CR151 B4	\$18.00/Pkg.	CR151 B45	\$21.00/Pkg.	CR151 B46	\$24.00/Pkg.	CR151 B40	\$14.00/Pkg.
6	B6	24.00/Pkg.	B65	27.00/Pkg.	B66	30.00/Pkg.	B60	21.60/Pkg.
12	B2	43.00/Pkg.	B25	50.00/Pkg.	B26	55.00/Pkg.	B20	39.00/Pkg.

Molded Terminal Boards For Power Circuits—50-, 100-, 150-Ampere

No. of Points (Circuits) Per Board	Amp Rating	Catalog Number	List Price, GO-10G
3	50	CR2960 SY139C3B	\$ 6.70
3	100	SY139C3C	8.50
3	150	SY139C3D	10.50

REFERENCE: Descriptive bulletin GEA-7317
Cross reference GEZ-5080

- ① Where number of circuits desired is not listed use combination of boards.
- ② Catalog number represents one piece. Sold only in packages of 10. Order in multiples of 10 pieces.

DUAL DIMENSIONS INCHES AND MILLIMETERS AND WEIGHTS (For Estimating Only)

CR151 Type B 30-ampere control circuit terminal boards

CR2960 50-ampere power circuit terminal boards

CR2960 100-, 150-ampere power circuit terminal boards

No. Points on Board	A (Length)		Between Centers of Mounting Holes		Shipping Wt. Lbs per pkg 10
	In.	Mm.	In.	Mm.	
4	2.38	60.4	1.12	28.5	2
6	3.50	88.9	2.25	57.2	3
12	6.88	174.8	5.42	142.8	6



Type EB-5 and EB-6 Fabricated Terminal Boards

Rating: 30 amperes continuous, 600 volts.

APPLICATION

Where leads are brought to any part for permanent or temporary connection, especially if many wires are involved.

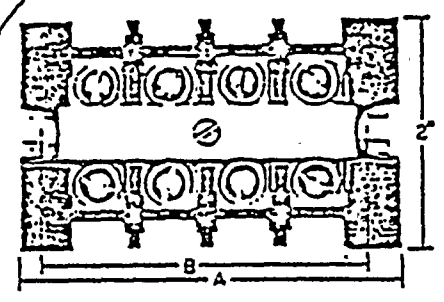
DESCRIPTION

The Type EB-5 are fabricated terminal boards. Each is equipped with the necessary washer head binding screws for circuit wire connections, and also a white marking strip for circuit identification (see notes a and b below). To mount, drill

for No. 10 screw. Board will accommodate wires size No. 18 to No. 10 inclusive.

The Type EB-6 are fabricated terminal boards of the same construction and dimensions as the Type EB-5, except that clamp type connectors are furnished for circuit wire connections. Boards will accommodate wires No. 18 to No. 10 inclusive.

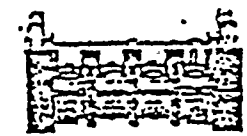
Boards with short-circuit strips are available with 2 to 12 points; without short-circuit strips from 2 to 18 points.



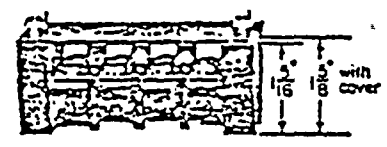
(Photo 2020488)
Fig. 1. 4-pole board Type EB-5 without short-circuit strips, Cat. 6422482G4

