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REGULATORY BUCKET FILE

Indian Point 3 Nuclear Power Plant

Systems Interaction Study Report

Volume 2



**New York Power
Authority**

Indian Point 3 Nuclear Power Plant

Systems Interaction Study Report

Volume 2

COPY NUMBER 3



**New York Power
Authority**

1.0 Rod Control

1.1 Function & Applicability

The rod control system is required to provide the basic safety function of Achieving & Maintaining Reactor Subcriticality (FT-1)*. This is accomplished by the insertion of the Shutdown and Control Rod Cluster Control assemblies upon commands from the operator or from an automatic signal from Reactor Protection System.

1.2 Scope

1.2.1 The rod control system consists of components which can be subdivided into two categories

- A) Internal to or a part of the reactor pressure vessel & head assembly.
- B) Components located remote from the RPV.

The study addresses itself to the B category of components, dealing specifically with the cable raceway system from the RPV to the Control Room and the rod control power supply system. The Rod Control System is described in System Description No. 16.0.

1.2.2 All devices located in the Control Room are evaluated generically as part of control room review.

1.3 Description of Rod Control Power Supplies

Power to rod drive mechanisms is supplied by two motor generator sets operating from two separate 480 Volt, three-phase buses. The generators, driven by 150 hp induction motors, are paralleled through circuit breakers. Each generator is the synchronous type, rated at 438 Kva, 260 Volts line-to-line.

The a-c power is distributed to the power cabinets through the two series connected reactor trip breakers. Bypass breakers can be connected in parallel with the reactor trip breakers to facilitate on-line testing of the protection system. Their use is under administrative control and is not included in the scope of the study. The a-c power distribution lines downstream of the reactor trip breakers are run across the top of the power cabinets through a fully enclosed, three-phase, four-wire, plug-in bus duct. Power to each power cabinet is fed from the bus duct through three plug-in, fused disconnect switches serving the stationary, movable, and lift coil circuits of the mechanisms associated with the power cabinet.

The power cabinets contain equipment which converts the a-c supply to pulsed dc required by the mechanism coils. Each power cabinet can accommodate three

* Functional Table 1. See Volume I Tab entitled Functional Tables

groups, with a maximum of four mechanisms per group. (One group is designed to handle five mechanisms.) Design of the power cabinet permits motion of only one of the three groups, with the other two groups held in a stationary position. A dc hold panel is provided to supply holding power to the stationary coils of a mechanism during maintenance operations.

A logic cabinet is provided to inform the power cabinets which group of rods is to be moved and translates speed and direction input signals into a form usable by the power cabinets.

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3
SYSTEMS INTERACTION STUDY
TABULATION OF POTENTIALLY UNACCEPTABLE SPATIAL INTERACTIONS

ROD CONTROL SYSTEM

ELECTRICAL

POTENTIALLY UNACCEPTABLE INTERACTION NUMBER	FMEA		EIC		SPAN EVALUATION		
	(1)	(2)	(1)	(2)	(1)	(2)	(3)
E-1-32-3	1-E-1-P		11-001-A				NR
* E-1-33-1	1-E-1-P		11-001-P				NA

- NOTES: 1) Letter following numbers mean; A - Acceptable, P - Potentially Unacceptable.
2) NR - Evaluation is Not Required since interaction is now acceptable.
3) NA - Type of evaluation is not applicable to this interaction.
4) Disposed of by repair in AFW pump building.
* Unacceptable by all 3 types of evaluation.

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
MATRIX PREPARATION

SYSTEM NO E-1

SYSTEM NAME ROD CONTROL

MATRIX CATEGORY

NON-CONNECTED

INTERCONNECTED X

E.M. Volpe / 9-27-82
E.M. Volpe/
PREPARED BY/DATE

J.F. Montalbano / 9/27-82
J.F. Montalbano/
APPROVED BY/DATE

Ebasco Services Incorporated

POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
480 V SWGR 31 (Bus 2A)	350 MCM Cable	S	
MG-31 Motor	MG-31 Coupling	S	
MG-31 Generator	MG-31 Coupling	S	
	Neutral Ground Resistor	S	
	Exiters	S	
	Voltage Regulator	S	
	Local Control Cabinets	S	
Reactor Trip Switchgear	MG-31	S	
	Plug-in Bus Duct Assembly	S	
	Plug-in Bus Fused Disconnect Switches	S	
480V SWGR 32 (Bus 6A)	350 MCM Cable	S	
MG-32 Motor	MG-32 Coupling	S	
MG-32 Generator	MG-32 Coupling	S	
	Neutral Ground Resistor	S	
	Exiters	S	
	Voltage Regulator	S	
	Local Control Cabinets	S	
Reactor Trip Switchgear	MG-32	S	
	Plug-in Bus Duct Assembly	S	
	Plug-in Bus Fused Disconnect Switches	S	

E Volpe/9-22-82

PREPARED BY/DATE

J Montalbano/9-22-82

APPROVED BY/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
Power Cabinets	Reactor Trip Switchgear	S	
	D-C Hold Panel	S	
	Logic Cabinet	S	
	10 KVA Transformer (Control PWR)	S	
	10 KVA Sola Regulator (Control PWR)	S	
Rod Cluster Drive Mechanism Coils	10 KVA Stepdown Transformer (Control N PWR)	N	1-E-1
	Power Cabinets	S	
Rod Cluster Drive Mechanism Coils	Rod Cluster Drive Mechanisms	S	
	D-C Hold Supply Cabinets	Reactor Trip Switchgears	S

E. Volpe/9-23-82
 PREPARED BY/DATE

J. Montalbano/9-24-82
 APPROVED BY/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY

Interconnected System Interaction Evaluation Notes

1. Rupture of non-seismic line
2. Leakage from connecting line
3. Valve required to be closed fails open
4. Valve required to be open fails closed
5. Loss of flow or insufficient flow
6. Loss of function due to loss of motive power
7. Electrical fault

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
SYSTEMS INTERACTION EVALUATION

SYSTEM NO. E-1

SYSTEM NAME ROD CONTROL

EVALUATION CATEGORY

NON-CONNECTED _____

INTERCONNECTED X

E M Volpe / 9-28-82
INTERACTION ENGINEER/DATE

W A Griswold 9-28-82
VERIFIED/DATE

Ebasco Services Incorporated

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
INTERCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

POTENTIAL INTERACTION
NUMBER: 1-E-1

CONNECTED COMPONENT: 10 KVA Stepdown Transformer (Control Power)

BOUNDARY SAFETY RELATED Power Cabinet
COMPONENT (S):

POSTULATED FAILURE (SEE NOTES): 6
METHOD OF DETECTION: Alarm

EVALUATION OF INTERACTION:

The control power supply from the 10 KVA Stepdown transformer is a redundant supply. The normal supply is from the M-G set, which is specifically designed to provide rod control.

 X ACCEPTABLE

_____ POTENTIALLY
UNACCEPTABLE

E Volpe/9-27-82
INTERACTION ENGINEER/DATE

W A Griswold/9-27-82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
MATRIX PREPARATION

SYSTEM NO E-1

SYSTEM NAME ROD CONTROL

MATRIX CATEGORY

NON-CONNECTED X

INTERCONNECTED _____

[Signature] 7/30/82
PREPARED BY/DATE

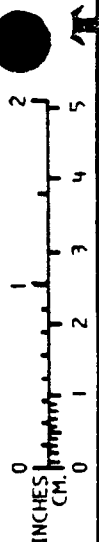
[Signature] 9/14/82
APPROVED BY/DATE

Ebasco Services Incorporated

SOURCES

TARGETS

		NO INTERACTION																
E-1																		
1	MG SET 31 GC1	X																
2	3" CND 1UJ2 (CD)	X																
3	1" CND 1UJ1 (FD)	X																
4	3" CND 1UJ (CD)	X																
5	3" CND 1RM (CB)	X																
6	MG SET 32 GC2	X																
7	3" CND 1UK2 (CA)	X																
8	1" CND 1UK1 (CA)	X																
9	3" CND 1UK (CA)	X																
10	3" CND 1QG	X																
11	MG CNTL CAB	X																
12	1½" CND 1JH1 (JC)	X																
13	1" CND 1JU (JB)	X																
14	2" CND 5RA (DD)	X																
15	2" CND 1JZ (DA)	X																
16	3" CND 1JV (TB)	X																



BUILDING: CONTROL BUILDING
FIRE ZONE: 11
LOCATION: ELEV 33
WITHIN FIRE ZONE

ROD CONTROL

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>ELEC DR.RS</u>		INDIAN POINT No. 3		E-1
DATE <u>7/82</u> CH. _____		SYSTEMS INTERACTION STUDY		SH 1 OF 3
SCALE <u>NONE</u>		INTERACTION MATRIX		
APPROVED				
J. F. MONTALBANO				

SOURCES

E-1

		NO INTERACTION	1 SPEAKER	2 LIGHT	3 LIGHT										
17	2" CND IJN2 (DC)	X													
18	1½" CND IJT1 (JC)	X													
19	2" CND IIZ (DA)	X													
20	2" CND IJW (DB)	X													
21	ROD CONT CABINETS		E216												
22	KG5 PLUG IN DISC SW	X													
23	CABLE WAY	X													
24	ROD CONTL PART LGTH	X													
25	¾" CND 1 W/S (JB)	X													
26	1" CND 1ZZ (DC)	X													
27	INVERTER GD7			E217											
28	1½" CND IJM (FA)	X													
29	1½" CND 5UUI (FA)	X													
30	1½" CND 1KK1 (FA)	X													
31	1" CND 1 WH (FA)	X													
32	CONTROL DEVICES ROD CONT CAB FRONT				E306										

TARGETS

INCHES
CM

BUILDING: CONTROL BUILDING

FIRE ZONE: 11

LOCATION: ELEV 33'

WITHIN FIRE ZONE

ROD CONTROL

EBASCO SERVICES INCORPORATED.

POWER AUTHORITY STATE OF NEW YORK

5209.003

DIV. ELEC DR. RS
DATE 8/82 CH. _____
SCALE NONE

APPROVED
J. F. MONTALBANO

INDIAN POINT No. 3
SYSTEMS INTERACTION STUDY
INTERACTION MATRIX

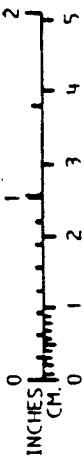
E-1

SH 2 OF 3

SOURCES

E-1

TARGETS



			1	2													
		NO INTERACTION	LIGHT	LIGHT													
33	CONTROL DEVICES ROD CONT CAB REAR		E307														
34	CONTROL DEVICES STAT INVERT FRONT			E308													

BUILDING: CONTROL BUILDING
 FIRE ZONE: 11
 LOCATION: ELEV 33'
 WITHIN FIRE ZONE

ROD CONTROL

EBASCO SERVICES INCORPORATED.
 DIV. ELEC DR. RS
 DATE 8/82 CH. _____
 SCALE NONE

APPROVED
 J F MONTALBANO

POWER AUTHORITY STATE OF NEW YORK
 INDIAN POINT No. 3
 SYSTEMS INTERACTION STUDY
 INTERACTION MATRIX

5209.003
 E-1
 SH 3 OF 3



POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY

NON-CONNECTED INTERACTIONS EVALUATION

1. No Interaction - Source is Class II and is therefore supported adequately. (See response to IP-3 FSAR question 5.24).
2. Acceptable - Source pipe/conduit is equal size or smaller in diameter and/or the same thickness or thinner wall than the target pipe/conduit/tubing. Paragraph 6.2.2.1a Volume I.
3. Acceptable - Source has insufficient mass to damage the target component.
4. Acceptable - Basis is engineering judgement. Specific justification is on the evaluation form.
5. Potentially Unacceptable - Discussion of specific is on the evaluation form.
6. Potentially Unacceptable - Source pipe/conduit is large enough to damage target conduit/pipe/tubing.
7. Potentially Unacceptable - Source will fall a sufficient distance, or has adequate mass such that damage to target conduit/box/instrument/tubing/panel may be possible.
8. No Interaction - Upon further investigation of the source, this portion of its system is designated Seismic I.

R2 7/22/82
R1 6/30/82
R0 6/26/82

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
SYSTEMS INTERACTION EVALUATION

SYSTEM NO. E-1

SYSTEM NAME ROD CONTROL

EVALUATION CATEGORY

NON-CONNECTED X

INTERCONNECTED _____

Eugene Licon 8/30/82
INTERACTION ENGINEER/DATE

WAGriswold 9:30.8'2
VERIFIED/DATE

Ebasco Services Incorporated

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Control
FIRE ZONE: 11
LOCATION WITHIN FIRE ZONE: EL. 33'
POTENTIAL INTERACTION NO.: E-1-21-1
PHOTOGRAPH NO.: E216
BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Rod Cont Cabinets (lower left)

SOURCE: Speaker

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

~~POTENTIALLY
UNACCEPTABLE~~

E Licari/ 8-30-82

W A Griswold/ 9-30-82

INTERACTION ENGINEER/DATE

VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Control
FIRE ZONE: 11
LOCATION WITHIN FIRE ZONE: EL 33'
POTENTIAL INTERACTION NO.: E-1-27-2
PHOTOGRAPH NO.: E217
BACKGROUND NO.: Sheet 68

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Inverter GD7 (not shown)

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

~~_____~~ POTENTIALLY UNACCEPTABLE

E Licari/ 8-30-82
INTERACTION ENGINEER/DATE

W A Griswold/ 9-30-82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Control
FIRE ZONE: 11
LOCATION WITHIN FIRE ZONE: EL 33'
POTENTIAL INTERACTION NO.: E-1-32-3
PHOTOGRAPH NO.: E306
BACKGROUND NO.: Sheet 68

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Control Devices, Rod Cont Cab Front

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

E Licari/ 8-30-82

W A Griswold/ 9-30-82

INTERACTION ENGINEER/DATE

VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Control
FIRE ZONE: 11
LOCATION WITHIN FIRE ZONE: E1 33'
POTENTIAL INTERACTION NO.: E-1-34-2
PHOTOGRAPH NO.: E308
BACKGROUND NO.: Sheet 68

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Control devices, Static-Inverter front

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 4

Static-Inverter is considered to be a non-safety component.

X _____ ACCEPTABLE

_____ POTENTIALLY
UNACCEPTABLE

R Sahu 9-14-82

INTERACTION ENGINEER/DATE

W Griswold 9-14-82

VERIFIED/DATE

Postulated Failure Modes

MECHANICAL FAILURES

- M - 1 Ruptured Pipe or Tube
- M - 2 Crimped or Collapsed Pipe or Tube
- M - 3 Loss of Function (Pump, Fan, Blowers etc.)
- M - 4 Loss of Valve Motive Power
- M - 5 Failure of or damage to Valve Actuating Mechanism
- M - 6 Other (Explain)

ELECTRICAL FAILURES

- E - 1 Open Circuit
- E - 2 Short Circuit
- E - 3 Other (Explain)

INSTRUMENTATION & CONTROL FAILURES

- C - 1 Fail High
- C - 2 Fail Low
- C - 3 Fail Open
- C - 4 Fail Closed
- C - 5 Loss of Motive Power
- C - 6 Other (Explain)

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
FMEA PREPARATION

SYSTEM NO E-1

SYSTEM NAME Rod Control System

FMEA CATEGORY

NON-CONNECTED X

INTERCONNECTED

hahy 2/23/83
PREPARED BY/DATE

Mary Anne 3/15/83
CHECKED BY/DATE

W Griswold 4-15-83
VERIFIED BY/DATE

Ebasco Services Incorporated

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 1-E-1

Interaction Number(s): E-1-32-3
E-1-33-1

Fire Zone: 11

Target Component(s)
Number, Description & Function:

Rod control devices

Control devices on Rod Control Cabinet front and rear are required for manipulation of control rods and their automatic control.

Postulated Failure Mode(s)
and Evaluation:

E-3-(P) (Break or Damage of Control Devices) Impact of light on control devices for rod control may lead to malfunction of rod control system.

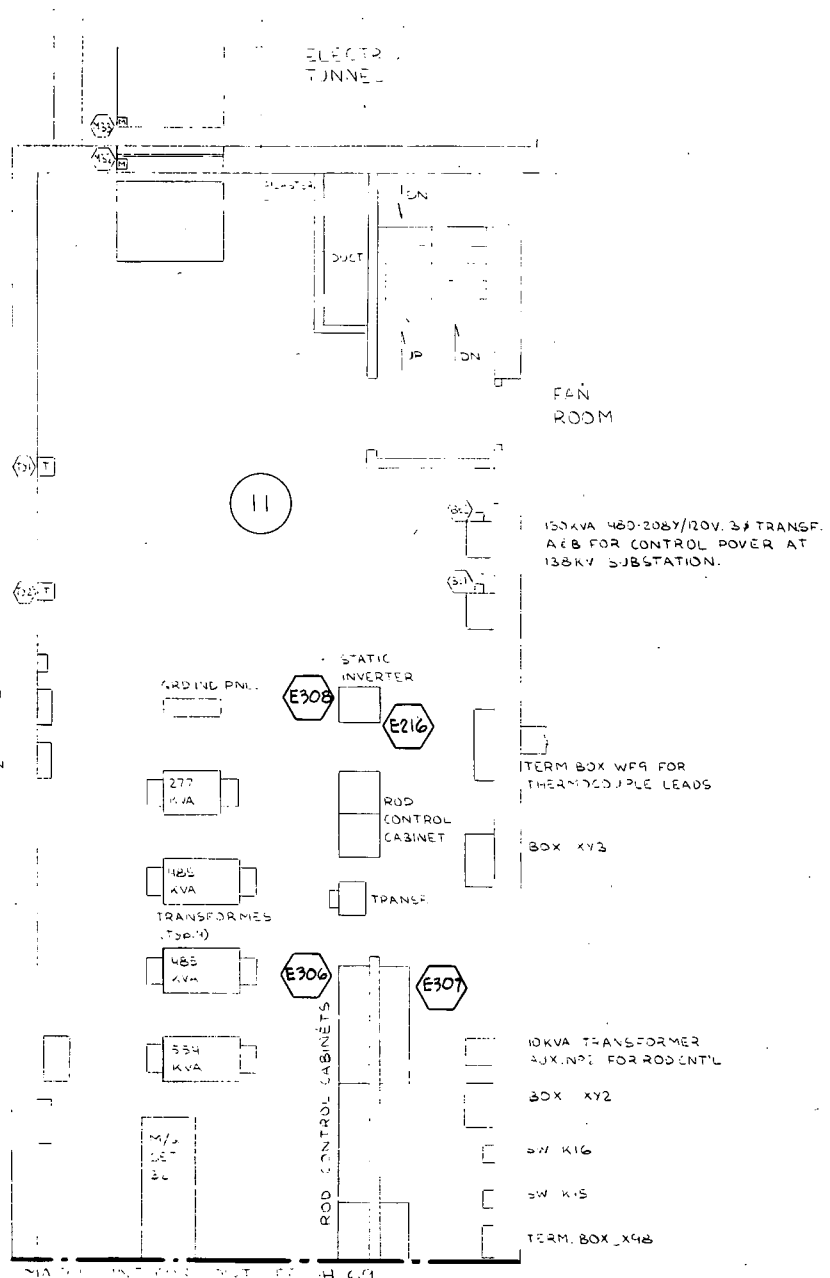
Acceptable X / 1 (X) 2 () 3 () 4 ()
Potentially Unacceptable/Safety Function Affected

