ENCLOSURE I

IDENTIFICATION AND LISTING
OF ELECTRICAL EQUIPMENT
IMPORTANT TO SAFETY
PURSUANT TO 10CFR50.49

CONSOLIDATED EDISON COMPANY

INDIAN POINT UNIT NO. 2

DOCKET NO. 50-247

MAY 20, 1983

FOREWORD

As required by 10CFR50.49 and NRC letter from S.A. Varga to J. D. O'Toole dated May 2, 1983, Con Edison has developed a listing of equipment important to safety and identified schedules for resolving deficiencies. This enclosure lists both equipment addressed previously in Franklin Research Center Technical evaluation report TER 458 and other recently installed equipment.

INDIAN POINT UNIT 2

TABLE OF CONTENTS

ABBREVIATIONS AND DEFINITIONS

C - Reactor Containment

PP - Pipe Penetration Area of the Primary Auxiliary Building

SFP - Steam and Feedline Penetration Area

AFP - Auxiliary Feedwater Pump Room

SI - High Head Safety Injection System

RHR - Residual Heat Removal System (Low head safety injection)

CS - Containment Spray System

ACS - Auxiliary Coolant System

CVCS - Chemical and Volume Control System

RC - Reactor Coolant System

MS - Main Steam System

BF - Boiler Feedwater System

AFW - Auxiliary Feed Water System

SOV - Solenoid Operated Valve

MOV - Valve Motor Actuator

AOV - Air Operated Valve

PCV - Pressure Control Valve (air operated)

LCV - Level Control Valve (air operated)

FCV - Flow Cotnrol Valve (air operated)

PT - Pressure Transmitter

FT - Flow Transmitter

LT - Level Transmitter

RWST - Refueling Water Storage Tank

HX - Heat exchanger

ABBREVIATIONS AND DEFINITIONS

(Continued)

CI - Containment Isolation

SG - Steam Generator

CB - Containment Building

MSIV - Main Steam Isolation Valve

TE - Temperature Detector

PORV - Power Operated Relief Valve

Q - Designates Qualifiable Equipment (documentation to be added to central file)

QNE - Designates equipment for which qualification has not been established. Nameplate data for this equipment will be developed and compared to qualificaiton report data. Equipment for which qualification cannot be established will be replaced by qualified equipment.

SECTION 1

LISTING OF EQUIPMENT
IDENTIFIED AS QUALIFIED
IN TER-5257-458

AND

QUALIFIED EQUIPMENT
WHICH WAS NOT ADDRESSED
IN TER-5257-458

INDIAN POINT UNIT 2

QUALIFIED EQUIPMENT

FRC Item No.	Component	Manufacturer	Model Number	Location	Remarks
1	Motorized Valve Actuator	Limitorque	SMBOO with Class H Insulation	Containment	See Section 2
12	Solenoid Valve	ASCO	NP8320A175E	Containment	See Section 2
13	Solenoid Valve	ASCO	NP Series	Steam/Feedline Penetration Area	See Section 2
14	Solenoid Valve	ASCO	NP Series	Steam/Feedline Penetration Area	See Section 2
15	Solenoid Valve	Valcor	V56200	Pipe Penetration Area	
18	Limit Switch	Valcor	Integral with Valve	Pipe Penetration Area	See Section 2
19	Limit Switch	NAMCO	EA180	Pipe Penetration Area	See Section 2
27	Pressure Transmitter	Barton	763 Lot 4	Containment	
28,31&32	Pressure Transmitter	Foxboro	611GMASI	Pipe Penetration Area	See Section 2
39	RTD	RdF	3986	Containment	See Section 2
44	Igniter Excitor	Westinghouse	GLA43737	Containment	
45	Thermocouple	Westinghouse	A2092	Containment	
47	Electrical Cable	Lewis		Containment	See Section 2
48	Electrical Cable	Kerite		Containment	
49	Electrical Cable	General Electric		Containment	
50	Transducer, E/P	Fisher Controls	Type 546	Steam/Feedline Penetration	See Section 2
51	Electrical Penetration	Westinghouse	WX31864	Containment	
52	Electrical Penetration	Crouse-Hinds		Containment	
53	Terminal Block	Westinghouse	542247 (805432)	Containment	See Section 2
54	Motorized Valve Actuator	Limitorque	SMBOO with Class H Insulation	Containment	See Section 2
55	Motorized Valve Actuator	Limitorque	SMB2 with Class H Insulation	Containment	See Section 2
56	Motorized Valve Actuator	Limitorque	SMBO with Class B Insulation	Pipe Penetration Area	See Section 2
57	Motorized Valve Actuator	Limitorque	SMBO with Class B Insulation	Safety Injection Pump Room	See Section 2
58	Motorized Valve Actuator	Limitorque	SMBOO with Class B Insulation	Pipe Penetration Area	See Section 2
59	Motorized Valve Actuator	Limitorque	SMBOOO with Class B Insulation	Pipe Penetration Area	See Section 2
60	Motorized Valve Actuator	Limitorque	SMBl with Class B Insulation	Pipe Penetration Area	See Section 2
61	Motorized Valve Actuator	Limitorque	SMBOO with Class B Insulation	Safety Injection Pump Room	See Section 2
62	Motorized Valve Actuator	Limitorque	SMBOOO with Class B Insulation	Safety Injection Pump Room	See Section 2
63	Flow Transmitter	Rosemount	1153A	Auxiliary Pump Room	See Section 2