PRICING INFORMATION

No. of Circuits	Board Without Cover					Board With Cover					Approx. Shp. Wt. in Lb. Each	Dimensions in inches Fig. 1, 2 and 3			
	Catalog No.	W	S	S&W	Not Price Ea.	SO or More	Catalog No.	W	S	S&W		Not Price Ea.	SO or More	A	B
EB-5 WITH WASHER-HEAD SCREWS (FIG. 1)															
2	6422482G2	G202	G402			6422494G2	G202	G402					3/4	2	1 1/2
3	6422482G3	G203	G403			6422494G3	G203	G403					3/4	2 1/2	2 1/2
4	6422482G4+	G204	G404			6422494G4+	G204	G404					3/4	3 1/4	3 1/2
5	6422482G5	G205	G405			6422494G5	G205	G405					3/4	3 3/4	3 3/4
6	6422482G6+	G206	G406			6422494G6+	G206	G406					1	4 1/4	4 1/4
7	6422482G7	G207	G407			6422494G7	G207	G407					1	5 1/4	4 1/4
8	6422482G8+	G208	G408			6422494G8+	G208	G408					1	5 3/4	5 3/4
9	6422482G9	G209	G409			6422494G9	G209	G409					1 1/4	6 1/4	6
10	6422482G10	G210	G410			6422494G10	G210	G410					1 1/4	7	6 1/4
11	6422482G11	G211	G411			6422494G11	G211	G411					1 1/4	7 1/4	7 1/4
12	6422482G12+	G212	G412			6422494G12+	G212	G412					2	8 1/4	7 1/4
13	6422482G13	G213	G413			6422494G13	G213	G413					2	8 3/4	8 1/4
14	6422482G14	G214	G414			6422494G14	G214	G414					2 1/4	9 1/4	8 1/4
15	6422482G15	G215	G415			6422494G15	G215	G415					2 1/4	10 1/4	9 1/4
16	6422482G16	G216	G416			6422494G16	G216	G416					2 1/4	10 3/4	10 1/4
17	6422482G17	G217	G417			6422494G17	G217	G417					3	11 1/4	11
18	6422482G18	G218	G418			6422494G18	G218	G418					3	12	11 1/4
EB-6 WITH PRESSURE TYPE CONNECTORS (FIG. 3)															
2	6422482G102	G302	G302			6422494G102	G302	G302					3/4	2	1 1/2
3	6422482G103	G303	G303			6422494G103	G303	G303					3/4	2 1/4	2 1/4
4	6422482G104+	G304	G304			6422494G104+	G304	G304					3/4	3 1/4	3 1/4
5	6422482G105	G305	G305			6422494G105	G305	G305					3/4	3 3/4	3 3/4
6	6422482G106+	G306	G306			6422494G106+	G306	G306					1	4 1/4	4 1/4
7	6422482G107	G307	G307			6422494G107	G307	G307					1	5 1/4	4 1/4
8	6422482G108+	G308	G308			6422494G108+	G308	G308					1	5 3/4	5 1/4
9	6422482G109	G309	G309			6422494G109	G309	G309					1 1/4	6 1/4	6
10	6422482G110	G310	G310			6422494G110	G310	G310					1 1/4	7	6 1/4
11	6422482G111	G311	G311			6422494G111	G311	G311					1 1/4	7 1/4	7 1/4
12	6422482G112+	G312	G312			6422494G112+	G312	G312					2	8 1/4	7 1/4
13	6422482G113	G313	G313			6422494G113	G313	G313					2	8 3/4	8 1/4
14	6422482G114	G314	G314			6422494G114	G314	G314					2 1/4	9 1/4	8 1/4
15	6422482G115	G315	G315			6422494G115	G315	G315					2 1/4	10 1/4	9 1/4
16	6422482G116	G316	G316			6422494G116	G316	G316					2 1/4	10 3/4	10 1/4
17	6422482G117	G317	G317			6422494G117	G317	G317					3	11 1/4	11
18	6422482G118	G318	G318			6422494G118	G318	G318					3	12	11 1/4
EB-5 WITH SHORT-CIRCUIT STRIPS (FIG. 2)															
Board Without Cover															
2	0165A6145G1					0165A6145G5							3/4	2	1 1/2
4	0165A6145G2+					0165A6145G7							3/4	3 1/4	2 1/4
6	0165A6145G3+					0165A6145G8							1	4 1/4	4 1/4
8	0165A6145G4+					0165A6145G9							1	5 1/4	5 1/4
12	0165A6145G5+					0165A6145G10							1 1/4	8 1/4	7 1/4



(Photo 2010542)
Fig. 2. 4-pole board Type EB-5 with 4 short-circuit strips, Cat. 0165A6145G2



(Photo 1010360)
Fig. 3. 4-pole terminal board, Type EB-6, with hinged cover in place, Cat. 6422494G104

+ Stock in Philadelphia Works Warehouse and supplied with white marking strip only.