R Sahu 2/23/83
EVALUATING ENGINEER/DATE

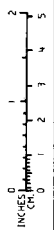
G Durniak 3/15/83
CHECKED/DATE



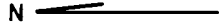
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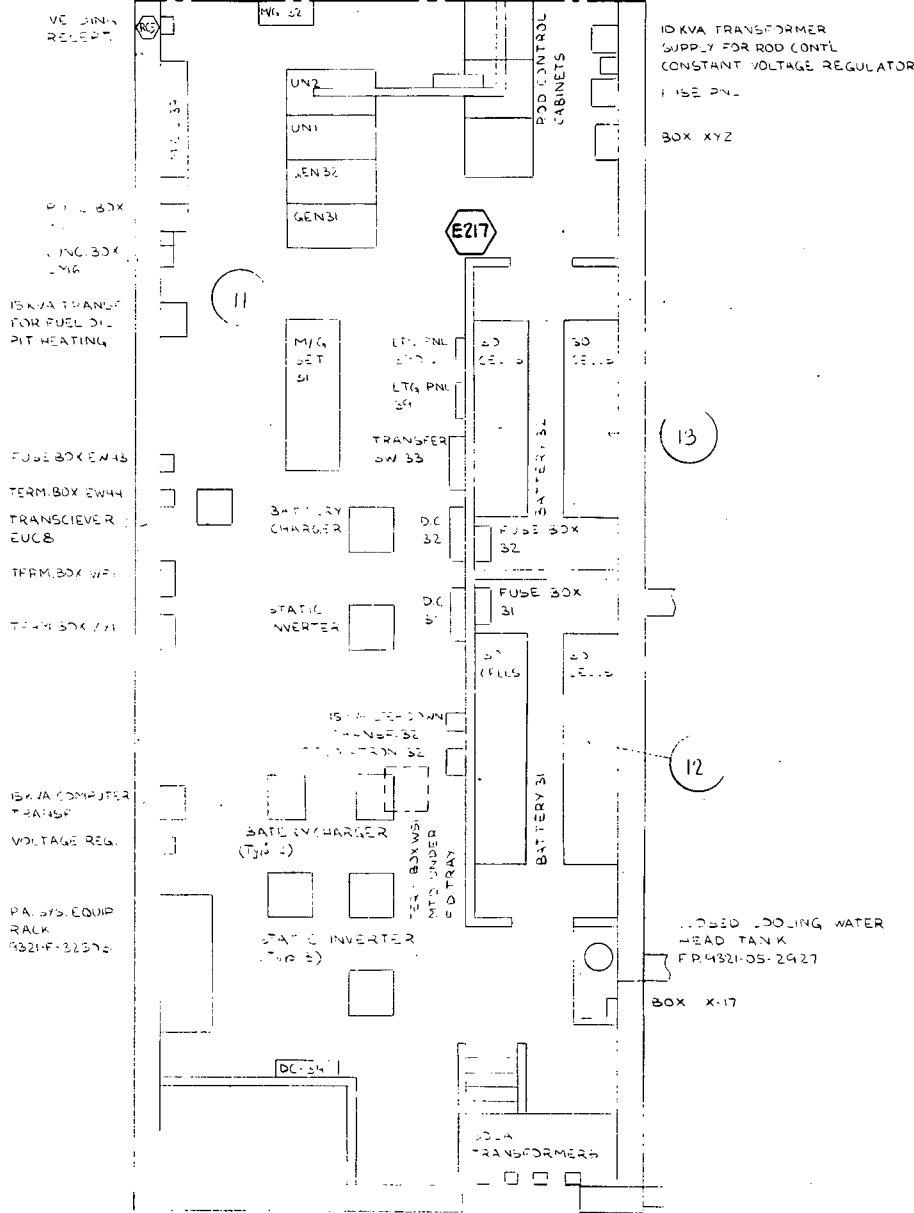
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 1. EQUIPMENT ARRANGEMENT
 CONTROL BUILDING
 U.E & C DWG No. 9321-F-30523-21



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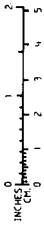


MATCH LINE - FOR CONT SEE SH 68



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EQUIPMENT ARRANGEMENT
CONTROL BUILDING
J.E & C DWG No. 9321-F-30523-21



F



11

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2.0 Safety Injection System

2.1 Function & Applicability

The Safety Injection System (SIS) is required to accomplish the four basic functions as follows:

1) Achieve and Maintain Reactor Subcriticality (FT-1).*

The SIS provides makeup liquid from the Refueling Water Storage Tank to the Reactor Coolant System (RCS). Additionally SIS provides chemical reactivity control to provide sufficient reactivity shutdown margin and prevent an uncontrolled return to criticality. These functions are accomplished by the Accumulators in the event of a large LOCA or steam line break or; the Safety Injection Pumps in the event of a small or medium LOCA or a break in a secondary system (ie. Feedwater, Tube Rupture etc.) or unavailability of CVCS for normal shutdown.

ii) Maintain Containment Integrity (FT-2)*

In the event of a LOCA and subsequent to the emptying of Refueling Water Storage Tank (RWST) the Recirculation Pumps are required to recirculate the contents of the recirculation containment sump through the containment spray nozzles to reduce containment pressure and temperature. If the LOCA was large, the Safety Injection Pumps will also be required.

iii) Remove Decay Heat (FT-3)*

The Recirculation Pumps can be used in lieu of the RHR pumps to maintain circulation through the Reactor and the RHR heat exchangers.

iv) Maintain Reactor Coolant Pressure Boundary (FT-4)*

In the event of a break in one of the injection lines, the injection valves are required to isolate the break from the RCS.

The Safety Injection System is described in System Description No. 10.1.

2.2 Scope

2.2.1 For the purpose of this study the SIS includes:

- Accumulators
- Boron Injection Tank (BIT)

* Functional Tables 1 thru 4. See Volume 1 tab entitled Functional Tables

- Refueling Water Storage Tank (RWST)
- Containment Recirculation Sump
- Safety Injection Pumps
- Recirculation Pumps
- Piping, Valves, Instrumentation and Electrical components as indicated in the corresponding disciplines Nonconnected and Interconnected Matrices.

The boundaries of this study for SIS are shown on flow diagram FD 5209.02, Sheets 1 & 2.

2.2.2 Support systems relied upon for SIS safety related functions are indicated on Auxiliary Diagram AD-2.

2.2.3 Systems which interface with the SIS but are not deemed necessary for accomplishing the safety related functions are:

i) Chemical Volume and Control System (CVCS)

CVCS serves to adjust boron concentration in the RWST and BIT. This is not a safety related function since boron concentration is assumed to be maintained within limits for plant operation.

ii) Primary Water System

Primary water is used to initially fill the RWST. The RWST must have sufficient volume for SIS function for plant operation.

iii) Nitrogen Supply Package

The system provides nitrogen to satisfy the pressure requirements of the Accumulators. The Accumulators are isolated from the Nitrogen Supply by normally closed valves 891A through D. The Accumulators are assumed pressurized for plant operation.

iv) Auxiliary Steam & Electrical Heat Tracing

Auxiliary Steam is used to maintain minimum water temperature in the RWST and the outdoor pump suction lines are heat traced. It is assumed that any failure of the systems would be repaired long before minimum temperature limits are reached. (See answer to FSAR question 9.10).

If failure of Auxiliary Steam was due to an initiating event the SIS would empty the RWST long before minimum temperature was reached.

v) Sampling System (SS)

SS does not contribute to any of the four safety functions. The boundary of the study is the first normally closed sampling valve.

vi) Waste Disposal System (WDS)

The Waste Disposal System provides a method for draining the Accumulators. This is not a safety related function.

vii) Instrument Air System

All valves which are powered by instrument air will, upon loss of air, fail in their safety related position (Response to FSAR question 9.19.3). Instrument air is therefore not relied upon for safety related function.

2.2.4 All devices located in the Control Room are evaluated generically as part of the Control Room review.

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3
SYSTEMS INTERACTION STUDY
TABULATION OF POTENTIALLY UNACCEPTABLE SPATIAL INTERACTIONS

SAFETY INJECTION SYSTEM

MECHANICAL

POTENTIALLY UNACCEPTABLE INTERACTION NUMBER	FMEA		EIC		SPAN EVALUATION		
	(1)	(2)	(1)	(2)	(1)	(2)	(3)
* L-2-7-7	2-M-1-P		9-002-P				NA
L-2-7-8	2-M-1-P		9-003-A				NR
L-2-13-1	2-M-2-P		9-001-P				5209-9-019-A
* L-2-19-6	2-M-3-P		9-002-P				NA
L-2-19-7	2-M-3-P		9-003-A				NR
L-2-21-1	2-M-4-P		9-001-P				5209-9-019-A
L-2-53-2	2-M-5-P		72A-003-P				5209-72A-043-A
L-2-54-2	2-M-6-P		72A-003-P				5209-72A-043-A
L-2-55-2	2-M-7-A		NR				NR
L-2-79-3	2-M-8-A		NR				NR
L-2-80-3	2-M-9-A		NR				NR
L-2-91-2	2-M-10-P		77A-002-P				5209-77A-009-A
L-2-99-1	2-M-11-P		78A-002-P				5209-784-005-A
V-2-102-1	2-M-12-P		72A-003-P				5209-72A-043-A
V-2-155-1	2-M-13-A		NR				NR
V-2-163-2	2-M-14-A		NR				NR
V-2-180-2	2-M-15-A		NR				NR

- NOTES: 1) Letter following numbers mean; A - Acceptable, P - Potentially Unacceptable.
 2) NR - Evaluation is Not Required since interaction is now acceptable.
 3) NA - Type of evaluation is not applicable to this interaction.
 4) Disposed of by repair in AFW pump building.
 * Unacceptable by all 3 types of evaluation.

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
MATRIX PREPARATION

SYSTEM NO 2

SYSTEM NAME SAFETY INJECTION SYSTEM

MATRIX CATEGORY

NON-CONNECTED _____

INTERCONNECTED X

Sean O'Connell 6/19/82
PREPARED BY/DATE

J.P. Ruggieri, Jr. 7-2-82
APPROVED BY/DATE

Ebasco Services Incorporated

POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT EQUIPMENT	INTERFACING COMPONENTS	SAFETY (S) NONSAFETY (N)	POTENTIAL INTERACTION (IF APPLICABLE)	
ACCUMULATOR TANK NO. 31	LINE 1 SI-68	S		
	LINE 1 SI-601	S		
	LINE 10 SI-351	S		
	LINE 3/4 SI-69	S		
	LINE 1 SI-525	S		
	VALVE 837A	LT 934A, PT 936A	S	
	VALVE 837B		S	
	VALVE 837C	LT 935A, PT 937A	S	
	VALVE 837D		S	
	ACCUMULATOR TANK NO. 32	LINE 1 SI-68	S	
LINE 1 SI-602		S		
LINE 10 SI-352		S		
LINE 3/4 SI-69		S		
LINE 1 SI-525		S		
VALVE 837E		LT 934B, PT 936B	S	
VALVE 837F			S	
VALVE 837G		LT 935B, PT 937B	S	
VALVE 837H			S	
ACCUMULATOR TANK NO. 33	LINE 1 SI-68	S		
	LINE 1 SI-603	S		
	LINE 10 SI-353	S		
	LINE 3/4 SI-69	S		
	LINE 1 SI-525	S		
	VALVE 837J	LT 934C, PT 936C	S	
	VALVE 837K		S	
	VALVE 837L	LT 935C, PT 937C	S	
VALVE 837M	S			

S. O'Connor 6/9/82

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POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT EQUIPMENT	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
ACCUMULATOR TANK NO. 33	LINE 1 SI-68	S	
	LINE 1 SI-603	S	
	LINE 10 SI-353	S	
	LINE 3/4 SI-69	S	
	LINE 1 SI-525	S	
	VALVE 837J } LT 934C, PT 936C	S	
	VALVE 837K } LT 935C, PT 937C	S	
	VALVE 837L } LT 935C, PT 937C	S	
	VALVE 837M }	S	
ACCUMULATOR TANK NO. 34	LINE 1 SI-68	S	
	LINE 1 SI-603	S	
	LINE 10 SI-350	S	
	LINE 3/4 SI-69	S	
	LINE 1 SI-525	S	
	VALVE 837N } LT 934D, PT 936D	S	
	VALVE 837P } LT 935D, PT 937D	S	
	VALVE 837R } LT 935D, PT 937D	S	
	VALVE 837S }	S	
BORON INJECTION TANK	LINE 4 SI-16	S	
	LINE 6 SI-550	S	
SAFETY INJECTION PUMP #31	LINE 4 SI-56	S	
	LINE 3/4 SI-467	S	
	LINE 6 SI-273	S	
	480 V SWGR 5A	S	
	DC POWER PANEL 31	S	
	LINE AC-655 & 656 - COM COOLING	S	

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POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
SAFETY INJECTION PUMP #32	LINE 4 SI-145	S	
	LINE 3/4 SI-399	S	
	LINE 6 SI-277	S	
	480 V SWGR 2A	S	
	DC POWER PANEL 33	S	
	LINE AC-122 & 123 - COM COOLING	S	
SAFETY INJECTION PUMP #33	LINE 4 SI-550	S	
	LINE 3/4 SI-434	S	
	LINE 6 SI-60-	S	
	480 VOLT SWGR 6A	S	
	DC POWER PANEL 32	S	
	LINE AC-659 & 660 - COM COOLING	S	
REFUELING WATER STORAGE TANK	LINE 16 SI-155	S	
	LINE 12 SI-181	S	
	LINE 12 SI-252	S	
	LINE 3 SI-161	S	
	VALVE 840A LIC921	S	
REFUELING WATER STORAGE TANK	VALVE 844	S	
	VALVE 840B LT 920	S	
CONTAINMENT SUMP	LINE 14 SI-57	S	
	LT 940	S	
	LT 941	S	

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POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES		INTERFACING COMPONENTS	SAFETY (S) NONSAFETY (N)	POTENTIAL INTERACTION (IF APPLICABLE)
885A	MOV	LINE 14 SI-57	S	
		LINE 14 SI-57	S	
		MCC 36A	S	
885B	MOV	LINE 14 SI-57	S	
		LINE 14 SI-57	S	
		MCC 36B	S	
883	MOV	LINE 8 AC-190	S	
		LINE 8 SI-190	S	
		MCC 36B	S	
1863		LINE 8 SI-190	S	
		LINE 8 SI-190	S	
882	MOV	LINE 12 AC-10	S	
		LINE 12 AC-155	S	
		MCC 36B	S	
846		LINE 14 SI-155	S	
		LINE 14 SI-155	S	
888A	MOV	LINE 8 SI-60	S	
		LINE 8 SI-60	S	
		MCC 36A	S	
888B	MOV	LINE 8 SI-60	S	
		LINE 8 SI-60	S	
		MCC 36B	S	
1829		LINE 6 SI-60	S	
		PT 947	S	
848B		LINE 6 SI-60	S	
		LINE 6 SI-60	S	

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POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
ST 49	LINE 6 SI-60 LINE 6 SI-60	S S	
887A MOV	LINE 6 SI-277 LINE 6 SI-277 MCC 36B	S S S	
887B MOV	LINE 6 SI-277 LINE 6 SI-277 MCC 36B	S S S	
ST-48	LINE 6 SI-277 LINE 6 SI-277	S S	
848A	LINE 6 SI-278 LINE 6 SI-278	S S	
ST 47	LINE 6 SI-278 LINE 6 SI-278	S S	
1819A	LINE 3/4 SI-467 LINE 3/4 SI-467	S S	
1819B	LINE 3/4 SI-399 LINE 3/4 SI-399	S S	
1819C	LINE 3/4 SI-434 LINE 3/4 SI-434	S S	
1810 MOV	LINE 8 SI-189 LINE 8 SI-189 MCC 36A	S S S	
847	LINE 8 SI-189 LINE 8 SI-189	S S	

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POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY (S) NONSAFETY (N)	POTENTIAL INTERACTION (IF APPLICABLE)
S-203	LINE 8 SI-189 VENT	S	
898	LINE 6 SI-518 LINE 6 SI-518	S S	
FE 950	LINE 2 SI-161 LINE 2 SI-161 VALVE 1824A VALVE 1824B	S S S S	
843 MOV	LINE 2 SI-161 LINE 2 SI-161 MCC 36B	S S S	
842 MOV	LINE 2 SI-161 LINE 2 SI-161 MCC 36A	S S S	
841	LINE 2 SI-154 LINE 2 AC-154	S S	
1862	LINE 3 SI-162 LINE 3 SI-162	S S	
844	REFUELING WATER STORAGE TANK SAMPLE	S S	
840B	REFUELING WATER STORAGE TANK LT 920	S S	
840A	REFUELING WATER STORAGE TANK LIC 921	S S	

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POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY (S) NONSAFETY (N)	POTENTIAL INTERACTION (IF APPLICABLE)
S-200	VENT LINE 12 SI-155	S S	
290	LINE 4 SI-205 LINE 4 SI-205	S S	
859B	LINE 3/4 SI-31 LINE 3/4 SI-31	S S	
862	LINE 3/4 SI-31 SAMPLE	S S	
860	LINE 3/4 SI-31 PI-928	S S	
859A	LINE 3/4 - SI-31 LINE 3/4 - SI-31	S S	
859C	LINE 3/4 - SI-31 LINE 3/4 - SI-31	S S	
FI 929	LINE 3/4 SI-31 LINE 3/4 SI-31	S S	
884C	LINE 3/4 SI-161 LINE 3/4 SI-161	S S	
1807C LO	LINE 3/4 SI-161 LINE 3/4 SI-161	S S	
S-102	LINE 3/4 SI-161 VENT	S S	

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 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY (S) NONSAFETY (N)	POTENTIAL INTERACTION (IF APPLICABLE)
884B	LINE 3/4 SI-161 LINE 3/4 SI-161	S S	
1807B	LINE 3/4 SI-161 LINE 3/4 SI-161	S S	
S-101	LINE 4 SI-145 VENT	S S	
884A	LINE 3/4 SI-161 LINE 3/4 SI-161	S S	
1807A	LINE 3/4 SI-161 LINE 3/4 SI-161	S S	
S-100	LINE 3/4 SI-161 VENT	S S	
833B	LINE 4 SI-550 PT 923	S S	
849A	LINE 4 SI-56 LINE 4 SI-56	S S	
850A	LINE 4 SI-56 LINE 4 SI-56	S S	
851A MOV	LINE 4 SI-550 LINE 4 SI-550 MCC 36A	S S S	
852A	LINE 4 SI-550 LINE 4 SI-550	S S	

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 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
851B	LINE 4 SI-550	S	
	LINE 4 SI-550	S	
	MCC 36B	S	
852B	LINE 4 SI-550	S	
	LINE 4 SI-550	S	
849B	LINE 4 SI-550	S	
	LINE 4 SI-550	S	
850B	LINE 4 SI-550	S	
	LINE 4 SI-550	S	
853C	LINE 4 SI-56	S	
	PT 922	S	
FEX 999	LINE 6 SI-56	S	
	LINE 6 SI-56	S	
853A	LINE 6 SI-56	S	
	VENT	S	
S-103	LINE 6 SI-550	S	
	VENT	S	
1834	LINE 3/4 SI-876	S	
	LINE 3/4 SI-876 ITEM #2-M-1	N	
1852A MOV	LINE 4 SI-550	S	
	LINE 4 SI-550	S	
	MCC 36A	S	

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 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1852B MOV	LINE 4 SI-550	S	
	LINE 4 SI-550	S	
	MCC 36B	S	
S-105	LINE 6 SI 550	S	
	.DRAIN	S	
S-106	LINE 6 SI-550	S	
	VENT	S	
1822	LINE 2 SI-284	S	
	LINE 2 SI-284	S	
1840 LO	LINE 2 SI-284	S	
	LINE 2 SI-284	S	
1841	LINE 6 SI-550	S	
	SAMPLE	S	
1843	LINE 6 SI-550	S	
	DRAIN	S	
1851A A0	LINE 2 SI-594	S	
	LINE 2 SI-594	S	
	DC PANEL # 31	S	
1851B A0	LINE 2 SI-594	S	
	LINE 2 SI-594	S	
	DC PANEL #32	S	
1849	LINE 2 SI-595	S	
	LINE 2 SI-595	S	