EQUIPMENT ENVIRONMENT QUALIFICATION

EQUIPMENT ITEM INDEX

INDIAN POINT 2

(Continued)

FRC Item No.	Component	Manufacturer	Model Number	Location	Remarks
	Motorized Valve Actuator (Containment Sump Isolation)	Limitorque	SMB with Class H Insulation	Containment	TMI
	Solenoid Operated Valve. (N_2 Seal and Seal Water Isolation)	Valcor	V52600 Series	Pipe Penetration Area	TMI
	Solenoid Operated Valve Sample Line Isolation)	Valcor	V52600 Series	Pipe Penetration Area	TMI
	Solenoid Operated Valve (Isolation for N_2 to R.C. Drain and Pressurizer Relief Tank)	Valcor	V52600 Series	Pipe Penetration Area	TMI
33	Level Transmitter	Barton	764 Lot 4	Containmnet	(See Seciton 3) TMI
35	Level Transmitter	Barton	764 Lot 4	Containment	(See Section 3) TMI
	Solenoid Operated Valve (Containment Vent)	ASCO	NP Series	Pipe Penetration Area	TMI
	Solenoid Operated Valve (Actuates PORV)	ASCO	NP Series	Containment	TMI

EQUIPMENT ENVIRONMENT QUALIFICATION

EQUIPMENT ITEM INDEX

INDIAN POINT 2

(Continued)

FRC Item No.	Component	Manufacturer	Model Number	Location	Remarks
	Level Transmitter (Reactor Vessel Level)	ITT/Barton	764 Lot 4	Pipe Penetration Area	
	Motorized Valve Actuator BFD 90-1,2,3,4,5-1,2,3,4	Limitorque	SMB with Class B Insulation	Steam & Feedline Penetration	TMI
	Motorized Valve Actuator (RB Fan Cooler, Cooling Water and Sample Isolation)	Limitorque	SMB with Class H Insulation	Containment	TMI
	Motorized Valve Actuation (Remote Reactor Head Vent)	Limitorque	SMB with Class H Insulation	Containment	TMI
	Motorized Valve Actuator (Charging line and RCP seal line Insulation)	Limitorque	SMB with Class H Insulation	Pipe Penetration Area	TMI
	Motorized Valve Actuators (Coolant & RHR Sample Isolation)	Limitorque	SMB with Class H Insulation	Pipe Penetration Area	TMI
	Motorized Valve Actuators (Coolant & RHR Sample Isolation	Limitorque	SMB with Class H Insulation	Containment	TMI

EQUIPMENT ENVIRONMENT QUALIFICATION

EQUIPMENT ITEM INDEX

INDIAN POINT 2

(Continued)

FRC Item No.	Component	Manufacturer	Model Number	Location	Remarks
	Motorized Valve Actuators (RHR Min. Flow Test Isolations)	Limitorque	SMB with Class H Insulation	Pipe Penetration Area	
	Limit Switch (PORV Position)	NAMCO	EA180	Containment	TMI
	Radiation Detector	Victoreen	877-1	Containment	TMI
	Acoustic Sensor	Endevco	2273-AM-1	Containment	TMI
	Resistance Temperature Detector	RdF	3986	Containment	TMI
	Electro Pneumatic Transducer (Post Accident Vent Valves)	Fisher	546	Pipe Penetration Area	TMI

SECTION 2

STATUS AND ACTION PLAN
FOR
EQUIPMENT ASSIGNED
TO
NRC CATEGORIES I.B, II.A
IN
FRC TER C5257-458
INDIAN POINT UNIT 2

Section 2

The Franklin Research Center TER contained the following tabulation of equipment assigned to categories I.B, II.A, and II.B at Indian Point Unit 2;

I.B.	EQUIPMENT QUALIFICATION PENDING MODIFICATION---------- (EQUIPMENT ITEM NO(S).: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 37, 38, 39, 53)	17
II.A	EQUIPMENT QUALIFICATION NOT ESTABLISHED---------- (EQUIPMENT ITEM NO(S).: 12, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 28 29, 30, 31, 32, 34, 36, 40, 41, 42, 43, 47, 50, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63)	35
II.B	EQUIPMENT NOT QUALIFIED----------	0