For further information, contact your nearest General Electric Sales Office

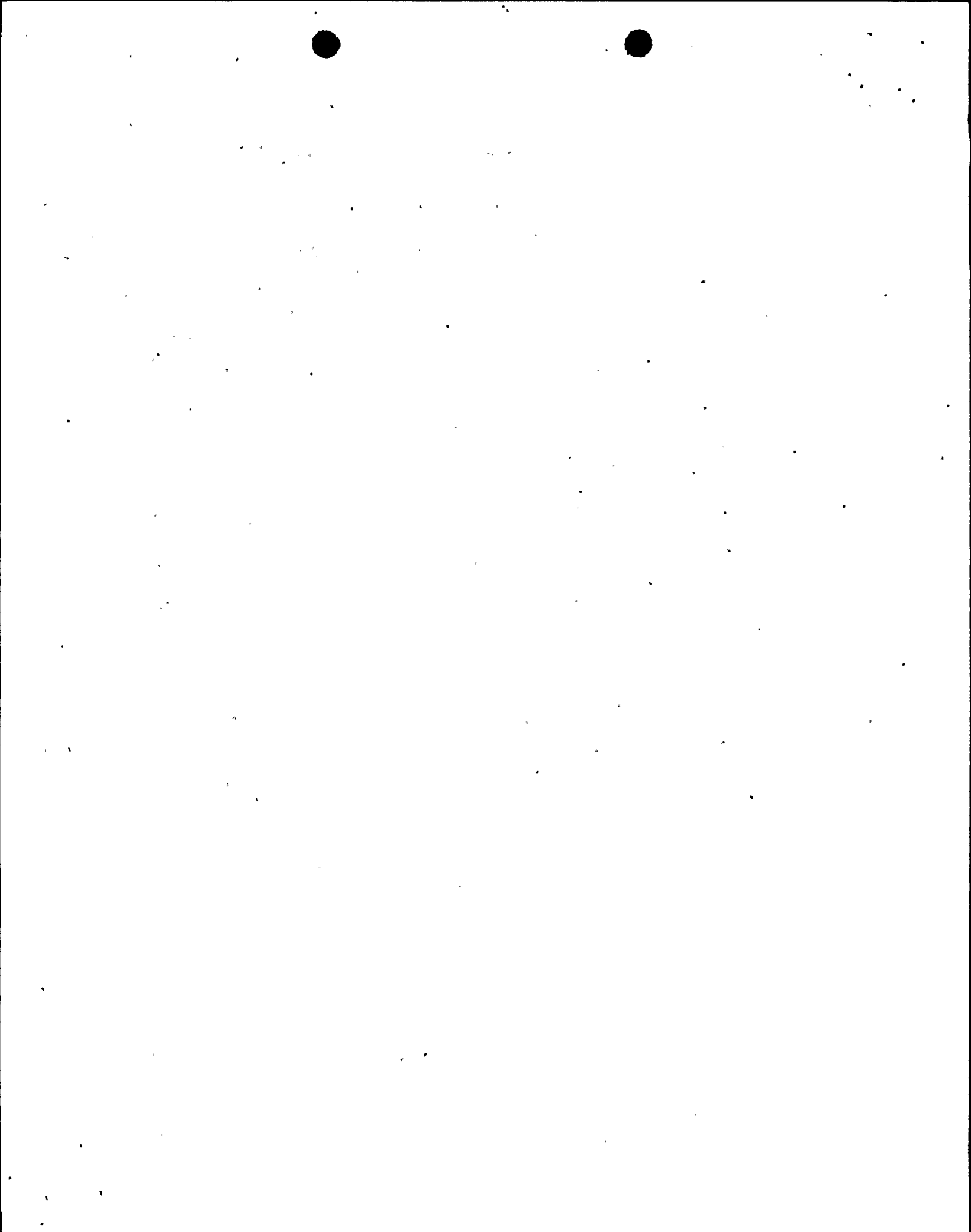
GENERAL ELECTRIC COMPANY
POWER SYSTEMS MANAGEMENT PRODUCTS DEPARTMENT
PHILADELPHIA, PENNA. 19142



June 17, 1965
3-N2-E34

SPECIFICATION NO. N-147
NINE MILE POINT NUCLEAR STATION
NIAGARA MOHAWK POWER CORPORATION
OSWEGO, NEW YORK

FOR
INSULATED CABLES FOR 4.16 KV POWER HOUSE AUXILIARIES



SPECIFICATION NO. N-147

NINE MILE POINT NUCLEAR STATION

NIAGARA MOHAWK POWER CORPORATION

OSWEGO, NEW YORK

FOR

INSULATED CABLES FOR 4.16 KV POWER HOUSE AUXILIARIES

PAGE A.

SPECIFICATION NO. N-147

INSULATED CABLES FOR 4.15 KV POWER HOUSE AUXILIARIES

NINE MILE POINT NUCLEAR STATION

SPECIFIC PROVISIONS

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SPECIFICATION NO. N-147

INSULATED CABLES FOR 4.16 KV POWER HOUSE AUXILIARIES

NINE MILE POINT NUCLEAR STATION

SPECIFIC PROVISIONS

1. SCOPE

This specification describes Quadruplex non-shielded power cable (with insulated ground wire), rated at 5000 volts for use on 4160 volt grounded neutral circuits installed in conduit or trays for generating plant distribution circuits to motors and transformers.

Conductors

The conductors shall be annealed coated copper, Class B stranding in accordance with ASTM Specification B8-53. Size and quantity are itemized below.