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 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1846	LINE 2 SI-595 LINE 2 SI-595	S S	
1825	LINE 3/4 PW-875 LINE 3/4 CH-875	N S	2-M2
FI 916	LINE 2 SI-594 LINE 2 SI-594	S S	
1844	LINE 2 SI-594 LINE 2 SI-594	S S	
1848	LINE 2 SI-594 LINE 6 SI-550	S S	
1842	LINE 4 SI-16 SAMPLE	S S	
1821	LINE 4 SI-16 VENT	S	
1823	R.V.	LINE 3/4 SI-600 LINE 1 SI-600	S S
1835	M MOV	LINE 4 SI-16 LINE 4 SI-16 I V SWS MCC 36A	S S S S

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 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1835 B MOV	LINE 4 SI-16 LINE 4 SI-16 I V SWS MCC 36B	S S S S	
1833 A	LINE 3/4 SI-270 LINE 3/4 SI-270	S S	
1833 B	LINE 3/4 SI-270 LINE 3/4 SI-270	S S	
S-204	LINE 6 SI-518 VENT	S S	
S-116	LINE 6 SI-56 VENT	S S	
S-117	LINE 6 SI-16 VENT	S S	
855 RV	LINE 3/4 SI-38B LINE 1 RC-38B	S N	2-M3
858 A	LINE 3/4 SI-608 LINE 3/4 SI-608	S S	
858 B	LINE 3/4 SI-608 LINE 3/4 SI-608	S S	
1837	LINE 1 SI-525 LINE 1 SI-525	S S	

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INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY (S) NONSAFETY (N)	POTENTIAL INTERACTION (IF APPLICABLE)
890A AO	LINE 1 SI-525 LINE 1 SI-525 DC PANEL #31	S S S	
890B AO	LINE 1 SI-525 LINE 1 SI-525 DC PANEL #32	S S S	
890C AO	LINE 1 SI-525 LINE 1 SI-525 DC PANEL #31	S S S	
890D AO	LINE 1 SI-525 LINE 1 SI-525 DC PANEL #32	S S S	
954C	LINE 3/4 SI-69 LINE 3/4 SI-69	S S	
954D	LINE 3/4 SI-69 LINE 3/4 SI-69	S S	
954E	LINE 3/4 SI-69 LINE 3/4 SI-69	S S	
954F	LINE 3/4 SI-69 LINE 3/4 SI-69	S S	
1801A	LINE 1 SI-601 VENT	S S	
1801B	LINE 1 SI-602 VENT	S S	

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POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY (S) NONSAFETY (N)	POTENTIAL INTERACTION (IF APPLICABLE)
1801C	LINE 1 SI-603 VENT	S S	
1801D	LINE 1 SI-604 VENT	S S	
891A AO	LINE 1 SI-68 LINE 1 SI-68 DC PANEL #31	S S S	
891B AO	LINE 1 SI-68 LINE 1 SI-68 DC PANEL #32	S S S	
891C AO	LINE 1 SI-68 LINE 1 SI-68 DC PANEL #31	S S S	
891D AO	LINE 1 SI-68 LINE 1 SI-68 DC PANEL #32	S S S	
892A RV	LINE 1 SI-601 VENT	S S	
892B	LINE 1 SI-602 VENT	S S	
892C	LINE 1 SI-603 VENT	S S	
892D	LINE 1 SI-604 VENT	S S	

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POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
837A	ACCUMULATOR TANK NO. 31 LT 934A, PT 936A	S S	
837B	ACCUMULATOR TANK NO. 31 LT 934A, PT 936A	S S	
829A	ACCUMULATOR TANK NO. 31 DRAIN	S S	
837C	ACCUMULATOR TANK NO. 31 LT 935A, PT 937A	S S	
837D	ACCUMULATOR TANK NO. 31 LT 935A, PT 937A	S S	
829B	ACCUMULATOR TANK NO. 31 DRAIN	S S	
837E	ACCUMULATOR TANK NO. 32 LT 934B, PT 936B	S S	
837F	ACCUMULATOR TANK NO. 32 LT 934B, PT 936B	S S	
829C	ACCUMULATOR TANK NO. 32 DRAIN	S S	
837G	ACCUMULATOR TANK NO. 32 LT 935B, PT 937B	S S	
837H	ACCUMULATOR TANK NO. 32 LT 935B, PT 937B	S S	

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 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY (S) NONSAFETY (N)	POTENTIAL INTERACTION (IF APPLICABLE)
829D	ACCUMULATOR TANK NO. 32 DRAIN	S S	
837J	ACCUMULATOR TANK NO. 33 LT 934C, PT 936C	S S	
837K	ACCUMULATOR TANK NO. 33 LT 934C, PT 936C	S S	
829E	ACCUMULATOR TANK NO. 33 DRAIN	S S	
837L	ACCUMULATOR TANK NO. 33 LT 935C, PT 937C	S S	
837M	ACCUMULATOR TANK NO. 33 LT 935C, PT 937C	S S	
829F	ACCUMULATOR TANK NO. 33 DRAIN	S	
837N	ACCUMULATOR TANK NO. 34 LT 934D, PT 936C	S S	
837P	ACCUMULATOR TANK NO. 34 LT 934D, PT 936C	S S	
829G	ACCUMULATOR TANK NO. 34 DRAIN	S S	
837R	ACCUMULATOR TANK NO. 34 LT 935D, PT 937D	S S	
837S	ACCUMULATOR TANK NO. 34 LT 935D, PT 937D	S S	

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 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
829H	ACCUMULATOR TANK NO. 34 DRAIN	S S	
894D MOV	LINE 10 SI-350 LINE 10 SI-350 MCC 36B	S S S	
895D	LINE 10 SI-350 LINE 10 SI-350	S S	
897D	LINE 10 SI-350 LINE 10 SI-350	S S	
S-128	LINE 10 SI-350 VENT	S S	
S-129	LINE 10 SI-350 VENT	S S	
893D	LINE 1 SI-339 LINE 1 SI-339	S N	2-M4
839G AO	LINE 3/4 SI-31 LINE 3/4 SI-31 DC PANEL #32	S S S	
S-130	LINE 10 SI-350 VENT	S S	
S-139	LINE 10 SI-350 VENT	S S	
839H AO	LINE 3/4 SI-31 LINE 3/4 SI-31 DC PANEL #32	S S S	

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 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY (S) NONSAFETY (N)	POTENTIAL INTERACTION (IF APPLICABLE)
894C MOV	LINE 10 SI-353 LINE 10 SI-353 MCC 36A	S S S	
895C	LINE 10 SI-353 LINE 10 SI-353	S S	
897C	LINE 10 SI-353 LINE 10 SI-353	S S	
S-123	LINE 10 SI-353 VENT	S S	
S-124	LINE 10 SI-353 VENT	S S	
839F AO	LINE 3/4 SI-606 LINE 3/4 SI-606 DC PANEL #31	S S S	
839E AO	LINE 3/4 SI-606 LINE 3/4 SI-606 DC PANEL #31	S S S	
S-137	LINE 10 SI-353 VENT	S S	
S-122	LINE 10 SI-353 VENT	S S	
893C	LINE 1 SI-339 LINE 1 SI-339 ITEM #2-M4	S N	

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 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
894B MOV	LINE 10 SI-352 LINE 10 SI-352 MCC 36B	S S S	
895B	LINE 10 SI-352 LINE 10 SI-352	S S	
897B	LINE 10 SI-352 LINE 10 SI-352	S S	
S-119	LINE 10 SI-352 VENT	S S	
S-120	LINE 10 SI-352 VENT	S S	
839D AO	LINE 3/4 SI-605 LINE 3/4 SI-605 DC PANEL #32	S S S	
839C AO	LINE 3/4 SI-605 LINE 3/4 SI-605 INSTRUMENT AIR DC PANEL #32	S S S S	
S-138	LINE 10 SI-352 VENT	S S	
S-118	LINE 10 SI-352 VENT	S S	
893B	LINE 1 SI-339 LINE 1 SI-339	S S	2-M4

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POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
894A MOV	LINE 10 SI-351 LINE 10 SI-351 MCC 36A	S S S	
895A	LINE 10 SI-351 LINE 10 SI-351	S S	
897A	LINE 10 SI-351 LINE 10 SI-351	S S	
S-113	LINE 10 SI-351 VENT	S S	
S-114	LINE 10 SI-351 VENT	S S	
839B AO	LINE 3/4 SI-607 LINE 3/4 SI-607 DC PANEL #31	S S S	
839A AO	LINE 3/4 SI-607 LINE 3/4 SI-607 DC PANEL #31	S S S	
S-111	LINE 10 SI-351 VENT	S S	
S-109	LINE 10 SI-351 VENT	S S	
S-126	LINE 10 SI-351 VENT	S S	
S-127	LINE 10 SI-351 VENT	S S	

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SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
893A	LINE 1 SI-339 LINE 1 SI-339 ITEM #2-M-4	S	
HCV 943 AO	LINE 1 SI-68 VENT INSTRUMENT AIR SYSTEM	S S S	
8302	LINE 3/4 SI-3001 LINE 3/4 SI-3001	S S	
857N	LINE 2 SI-843 LINE 2 SI-843	S S	
857P	LINE 2 SI-843 LINE 2 SI-843	S S	
S-156	LINE 2 SI-843 DRAIN	S S	
S-146	LINE 2 SI-843 DRAIN	S S	
856G MOV	LINE 2 SI-843 LINE 2 SI-843 MCC 36A	S S S	
FE 983	LINE 2 SI-843 LINE 2 SI-843 VALVE 854N VALVE 854P	S S S S	
854N	FE 983 FI 983	S S	
854P	FE 983 FI 983	S S	

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
FE 926A	LINE 1½ SI-754	S	
	LINE 1½ SI-754	S	
	VALVE 854L	S	
	VALVE 854M	S	
854L	FE 926A	S	
	FT 926A	S	
854M	FE 926A	S	
	FT 926A	S	
856F MOV	LINE 1½ SI-754	S	
	LINE 1½ SI-754	S	
	MCC 36B	S	
857M	LINE 1½ SI-754	S	
	LINE 1½ SI-754	S	
857P	LINE 1½ SI-754	S	
	LINE 1½ SI-754	S	
S-150	LINE 1½ SI-754	S	
	DRAIN	S	
S-160	LINE 1½ SI-754	S	
	DRAIN	S	
FE 924A	LINE 1½ SI-753	S	
	LINE 1½ SI-753	S	
	VALVE 854J	S	
	VALVE 854K	S	
854J	FE 924A	S	
	FT 924A	S	

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
854K	FE 924A FT 924A	S S	
856E	LINE 1½ SI-753 LINE 1½ SI-753 MCC 36A	S S S	
857L	LINE 1½ SI-753 LINE 1½ SI-753	S S	
857E	LINE 1½ SI-753 LINE 1½ SI-753	S S	
S-149	LINE 1½ SI-753 DRAIN	S	
S-153	LINE 1½ SI-753 DRAIN	S	
FE 925	LINE 1½ SI-16A LINE 1½ SI-16A VALVE 854G VALVE 854H	S S S S	
854G	FE 925 FT 925	S S	
854H	FE 925 FT 925	S S	
856D MOV	LINE 1½ SI-16A LINE 1½ SI-16A MCC 36B	S S S	

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 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY (S) NONSAFETY (N)	POTENTIAL INTERACTION (IF APPLICABLE)
857K	LINE 1½ SI-16A LINE 1½ SI-16A	S S	
857D	LINE 1½ SI-16A LINE 1½ SI-16A	S S	
S-143	LINE 1½ SI-16A DRAIN	S S	
S-157	LINE 1½ SI-16A DRAIN	S S	
FE 927	LINE 1½ SI-16 LINE 1½ SI-16 VALVE 854E VALVE 854F	S S S S	
854E	FE 927 FT 927	S S	
854F	FE 927 FT 927	S S	
856C MOV	LINE 1½ SI-16 LINE 1½ SI-16 MCC 36A	S S S	
857J	LINE 1½ SI-16 LINE 1½ SI-16	S S	
857C	LINE 1½ SI-16 LINE 1½ SI-16	S S	
S-163	LINE 1½ SI-16 DRAIN	S S	

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 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
S-142	LINE 1½ SI-16 DRAIN	S S	
FE 924B	LINE 2 SI-56 LINE 2 SI-56 VALVE 854C VALVE 854D	S S S S	
854C	FE 924B FT 924B	S S	
854D	FE 924B FT 924B	S S	
856B MOV	LINE 2 SI-56 LINE 2 SI-56 MCC 36B	S S S	
857H	LINE 2 SI-56 LINE 2 SI-56	S S	
857B	LINE 2 SI-56 LINE 2 SI-56	S S	
S-145	LINE 2 SI-56 DRAIN	S S	
S-159	LINE 2SI-56 DRAIN	S S	

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POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
FE 926	LINE 2 SI-56A	S	
	LINE 2 SI-56A	S	
	VALVE 854A	S	
	VALVE 854B	S	
854A	FE 926	S	
	FT 926	S	
854B	FE 926	S	
	FT 926	S	
856A MOV	LINE 2 SI-56A	S	
	LINE 2 SI-56A	S	
	MCC 36A	S	
857G	LINE 2 SI-56A	S	
	LINE 2 SI-56A	S	
857A	LINE 2 SI-56A	S	
	LINE 2 SI-56A	S	
S-154	LINE 2 SI-56A	S	
	DRAIN	S	
S-144	LINE 2 SI-56A	S	
	DRAIN	S	
FE 980	LINE 2 SI-844	S	
	LINE 2 SI-844	S	
	VALVE 854Q	S	
	VALVE 854R	S	
854Q	FE 980	S	
	FT 980	S	

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 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY (S) NONSAFETY (N)	POTENTIAL INTERACTION (IF APPLICABLE)
854R	FE-980 FT-980	S S	
856H MOV	LINE 2 SI-844 LINE 2 SI-844 MCC 36B	S S S	
857R	LINE 2 SI-844 LINE 2 SI-844	S S	
857Q	LINE 2 SI-844 LINE 2 SI-844	S S	
S-147	LINE 2 SI-844 DRAIN	S S	
S-161	LINE 2 SI-844 DRAIN	S S	
FE 981	LINE 2 SI-845 LINE 2 SI-845 VALVES 854 S VALVES 854 T	S S S S	
854S	FE 981 FT 981	S S	
854T	FE 981 FT 981	S S	
856J MOV	LINE 2 SI-845 LINE 2 SI-845 MCC 36B	S S S	

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 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
857T	LINE 2 SI-845	S	
	LINE 2 SI-845	S	
857S	LINE 2 SI-845	S	
	LINE 2 SI-845	S	
S-148	LINE 2 SI-845	S	
	DRAIN	S	
S-158	LINE 2 SI-845	S	
	DRAIN	S	
FE 982	LINE 2 SI-846	S	
	LINE 2 SI-846	S	
	VALVE 8540	S	
	VALVE 854W	S	
854U	FE 982	S	
	FT 982	S	
854W	FE 982	S	
	FT 982	S	
856K MOV	LINE 2 SI-846	S	
	LINE 2 SI-846	S	
	MCC 36A	S	
857W	LINE 2 SI-846	S	
	LINE 2 SI-846	S	
857U	LINE 2 SI-846	S	
	LINE 2 SI-846	S	

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 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENTS	SAFETY (S) NONSAFETY (N)	POTENTIAL INTERACTION (IF APPLICABLE)
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S-151	LINE 2 SI-846 DRAIN	S S	
S-162	LINE 2 SI-846 DRAIN	S S	

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 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT LINES	INTERFACING COMPONENTS	SAFETY (S) NONSAFETY (N)	POTENTIAL INTERACTION (IF APPLICABLE)
3 SI-846	LINE 6 SI-56	S	
	LINE 2 SI-846	S	
	LINE 2 SI-845	S	
2 SI-846	LINE 3 SI-846	S	
	LINE 10 SI-350	S	
2 SI-845	LINE 3 SI-846	S	
	LINE 10 SI-352	S	
2 SI-844	LINE 6 SI-56	S	
	LINE 10 SI-353	S	
2 SI-56A	LINE 6 SI-56	S	
	LINE 10 SI-351	S	
2 SI-56	LINE 6 SI-56	S	
	LINE 2 RC-56	S	
6 SI-56	LINE 2 SI-56	S	
	LINE 2 SI-56A	S	
	LINE 2 SI-844	S	
	LINE 3 SI-846	S	
	LINE 3/4 SI-608	S	
	LINE 1 SI-525	S	
	LINE 4 SI-56	S	
	LINE 4 SI-550	S	
1½ SI-16	LINE 4 SI-16	S	
	LINE 1½ RC-16	S	
1½ SI-16A	LINE 4 SI-16	S	
	LINE 1½ RC-16A	S	

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INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT LINES	INTERFACING COMPONENTS	SAFETY (S) NONSAFETY (N)	POTENTIAL INTERACTION (IF APPLICABLE)
1½ SI-753	LINE 4 SI-16	S	
	LINE 1½ RC-753	S	
1½ SI-754	LINE 4 SI-16	S	
	LINE 1½ RC-754	S	
2 SI-843	LINE 4 SI-16	S	
	LINE 2 RC-843	S	
4 SI-16	LINE 1½ SI-16	S	
	LINE 1½ SI-16A	S	
	LINE 1½ SI-753	S	
	LINE 1½ SI-754	S	
	LINE 2 SI-843	S	
	LINE ¾ SI-270	S	
	LINE 2 SI-594	S	
	BORON INJECTION TANK	S	
¾ SI-608	LINE 6 SI-56	S	
	LINE 4 SI-16	S	
	LINE ¾ SI-38B	S	
	LINE ¾ SI-31	S	
¾ SI-38B	VALVE 855	S	
	LINE ¾ SI-608	S	
¾ SI-31	LINE 2 SI-161	S	
	ISOLATION VALVE SEAL WATER SYS	S	
	LINE ¾ SI-608	S	
	LINE ¾ SI-606	S	
	LINE ¾ SI-605	S	
	LINE 10 SI-350	S	

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 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT LINES	INTERFACING COMPONENTS	SAFETY (S) NONSAFETY (N)	POTENTIAL INTERACTION (IF APPLICABLE)
1 SI-525	LINE 6 SI-56 ACCUMULATOR TANK NO. 34 ACCUMULATOR TANK NO. 33 ACCUMULATOR TANK NO. 32 ACCUMULATOR TANK NO. 31	S S S S S	
3/4 SI-69	ACCUMULATOR TANK NO. 31 ACCUMULATOR TANK NO. 32 ACCUMULATOR TANK NO. 33 ACCUMULATOR TANK NO. 34 LINE 3/8 SL-69	S S S S S	
1 SI-68	LINE 1 WD-68 VENT ACCUMULATOR TANK NO. 31 ACCUMULATOR TANK NO. 32 ACCUMULATOR TANK NO. 33 ACCUMULATOR TANK NO. 34 LINE 3/4 SI-3001	S S S S S S S	
1 SI-601	LINE 2 SI-601 ACCUMULATOR TANK NO. 31 VENT	S S S	
2 SI-601	LINE 1 SI-601 VENT	S S	
1 SI-602	LINE 2 SI-602 ACCUMULATOR TANK NO. 32 VENT	S S S	
2 SI-602	LINE 1 SI-602 VENT	S S	

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 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT LINES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1 SI-603	LINE 2 SI-603 ACCUMULATOR TANK NO. 33 VENT	S S S	
2 SI-603	LINE 1 SI-603 VENT	S S	
1 SI-604	LINE 2 SI-604 ACCUMULATOR TANK NO. 34 VENT	S S S	
2 SI-604	LINE 1 SI-604 VENT	S S	
1 SI-339	VALVE 893A VALVE 893B VALVE 893C VALVE 893D LINE 10 SI-350 LINE 10 SI-351 LINE 10 SI-352 LINE 10 SI-353	S S S S S S S S	
10 SI-350	ACCUMULATOR TANK NO. 34 LINE 1 SI-339 VENT VENT LINE 6 SI-361 LINE 3/4 SI-31 LINE 2 SI-846 PRIMARY LOOP 4 COLD LEG	S S S S S S S S	