Section 2

INDIAN POINT 2

EQUIPMENT IN NRC CATEGORY I.B

FRC TER ITEM NO.	EQUIPMENT TYPE	MANUFACTURER	MODEL DESIGNATION	LOCATION
1	MOTORIZED VALVE ACTUATOR	LIMITORQUE	SMBOO (w/Cl. B. Ins.)	CONTAINMENT
2	SOLENOID VALVE	ASCO	8210	STEAM/FEEDLINE PENETRATION AREA
3	SOLENOID VALVE	ASCO	8210	AUXILIARY PUMP ROOM
4	SOLENOID VALVE	ASCO	8300	PIPE PENETRATION AREAS
5	SOLENOID VALVE	ASCO	8300	AUXILIARY PUMP ROOM
6	SOLENOID VALVE	ASCO	8300	STEAM/FEEDLINE PENETRATION AREA
7	SOLENOID VALVE	ASCO	8314	PIPE PENETRATION AREA
8	SOLENOID VALVE	ASCO	8316	PIPE PENETRATION AREA
9	SOLENOID VALVE	ASCO	8316	STEAM/FEEDLINE PENETRATION AREA
10	SOLENOID VALVE	ASCO	8316	CONTAINMENT
11	SOLENOID VALVE	ASCO	8320	AUXILIARY PUMP ROOM
13	SOLENOID VALVE	LAURENCE	500	STEAM/FEEDLNE PENETRATION AREA
14	SOLENOID VALVE	LAURENCE	1200	STEAM/FEEDLINE PENETRATION AREA
37	FLOW SWITCH	BARKSDALE		CONTAINMENT
38	TEMPERATURE SWITCH	ASCO	SA11AR/QF11A4CD	AUXILIARY PUMP ROOM
39	RTD	ROSEMOUNT	176JA	CONTAINMENT
53	TERMINAL BLOCK	WESTINGHOUSE	542247 (805432)	CONTAINMENT

INDIAN POINT UNIT 2

Section 2

STATUS OF QUALIFICATION FOR EQUIPMENT

ASSIGNED TO CATEGORY I.B

TER Item 1

Limitorque-SMB-00 (MOV822A, B; HCV638, 640)

Status: MOV822A and B actuators were modified by installation of qualified motors (Limitorque Reports 600198, 600376A). Installation was completed on December 28, 1982. HCV638 and 640 will be modified, using Qualified Motors during the 1984 refueling outage

Completion Date: Prior to March 31, 1985

TER Item 2

Solenoid Valve ASCO 8210 (FCV 417L, 427L, 437L, 447L, 1121, 1123, 1187, 1188, 1189)

Status: The TER identifies all of the above valves as being located in the steam and feedline penetration area. The Low Flow Feedwater Regulating valves (PCV417L, 427L, 437L and 447L, the city water suction valve solenoids and the AFW Pump recirculation valve solenoids are located in the AFW pump room. TER item 5 is a duplicate item for the city water suction valves included in the TER item (2). Con Edison discussion of the solenoid valves in the AFW pump room is contained under item 3 & 5.

Completion Date: Prior to March 31, 1985

TER Items 3 and 5

ASCO Solenoid 8300 B56R solenoids for the AFW Pump Pressure Control (PCV 1139, the AFW Pump Recirculation Flow Trip Valves and the city water suction valves PCV-1187, -1188, -1189, -1121, -1123. Solenoid valve ID numbers are 1221, 1223, 1239, 1287, 1288, 1289), low flow feed water regulating valves FCV-417L, 427L, 437L, 447L.

Status: As noted in the FRC TER for equipment located in the Auxiliary Feed pump room:

"At present, qualification is not established for the redundant temperature switches (see equipment item 38). Once the Licensee has demonstrated a reliable steam line isolation feature initiated by qualified temperature switches, the safety-related components located in the auxiliary pump room will be excluded from the scope of their review. The Licensee should ensure that the critical components will not be elevated to temperatures that will affect their operability."

Con Edison agrees with the FRC evaluation. The temperature switch (TER item 38) has been replaced with an ASCO model SA11AR/QF11A4CD. The ASCO switch is being tested by the manufacturer to establish qualification and tests are expected to be complete in 1983. Since the temperature switch will preclude a harsh steam environment the solenoid valves are satisfactory.

Qualified lifetime for these solenoids are being determined and will be incorporated into the Indian Point 2 maintenance program.