Semi-Conducting Tape

A semi-Conducting tape shall be applied between the power conductor and the 5000 volt insulation.

Insulation

The 5000 volt power conductor insulation shall be Kerite with thickness as indicated in the tabulation of items following. The ground conductor insulation shall be polyvinyl chloride (PVC), colored black, and of thickness specified in the following tabulation.

Color Coding of Power Conductors

The individual jackets of the power conductors shall be colored as follows: one red, one green, and one natural.

Jackets (Sheaths)

Each insulated power conductor shall have a neoprene jacket of the thickness specified in the tabulation of items following.

Assembly

The three individually insulated and jacketed power conductors, together with the insulated ground conductor, shall be cabled together with a left-hand lay in quadruplex form, with no further covering overall.

Put-Up

Unless otherwise specified, the Quadruplex cable shall be put-up on substantially constructed wood reels. The manufacturer shall include with his proposal the lengths of cable which can be shipped on 50" and 70" size reels.

Tests

The following tests shall be conducted on full lengths of completed cable with the exception of the ground conductor.

1. High voltage alternating current dielectric strength test applied for five minutes after being immersed in water for six hours in accordance with IPCEA Pub. No. S-19-81, Part 6.22.

2. High voltage direct current dielectric strength test of three times the alternating current test voltage applied for 15 minutes immediately after the above test.

3. Insulation resistance test in accordance with IPCEA Pub. No. S-19-81, Part 6.23.

Tabulation of Items

<u>Item</u>	<u>Quantity</u>	<u>Size</u>	<u>Insulation</u>	<u>Sheath</u>
K-1	26,000 ft.	3-#4/0 AWG 1-#2/0 AWG	8/64" Wall (Kerite) 4/64" Wall (PVC)	6/64" (Neoprene)
K-2	4,800 ft.	3-400 MCM 1-#2/0 AWG	9/64" Wall (Kerite) 4/64" Wall (PVC)	7/64" (Neoprene)

2. I.P.C.E.A. STANDARDS

The wire and cable furnished under this specification shall conform to the latest standards of the IPCEA with respect to materials, workmanship, and factory testing, where such standards are applicable.

3. CONDUCTOR COATING OR SEPARATOR

The copper strands shall be treated with a metallic coating, or the assembled stranded conductor shall be covered with a suitable separator, to protect the conductor, if necessary, against the destructive actions of the insulation, and to make the insulation free-stripping.

4. QUANTITY REQUIRED

The Purchaser shall have the privilege of increasing or decreasing the quantity of any item of cable to meet possible requirement changes.

5. MARKING OF REELS FOR SHIPMENT

Each reel shall be plainly marked (not tagged) to show Purchase Order number, reel number, length of cable, conductor size, brief description of cable and its make-up and reel marking. Reel markings for Purchaser's use of the various items will be furnished as soon as they are available. This information shall also appear on the shipping memoranda.

6. PROTECTION OF CABLE FOR SHIPMENT

Reels shall be strong and in good condition, and suitably lagged to protect the cable against damage from rough handling and from the weather.

7. PRIVILEGE TO WITNESS TESTS

The Purchaser reserves the right to witness factory tests on the cable to be furnished under this Specification, and to specify any special tests which he may deem necessary to prove the suitability of the cable.

8. TEST REPORTS

Certified copies of test reports shall be furnished in quadruplicate by the Manufacturer.

9. INFORMATION TO BE FURNISHED BY THE MANUFACTURER

The Manufacturer shall furnish with his Proposal the following items for each size and type of cable:

- a. Overall diameter
- b. Weight per thousand feet
- c. Detailed cable "make-up"

10. SHIPMENT

Shipment shall be consigned to:

Niagara Mohawk Power Corporation
% Stone & Webster Engineering Corporation
Nine Mile Point Nuclear Station
Town of Scriba
Oswego, New York

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On the day of shipment one copy of the shipping memo shall be sent to:

Mr. E. H. Heim
% Niagara Mohawk Power Corporation
535 Washington Street
Buffalo, New York 14203

and two copies to:

Stone & Webster Engineering Corporation
Nine Mile Point Nuclear Station
Town of Scriba
Oswego, New York

11. MANUFACTURER'S RESPONSIBILITY

Nothing in these detailed Specifications shall relieve the Manufacturer of exclusive responsibility for furnishing equipment conforming to the standards and specifications outlined herein. All prints of drawings, publications, etc. furnished to Niagara Mohawk Power Corporation by the Manufacturer in connection with the material covered by this Specification shall be clearly marked for Nine Mile Point Nuclear Station.