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 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT LINES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
10 SI-352	ACCUMULATOR TANK NO. 32 LINE 1 SI-339 VENT VENT LINE 3/4 SI-605 LINE 6 SI-356 LINE 2 SI-845 PRIMARY LOOP 2 COLD LEG	S S S S S S S S	
10 SI-351	ACCUMULATOR TANK NO. 31 LINE 1 SI-339 VENT VENT VENT LINE 3/4 SI-607 LINE 6 SI-355 LINE 2 SI-56A PRIMARY LOOP 1 COLD LEG	S S S S S S S S	
3/4 SI-605	LINE 3/4 SI-31 LINE 10 SI-352	S S	
3/4 SI-606	LINE 3/4 SI-31 LINE 10 SI-353	S S	
3/4 SI-607	LINE 3/4 SI-606 LINE 10 SI-351	S S	
14 SI-57	LINE 14-AC-10 CONTAINMENT SUMP	S S	
8 SI-190	LINE 12 AC-9 LINE 12 SI-155	S S	

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 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT LINES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
12 SI-155	LINE 12 AC-10 LINE 8 SI-189 LINE 8 SI-190 LINE 4 SI-205 LINE 6 SI-518 VALVE S-200 VENT REFUELING WATER STORAGE TANK	S S S S S S S	
3/4 SI-3001	LINE 1 SI-68 LINE 3/4 RC-3001	S S	
8 SI-60	LINE 8 SI-60 (RHR) LINE 6 SI-278 LINE 6 SI-277 LINE 6 SI-60 LINE 8 SI-189	S S S S S	
1 SI-600	LINE 3/4 SI-600 LINE 2 CH-595	S S	
3/4 SI-600	LINE 2 SI-594 LINE 1 SI-600	S S	
2 SI-594	LINE 4 SI-16 LINE 2 CH-594 LINE 6 SI-550	S S S	
2 SI-595	LINE 2 SI-594 LINE 2 CH-595	S S	
3/4 CH-875	LINE 2 CH595 VALVE 1825	S S	

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT LINES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
3/4 SI-270	LINE 4 SI-16 LINE 6 SI-550	S S	
6 SI-550	BORON INJECTION TANK LINE 2 SI-594 LINE 2 SI-284 LINE 3/4 SI-876 LINE 4 SI-550 LINE 4 SI-145 LINE 4 SI-56	S S S S S S S	
2 SI-284	LINE 6 SI-550 LINE 2 CH-284	S S	
3/4 SI-876	LINE 6 SI-550 DRAIN	S S	
8 SI-189	LINE 8 SI-60 LINE 12 SI-155	S S	
6 SI-518	LINE 12 SI-155 LINE 6 SI-277	S S	
2 SI-161	LINE 3 SI-161 LINE 2 SI-154 LINE 3/4 SI-31 LINE 4 SI-550 LINE 4 SI-145 LINE 4 SI-56	S S S S S S	
3/4 SI-434	LINE 6 SI-60 SAFETY INJECTION PUMP #33	S S	

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 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT LINES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
6 SI-60	LINE 8 SI-60 LINE 3/4 SI-434 SAFETY INJECTION PUMP #33	S S S	
3/4 SI-399	LINE 6 SI-277 CONTAINMENT SPRAY PUMP #32	S S	
6 SI-277	LINE 8 SI-60 LINE 3/4 SI-399 CONTAINMENT SPRAY PUMP #32	S S S	
3/4 SI-467	LINE 6 SI-278 CONTAINMENT SPRAY PUMP #31	S S	
6 SI-278	LINE 8 SI-60 LINE 3/4 SI-467 CONTAINMENT SPRAY PUMP #31	S S S	
4 SI-550	LINE 6 SI-550 LINE 3/4 SI-161 CONTAINMENT SPRAY PUMP #33	S S S	
4 SI-145	LINE 6 SI-550 LINE 3/4 SI-161 CONTAINMENT SPRAY PUMP #32	S S S	
4 SI-56	LINE 6 SI-56 LINE 6 SI-550 LINE 3/4 SI-161 CONTAINMENT SPRAY PUMP #31	S S S S	
3 SI-161	LINE 3 WD-197 LINE 2 CH-253 REFUELING WATER STORAGE TANK	S S S	

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 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT LINES	INTERFACING COMPONENTS	SAFETY (S) NONSAFETY (N)	POTENTIAL INTERACTION (IF APPLICABLE)
12 SI-252	REFUELING WATER STORAGE TANK LINE 6 SI-252	S N	2-M5

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INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY

Interconnected System Interaction Evaluation Notes

1. Rupture of non-seismic line
2. Leakage from connecting line
3. Valve required to be closed fails open
4. Valve required to be open fails closed
5. Loss of flow or insufficient flow
6. Loss of function due to loss of motive power
7. Electrical fault

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
SYSTEMS INTERACTION EVALUATION

SYSTEM NO. 2

SYSTEM NAME SAFETY INJECTION SYSTEM

EVALUATION CATEGORY

NON-CONNECTED _____

INTERCONNECTED X

Sean Conna 6-9-82
INTERACTION ENGINEER/DATE

W. A. Griswold 8-9-82
VERIFIED/DATE

Ebasco Services Incorporated

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INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
INTERCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

POTENTIAL INTERACTION
NUMBER: 2-M-1

CONNECTED COMPONENT: Line 3/4 SI-876

BOUNDARY SAFETY RELATED
COMPONENT (S): Valve 1834 - (Normally Closed)

POSTULATED FAILURE (SEE NOTES): 1
METHOD OF DETECTION:

EVALUATION OF INTERACTION: No effect on Subject Safety System, due to normally closed Safety Class 1 valve 1834 as boundry. Line 3/4 SI-876 leads to a local drain

X ACCEPTABLE

_____ POTENTIALLY
UNACCEPTABLE

Sean O'Connor 6/9/82
INTERACTION ENGINEER/DATE

William Griswold 8/2/82
VERIFIED/DATE

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SYSTEM INTERACTION STUDY
INTERCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

POTENTIAL INTERACTION

NUMBER: 2-M-2

CONNECTED COMPONENT: 3/4 PW-875

BOUNDARY SAFETY RELATED

COMPONENT (S): Valve 1825

POSTULATED FAILURE (SEE NOTES): 2

METHOD OF DETECTION:

EVALUATION OF INTERACTION: No effect on Subject Safety System, due to normally closed class 1 valve 1825 as boundary

X ACCEPTABLE

_____ POTENTIALLY
UNACCEPTABLE

Sean O'Connor 6/9/82
INTERACTION ENGINEER/DATE

William Griswold 8/2/82
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INTERCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

POTENTIAL INTERACTION
NUMBER: 2-M-3

CONNECTED COMPONENT: Line 1 RC-38B

BOUNDARY SAFETY RELATED
COMPONENT (S): Relief Valve 855

POSTULATED FAILURE (SEE NOTES): 2
METHOD OF DETECTION:

EVALUATION OF INTERACTION: No effect on Subject Safety System, due to normally closed Safety Class 1 Relief Valve 855 as boundary.

X ACCEPTABLE

_____ POTENTIALLY UNACCEPTABLE

Sean O'Connor 6/9/82
INTERACTION ENGINEER / DATE

William Griswold 8/2/82
VERIFIED / DATE

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INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
INTERCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

POTENTIAL INTERACTION
NUMBER: 2-M-4

CONNECTED COMPONENT: 1 SI-339

BOUNDARY SAFETY RELATED
COMPONENT (S): Valve 893A - (Normally Open)
Valve 893B - (Normally Open)
Valve 893C - (Normally Open)
Valve 893D - (Normally Open)

POSTULATED FAILURE (SEE NOTES): 1
METHOD OF DETECTION:

EVALUATION OF INTERACTION: Potentially unacceptable condition exists,
whereas a Pipe Rupture in line 1 SI-339 interfacing
with normally open valves 893 A-C could empty the
Accumulator Tank Contents.

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

Sean O'Connor 6/9/82
INTERACTION ENGINEER/DATE

William Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
INTERCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

POTENTIAL INTERACTION
NUMBER: 2-M-5

CONNECTED COMPONENT: Line 6 SI-252

BOUNDARY SAFETY RELATED
COMPONENT (S): Line 12 SI-252

POSTULATED FAILURE (SEE NOTES): 1
METHOD OF DETECTION: N/A

EVALUATION OF INTERACTION: No effect on Subject Safety System. Line 6 SI-252
is an overflow drain line.

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 6/9/82
INTERACTION ENGINEER /DATE

William Griswold 8/2/82
VERIFIED /DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
MATRIX PREPARATION

SYSTEM NO 2

SYSTEM NAME SAFETY INJECTION SYSTEM

MATRIX CATEGORY

NON-CONNECTED X

INTERCONNECTED _____

Sean O'Leary 5/25/82
PREPARED BY/DATE

J.P. Ruggieri 7/1/82
APPROVED BY/DATE

Ebasco Services Incorporated

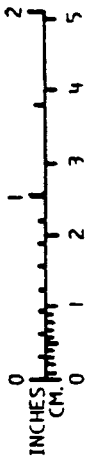
SOURCES

LINES

L-2

		SOURCES											
		NO INTERACTION	1 4" FLOOR DRAIN	2 LIGHT FIXTURE#1	3 LIGHT FIXTURE#2	4 E/T BORIC ACID SYS CABINET 33A	5 E/T BORIC ACID SYS PANEL 33A	6 1" CONDUIT	7 2" CONDUIT	8 GROUNDING CABLE	9 FLEXIBLE CONDUIT	10 LIGHT FIXTURE#3	11 LIGHT FIXTURE#4
1	3/4 SI-31	X											
2	4 SI-56										M220	M221	
3	6 SI-56	X											
4	6 SI-60		M212					M218					
5	8 SI-60	X											
6	4 SI-145			M215				M218					
7	3/4 SI-161			M214				M218	M219	M219	M220		
8	2 SI-161			M215									M208 M209
9	8 SI-189		M212										
10	6 SI-277	X											
11	6 SI-278	X											
12	2 SI-284				M217	M217	M217						
13	3/4 SI-399		M213										
14	3/4 SI-434	X											
15	3/4 SI-467	X											
16	6 SI-518		M212										M208 M209

TARGETS



BUILDING: PRIMARY AUXILIARY BUILDING

FIRE ZONE: 9

LOCATION: _____
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED

POWER AUTHORITY STATE OF NEW YORK

5209.003

DIV. MECH DR. SOC

APPROVED

INDIAN POINT No. 3

L-2

DATE _____ CH. _____

SYSTEMS INTERACTION STUDY

SH 1A OF 1R

SCALE NONE

T P RUGGIERO

INTERACTION MATRIX

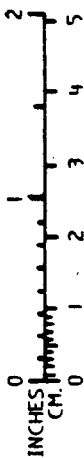
SOURCES

LINES

L-2

			13	14											
		NO INTERACTION	LIGHT FIXTURE#5	LIGHT FIXTURE#6											
7	3/4 SI-161		M210	M211											

TARGETS



BUILDING: PRIMARY AUXILIARY BUILDING
FIRE ZONE: 9
LOCATION:
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

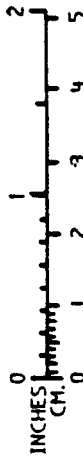
EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. MECH DR. SOC		INDIAN POINT No. 3		L-2
DATE CH		SYSTEMS INTERACTION STUDY		SH 1B OF 18
SCALE NONE		INTERACTION MATRIX		
APPROVED				
T P RUGGIERO				

SOURCES

LINES
L-2

		1	2	3	4	5	6	7	8	9	10			
		4" FLOOR DRAIN	LIGHT FIXTURE#1	E/T BORIC ACID. SYS CABINET 33A	E/T BORIC ACID SYS PANEL 33A	1" CONDUIT	2" CONDUIT	GROUNDING CABLE	FLEXIBLE CONDUIT	LIGHT FIXTURE#5	LIGHT FIXTURE#6	NO INTERACTION		
17	4 SI-550	M212	M214	M216	M216	M216	M218			M210	M211			
18	6 SI-550			M217	M217	M217								
19	3/4 SI-270						M218	M219	M219					
20	#31 PUMP											X		
21	#32 PUMP	M213												
22	#33 PUMP											X		

TARGETS



BUILDING: PRIMARY AUXILIARY BUILDING
 FIRE ZONE: 9
 LOCATION: _____
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

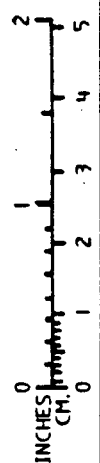
EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u> DR. <u>SOC</u>	APPROVED	INDIAN POINT No. 3		L-2
DATE _____ CH. _____	T P RUGGIERO	SYSTEMS INTERACTION STUDY		SH 2 OF 18
SCALE <u>NONE</u>		INTERACTION MATRIX		

SOURCES

		1	2	3	NO INTERACTION														
		3/8 RC-224	3/8 WD-30	1 WD-67															
23	4 SI-16	M225	M225	M225															
24	3/4 SI-31				X														
25	6 SI-56				X														
26	8 SI-60				X														
27	3/4 SI-270	M225	M225	M225															

TARGETS

LINES
L-2



BUILDING: PRIMARY AUXILIARY BUILDING
FIRE ZONE: 59A
LOCATION : _____
WITHIN FIRE ZONE

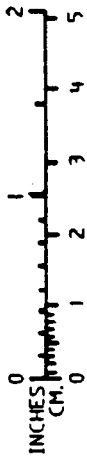
SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK	5209.003
DIV. <u>MECH</u> DR. <u>SOC</u>		INDIAN POINT No. 3	
DATE _____ CH. _____		SYSTEMS INTERACTION STUDY	
SCALE <u>NONE</u>		INTERACTION MATRIX	
APPROVED T P RUGGIERO		L-2 SH 3 OF 18	

SOURCES

LINES L-2		1	2	3														
		FLEXIBLE CONDUIT	LIGHT FIXTURE	3 AC-127	NO INTERACTION													
28	6 SI-56	M224																
29	8 SI-60		M223															
30	3/4 SI-270	M224	M223															
31	6 SI-550				X													
32	4 SI-16				X													
33	3/4 SI-31				X													
34	14 SI-57			E138														
35	18 SI-57				X													

TARGETS



BUILDING: PRIMARY AUXILIARY BUILDING
FIRE ZONE: 62A
LOCATION: _____
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u> DR. <u>SOC</u>	APPROVED	INDIAN POINT No. 3		L-2
DATE _____ CH. _____	T. P. RUGGIERO	SYSTEMS INTERACTION STUDY		SH 4 OF 18
SCALE <u>NONE</u>		INTERACTION MATRIX		

SOURCES

LINES

		1																	
		HAND RAILING	NO INTERACTION																
36	2 SI-56		X																
37	10 SI-353	M272																	
38	1½ SI-754		X																
39	2 SI-844		X																

TARGETS

INCHES
CM. 0 1 2 3 4 5

BUILDING: CONTAINMENT
 FIRE ZONE: 70A
 LOCATION: QUADRANT 3
 WITHIN FIRE ZONE

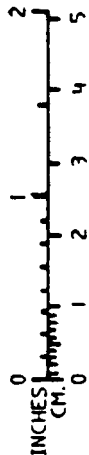
SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209. 003
DIV. <u>MECH</u> DR. <u>SOC</u>	APPROVED		INDIAN POINT No. 3	L-2
DATE _____ CH. _____	T P RUGGIERO		SYSTEMS INTERACTION STUDY	SH 5 OF 18
SCALE <u>NONE</u>			INTERACTION MATRIX	

SOURCES

LINES		SOURCES													
		1	2												
		HAND RAILING	1 RC-383	NO INTERACTION											
40	1½ SI-16			X											
41	¾ SI-31			X											
42	10 SI-350	M273	M275												
43	2 SI-846		M275												

TARGETS



BUILDING: CONTAINMENT
 FIRE ZONE: 70A
 LOCATION: QUADRANT 4
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

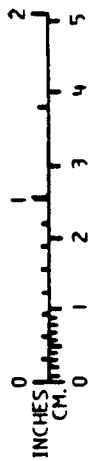
EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u> DR. <u>SOC</u>	APPROVED		INDIAN POINT No. 3	
DATE <u> </u> CH. <u> </u>	T. P. RUGGERO		SYSTEMS INTERACTION STUDY	
SCALE <u>NONE</u>			INTERACTION MATRIX	
			SH 6 OF 18	

SOURCES

LINES

		1																
		VENT PIPING	NO INTERACTION															
44	2 SI-56A		X															
45	10 SI-351	M274																
46	1½ SI-753		X															
47	2 SI-843		X															

TARGETS



BUILDING: CONTAINMENT
 FIRE ZONE: 71A
 LOCATION : QUADRANT 1
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. MECH DR. SOC.		INDIAN POINT No. 3		L-2
DATE _____ CH. _____		SYSTEMS INTERACTION STUDY		SH 7 OF 18
SCALE NONE		INTERACTION MATRIX		
APPROVED		T P RUGGIERO		

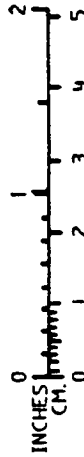
↑

SOURCES

LINES

TARGETS

LINES		1															
		3/4 RC-662	NO INTERACTION														
48	1½ SI-16A		X														
49	10 SI-352	M229															
50	3/4 SI-605		X														
51	2 SI-843		X														
52	2 SI-845		X														



BUILDING: CONTAINMENT
FIRE ZONE: 71A
LOCATION: QUADRANT 2
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u> DR. <u>SOC</u>		INDIAN POINT No. 3		L-2
DATE _____ CH. _____		SYSTEMS INTERACTION STUDY		SH 8 OF 18
SCALE <u>NONE</u>		INTERACTION MATRIX		
APPROVED				
T. P. RIGGIERO				



SOURCES

LINES

TARGETS

INCHES
CM

0 1 2 3 4 5

		1	2	3	4													
		LIGHT FIXTURE#8	3" WD-40	4" WD-38	1" RC-507	NO INTERACTION												
53	2SI-16		M118	M117														
54	1½SI-16A		M118	M117														
55	¾ SI-31		M115	M115														
56	¾ SI-38B					X												
57	6SI-56					X												
58	1SI-68					X												
59	10SI-352					X												
60	1SI-525					X												
61	¾SI-605					X												
62	¾SI-606				M120													
63	¾SI-608					X												
64	1½SI-753					X												
65	1½SI-754					X												
66	2SI-843	M114																

BUILDING: CONTAINMENT

FIRE ZONE: 72A

LOCATION: QUADRANT 2

WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u> DR. <u>SOC</u>	APPROVED		L-2	
DATE <u> </u> CH. <u> </u>	T P RUGGIERO		SH 9 OF 18	
SCALE <u>NONE</u>			SYSTEMS INTERACTION STUDY INTERACTION MATRIX	

SOURCES

LINES

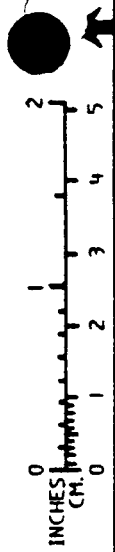
L-2

		LIGHT FIXTURE#8	NO INTERACTION																		
67	2 SI-845	M114																			
68	2 SI-846		X																		
69	3 SI-846		X																		

BUILDING: CONTAINMENT
FIRE ZONE: 72A
LOCATION: QUADRANT 2
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u> DR. <u>SOC</u>	APPROVED		INDIAN POINT No. 3	L-2
DATE <u> </u> CH. <u> </u>	T P RUGGIERO		SYSTEMS INTERACTION STUDY	SH 10 OF 18
SCALE <u>NONE</u>			INTERACTION MATRIX	



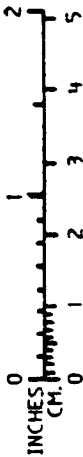
TARGETS



SOURCES

<u>LINES</u> L-2		NO INTERACTION																	
70	6 SI-56	X																	
71	2 SI-56A	X																	
72	3/4 SI-606	X																	
73	1½ SI-753	X																	
74	1½ SI-754	X																	
75	2 SI-844	X																	