Completion Date: Prior to March 31, 1985

TER Items 4, 7 and 8

Solenoid Valve ASCO 8316 (solenoids for the containment sump pump discharge valves)

Status: Items 4, 7 and 8 of the TER address the same valves. These valves are located in the pipe penetration area and the only harsh parameter is radiation. Con Edison is performing a radiation analysis of the installed valve materials and expects to establish qualification. Aging analyses are being performed and the results will be included in the plant maintenance program.

Completion Date: Prior to December 31, 1983

TER Item 6 and 9

Solenoid Valve ASCO 8314 (actuates steam supply for AFW turbine driven pumps. PCV1310A, B; SOV1310, 1311).

Status: TER Items 6 and 9 address the same valves. These valves are located in the steam and feedline penetration area. Their function is to isolate a break in the steam line to the AFW pump turbine. The AFW pump room is a sealed room which does not connect to the steam and feedline penetration area so that the valves perform their function in a normal mild environment. The valves are not required to function in the event of a main steam line break in the pipe penetration area. Their failure in the event of a main steam line break would not preclude supplying auxiliary feed water to the

steam generators because the 2 motor operated AFW pumps are not affected and will supply an adequate amount of Feedwater to mitigate the accident. Therefore it is concluded that these valves should be assigned to Category IIIb because they are not affected by the accident they are intended to mitigate.

Completion Date: Complete

TER Item 10

Solenoid Valve ASCO NP8316A37 (Containment Purge and exhaust valves)

Status: Qualified ASCO NP solenoids will be procured and sealed using a suitable sealing method during the 1984 refueling outage.

Completion Date: Prior to March 31, 1985

TER Item 11

ASCO Solenoid Model 8320 (Acutates Condensate Storage tank supply to the AFW pumps)

Status: As noted in the FRC TER for equipment located in the Auxiliary Feed pump room:

"At present, qualification is not established for the redundant temperature switches (see equipment item 38). Once the Licensee has demonstrated a reliable steam line isolation feature initiated by the qualified temperature switches, the safety-related components located in the auxiliary pump room will be excluded from the scope of their review. The Licensee should ensure that the critical components will not be elevated to temperatures that will affect their operability."

Con Edison agrees with the FRC evaluation. The temperature switch (TER item 38) has been replaced with an ASCO model SA11AR/QF11A4CD. The ASCO switch is being tested by the manufacturer to establish qualification and tests are expected to be complete in 1983. Since the temperature switch will preclude a harsh steam environment the solenoid valve is satisfactory.

Qualified lifetime for these solenoids are being determined and will be incorporated into the Indian Point 2 maintenance program.

Completion Date: Prior to March 31, 1985

TER Items 13 &14

Solenoid Valve, Laurence 500 & 1200 (actuate main steam isolation valves)

Status: Complete (units replaced with ASCO models NP831667V and NP83166E35V)

Completion Date: Completed in January 1983

TER Item 37

Flow Switch, Barksdale (air handling for H_2 recombiner)

Status: Qualified flow switches are not available. Qualified transmitters will be used in conjunction with appropriate logic (bi-stable) to accomplish the function during the 1984 refueling outage.

Completion Date: March 31, 1985

TER Item 38

Temperature Switch, United Electric Controls D5 (AFW turbine driven pump steam supply line isolation)

Status: Replaced with ASCO Model SA11AR/QF11A4CD temperature switches. A qualification program is currently being conducted.

Completion Date: Installed January 1983. Test program estimated to be complete in 1983.

TER Item 39

RTD, Rosemount Model 176JA (Loop Temperature)

Status: 4 cold leg RTD's & 1 hot leg were replaced with RdF units in January 1983. Westinghouse is supplying qualification reports. 3 new hot leg units will be installed during the 1984 refueling outage

Completion Date: Prior to March 31, 1985

TER Item 53

Terminal Block Westinghouse Type 542247

Action: Establish qualification clean, modify, inspect, test if necessary

Status: Qualification has been established and contained in report 180E. Procedures for inspections and cleaning are complete and will be performed during plant outage periods.

Completion Date: Prior to March 31, 1985.