TARGETS



BUILDING: CONTAINMENT
FIRE ZONE: 75A
LOCATION: QUADRANT 1
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED
 DIV. MECH. DR. SOC.
 DATE _____ CH. _____
 SCALE NONE

APPROVED
 T P RUGGIERO

POWER AUTHORITY STATE OF NEW YORK
INDIAN POINT No. 3
SYSTEMS INTERACTION STUDY
INTERACTION MATRIX

5209.003
 L-2
SH 11 OF 18

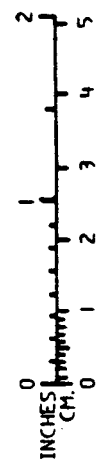
SOURCES

LINES

L-2

		1	2	3	4	5										
		I.A. LINE	LIGHT	2 AC-317	1 RC-507	3 WD-40	NO INTERACTION									
76	2 SI-56						X									
77	10 SI-351						X									
78	10 SI-353	M121				M145										
79	3/4 SI-606		M120	M113												
80	3/4 SI-607		M17	M17	M17											
81	2 SI-844															

TARGETS



BUILDING: CONTAINMENT

FIRE ZONE: 76A

LOCATION: QUADRANT 3

WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK			5209.003
DIV. <u>MECH</u> DR. <u>SOC</u>		INDIAN POINT No. 3			L-2
DATE <u> </u> CH. <u> </u>		SYSTEMS INTERACTION STUDY			SH 12 OF 18
SCALE <u>NONE</u>		INTERACTION MATRIX			
		APPROVED			
		T P RUGGIERO			

SOURCES

LINES

L-2

		1	2	3	4	5	6	7	8				
		LIGHT	3WD-40	3RC-85	4RC-38	1WD-23	3/8 RC-24	3/4 WD-30	3RC-33	NO INTERACTION			
82	1½ SI-16									X			
83	3/4 SI-31									X			
84	3/4 SI-69									X			
85	1 SI-68								M154				
86	1 SI-339									X			
87	10 SI-350	M151			M151								
88	10 SI-351									X			
89	10 SI-352								M153				
90	10 SI-353		M146										
91	1 SI-525	M144	M146	M148 M149		M150	M150	M150	M150				
92	1 SI-601									X			
93	1 SI-602									X			
94	1 SI-603									X			
95	1 SI-604									X			
96	2 SI-846									X			

TARGETS

INCHES
CM

BUILDING: CONTAINMENT
 FIRE ZONE: 77A
 LOCATION: QUADRANT 4
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u> DR. <u>SOC</u>	APPROVED		INDIAN POINT No. 3	L-2
DATE _____ CH. _____	T P RUGGIERO		SYSTEMS INTERACTION STUDY	SH 13 OF 18
SCALE <u>NONE</u>			INTERACTION MATRIX	

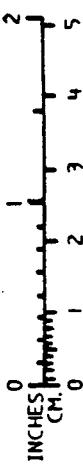
SOURCES

LINES

L-2

		NO INTERACTION																
97	3/4 SI-3001	X																

TARGETS



BUILDING: CONTAINMENT
 FIRE ZONE: 77A
 LOCATION: QUADRANT 4
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. MECH	DR. SOC	INDIAN POINT No. 3		L-2
DATE	CH.	SYSTEMS INTERACTION STUDY		SH 14 OF 18
SCALE	NONE	INTERACTION MATRIX		
		APPROVED		
		T P RUGGIERO		

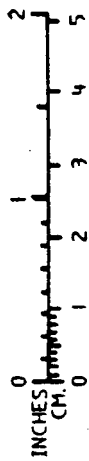
SOURCES

LINES

L-2

		1	2	3	4	5											
		1" SI-797	1" AC-379	LIGHT	IRC-508	ISI-377	NO INTERACTION										
98	10 SI-351	M75	M75														
99	3/4 SI-607	M80		M79	M83												
100	1 1/2 SI-753					M89											
101	1 1/2 SI-754						X										
102	10 SI-293						X										
103	8 SI-91				M82												
104	2 SI-92						X										
105	3/4 SI-711						X										

TARGETS



BUILDING: CONTAINMENT
 FIRE ZONE: 78A
 LOCATION: QUADRANT 3
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. MECH	DR. SOC	APPROVED		L-2
DATE	CH	T. P. RUGGIERO		SH 15 OF 18
SCALE NONE		INDIAN POINT No. 3		
		SYSTEMS INTERACTION STUDY		
		INTERACTION MATRIX		

SOURCES

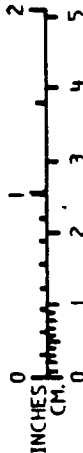
LINES

L-2

4" DRAIN LINE

		1																	
106	4 SI-16	M204																	
107	4 SI-270	M204																	

TARGETS



BUILDING: PRIMARY AUXILIARY BUILDING
 FIRE ZONE: 88A
 LOCATION: _____
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

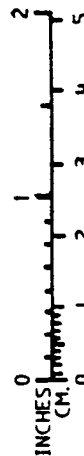
EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u>	DR. <u>SOC</u>	INDIAN POINT No. 3		L-2
DATE _____	CH. _____	SYSTEMS INTERACTION STUDY		SH 16 OF 18
SCALE <u>NONE</u>		INTERACTION MATRIX		
		APPROVED		
		T P RUGGIERO		

SOURCES

LINES

LINES		1	2	3															
		LIGHT FIXTURE#7	HVAC DUCT	6" ROOF DRAIN	NO INTERACTION														
108	4 SI-16				X														
109	6 SI-550	M222	M222	M222															
110	2 SI-594				X														
111	2 SI-595				X														
112	1 SI-600				X														

TARGETS



BUILDING: PRIMARY AUXILIARY BUILDING

FIRE ZONE: BORON INJECTION TANK ROOM

LOCATION: _____
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u> DR. <u>SUC</u>		INDIAN POINT No. 3		L-2
DATE _____ CH. _____		SYSTEMS INTERACTION STUDY		SH 17 OF 18
SCALE <u>NONE</u>		INTERACTION MATRIX		
APPROVED				
T P RUGGIERO				

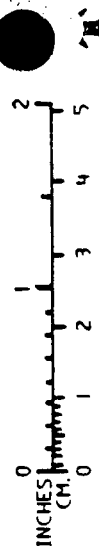
SOURCES

LINES

L-2

TARGETS

		NO INTERACTION															
113	8" - SI-190	X															
114	12" - SI-155	X															



BUILDING: PRIMARY AUXILIARY BUILDING
 FIRE ZONE: 5A
 LOCATION: _____
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. _____ DR. _____	APPROVED		INDIAN POINT No. 3	
DATE _____ CH. _____	T P RUGGIERO		SYSTEMS INTERACTION STUDY	
SCALE NONE			INTERACTION MATRIX	
			SH 18 OF 18	

SOURCES

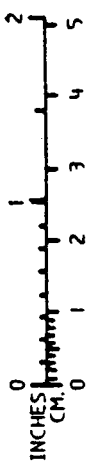
VALVES

V-2

NO INTERACTION

	4 SI-56																		
1	849A	X																	
2	850A	X																	
	6 SI-56																		
3	853A	X																	
4	FE 999	X																	
5	PT 922	X																	
	6 SI-60																		
6	848B	X																	
7	ST-49	X																	
	8 SI-60																		
8	PT947	X																	

TARGETS



BUILDING: PRIMARY AUXILIARY BUILDING
 FIRE ZONE: 9
 LOCATION: _____
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u> DR. <u>SOC</u>	APPROVED		INDIAN POINT No. 3	
DATE _____ CH. _____	T P RUGGIERO		SYSTEMS INTERACTION STUDY	
SCALE <u>NONE</u>			INTERACTION MATRIX	
			SH 1 OF 30	

SOURCES

VALVES

V-2

		1 LIGHT FIXTURE #1	2 LIGHT FIXTURE #5	NO INTERACTION														
	4 SI-145																	
9	MOV 851A			X														
10	852A			X														
11	MOV 851B			X														
12	852B			X														
13	S-101			X														
	3/4 SI-161																	
14	884A			X														
15	1807A			X														
16	884B	M214																
17	1807B	M214																
18	884C		M210															
19	1807C		M210															
20	S-100			X														
21	S-102		M210															

TARGETS



BUILDING: PRIMARY AUXILIARY BUILDING

FIRE ZONE: 9

LOCATION:

WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED

POWER AUTHORITY STATE OF NEW YORK

5209.003

DIV. MECH DR. SOC
DATE CH.
SCALE NONE

APPROVED
T P RIGGIERO

INDIAN POINT No. 3
SYSTEMS INTERACTION STUDY
INTERACTION MATRIX

V-2
SH 2 OF 30

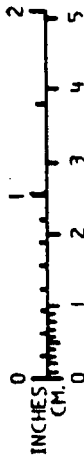
SOURCES

VALVES

V-2

		1																	
		HVAC DUCT	NO INTERACTION																
	2 SI-161																		
22	MOV 842	M208																	
23	MOV 843	M208 M209																	
24	FI-950		X																
	8 SI-189																		
25	847		X																
26	MOV 1810		X																
27	S-203		X																
	6 SI-277																		
28	MOV 887A		X																
29	MOV 887B		X																
30	ST-48		X																

TARGETS



BUILDING: PRIMARY AUXILIARY BUILDING

FIRE ZONE: 9

LOCATION: _____

WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. MECH. DR. SOC	APPROVED		INDIAN POINT No. 3	
DATE _____ CH. _____	T P RUGGIERO		SYSTEMS INTERACTION STUDY	
SCALE NONE			INTERACTION MATRIX	
			SH 3 OF 30	

SOURCES

VALVES

V-2

		1	2	3														
		E/T BORIC ACID SYS CABINET 33A	E/T BORIC ACID SYS PANEL 33A	1"-CONDUIT	NO INTERACTION													
	6 SI-278																	
31	848A				X													
32	SI-47				X													
	2 SI-284																	
33	1822	M217	M217	M217														
34	1840	M217	M217	M217														
	3/4 SI-399																	
35	1819B				X													
	3/4 SI-434																	
36	1819C				X													
	3/4 SI-467																	
37	1819A				X													

TARGETS

INCHES
CM

BUILDING: PRIMARY AUXILIARY BUILDING

FIRE ZONE: 9

LOCATION: _____
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED

POWER AUTHORITY STATE OF NEW YORK

5209.003

DIV. MECH DR. SOC

APPROVED

INDIAN POINT No. 3

DATE _____ CH. _____

T P RUGGIERO

SYSTEMS INTERACTION STUDY

SH 4 OF 30

SCALE NONE

INTERACTION MATRIX

SOURCES

VALVES

V-2

		1	2	3	4	5									
		E/T BORIC ACID SYS CABINET 33A	E/T BORIC ACID SYS PANEL 33A	1" CONDUIT	HVAC DUCT	LIGHT FIXTURE#5	NO INTERACTION								
	6 SI-518														
38	898				M208 M209										
39	S-204						X								
	4 SI-550														
40	849B					M210									
41	850B					M210									
	6 SI-550														
42	MOV 1852A	M216	M216	M216											
43	MOV 1852B	M217	M217	M217											
44	1884						X								
45	1847						X								
46	S-105						X								
47	S-106						X								
48	1843						X								

TARGETS

INCHES
0 1 2 3 4 5
CM
0 1 2 3 4 5

BUILDING: PRIMARY AUXILIARY BUILDING

FIRE ZONE: 9

LOCATION: _____
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. MECH	DR. SOC	INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY INTERACTION MATRIX		SH 5 OF 30
DATE _____	CH. _____			
SCALE NONE	APPROVED	T P RUGGIERO		

SOURCES

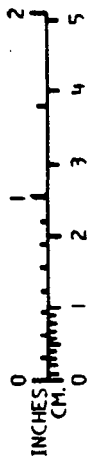
VALVES

V-2

NO INTERACTION

	3/4 SI-31																		
49	859B	X																	
50	862	X																	
51	PI 928	X																	
52	FI 929	X																	
53	859C	X																	
54	859A	X																	
	8 SI-60																		
55	MOV 888A	X																	
56	MOV 888B	X																	

TARGETS



BUILDING: PRIMARY AUXILIARY BUILDING

FIRE ZONE: 59A

LOCATION: _____

WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. MECH	DR. SOC	INDIAN POINT No. 3		V-2
DATE	CH.	SYSTEMS INTERACTION STUDY		SH 6 OF 30
SCALE NONE		INTERACTION MATRIX		
	APPROVED			
	T P RUGGIERO			

SOURCES

TARGETS

		1												
	VALVES V-2	3" AC-127	NO INTERACTION											
	14 SI-57													
57	MOV 885A		X											
58	MOV 885B	E138												

INCHES
CM
0 1 2 3 4 5

BUILDING: PRIMARY AUXILIARY BUILDING
 FIRE ZONE: 62A
 LOCATION : _____
 WITHIN FIRE ZONE SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED.			POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u> DR. <u>SOC</u>	APPROVED		INDIAN POINT No. 3		V-2
DATE _____ CH. _____	T P RUGGIERO		SYSTEMS INTERACTION STUDY		SH 7 OF 30
SCALE NONE			INTERACTION MATRIX		

SOURCES

VALVES

		1																
TARGETS		HAND RAILING	NO INTERACTION															
	2 SI-56																	
59	857B		X															
	10 SI-353																	
60	897C	M273																
61	S-123		X															
62	S-124		X															
	1½ SI-754																	
63	857F		X															
	2 SI-844																	
64	857Q		X															

BUILDING: CONTAINMENT
 FIRE ZONE: 70A
 LOCATION: QUADRANT 3
 WITHIN FIRE ZONE

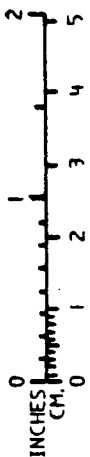
SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED
 DIV. MECH DR. SOC
 DATE _____ CH. _____
 SCALE NONE

APPROVED
 T P RUGGIERO

POWER AUTHORITY STATE OF NEW YORK
 INDIAN POINT No. 3
 SYSTEMS INTERACTION STUDY
 INTERACTION MATRIX

5209.003
 V-2
 SH 8 OF 30

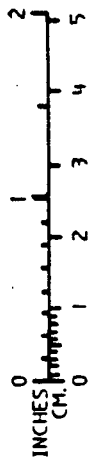


SOURCES

VALVES

TARGETS

		NO INTERACTION																		
	1½ SI-16																			
65	856C	X																		
66	857C	X																		
67	857J	X																		
68	FE927	X																		
69	S-142	X																		
	S-163	X																		
	¾ SI-31																			
71	839G	X																		
72	839H	X																		



BUILDING: CONTAINMENT
 FIRE ZONE: 70A
 LOCATION: QUADRANT 4
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u> DR. <u>SOC</u>	APPROVED		INDIAN POINT No. 3	V-2
DATE <u> </u> CH. <u> </u>	T. P. RIGGIERO		SYSTEMS INTERACTION STUDY	SH 9 OF 30
SCALE <u>NONE</u>			INTERACTION MATRIX	

SOURCES

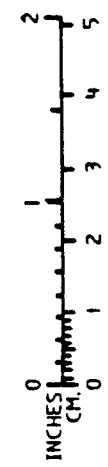
VALVES

TARGETS		1	HAND RAILING	NO INTERACTION														
	10 SI-350																	
73	894D			X														
74	895D			X														
75	897D	M273																
76	S-128			X														
77	S-129			X														
78	S-130			X														
79	S-139			X														

BUILDING: CONTAINMENT
 FIRE ZONE: 70A
 LOCATION: QUADRANT 4
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u>	DR. <u>SOC</u>	APPROVED		V-2
DATE _____	CH. _____	T. P. RUCCIERO		SH 10 OF 30
SCALE <u>NONE</u>		INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY INTERACTION MATRIX		



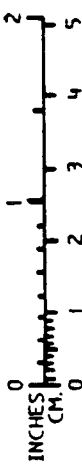
TARGETS

SOURCES

VALVES

TARGETS

		NO INTERACTION											
	2 SI-846	X											
80	856K	X											
81	857U	X											
82	857W	X											
83	FE982	X											
84	S-151	X											
85	S-162	X											



BUILDING: CONTAINMENT
 FIRE ZONE: 70A
 LOCATION: QUADRANT 4
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u> DR. <u>SOC</u>	APPROVED			V-2
DATE <u> </u> CH. <u> </u>	T. P. RUGGIERO			SH 11 OF 30
SCALE <u>NONE</u>	INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY INTERACTION MATRIX			

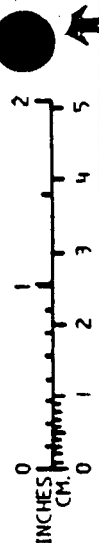
SOURCES

VALVES

NO INTERACTION

TARGETS

	2 SI-56A																		
86	857A	X																	
	10 SI-351																		
87	897A	X																	
88	S-112	X																	
89	S-113	X																	
	1½ SI-753																		
90	857E	X																	



BUILDING: CONTAINMENT
 FIRE ZONE: 71A
 LOCATION: QUADRANT 1
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED.
 DIV. MECH DR. SOC
 DATE _____ CH. _____
 SCALE NONE

APPROVED
 T P RUGGIERO

POWER AUTHORITY STATE OF NEW YORK
 INDIAN POINT No. 3
 SYSTEMS INTERACTION STUDY
 INTERACTION MATRIX

5209.003
 V-2
 SH 12 OF 30

SOURCES

VALVES

TARGETS

INCHES
CM

		1																
		3/4 RC-662	NO INTERACTION															
	1½ SI-16A																	
91	857D		X															
	10 SI-352																	
92	895B		X															
93	897B	M229																
94	S-119		X															
95	S-120		X															
96	S-118		X															
97	894B		X															

BUILDING: CONTAINMENT
 FIRE ZONE: 71A
 LOCATION: QUADRANT 2
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u> DR. <u>SOC</u>	APPROVED		INDIAN POINT No. 3	
DATE _____ CH. _____	T P RUGGIERO		SYSTEMS INTERACTION STUDY	
SCALE <u>NONE</u>			INTERACTION MATRIX	
				V-2 SH <u>13</u> OF 30

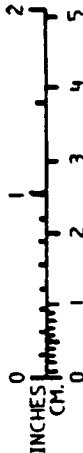
SOURCES

VALVES

NO INTERACTION

	3/4 SI-605																			
98	839D	X																		
	2 SI-843																			
99	857N	X																		
	2 SI-845																			
100	857S	X																		

TARGETS



BUILDING: CONTAINMENT
 FIRE ZONE: 71A
 LOCATION: QUADRANT 2
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED
 DIV. MECH. DR. SOC.
 DATE CH.
 SCALE NONE

APPROVED
 T P RUGGIERO

POWER AUTHORITY STATE OF NEW YORK
 INDIAN POINT No. 3
 SYSTEMS INTERACTION STUDY
 INTERACTION MATRIX

5209.003
 V-2
 SH 14 OF 30

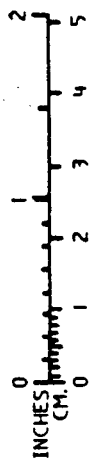
SOURCES

VALVES

V-2

		1																	
		3" WD-40	NO INTERACTION																
	4 SI-16																		
101	S-117		X																
	1½ SI-16A																		
102	856D	M116																	
103	857K		X																
104	FT925		X																
105	S-148		X																
106	S-157		X																
	¾ SI-38B																		
107	855		X																
	6 SI-56																		
108	S-116		X																

TARGETS



BUILDING: CONTAINMENT
 FIRE ZONE: 72A
 LOCATION: QUADRANT 2
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209. 003
DIV. MECH	DR. SOC.	APPROVED		V-2
DATE	CH.	T P RUGGIERO		SH 15 OF 30
SCALE	NONE			

INDIAN POINT No. 3
 SYSTEMS INTERACTION STUDY
 INTERACTION MATRIX

SOURCES

VALVES

V-2

NO INTERACTION

	10 SI-352																		
109	894B	X																	
110	S-118	X																	
111	S-138	X																	
	3/4 SI-605																		
112	839C	X																	
	3/4 SI-608																		
113	858A	X																	
114	858B	X																	

TARGETS



BUILDING: CONTAINMENT
 FIRE ZONE: 72A
 LOCATION: QUADRANT 2
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u>	DR. <u>SOC</u>	INDIAN POINT No. 3		V-2
DATE <u> </u>	CH. <u> </u>	SYSTEMS INTERACTION STUDY		SH 16 OF 30
SCALE <u>NONE</u>	APPROVED	INTERACTION MATRIX		
	T P RUGGIERO			

SOURCES

VALVES

V-2

		1																
		LIGHT FIXTURE#8	NO INTERACTION															
	2 SI-843																	
115	856G	M114																
116	857P		X															
117	FE983		X															
118	S-156		X															
119	S-146		X															
120	857N		X															
	2 SI-845																	
121	856J	M114																
122	857T		X															
123	FT981		X															
124	S-148		X															
125	S-158		X															

TARGETS

INCHES
CM

BUILDING: CONTAINMENT
 FIRE ZONE: 72A
 LOCATION: QUADRANT 2
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED
 DIV. MECH DR. SOC
 DATE CH.
 SCALE NONE

APPROVED
 T. P. RUGGIERO

POWER AUTHORITY STATE OF NEW YORK
 INDIAN POINT No. 3
 SYSTEMS INTERACTION STUDY
 INTERACTION MATRIX

5209.003
 V-2
 SH 17 OF 30



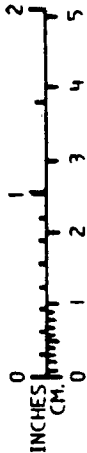
SOURCES

VALVES

V-2

		NO INTERACTION																
	2 SI-56A																	
126	856A	X																
127	857G	X																
128	FE926	X																
129	S-144	X																
130	S-154	X																

TARGETS



BUILDING: CONTAINMENT
 FIRE ZONE: 75A
 LOCATION: QUADRANT 1
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u> DR. <u>SOC</u>	APPROVED		V-2	
DATE _____ CH. _____	T P RUGGIERO		SH 18 OF 30	
SCALE <u>NONE</u>			INTERACTION MATRIX	



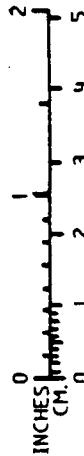
SOURCES

VALVES

V-2

		1	2															
		I A LINE	2 AC-317	NO INTERACTION														
	2 SI-56																	
131	856B		M18															
132	857H			X														
133	FE924B			X														
134	S-145			X														
135	S-159			X														
	10 SI-353																	
136	894C		M121															
137	895C			X														
138	S-122			X														
139	S-137			X														

TARGETS



BUILDING: CONTAINMENT
FIRE ZONE: 76A
LOCATION: QUADRANT 3
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u> DR. <u>SOC</u>	APPROVED		INDIAN POINT No. 3	
DATE _____ CH. _____	T P RUGGIERO		SYSTEMS INTERACTION STUDY	
SCALE <u>NONE</u>			INTERACTION MATRIX	
			SH 19 OF 30	

SOURCES

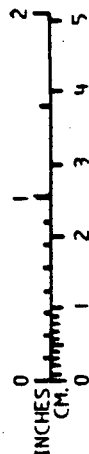
VALVES

V-2

NO INTERACTION

	3/4 SI-606																		
140	839E	X																	
141	839F	X																	
	2 SI-844																		
142	856H	X																	
143	857R	X																	
144	FE 980	X																	
145	S-147	X																	
146	S-161	X																	

TARGETS



BUILDING: CONTAINMENT
 FIRE ZONE: 76A
 LOCATION: QUADRANT 3
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209. 003
DIV. <u>MECH</u> DR. <u>SOC</u>	APPROVED		V-2	
DATE <u> </u> CH. <u> </u>	T P RUGGIERO		SH 20 OF 30	
SCALE <u>NONE</u>				

INDIAN POINT No. 3
 SYSTEMS INTERACTION STUDY
 INTERACTION MATRIX

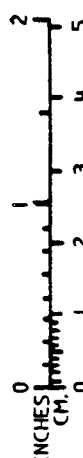
SOURCES

VALVES

V-2

		1																	
		3RC-33	NO INTERACTION																
	3/4 SI-69																		
147	954C		X																
148	954D		X																
149	954E		X																
150	954F		X																
	1 SI-68																		
151	891A		X																
152	891B		X																
153	891C		X																
154	891D		X																
155	HCV 943	M155																	

TARGETS



BUILDING: CONTAINMENT
 FIRE ZONE: 77A
 LOCATION: QUADRANT 4
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. MECH DR. SOC.		INDIAN POINT No. 3		V-2
DATE _____ CH. _____		SYSTEMS INTERACTION STUDY		SH 21 OF 30
SCALE NONE		INTERACTION MATRIX		
APPROVED				
T P RUGGIERO				

SOURCES

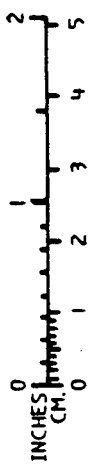
VALVES

V-2

NO INTERACTION

	1 SI-339																		
156	893A	X																	
157	893B	X																	
158	893C	X																	
159	893D	X																	
	10 SI-351																		
160	S-126	X																	
161	S-127	X																	

TARGETS



BUILDING: CONTAINMENT
 FIRE ZONE: 77A
 LOCATION: QUADRANT 4
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u>	DR. <u>SOC</u>	INDIAN POINT No. 3		V-2
DATE _____	CH. _____	SYSTEMS INTERACTION STUDY		SH 22 OF 30
SCALE <u>NONE</u>	APPROVED	INTERACTION MATRIX		
	T P RUGGIERO			

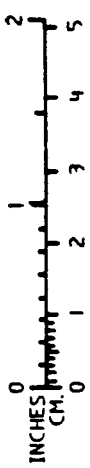
SOURCES

VALVES

V-2

		1	2															
		LIGHT FIXTURE	3RC-33	NO INTERACTION														
	1 SI-525																	
162	890A			X														
163	890B		M155															
164	890C	M144																
165	890D			X														
166	1837			X														
	1 SI-601																	
167	892A			X														
168	1801A			X														
	1 SI-602																	
169	892B			X														
170	1801B			X														

TARGETS



BUILDING: CONTAINMENT
FIRE ZONE: 77A
LOCATION: QUADRANT 4
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u>	DR. <u>SOC</u>	APPROVED		V-2
DATE _____	CH. _____	T P RUGGIERO		SH 23 OF 30
SCALE <u>NONE</u>		INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY INTERACTION MATRIX		

SOURCES

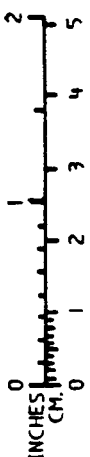
VALVES

V-2

NO INTERACTION

TARGETS

	1 SI-603																			
171	892C	X																		
172	1801C	X																		
	1 SI-604																			
173	892D	X																		
174	1801D	X																		
	3/4 SI-3001																			
175	8308	X																		



BUILDING: CONTAINMENT
 FIRE ZONE: 77A
 LOCATION: QUADRANT 4
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. MECH	DR. SOC	APPROVED		V-2
DATE	CH	T P RUGGIERO		SH 24 OF 30
SCALE NONE		INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY INTERACTION MATRIX		

SOURCES

VALVES

V-2

		1	2	3											
		1 SI-797	1 RC-508	1 SI-377	NO INTERACTION										
	10 SI-351														
176	894A	M80													
177	895A				X										
178	S-109				X										
179	S-111				X										
	3/4 SI-607														
180	839A		M83												
181	839B				X										
	1 1/2 SI-753														
182	856E			M89											
183	857L				X										
184	FE924A				X										
185	S-149				X										
186	S-153				X										

TARGETS

INCHES
CM

BUILDING: CONTAINMENT
FIRE ZONE: 78A
LOCATION: QUADRANT 3
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. MECH. DR. SOC.	APPROVED		INDIAN POINT No. 3	V-2
DATE CH.	T P RUGGIERO		SYSTEMS INTERACTION STUDY	SH 25 OF 30
SCALE NONE			INTERACTION MATRIX	

SOURCES

VALVES

V-2

		1	2															
		1 SI-797	1 RC-508	NO INTERACTION														
	1½ SI-754																	
187	856F			X														
188	857M			X														
189	FE 926A			X														
190	S-150			X														
191	S-160			X														
	10 SI-293																	
192	886A			X														
193	1802A			X														
194	1802B	M78	M82															
	8 SI-91																	
195	886B			X														

TARGETS

INCHES
CM

BUILDING: CONTAINMENT
 FIRE ZONE: 78A
 LOCATION: QUADRANT 3
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u> DR. <u>SOC</u>	APPROVED		INDIAN POINT No. 3	
DATE <u> </u> CH. <u> </u>	T. P. RUGGIERO		SYSTEMS INTERACTION STUDY	
SCALE <u>NONE</u>			INTERACTION MATRIX	
			V-2	
			SH 26 OF 30	

SOURCES

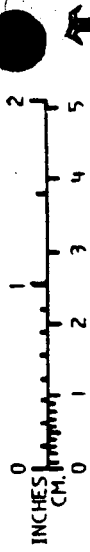
VALVES

V-2

NO INTERACTION

	2 SI-92																		
196	1803	X																	
197	1820	X																	
	3/4 SI-711																		
198	993	X																	

TARGETS



BUILDING: CONTAINMENT
 FIRE ZONE: 78A
 LOCATION: QUADRANT 3
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u>	DR. <u>SOC</u>	INDIAN POINT No. 3		V-2
DATE _____	CH. _____	SYSTEMS INTERACTION STUDY		SH 27 OF 30
SCALE <u>NONE</u>	APPROVED	INTERACTION MATRIX		
	T. P. RUGGIERO			

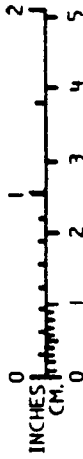
SOURCES

VALVES

V-2

		NO INTERACTION																	
	4 SI-16																		
199	1821	X																	
200	MOV 1835A	X																	
201	MOV 1835B	X																	
	4 SI-270																		
202	1833A	X																	
203	1833B	X																	

TARGETS



BUILDING: PRIMARY AUXILIARY BUILDING

FIRE ZONE: 88A

LOCATION: _____

WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

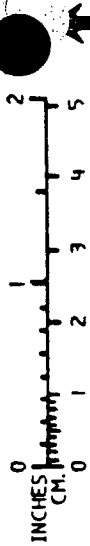
EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>MECH</u>	<u>DRSOC</u>	APPROVED		V-2
DATE _____	CH. _____			SH ²⁸ OF 30
SCALE <u>NONE</u>		T P RUGGIERO	INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY INTERACTION MATRIX	

SOURCES

VALVES

TARGETS

		NO INTERACTION																
	4 SI-16																	
204	1842	X																
	2 SI-594																	
205	1823	X																
206	1844	X																
207	1848	X																
208	FI 916	X																
209	1851A	X																
210	1851B	X																
	2 SI-595																	
211	1846	X																
212	1849	X																



BUILDING: PRIMARY AUXILIARY BUILDING

FIRE ZONE: BORON INJECTION TANK ROOM

LOCATION: _____
 WITHIN FIRE ZONE

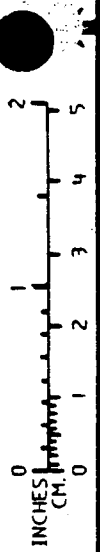
SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. MECH	DR. SOC	INDIAN POINT No. 3		V-2
DATE _____	CH. _____	SYSTEMS INTERACTION STUDY		SH 29 OF 30
SCALE NONE	APPROVED	INTERACTION MATRIX		
	T P RUGGIERO			

SOURCES

TARGETS

VALVES		NO INTERACTION																		
V-2																				
213	881	X																		
214	MOV 882	X																		
215	1863	X																		
216	MOV 883	X																		



BUILDING: PRIMARY AUXILIARY BUILDING
 FIRE ZONE: 5A
 LOCATION: _____
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. _____	DR. _____	APPROVED		INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY INTERACTION MATRIX
DATE _____	CH. _____	T P RUGGIERO		
SCALE NONE				
			SH 30 OF 30	

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY

NON-CONNECTED INTERACTIONS EVALUATION

1. No Interaction - Source is Class II and is therefore supported adequately. (See response to IP-3 FSAR question 5.24).
2. Acceptable - Source pipe/conduit is equal size or smaller in diameter and/or the same thickness or thinner wall than the target pipe/conduit/tubing. Paragraph 6.2.2.1a Volume I.
3. Acceptable - Source has insufficient mass to damage the target component.
4. Acceptable - Basis is engineering judgement. Specific justification is on the evaluation form.
5. Potentially Unacceptable - Discussion of specific is on the evaluation form.
6. Potentially Unacceptable - Source pipe/conduit is large enough to damage target conduit/pipe/tubing.
7. Potentially Unacceptable - Source will fall a sufficient distance, or has adequate mass such that damage to target conduit/box/instrument/tubing/panel may be possible.
8. No Interaction - Upon further investigation of the source, this portion of its system is designated Seismic I.

R2 7/22/82
R1 6/30/82
R0 6/26/82

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
SYSTEMS INTERACTION EVALUATION

SYSTEM NO. 2

SYSTEM NAME SAFETY INJECTION SYSTEM

EVALUATION CATEGORY

NON-CONNECTED X

INTERCONNECTED

Sean O'Connell 7/1/82
INTERACTION ENGINEER/DATE

WAGriswold 8-2-82
VERIFIED/DATE

Ebasco Services Incorporated

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-2-11

PHOTOGRAPH NO.: M221

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4 SI-56 (Shown in center of photograph)

SOURCE: Light Fixture #4 (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and hits line 4 SI-56.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

_____ POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER / DATE

W A Griswold 8/2/82
VERIFIED / DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-4-1

PHOTOGRAPH NO.: M212

BACKGROUND NO.: 2-29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 6 SI-60 (Second line from bottom of photograph)

SOURCE: 4" Floor Drain (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

4" floor drain falls and hits line 6 SI-60

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

-X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

W A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-4-7

PHOTOGRAPH NO.: M218

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 6 SI-60 (6" line with yellow sticker)

SOURCE: 2" Conduit (Shown by arrows)

DESCRIPTION OF POSTULATED INTERACTION:

2" conduit falls and hits line 6 SI-60

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

W A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-6-3

PHOTOGRAPH NO.: M215

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4 SI-145 (4" line shown in center of photograph)

SOURCE: Light Fixture #2 (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and hits line 4 SI-145

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

W A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-7-2

PHOTOGRAPH NO.: M214

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-161 (Shown in center of photograph)

SOURCE: Light Fixture #1 (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and hits line 3/4 SI-161

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

W A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-7-7

PHOTOGRAPH NO.: M-218

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-161 (Not shown on photograph)

SOURCE: 2" Conduit (Shown by arrows)

DESCRIPTION OF POSTULATED INTERACTION:

2" conduit falls and hits line 3/4 SI-161

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Extent of damage caused by 2" conduit undeterminable by visual inspection. Further investigation needed.

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

W A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-7-8

PHOTOGRAPH NO.: M219

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-161 (3/4" line directly above green line)

SOURCE: Grounding Cable (Shown by arrow on left)

DESCRIPTION OF POSTULATED INTERACTION:

Grounding cable breaks free and hits line 3/4 SI-161.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Extent of damage to line 3/4 SI-161 by the grounding cable is undeter-
minable by visual inspection. Further investigation needed.

_____ ACCEPTABLE

_____ X _____ POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

W A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-7-13

PHOTOGRAPH NO.: M210

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-161 (Shown in lower right portion of photograph)

SOURCE: Light Fixture #5 (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and hits line 3/4 SI-161

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

W A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-7-14

PHOTOGRAPH NO.: M211

BACKGROUND NO.: 2-29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-161 (3/4" line shown across lower portion of photograph)

SOURCE: Light Fixture #6 (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and hits line 3/4 SI-161

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

 X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

W A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-8-3

PHOTOGRAPH NO.: M215

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 2 SI-161 (Shown in lower portion of photograph)

SOURCE: Light Fixture #2 (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and hits line 2 SI-161

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
~~UNACCEPTABLE~~

Sean O'Connor 7/1/82

W A Griswold 8/2/82

INTERACTION ENGINEER/DATE

VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY
 NONCONNECTED SYSTEMS INTERACTION
 EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-9-1

PHOTOGRAPH NO.: M212

BACKGROUND NO.: 2-29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 8 SI-189 (Second line from top of photograph)

SOURCE: 4" Floor Drain (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

4" floor drain falls and hits line 8 SI-189

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE	POTENTIALLY UNACCEPTABLE
<u>Sean O'Connor</u> 7/1/82 INTERACTION ENGINEER/DATE	<u>W A Griswold</u> 8/2/82 VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-12-4

PHOTOGRAPH NO.: M217

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 2 SI-284 (Shown in upper right portion of photograph)

SOURCE: E/T Boric Acid (Shown by Arrow on left side of photograph)
Sys Cabinet 33A

DESCRIPTION OF POSTULATED INTERACTION:

E/T Boric Acid Cabinet Falls and
Hits Line 2 SI-284

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

W A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-12-6

PHOTOGRAPH NO.: M217

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 2 SI-284 (Shown in upper right portion of photograph)

SOURCE: 1" Conduit (Shown by Top Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

1" Conduit falls and hits Line 2SI-284.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

 X ACCEPTABLE

_____ POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-13-1

PHOTOGRAPH NO.: M213

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-399 (Not shown on photograph)

SOURCE: 4" Floor Drain (Shown by Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

4" Floor Drain Falls and Hits
Line 3/4 SI-399

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5
Effects of damage to Line 3/4 SI-399
By the Floor Drain to be Examined Further.

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

W A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-16-1

PHOTOGRAPH NO.: M212

BACKGROUND NO.: 2-29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 6 SI-518

SOURCE: 4" Floor Drain

DESCRIPTION OF POSTULATED INTERACTION:

4" Floor Drain Falls and Hits
Line 6 SI-518

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

 X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-16-11

PHOTOGRAPH NO.: M209

BACKGROUND NO.: 2-29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 6 SI-518 (Shown on Left Side of Photograph)

SOURCE: Light Fixture #4 (Not Shown on Photograph)

DESCRIPTION OF POSTULATED INTERACTION:

Light Fixture Falls and Hits
Line 6 SI-518

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-17-1

PHOTOGRAPH NO.: M212

BACKGROUND NO.: 2-29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4 SI-550 (4" Line Shown at Bottom of Photograph)

SOURCE: 4" Floor Drain (Shown by Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

4" Floor Drain Falls and Hits Line 4 SI-550.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-17-2

PHOTOGRAPH NO.: M214

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4 SI-550 (4" Line Shown in Center of Photograph)

SOURCE: Light Fixture #1 (Shown by Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Light Fixture Falls and
Hits Line 4 SI-550

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-17-3

PHOTOGRAPH NO.: M216

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4 SI-550 (4" Line Shown on Right Side of Photograph)

SOURCE: E/T Boric Acid (Shown by Arrow on Left)
Sys. Cabinet 33A

DESCRIPTION OF POSTULATED INTERACTION:

E/T Boric Acid Cabinet Falls and Hits
Line 4 SI-550

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-17-5

PHOTOGRAPH NO.: M216

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4 SI-550 (Shown on Right Side of Photograph)

SOURCE: 1" Conduit (Shown on Right Side of Photograph)

DESCRIPTION OF POSTULATED INTERACTION:

1" Conduit Falls and Hits
Line 4 SI-550

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-17-6

PHOTOGRAPH NO.: M-216

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4 SI-550 (Shown on right side of photograph)

SOURCE: 2" Conduit (Shown by bottom arrow)

DESCRIPTION OF POSTULATED INTERACTION:

2" Conduit fulls and hits line 4SI-550

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-17-9

PHOTOGRAPH NO.: M210

BACKGROUND NO.: 2-29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4 SI-550 (Shown in center of photograph)

SOURCE: Light Fixture #5 (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and hits line 4 SI-550

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

 X ACCEPTABLE

~~POTENTIALLY UNACCEPTABLE~~

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-17-10

PHOTOGRAPH NO.: M211

BACKGROUND NO.: 2-29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4 SI-550 (Shown in upper portion of photograph)

SOURCE: Light fixture #6 (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and hits line 4 SI-550

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-18-3

PHOTOGRAPH NO.: M217

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 6 SI-550 (6" line on left side of photograph)

SOURCE: E/T Boric Acid (Shown by arrow on left)
 Sys Cabinet 33A

DESCRIPTION OF POSTULATED INTERACTION:

E/T Boric Acid Cabinet falls and hits line 6 SI-550

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

 X ACCEPTABLE

POTENTIALLY
~~UNACCEPTABLE~~

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-18-4

PHOTOGRAPH NO.: M217

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 6 SI-550 (Shown on Left Side of Photograph)

SOURCE: E/T Boric Acid (Shown by Arrow on Right)
Sys. Panel 33A

DESCRIPTION OF POSTULATED INTERACTION:

E/T Boric Acid Panel Falls and
Hits Line 6 SI-550

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-18-5

PHOTOGRAPH NO.: M217

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 6 SI-550 (Shown on Left Side of Photograph)

SOURCE: 1" Conduit (Shown by Arrow at Top of Photograph)

DESCRIPTION OF POSTULATED INTERACTION:

1" Conduit Falls and Hits
Line 6 SI-550

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-19-6

PHOTOGRAPH NO.: M218

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-270 (Not Shown on Photograph)

SOURCE: 2" Conduit (Shown by Arrows)

DESCRIPTION OF POSTULATED INTERACTION:

2" Conduit Falls and Hits Line 3/4 SI-270

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Extent of damage to line 3/4 SI-270 undeterminable
by Visual Inspection. Further investigation needed.