INDIAN POINT 2

EQUIPMENT IN CATEGORY II.A

FRC TER ITEM NO.	EQUIPMENT TYPE	MANUFACTURER	MODEL DESIGNATION	LOCATION
12	SOLENOID VALVE	ASCO	NP320A175E	CONTAINMENT
16	TRANSDUCER, I/P	FOXBORO	79TA1	AUXILIARY PUMP ROOM
17	LIMIT SWITCH	NAMCO	D2400X	STEAM/FEEDLINE PENETRATION AREA
18	LIMIT SWITCH	MICRO	EXHAR3	PIPE PENETRATION AREA
19	LIMIT SWITCH	MICRO	EXDAR	PIPE PENETRATION AREA
20	LIMIT SWITCH	MICRO	BZE62RN	AUXILIARY PUMP ROOM
21	LIMIT SWITCH	NAMCO	D2400X	CONTAINMENT
22	LIMIT SWITCH	MICRO	BZE62RN	AUXILIARY PUMP ROOM
23	LIMIT SWITCH	NAMCO	D2400X	PIPE PENETRATION AREA
24	LIMIT SWITCH	NAMCO	EA180	CONTAINMENT
25	LIMIT SWITCH	MICRO	BZE62RN	PIPE PENETRATION AREA
26	LIMIT SWITCH	NAMCO	SL3	STEAM/FEEDLINE PENETRATION AREA
28	PRESSURE TRANSMITTER	FOXBORO	611GMASI	PIPE PENETRATION AREA
29	PRESSURE TRANSMITTER	FOXBORO	611GM	AUXILIARY PUMP ROOM
30	PRESSURE TRANSMITTER	FOXBORO	611GM	AUXILIARY PUMP ROOM
31	PRESSURE TRAMSITTER	FOXBORO	611GMDSI	SAFETY INJECTION PUMP ROOM
32	PRESSURE TRANSMITTER	FOXBORO	611GM	SAFETY INJECTION PUMP ROOM
34	LIMIT SWITCH	MICROSWITCH	OPD-AR6923	AUXILIARY PUMP ROOM
36	PRESSURE TRANSMITTER	FOXBORO	613GM	AUXILIARY PUMP ROOM
40	ELECTRIC MOTOR	WESTINGHOUSE	69F97009	CONTAINMENT
41	ELECTRIC MOTOR	WESTINGHOUSE	509US FRAME	AUXILIARY PUMP ROOM
42	ELECTRIC MOTOR	WESTINGHOUSE	588.5PH FRAME	CONTAINMENT
43	ELECTRIC MOTOR	WESTINGHOUSE	ND	CONTAINMENT
47	ELECTRICAL CABLE	LEWIS	ND	CONTAINMENT
50	TRANSDUCER, E/P	FISHER CONTROLS	TYPE 546	STEAM/FEEDLINE PENETRATION AREA
54	MOTORIZED VALVE ACTUATOR	LIMITORQUE	SMBOO (w/Cl. H Ins.)	CONTAINMENT
55	MOTORIZED VALVE ACTUATOR	LIMITORQUE	SMB2 (w/Cl. H Ins.)	CONTAINMENT

(Continued)

INDIAN POINT 2

EQUIPMENT IN CATEGORY II.A

FRC TER ITEM NO.	EQUIPMENT TYPE	MANUFACTURER	MODEL DESIGNATION	LOCATION
56	MOTORIZED VALVE ACTUATOR	LIMITORQUE	SMBO WITH CLASS B INSULATION	PIPE PENETRATION AREA
57	MOTORIZED VALVE ACTUATOR	LIMITORQUE	SMBO WITH CLASS B INSULATION	SAFETY INJECTION PUMP ROOM
58	MOTORIZED VALVE ACTUATOR	LIMITORQUE	SMBOO WITH CLASS B INSULATION	PIPE PENETRATION AREA
59	MOTORIZED VALVE ACTUATOR	LIMITORQUE	SMBOOO WITH CLASS B INSULATION	PIPE PENETRATION AREA
60	MOTORIZED VALVE ACTUATOR	LIMITORQUE	SMB1 WITH CLASS B INSULATION	PIPE PENETRATION AREA
61	MOTORIZED VALVE ACTUATOR	LIMITORQUE	SMBOO WITH CLASS B INSULATION	SAFETY INJECTION PUMP ROOM
62	MOTORIZED VALVE ACTUATOR	LIMITORQUE	SAMBOOO WITH CLASS B INSULATION	SAFETY INJECTION PUMP ROOM
63	FLOW TRANSMITTER	ROSEMOUNT	1153A	AUXILIARY PUMP ROOM

STATUS OF QUALIFICATION FOR EQUIPMENT

ASSIGNED TO CATEGORY IIA

TER Item 12

ASCO NP Solenoid Valve (Containment Pressure Relief PCV-1190)

As noted in Con Edison 30 day response to the NRC SER.

The results of the testing show that the SOVs operated satisfactorily throughout the testing and only showed reduced insulation resistance which did not preclude the units from functioning. The performance of solenoids during the tests indicate successful operation under all test conditions. The problems identified in the TER are associated with test parameters; not operation. Since the test conditions are substantially more severe than the IP-2 accident conditions, operation of the valve is assured. As noted previously, Con Edison considers it desireable to preclude entrance of any foreign material into the solenoid enclosure, and intends to seal the solenoid enclosure openings with RTV-77 or other suitable seal.

Completion Date: Prior to March 31, 1985

TER Item 16

Foxboro I/P Transducer

TER C5257-458 noted that these units would be satisfactory if a reliable temperature switch for isolation of the auxiliary feed pump turbine steam line is installed. The temperature switch (TER Item 38) has been replaced with an ASCO model SA11AR/QF11A4CD. The ASCO switch is being tested by the manufacturer to establish qualification, and these tests

are expected to be complete in 1983. Since the temperature switches will preclude a harsh steam environment, the Foxboro I/P Transducer is satisfactory.

Completion Date: Prior to March 31, 1985.

TER Items 17 and 21

Limit Switch NAMCO Model D2400X (Position Indication for Dampers, Fan Coolers 21, 22, 23, 24, 25; and valves PCV-417,427,435,447)

These limit switches will be replaced with Qualified NAMCO EA-180/EA-740 limit switches during the 1984 refueling outage. The conduit connections will be sealed to ensure that steam does not enter the interior of the switch with a suitable seal such as teflon tape or RTV 77.

Completion Date: Prior to March 31, 1985

TER Item 18

Limit Switch, Microswitch Model EXHAR3 (Position Indication for Valves IV-2A,-2B,-3A,-3B,-5A,-5B)

Replaced with qualified Valcor solenoids which have integral switches.

Completion Date: Complete

TER Item 19

Limit Switch, Microswitch Model EXDAR (Position Indication for Valves PCV-1191,-1192)

Replaced with qualified NAMCO-EA180 Limit Switches.

Completion Date: Complete

TER Items 20 and 22

Limit Switch, Microswitch Model BZE62RN (Position Indication for Valves PCV-1121,-1123,-1187,-1188,-1189)

As noted in the FRC TER: "At present, qualification is not established for the redundant temperature switches (see equipment item 38). Once the Licensee has demonstrated a reliable steam line isolation feature intiated by qualified temperature switches, the safety-related components located in the auxiliary pump room will be excluded from the scope of thie review. The Licensee should ensure that the critical components will not be elevated to temperature that will affect their operability."

Con Edison agrees with the FRC evaluation. The temperature switch (TER item 38) has been replaced with an ASCO model SA11AR/QF11A4CD. The ASCO switch is being tested by the manufacturer to establish qualification and tests are expected to be complete in 1983. Since the temperature switches will preclude a harsh steam environment the Limit Switches are satisfactory.

Completion Date: Prior to March 31, 1985

TER Item 23

Limit Switch, NAMCO Model D2400X (Position Indicator for Valves PCV-1228; 1702; 1705; 1723; 1728; 1786; 1787; 956E, F; 791; 793; 796; 798; PCV-1223 through 1226A; PCV-1171, -1173; PCV-1234 through 1241; 956G; 956H; 519; 522; 956A, B; 548; 549; 1788; 1789)

The only harsh parameter for this equipment is radiation. A materials analysis of the installed units compared to units that have been successfully tested is being performed. It is expected that this analysis will demonstrate complete qualification.

Completion Date: Prior to December 31, 1983

TER Item 24

Limit Switch, NAMCO Model EA-180 Position Indication for Valves PCV-1170, -1172, -1190)

The limit switches will be sealed at the conduit connection by a qualified sealing method (RTV-77 or teflon tape).

Completion Date: Prior to March 31, 1985

TER Item 25

Limit Switch, Microswitch Model B2E62RN (Position Indication for Valve 959)

The only harsh parameter for this equipment is radiation. An analysis is being performed of the installed units, comparing them to units that have been successfully tested. It is expected that this analysis will demonstrate complete qualification.

Completion Date: Prior to March 31, 1985

TER Item 26

Limit Switch, NAMCO Model SL3(Position indication for Valves MS-1-21, -22, -23, -24)

These limit switches will be replaced with qualified NAMCO EA180/EA740 limit switches during the 1984 refueling outage. The conduit connection will be sealed to ensure that steam does not enter the interior of the switch.

Completion Date: Prior to March 31, 1985

TER Item 28

Foxboro Pressure Transmitter (Containment Pressure, PT-948A, B, C; 949A, B, C)

The only harsh parameter in the pipe penetration area is radiation Foxboro reports T1-1058S, T3-1013, T3-1013S, T4-6061 and demonstrate the Foxboro transmitters will perform satisfactorily in the radiation environment anticipated in the pipe penetration area.

Completion Date: Complete

TER Items 29, 30 and 36

Foxboro Pressure Transmitters (PT-419A, B, C; PT-439A B, C; PT-406 A, B; FT-428A, B; FT-418A, B: FT-438A, B; FT-448A, B)

As noted in the FRC TER

"At present, qualification is not established for the redundant temperature switches (see equipment item 38). Once the Licensee has demonstrated a reliable steam line isolation feature initiated by qualified temperature switches, the safety-related components located in the auxiliary pump room will be excluded from the scope of this review. The Licensee should ensure that the critical components will not be elevated to temperatures that will affect their operability."