_____ ACCEPTABLE

_____ X _____ POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-19-7

PHOTOGRAPH NO.: M219

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-270 (Shown with Heat Tracing in Top Portion of Photograph)

SOURCE: Grounding Cable (Shown by Bottom Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Grounding Cable Breaks Free and Hits Line 3/4 SI-270

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Extent of damage to line 3/4 SI-161 by the Grounding Cable is undeterminable by Visual Inspection further investigation needed.

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER / DATE

William A Griswold 8/2/82
VERIFIED / DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-21-1

PHOTOGRAPH NO.: M213

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: #32 Pump

SOURCE: 4" Floor Drain

DESCRIPTION OF POSTULATED INTERACTION:

4" Floor Drain Falls and Hits
Safety Injection Pump #32

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Extent of damage to the #32 Pump needs further investigation.

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 59A

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-23-1

PHOTOGRAPH NO.: M225

BACKGROUND NO.: 2-17

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4 SI-16 (4" Line shown with Heat Tracing in Center of Photograph)

SOURCE: 3/8 RC-224 (Shown by Arrow on right side of Photograph)

DESCRIPTION OF POSTULATED INTERACTION:

Line 3/8 RC-224 Falls and Hits Line 4 SI-16

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 59A

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-23-2

PHOTOGRAPH NO.: M225

BACKGROUND NO.: 2-17

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4 SI-16 (Shown with Heat Tracing in Center of Photograph)

SOURCE: 3/8 WD-30 (Shown by Middle Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Line 3/8 WD-30 Falls and Hits Line
4 SI-16

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

 X ACCEPTABLE

POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 59A

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-27-1

PHOTOGRAPH NO.: M225

BACKGROUND NO.: 2-17

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-270 (3/4" Line with Heat Tracing in Center
of Photograph)

SOURCE: 3/8 RC-224 (Shown by Arrow on Right)

DESCRIPTION OF POSTULATED INTERACTION:

Line 3/8 RC-224 Falls and Hits
Line 3/4 SI-270

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 59A

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-27-2

PHOTOGRAPH NO.: M225

BACKGROUND NO.: 2-17

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-270 (Shown with Heat Tracing in Center of Photograph)

SOURCE: 3/8 WD-30 (Shown by Center Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Line 3/8 WD-30 Falls and Hits
Line 3/4 SI-270

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

POTENTIALLY
~~UNACCEPTABLE~~

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 59A

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-27-3

PHOTOGRAPH NO.: M225

BACKGROUND NO.: 2-17

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-270 (3/4" Line with Heat Tracing Shown in Center of Photograph)

SOURCE: 1 WD-67 (Shown by Arrow on Left)

DESCRIPTION OF POSTULATED INTERACTION:

Line 1 WD-67 falls A-D Hits Line 3/4 SI-270

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 4

Support braces located between line 1 WD-67 and Line 3/4 SI-270 will prevent interaction with Line 3/4 SI-270.

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY
 NONCONNECTED SYSTEMS INTERACTION
 EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 62A

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-28-1

PHOTOGRAPH NO.: M224

BACKGROUND NO.: 2-13

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 6 SI-56 (Shown in Bottom Portion of Photograph)

SOURCE: Flexible Conduit (Shown by Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Flexible Conduit Falls and Hits Line 6 SI-56

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

 X ACCEPTABLE

 POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
 INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
 VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 62A

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-29-2

PHOTOGRAPH NO.: M223

BACKGROUND NO.: 2-13

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 8 SI-60 (Shown on Right Side of Photograph)

SOURCE: Light Fixture (Shown by Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Light Fixture Falls and Hits
Line 8 SI-60

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 62A

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-30-1

PHOTOGRAPH NO.: M224

BACKGROUND NO.: 2-13

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-270 (Shown in Center of Photograph)

SOURCE: Flexible Conduit (Shown by Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Flexible Conduit Falls and Hits
3/4 SI-270

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
~~UNACCEPTABLE~~

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 62A

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-30-2

PHOTOGRAPH NO.: M223

BACKGROUND NO.: 2-13

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-270 (Shown on Left Side of Photograph)

SOURCE: Light Fixture (Shown by Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Light Fixture Falls and
Hits Line 3/4 SI-270

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

 X ACCEPTABLE

POTENTIALLY
~~UNACCEPTABLE~~

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY
 NONCONNECTED SYSTEMS INTERACTION
 EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 62A

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-34-3

PHOTOGRAPH NO.: E138

BACKGROUND NO.: 2/28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 14 SI-57

SOURCE: 3 AC-127 (Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Line 3 AC-127 Falls and
 Hits Line 14 SI-57

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

~~POTENTIALLY
UNACCEPTABLE~~

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 70A

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-37-1

PHOTOGRAPH NO.: M272

BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 10 SI-353

SOURCE: Hand Railing

DESCRIPTION OF POSTULATED INTERACTION:

Hand Railing Falls and Hits
Line 10 SI-353

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 70A

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-42-1

PHOTOGRAPH NO.: M273

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 10 SI-350

SOURCE: Hand Railing (Shown by Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Hand Railing Falls and Hits
Line 10 SI-350

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A. Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 70A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: L-2-42-2

PHOTOGRAPH NO.: M275

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 10 SI-350 (Shown in Upper Portion of Photograph)

SOURCE: 1 RC-383 (Shown by Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

See Evaluation Note 1

EVALUATION OF INTERACTION:

EVALUATION NOTE NO.:

X ACCEPTABLE

POTENTIALLY
~~UNACCEPTABLE~~

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 70A

LOCATION WITHIN FIRE ZONE: Quadrant 4

POTENTIAL INTERACTION NO.: L-2-43-2

PHOTOGRAPH NO.: M275

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 2 SI-846 (Shown in Upper Portion of Photograph Tapping into
Line 10 SI-350)

SOURCE: 1 RC-383 (Shown by Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

See Evaluation Note 1

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 71A

LOCATION WITHIN FIRE ZONE: Quadrant 1

POTENTIAL INTERACTION NO.: L-2-45-1

PHOTOGRAPH NO.: M274

BACKGROUND NO.: 2-9

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 10 SI-351 (Not Shown in Photograph)

SOURCE: Vent Piping (Shown by Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Vent Piping Falls and
Hits Line 10 SI-351

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

 X ACCEPTABLE

_____ POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 72A

LOCATION WITHIN FIRE ZONE: Quadrant 2

POTENTIAL INTERACTION NO.: L-2-53-2

PHOTOGRAPH NO.: M118

BACKGROUND NO.: 2-10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 2 SI-16 (2" Line shown with 45 Bend in Center of Photograph)

SOURCE: 3" WD-40 (Shown by Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Line 3 WD-40 Falls and Hits
Line 2 SI-16

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

In conformance with evaluation note 2, interaction between 8 WD-40
and 2 SI-16 is potentially unacceptable. Further investigation needed.

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 72A

LOCATION WITHIN FIRE ZONE: Quadrant 2

POTENTIAL INTERACTION NO.: L-2-53-3

PHOTOGRAPH NO.: M117

BACKGROUND NO.: 2-10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 2 SI-16 (2" Bottom Line on Standpipe shown in Center of Photograph)

SOURCE: 4" WD-38 (Shown by Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

See Evaluation Note 1

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A. Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment
FIRE ZONE: 72A
LOCATION WITHIN FIRE ZONE: Quadrant 2
POTENTIAL INTERACTION NO.: L-2-54-2
PHOTOGRAPH NO.: M118
BACKGROUND NO.: 2-10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1-1/2 SI-16A (1 1/2" Line with 90 Bend in Center of Photograph)
SOURCE: 3" WD-40 (Shown by Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Line 3 WD-40 Falls and Hits Line 1 1/2 SI-16A

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

In conformance with Evaluation Note 2, Interaction between line 3 WD-40 and 1 1/2 SI-16A is potentially unacceptable. Further investigation needed.

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 72A

LOCATION WITHIN FIRE ZONE: Quadrant 2

POTENTIAL INTERACTION NO.: L-2-54-3

PHOTOGRAPH NO.: M117

BACKGROUND NO.: 2-10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1-1/2 SI-16A (1 1/2" Line with 90 Bend shown in Center of Photograph)

SOURCE: 4" WD-38 (Shown by Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

See Evaluation Note 1

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment
FIRE ZONE: 72A
LOCATION WITHIN FIRE ZONE: Quadrant 2
POTENTIAL INTERACTION NO.: L-2-55-2
PHOTOGRAPH NO.: M115
BACKGROUND NO.: 2-10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-31 (3/4" Line shown on Right Side of Photograph)

SOURCE: 3" WD-40 (Shown by Arrow on Right Side of Photograph)

DESCRIPTION OF POSTULATED INTERACTION:

Line 3 WD-40 Falls and Hits Line 3/4 SI-31

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

In conformance with evaluation Note 2, Interaction between Line 3 WD-40 and 3/4 SI-31 is potentially unacceptable. Further investigation needed.

<hr style="width: 20%; display: inline-block; margin-right: 5px;"/> ACCEPTABLE	<hr style="width: 20%; display: inline-block; margin-right: 5px;"/> X	<hr style="width: 20%; display: inline-block; margin-right: 5px;"/> POTENTIALLY UNACCEPTABLE
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Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 72A

LOCATION WITHIN FIRE ZONE: Quadrant 2

POTENTIAL INTERACTION NO.: L-2-55-3

PHOTOGRAPH NO.: M115

BACKGROUND NO.: 2-10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-31 (3/4" Line shown on Right Side of Photograph)

SOURCE: 4" WD-38 (Shown by Arrow on Left Side of Photograph)

DESCRIPTION OF POSTULATED INTERACTION:

See Evaluation Note 1

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 72A

LOCATION WITHIN FIRE ZONE: Quadrant 2

POTENTIAL INTERACTION NO.: L-2-62-4

PHOTOGRAPH NO.: M120

BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-606 (3/4" Line with 90 Bend in Lower Left Portion
of Photograph)

SOURCE: 1" RC-507 (Not shown on Photograph)

DESCRIPTION OF POSTULATED INTERACTION:

See Evaluation Note 1

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 72A

LOCATION WITHIN FIRE ZONE: Quadrant 2

POTENTIAL INTERACTION NO.: L2-66-1

PHOTOGRAPH NO.: M114

BACKGROUND NO.: 2-10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 2 SI-843 (Not shown in Photograph)

SOURCE: Light Fixture #8 (Shown by Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Light Fixture Falls and Hits Line
2 SI-843

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 72A

LOCATION WITHIN FIRE ZONE: Quadrant 2

POTENTIAL INTERACTION NO.: L-2-67-1

PHOTOGRAPH NO.: M114

BACKGROUND NO.: 2-10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 2 SI-845 (Not Shown on Photograph)

SOURCE: Light Fixture #8 (Shown by Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Light Fixture Falls and Hits
Line 2 SI-845

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X

ACCEPTABLE

POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: L-2-78-1

PHOTOGRAPH NO.: M121

BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 10 SI-353 (Partially Shown in Lower Right Portion of
Photograph)

SOURCE: I.A. Line (Shown by Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Instrument Air Line Falls and
Hits Line 10 SI-353

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: L-2-78-5

PHOTOGRAPH NO.: M145

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 10 SI-353 (10" Line Shown in Lower Portion of Photograph)

SOURCE: 3 WD-40 (Shown by Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Line 3 WD-40 Falls and Hits
Line 10 SI-353

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

 X ACCEPTABLE

POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: L-2-79-1

PHOTOGRAPH NO.: M120

BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-606 (3/4" Line with 90 Bend shown in Lower Left
Portion of Photograph)

SOURCE: Light Fixture

DESCRIPTION OF POSTULATED INTERACTION:

Light Fixture Falls A-D H:TS
Line 3/4 SI-606

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: L-2-79-3

PHOTOGRAPH NO.: M113

BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-606 (3/4" Line with 90 Bend in Lower Left Portion of Photograph)

SOURCE: 2 AC-317 (Hidden behind 12" Line in Center of Photograph)

DESCRIPTION OF POSTULATED INTERACTION:

Line 2 AL-317 Falls and Hits Line 3/4 SI-606

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

In Conformance with Evaluation Note 2, Interaction between lines 2 AC-317 and 3/4 SI-606 is potentially unacceptable. Further investigation needed.

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER / DATE

William A Griswold 8/2/82
VERIFIED / DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: L-2-80-2

PHOTOGRAPH NO.: M17

BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-607 (3/4" Line Shown Directly beneath White Arrow)

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Light Fixture Falls and Hits Line 3/4 SI-607

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: L-2-80-3

PHOTOGRAPH NO.: M17

BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-607 (3/4" line shown directly beneath white arrow)

SOURCE: 2 AC-317 (shown by lower white arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Line 2 AC-317 Falls and
Hits Line 3/4 SI-607

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

In conformance with Evaluation Note 2, interaction between line 2AC-317
and 3/4 SI-607 is potentially unacceptable. Further investigation needed.

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: L-2-80-3

PHOTOGRAPH NO.: M17

BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-607 (3/4" line shown directly beneath white arrow)

SOURCE: 1 RC-507 (not shown on photograph)

DESCRIPTION OF POSTULATED INTERACTION:

See evaluation note 1

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant 4

POTENTIAL INTERACTION NO.: L-2-85-8

PHOTOGRAPH NO.: M154

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1 SI-68

SOURCE: 3 RC-33 (shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

See evaluation note 1

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A. Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant 4

POTENTIAL INTERACTION NO.: L-2-87-1

PHOTOGRAPH NO.: M151

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 10 SI-350 (10" line shown in center of photograph)

SOURCE: Light (partially shown)

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and hits line
10 SI-350

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant 4

POTENTIAL INTERACTION NO.: L-2-89-8

PHOTOGRAPH NO.: M153

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 10 SI-352 (shown in lower portion of photograph)

SOURCE: 3 RC-33 (shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

See evaluation note 1

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

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POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant 4

POTENTIAL INTERACTION NO.: L-2-90-2

PHOTOGRAPH NO.: M146

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 10 SI-353 (shown at bottom of photograph)

SOURCE: 3 WD-40 (shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Line 3 WD-40 falls and hits
Line 10 SI-353

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

 X ACCEPTABLE

 POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant 4

POTENTIAL INTERACTION NO.: L-2-91-1

PHOTOGRAPH NO.: M144

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1 SI-525 (1" line shown on right side of photograph)

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and hits
Line 1 ST-525

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant 4

POTENTIAL INTERACTION NO.: L-2-91-2

PHOTOGRAPH NO.: M146

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1 SI-525 (located off right side of photograph)

SOURCE: 3 WD-40 (shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Line 3WD-40 falls and hits
Line 1 SI-525

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

In conformance with evaluation note 2, interaction between lines 3 WD-40 and 1 SI-525 is potentially unacceptable. Further investigation needed.

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant 4

POTENTIAL INTERACTION NO.: L-91-3

PHOTOGRAPH NO.: M148, M149

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1 SI-525 (1" line through center of M-148)

SOURCE: 3 RC-85 (shown by arrow on both photograph)

DESCRIPTION OF POSTULATED INTERACTION:

See evaluation note 1

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant 4

POTENTIAL INTERACTION NO.: L-2-91-5

PHOTOGRAPH NO.: M150

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1 SI-525 (1" line shown horizontally across center of photograph)

SOURCE: 1 WD-23 (1" green line on right side of photograph)

DESCRIPTION OF POSTULATED INTERACTION:

See evaluation note 1

EVALUATION OF INTERACTION: :

EVALUATION NOTE NO:

X ACCEPTABLE

POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant 4

POTENTIAL INTERACTION NO.: L-2-91-6

PHOTOGRAPH NO.: M150

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1 SI-525 (1" line shown horizontally across center of photograph)

SOURCE: 3/8 RC-24 (3/8" white line on right side of photograph)

DESCRIPTION OF POSTULATED INTERACTION:

See evaluation note 1

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

X ACCEPTABLE

POTENTIALLY
~~UNACCEPTABLE~~

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant 4

POTENTIAL INTERACTION NO.: L-2-91-7

PHOTOGRAPH NO.: M150

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1 SI-525 (1" line shown vertically across center of photograph)

SOURCE: 3/4 WD-30 (3/4" white line on right side of photograph)

DESCRIPTION OF POSTULATED INTERACTION:

See evaluation note 1

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant 4

POTENTIAL INTERACTION NO.: L-2-91-8

PHOTOGRAPH NO.: M150

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1 SI-525 (1" line shown vertically across center of
photograph)

SOURCE: 3 RC-33 (shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

See evaluation note 1

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 78A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: L-2-98-1

PHOTOGRAPH NO.: M75

BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 10 SI-351 (shown in center of photograph)

SOURCE: 1" SI-797 (1" dark line shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Line 1 SI-797 falls and hits
Line 10 SI-351

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 78A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: L-2-98-2

PHOTOGRAPH NO.: M75

BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 10 SI-351 (shown in center of photograph)

SOURCE: 1" AC-379 (1" white line shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Line 1 AC-379 falls and hits
Line 10 SI-351

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 78A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: L-2-99-1

PHOTOGRAPH NO.: M80

BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-607 (3/4" line shown vertically on left side of photograph)

SOURCE: 1" SI-797 (shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Line 1 SI-797 falls and hits
Line 3/4 SI-607

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

In conformance with evaluation note 2, interaction between lines 1 SI-797 and 3/4 IS-607 is potentially unacceptable. Further investigation needed.