Con Edison agrees with the FRC evaluation. The temperature switch (TER item 38) has been replaced with an ASCO model SA11AR/QF11A4CD. The ASCO switch is being tested by the manufacturer to establish qualification and tests are expected to be complete in 1983. Since the temperature switches will preclude a harsh steam environment the Transmitters are satisfactory.

Completion Date: March 31, 1985

TER Items 31 and 32

Foxboro Pressure Transmitter (Safety Injection Pump suction and Discharge Pressure PT-922, -923, -947)

The only harsh parameter in the pipe penetration area is radiation Foxboro reports T1-1058S, T3-1013, T3-1013S, T4-6061 and demonstrate the Foxboro transmitters will perform satisfactorily in the radiation environment anticipated in the pipe penetration area.

Completion Date: Complete

TER Item 34

Limit Switch, Microswitch Model OPD-A6923 (Position Indication for AFW feed pump valve PCV-1139)

As noted in the FRC TER for equipment located in the AFW Pump room:
"At present, qualification is not established for the redundant temperature switches (see equipment item 38). Once the Licensee has demonstrated a reliable steam line isolation feature initiated by qualified temperature switches, the safety-related components located in the auxiliary pump room will be excluded from the scope of their review. The Licensee should ensure that the critical components will not be elevated to temperatures that will affect their operability."

Con Edison agrees with the FRC evaluation. The temperature switch (TER item 38) has been replaced with an ASCO model SA11AR/QF11A4CD. The ASCO switch is being tested by the manufacturer to establish qualification and tests are expected to be complete in 1983. Since the temperature switch will preclude a harsh steam environment the limit switch is satisfactory.

Completion date: Prior to March 31, 1985

TER Items 40, 42 and 43

Electric Motor Drive, Westinghouse (Containment Air Recirculation Fans, Recirculation Spray Pumps, and Hydrogen Recombiner Blowers)

Con Edison has obtained from the manufacturer a listing of the materials and characteristics of the motors installed at the Indian Point Unit 2 plant and is attempting to obtain the same information on the motor tested in WCAP-7410L. In addition information supplied by Westinghouse to NRC in letters NS-CE-728 dated July 10, 1975 and NS-CE-1009 dated March 31, 1976 concerning the Indian Point Unit 2 motors are being evaluated in conjunction with the material information supplied by Westinghouse in order to confirm similarity with tested motors.

A separate calculation of Beta plate out is being performed and will be compared with irradiation test data.

Completion Date: Prior to March 31, 1985

TER Item 41

Electric Motor Drive, Westinghouse (AFW Pumps)

As noted in the FRC TER for equipment located in the Auxiliary Feed pump room:

"At present, qualification is not established for the redundant temperature switches (see equipment item 38). Once the Licensee has demonstrated a reliable steam line isolation feature initiated by qualified temperature switches, the safety-related components located in the auxiliary pump room will be excluded from the scope of their review. The Licensee should ensure that the critical components will not be elevated to temperatures that will affect their operability."

Con Edison agrees with the FRC evaluation. The temperature switch (TER item 38) has been replaced with an ASCO model SA11AR/QF11A4CD. The ASCO switch is being tested by the manufacturer to establish qualification and tests are expected to be complete in 1983. Since the temperature switch will preclude a harsh steam environment the limit switch is satisfactory.

Completion date: Prior to March 31, 1985

TER Item 47

Lewis Electrical Cable

Qualification for the Lewis cable subject to LOCA steam exposure is established by test report F-C2781, and the manufacturer has certified applicability of the test report for the cables supplied to Indian Point.

Certain equipment (cables) was assigned to NRC category IIA in the Franklin Research Center Technical Evaluation report and cited with a "Submergence" deficiency. The cables installed at Indian Point Unit 2 have been qualified in accordance with DOR Guidelines, NUREG-0588 and the recommendations of IEEE standard 323-74. However these documents do not contain any guidance on conditions for qualification of equipment which may become submerged. Contacts with manufacturers established that cables installed at Indian Point Unit 2 have been subjected to accelerated water absorption tests (194°F demineralized water), submergence test in Hudson river water, and some cable (cross linked polyethylene) has been subjected to testing for 8 weeks at 200°F in a solution containing 1800 ppm Boric acid, 50 ppm Hydrazine buffered to a pH of 7 to 7.5 with Trisodium Phosphate. However, there is no available data on performance of available materials under submerged conditions. We have a high level of confidence that the cables installed will perform satisfactorily under post-LOCA submergence conditions.

Completion Date: Complete

TER Item 50

Fisher Controls E/P Transducer

As noted in the 30 day response to the NRC SER

Con Edison has confirmed that the model 546 transducer was the equipment tested in Report 4, Problem 1531, Project 72AR28, Fisher Controls Co., 12-Jun-73. It appears that TER C5252-458 inadvertantly used the evaluation for Limitorque MVAs on page 2 of Item 50, rather than only the aging deficiency which applies. Analyses of aging degradation will be prepared to establish the qualified life of the units based on information contained in the appropriate test reports and manufacturers material lists.

Completion Date: Prior to December 31, 1983

TER Items 54, 55 56, 57, 58, 59 60, 61, and 62

Limitorque Actuators

Con Edison has established traceability of the Limitorque actuators installed at Indian Point 2 through Westinghouse Letters INT-80-71 dated December 11, 1980, NS-TMA-2319 dated October 3, 1980, NS-CE-692, dated July 10, 1975, NS-CE-756, dated August 15, 1975. Qualification is established by test reports WCAP-7410L, Limitorque reports 600198 plus addendum 1, 6003761, B0003 and FC-3271. Con Edison has become aware that some of the Limitorque actuators were furnished with motor brakes which may be subject to damage from radiation. The actuators having motor brakes have been identified and the radiation doses to which the actuators will be exposed are being confirmed. Any actuators having motor brakes which could be susceptible to radiation damage will be replaced with qualified SB conversion kits.

Completion Date: Prior to March 31, 1985.

TER Item 63

Rosemount 1153A Flow transmitter

The FRC TER noted the following concerning equipment in the AFW pump room

"At present, qualification is not established for the redundant temperature switches (see equipment item 38). Once the Licensee has demonstrated a reliable steam line isolation feature initiated by qualified temperature switches, the safety-related components located in the auxiliary pump room will be excluded from the scope of their review. The Licensee should ensure that the critical components will not be elevated to temperatures that will affect their operability."

Con Edison agrees with the FRC evaluation. The temperature switch (TER item 38) has been replaced with an ASCO model SA11AR/QF11A4CD. The ASCO switch is being tested by the manufacturer to establish qualification and tests are expected to be complete 1983. Since the temperature switch will preclude a harsh steam environment the Flow Transmitter is satisfactory.

In addition in the 30 day response to the NRC, Con Edison stated the test report Rousemount No. 3788 has been obtained and is being evaluated with respect to aging. In the Auxiliary Pump Room, the normal operating temperature is 50-104°F and the accident temperature will not exceed 135°F. Therefore, no significant degradation is expected. After completing the aging analysis, a maintenance/replacement schedule for the degradable components (e.g., the seals) will be established.

Completion Date: This Item is Complete.

SECTION 3

LISTING OF EQUIPMENT
ASSIGNED TO
NRC CATEGORY IV
IN TER C5257-458
INDIAN POINT UNIT 2

INDIAN POINT 2

Section 3

EQUIPMENT ASSIGNED TO NRC CATEGORY IV

(DOCUMENTATION NOT MADE AVAILABLE)

FRC TER Item	Description	Location
27	Pressure Transmitter Barton 763 Lot 4 Pressurizer Pressure PT-455, 456, 457, 474 RCS Pressure PT-402, 403	(C)
33	Level Transmitter Barton 764 Lot 4 Containment Sump Level LT3300, 3301	(C)
35	Transmitters Barton 764 Lot 4 SG Level LT417A,B,C,D; 427A,B,C,D; 437A,B,C,D; 447A,B,C,D Pressurizer Level LT459, 460, 461 RHR Flow FT946A,B, FT640 Recirculation Spray Flow FT945A,B High Head SI Flow FT924, 925, 926, 924A, 925A, 926A	(C)

Qualification test result for Barton 763 and Barton 764 establishing qualification for "In Containment" applications are contained in:

a) WCAP 9885, Qualification Testing of ITT/Barton Transmitters, Production lot 2, April 1981. This report was identified by Westinghouse as proprietary. This report was furnished to NRC by Con Edison and Westinghouse, however, Westinghouse did not authorize release of the report to Franklin Research Center. It is noted that NRC has reviewed this report and agreed that the transmitters are qualified.

b) ITT Barton Reports R3-763-6 and R3-764-9.

These reports are in our files and can be made available to NRC for audit or review.

SECTION 4

OTHER EQUIPMENT

INDIAN POINT UNIT 2

SECTION 4

OTHER EQUIPMENT

INDIAN POINT UNIT 2

Pumps

Equipment ID	Function	Location	Qualification Status	Remarks
2-1,2-2	RHR Pumps	PP	Q	

Other

o	Radiation Monitor Cable/Connector Assembly	C	QNE	(Connector to be covered with splice tape)
o	Amplifier/Charge Convertor/Cable Assembly	C	QNE	(Acoustic monitor components)
o	Electrical Cable Harbour Industries Silicone Rubber	C	QNE	(Associated with TMI equipment)