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 78A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: L-2-99-3

PHOTOGRAPH NO.: M79

BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-607 (3/4" line with 90 bend shown in center of
photograph)

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and hits
Line 3/4 SI-607

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 78A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: L-2-99-4

PHOTOGRAPH NO.: M83

BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-607 (3/4" line shown with valve inline)

SOURCE: 1 RC-508 (shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

See evaluation note 1

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

X ACCEPTABLE

POTENTIALLY
~~UNACCEPTABLE~~

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 78A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: L-2-103-4

PHOTOGRAPH NO.: M82

BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 8 SI-91 (Not shown in photograph)

SOURCE: 1 RC-508 (shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

See evaluation note 1

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

X ACCEPTABLE

_____ POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-106-1

PHOTOGRAPH NO.: M204

BACKGROUND NO.: 2-16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4 SI-16

SOURCE: 4" Drain Line (shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

4" drain line falls and
hits line 4 SI-16

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

POTENTIALLY
~~UNACCEPTABLE~~

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-107-1

PHOTOGRAPH NO.: M204

BACKGROUND NO.: 2-16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4 SI-270

SOURCE: 4" Drain Line (shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

4" drain line falls and hits
line 4 SI-270

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

POTENTIALLY
~~UNACCEPTABLE~~

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: Boron Injection Tank Room

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-109-1

PHOTOGRAPH NO.: M222

BACKGROUND NO.: 2-13

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 6 SI-550 (not shown on photograph)

SOURCE: Light Fixture #7 (shown by right arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and
hits line 6 SI-550

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
~~UNACCEPTABLE~~

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
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POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: Boron Injection Tank Room

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-109-2

PHOTOGRAPH NO.: M222

BACKGROUND NO.: 2-13

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 6 SI-550 (not shown on photograph)

SOURCE: HVAC Duct (shown in center of photograph)

DESCRIPTION OF POSTULATED INTERACTION:

HVAC Duct falls and hits
Line 6 SI-550

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
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POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: Boron Injection Tank Room

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-109-3

PHOTOGRAPH NO.: M222

BACKGROUND NO.: 2-13

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 6 SI-550 (Not shown on photograph)

SOURCE: 6" Roof Drain (Shown by left arrow)

DESCRIPTION OF POSTULATED INTERACTION:

6" Roof Drain falls and hits line 6 SI-550

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

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POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-16-1

PHOTOGRAPH NO.: M214

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 884B (shown in center of photograph)

SOURCE: Light Fixture #1

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and
hits valve 884B

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-17-1

PHOTOGRAPH NO.: M214

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1807B (Shown at bottom of photograph)

SOURCE: Light Fixture #1

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and hits
valve 1807B

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER / DATE

William A Griswold 8/2/82
VERIFIED / DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-18-2

PHOTOGRAPH NO.: M210

BACKGROUND NO.: 2-29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 884C (shown in center of photograph)

SOURCE: Light Fixture #5

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and
hits valve 884C

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

 X ACCEPTABLE

~~POTENTIALLY
UNACCEPTABLE~~

Sean O'Connor 7/1/82
INTERACTION, ENGINEER / DATE

William A Griswold 8/2/82
VERIFIED / DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-19-2

PHOTOGRAPH NO.: M210

BACKGROUND NO.: 2-29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1807C (shown at bottom of photograph)

SOURCE: Light Fixture #5

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and
hits valve 1807C

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-21-2

PHOTOGRAPH NO.: M210

BACKGROUND NO.: 2-29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: S-102 (not shown in photograph)

SOURCE: Light Fixture #5

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and
hits valve S-102

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-22-1

PHOTOGRAPH NO.: M208, M209

BACKGROUND NO.: 2-29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: MOV 842

SOURCE: HVAC Duct

DESCRIPTION OF POSTULATED INTERACTION:

HVAC Duct falls and hits
valve Mov 842

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 4

See evaluation of No. L-2-8-12 on Sh. 15.

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-23-1

PHOTOGRAPH NO.: M208, M209

BACKGROUND NO.: 2-29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: MOV 843 (shown on left side of photograph)

SOURCE: HVAC Duct (shown by arrow on M-208)

DESCRIPTION OF POSTULATED INTERACTION:

HVAC Duct falls and hits
Valve Mov 843

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 4

See evaluation of No. L-2-8-12 on Sh. 15.

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-33-1

PHOTOGRAPH NO.: M217

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1822 (shown in center of photograph)

SOURCE: E/T Boric Acid (shown by lower right arrow)
Sys. Cabinet 33A

DESCRIPTION OF POSTULATED INTERACTION:

E/T Boric Acid Cabinet falls and
Hits valve 1822

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

Heat tracing may be damaged, but valve integrity is expected to
remain intact.

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

10/1/82

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INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-33-2

PHOTOGRAPH NO.: M217

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1822 (shown in center of photograph)

SOURCE: E/T Boric Acid (shown by lower left arrow)
Sys. Panel 33A

DESCRIPTION OF POSTULATED INTERACTION:

E/T Boric Acid Panel 33A falls and
Hits valve 1822

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

Heat Tracing may be damaged. But valve Integrity is expected to
remain intact.

X ACCEPTABLE

POTENTIALLY
 UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

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POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-33-3

PHOTOGRAPH NO.: M217

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1822 (shown in center of photograph)

SOURCE: 1" Conduit (shown by top arrow)

DESCRIPTION OF POSTULATED INTERACTION:

1" Conduit falls and hits
valve 1822

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

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VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-34-1

PHOTOGRAPH NO.: M217

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1840 (shown in center of photograph)

SOURCE: E/T Boric Acid (shown by lower right arrow)
Sys. Cabinet 33A

DESCRIPTION OF POSTULATED INTERACTION:

E/T Boric Acid Cabinet 33A falls and
Hits valve 1840

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

Heat tracing may be damaged, but valve integrity is expected to
remain intact.

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-34-2

PHOTOGRAPH NO.: M217

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1840 (shown in center of photograph)

SOURCE: E/T Boric Acid (shown by lower left arrow)
Sys. Panel 33A

DESCRIPTION OF POSTULATED INTERACTION:

E/T Boric Acid Panel 33A
falls and hits valve 1840

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

Heat tracing may be damaged, but valve integrity is expected to remain intact.

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-34-3

PHOTOGRAPH NO.: M217

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1840 (Shown in center of photograph)

SOURCE: 1" Conduit (Shown by top arrow)

DESCRIPTION OF POSTULATED INTERACTION:

1" Conduit falls and hits valve 1840

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

~~_____~~ POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-40-5

PHOTOGRAPH NO.: M210

BACKGROUND NO.: 2-29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 849B (Shown in lower right portion of photograph)

SOURCE: Light Fixture #5 (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and hits valve 894B

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

_____ POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

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VERIFIED/DATE

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INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-42-1

PHOTOGRAPH NO.: M216

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: MOV 1852A (Shown on left side of photograph)

SOURCE: E/T Boric Acid (Shown by arrow on right)
Sys. Cabinet 33A

DESCRIPTION OF POSTULATED INTERACTION:

E/T Boric Acid Cabinet 33A falls and hits valve 1852A.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

Heat tracing may be damaged, but valve integrity is expected to remain intact.

x ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-43-2

PHOTOGRAPH NO.: M217

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: MOV 1852B (Shown on right side of photograph)

SOURCE: E/T Boric Acid (Shown by arrow on left)
Sys. Panel 33A

DESCRIPTION OF POSTULATED INTERACTION:

E/T Boric Acid Panel 33A falls and hits valve 1852B

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

Heat tracing may be damaged, but valve integrity will remain intact.

 X ACCEPTABLE

~~_____~~ POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

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INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building

FIRE ZONE: 62A

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-58-1

PHOTOGRAPH NO.: E138

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: MOV 885B (Shown on left side of photograph)

SOURCE: 3" AC-127 (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Line 3 AC-127 falls and hits valve 885B

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 4

Distance from valve body to line is mainmal. No damage is postulated.

X ACCEPTABLE

POTENTIALLY
 UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 70A

LOCATION WITHIN FIRE ZONE: Quadrant 4

POTENTIAL INTERACTION NO.: V-2-75-1

PHOTOGRAPH NO.: M273

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 897D

SOURCE: Hand Railing (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Hand railing falls and hits valve 897D

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

 X ACCEPTABLE

 POTENTIALLY
 UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment
FIRE ZONE: 71A
LOCATION WITHIN FIRE ZONE: Quadrant 2
POTENTIAL INTERACTION NO.: V-2-93-1
PHOTOGRAPH NO.: M229
BACKGROUND NO.: 2-10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 897B (Shown on right side of photograph)

SOURCE: 3/4 RC-662 (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Line 3/4 RC-662 falls and hits valve 897B

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY UNACCEPTABLE

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INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

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INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 72A

LOCATION WITHIN FIRE ZONE: Quadrant 2

POTENTIAL INTERACTION NO.: V-2-102-1

PHOTOGRAPH NO.: M116

BACKGROUND NO.: 2-10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 856D (Shown in center of photograph)

SOURCE: 3" WD-40 (Not shown on photograph)

DESCRIPTION OF POSTULATED INTERACTION:

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Valve operator and connections may be susceptible to damage.

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

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INTERACTION ENGINEER/DATE

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VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 72A

LOCATION WITHIN FIRE ZONE: Quadrant 2

POTENTIAL INTERACTION NO.: V-2-121-1

PHOTOGRAPH NO.: M114

BACKGROUND NO.: 2-10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 856J (Shown in center of photograph)

SOURCE: Light Fixture #8 (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and hits valve 856J.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X

ACCEPTABLE

POTENTIALLY
~~UNACCEPTABLE~~Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATEWilliam A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: V-2-131-2

PHOTOGRAPH NO.: M18

BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 856B (Shown in center of photograph, partially hidden)

SOURCE: 2 AC-317 (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:
Line 2AC-317 falls and hits valve 856B.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

<input checked="checked" type="checkbox"/> ACCEPTABLE	<input type="checkbox"/> POTENTIALLY UNACCEPTABLE
<u>Sean O'Connor</u> <u>7/1/82</u> INTERACTION ENGINEER/DATE	<u>William A Griswold</u> <u>8/2/82</u> VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: V-2-136-1

PHOTOGRAPH NO.: M121

BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 894C

SOURCE: I A Line

DESCRIPTION OF POSTULATED INTERACTION:

Instrument air line falls and hits valve 894C.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

_____ X _____ ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82

INTERACTION ENGINEER/DATE

William A Griswold 8/2/82

VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant 4

POTENTIAL INTERACTION NO.: V-2-155-1

PHOTOGRAPH NO.: M155

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: HCV-943 (Shown on right side of photograph)

SOURCE: 3 RC-33 (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Line 3RC-33 falls and hits valve HCV-943

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Extent of damage is undeterminable by visual inspection. Further investigation needed.

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
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POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant 4

POTENTIAL INTERACTION NO.: V-2-163-2

PHOTOGRAPH NO.: M155

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 890B

SOURCE: 3 RC-33 (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Line 3 RC-33 falls and hits valve 890B

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Extent of damage to valve 890B is underterminable by visual inspection.
Further investigation needed.

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

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VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant 4

POTENTIAL INTERACTION NO.: V-2-164-1

PHOTOGRAPH NO.: M144

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 890C (Shown at bottom of photograph)

SOURCE: Light Fixture

DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and hits valve 890C

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLEPOTENTIALLY
UNACCEPTABLESean O'Connor 7/1/82
INTERACTION ENGINEER/DATEWilliam A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY
 NONCONNECTED SYSTEMS INTERACTION
 EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 78A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: V-2-176-1

PHOTOGRAPH NO.: M80

BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 894A (Shown in bottom portion of photograph)

SOURCE: 1 SI-797 (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Line 1 SI-797 falls and hits valve 894A

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X
 _____ ACCEPTABLE

 POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
 INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
 VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment
FIRE ZONE: 78A
LOCATION WITHIN FIRE ZONE: Quadrant 3
POTENTIAL INTERACTION NO.: V-2-180-2
PHOTOGRAPH NO.: M83
BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 839A (Shown in top portion of photograph)
SOURCE: 1 RC-508 (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:
Line 1RC-508 falls and hits 839A

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Extent of damage is undeterminable by visual inspection. Further investigation needed.

ACCEPTABLE

X

POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 78A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: V-2-182-3

PHOTOGRAPH NO.: M89

BACKGROUND NO.: 2-9

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 856E

SOURCE: 1 SI-377 (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Line 1 SI-377 falls and hits valve 856E

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Containment

FIRE ZONE: 78A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: V-2-194-2

PHOTOGRAPH NO.: M82

BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1802B (White valve on left side of photograph)

SOURCE: 1 RC-508 (Shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Line 1 RC-508 falls and hits valve 1082B.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

 X ACCEPTABLE

POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82
INTERACTION ENGINEER/DATE

William A Griswold 8/2/82
VERIFIED/DATE

Postulated Failure Modes

MECHANICAL FAILURES

- M - 1 Ruptured Pipe or Tube
- M - 2 Crimped or Collapsed Pipe or Tube
- M - 3 Loss of Function (Pump, Fan, Blowers etc.)
- M - 4 Loss of Valve Motive Power
- M - 5 Failure of or damage to Valve Actuating Mechanism
- M - 6 Other (Explain)

ELECTRICAL FAILURES

- E - 1 Open Circuit
- E - 2 Short Circuit
- E - 3 Other (Explain)

INSTRUMENTATION & CONTROL FAILURES

- C - 1 Fail High
- C - 2 Fail Low
- C - 3 Fail Open
- C - 4 Fail Closed
- C - 5 Loss of Motive Power
- C - 6 Other (Explain)

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
FMEA PREPARATION

SYSTEM NO 2

SYSTEM NAME Safety Injection System

FMEA CATEGORY

NON-CONNECTED _____

INTERCONNECTED X

L. Cerra 5-18-83
PREPARED BY/DATE

J.P. Ruggieri 5/31/83
CHECKED BY/DATE

W. Griswold 6-1-83
VERIFIED BY/DATE

Ebasco Services Incorporated

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-M-1A

Interaction Number(s): 2-M-4

Fire Zone: N/A

Target Component(s)
Number, Description & Function:

Valves 893A thru D-Normally open. The valves are the class break from Category I to III.

Postulated Failure Mode(s)
and Evaluation:

M-1-(P) Normally open valve would allow accumulator tank contents to empty if downstream line breaks. Remote shutoff is provided, however, it is Seismic Category III. Therefore, no credit can be derived from the remote shutoff.

Acceptable X / 1 (X) 2 () 3 () 4 ()
Potentially Unacceptable/Safety Function Affected

L Cerra 5/18/83
EVALUATING ENGINEER/DATE

T P Ruggiero 5/31/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
FMEA PREPARATION

SYSTEM NO 2

SYSTEM NAME Safety Injection System

FMEA CATEGORY

NON-CONNECTED X

INTERCONNECTED

Raj B Chopra
PREPARED BY/DATE 2/7/83

Thomas P. Reynolds
CHECKED BY/DATE 3/30/83

W. Griswold
VERIFIED BY/DATE 4-29-83

Ebasco Services Incorporated

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-M-1

Interaction Number(s): L-2-7-7
L-2-7-8

Fire Zone: 9

Target Component(s)
Number, Description & Function:

3/4 - SI-161; Line from Safety Injection Pump (#31) Discharge Line 4"- #56 to
Refueling Water Storage Tank. Recirculation Line.

Postulated Failure Mode(s)
and Evaluation:

- M-1 - (P) S I capability affected due to loss of fluid.
- M-2 - (A) Recirculation capability not required for safety function.

	X	/ 1	(X)	2	()	3	()	4	()
Acceptable	Potentially Unacceptable/Safety Function Affected								

Raj G Chopra 2/7/83
EVALUATING ENGINEER/DATE

T P Ruggiero 3/30/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-M-2

Interaction Number(s): L-2-13-1

Fire Zone: 9

Target Component(s)
Number, Description & Function:

3/4 - SI-399; 3/4" line from S I Pump #32 to the Pump Suction Line 6"-277.
(S I Pump seal leak-off)

Postulated Failure Mode(s)
and Evaluation:

- M-1 - (P) S I Pump suction may be affected to unacceptable level
- M-2 - (P) due to fluid loss or line unavailability.

	X	/ 1 (X) 2 () 3 () 4 ()
Acceptable	Potentially Unacceptable/Safety Function Affected	
Raj G Chopra 2/7/83	T P Ruggiero 3/30/83	
EVALUATING ENGINEER/DATE	CHECKED/DATE	

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-M-3

Interaction Number(s): L-2-19-6
L-2-19-7

Fire Zone: 9

Target Component(s)
Number, Description & Function:

3/4 - S I - 270; 3/4" line from Pump (#33) discharge line 4"-#550 to line 4"
#550 to line 4" #16; bypassing boron injecton tank line 6"
#550.

Postulated Failure Mode(s)
and Evaluation:

- M-1 - (P) S I capability affected due to fluid loss.
- M-2 - (A) S I capability not affected. Line not required for safety function.

	X	/ 1 (X) 2 () 3 () 4 ()
Acceptable	Potentially Unacceptable/Safety Function Affected	

Raj G Chopra 2/7/83
EVALUATING ENGINEER/DATE

T P Ruggiero 3/30/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-M-4

Interaction Number(s): L-2-21-1

Fire Zone: 9

Target Component(s)
Number, Description & Function:

Pump #32; Safety Injection Pump

Postulated Failure Mode(s)
and Evaluation:

M-3 - (P) This pump failure along with a second pump failure (single failure criteria) will leave only one working pump. Unacceptable.

Acceptable

X / 1 (X) 2 () 3 () 4 ()
Potentially Unacceptable/Safety Function Affected

Raj G Chopra 2/7/83
EVALUATING ENGINEER/DATE

T P Ruggiero 3/30/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-M-5

Interaction Number(s): L-2-53-2

Fire Zone: 72A

Target-Component(s)
Number, Description & Function:

2-SI-16; Line from Boron Injection Tank to Cold Leg of Loop #4 (S G #34).
S I Line

Postulated Failure Mode(s)
and Evaluation:

- M-1 - (P) Results in loss of fluid, affecting S I capability.
- M-2 - (A) No loss of S I fluid. S I can be achieved by injecting into other R C legs (assuming the injection lines for other legs are not damaged).

	X	/ 1 (X) 2 () 3 () 4 ()
Acceptable	Potentially Unacceptable/Safety Function Affected	

Raj G Chopra 2/7/83
EVALUATING ENGINEER/DATE

T P Ruggiero 3/30/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-M-6

Interaction Number(s): L-2-54-2

Fire Zone: 72A

Target Component(s)
Number, Description & Function:

1 1/2 - S I -16A; 1 1/2" line from Boron Injection Tank (Line #16) to Cold Leg
Loop #2 (S G #32). S I Line.

Postulated Failure Mode(s)
and Evaluation:

- M-1 - (P) Results in loss of S I fluid.
- M-2 - (A) No loss of S I Fluid. S I can be achieved by injecting into other R C legs (assuming the injection lines for other legs are not damaged).

	X	/ 1 (X) 2 () 3 () 4 ()
Acceptable	Potentially Unacceptable/Safety Function Affected	

Raj G Chopra 2/7/83
EVALUATING ENGINEER/DATE

T P Ruggiero 3/30/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-M-7

Interaction Number(s): L-2-55-2

Fire Zone: 72A

Target Component(s)
Number, Description & Function:

3/4-S I-31; From Line 10"-350 (Accumulator Tank #34 to Cold Leg #4) to
Refueling Water Storage Tank Line #161 (S I pump to tank). Test
Line.

Postulated Failure Mode(s)
and Evaluation:

Interaction location is downstream of Valve 839H.

- M-1 - (A) Loss of fluid prevented by closure of Valves 839H, 839G (Normally Closed, Fail Closed). Performs no safety function.
- M-2 - (A) No loss of fluid. S I capability maintained.

X
Acceptable

/ 1 () 2 () 3 () 4 ()
Potentially Unacceptable/Safety Function Affected

Raj G Chopra 2/7/83
EVALUATING ENGINEER/DATE

T P Ruggiero 3/30/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-M-8

Interaction Number(s): L-2-79-3

Fire Zone: 76A

Target Component(s)
Number, Description & Function:

3/4-S I-606; Test Line.
From 10"-353 (Accum Tank #33 to Cold Leg #3) to RWST via line
3/4-31 & 161.

Postulated Failure Mode(s)
and Evaluation:

- M-1 - (A) Interaction location is downstream of Valve 839F. Fluid loss prevented by closure of Valves 839E and 839F (Normally Closed, Fail Closed). Performs no safety function.
- M-2 - (A) No loss of fluid. S I capability maintained.

X
Acceptable

/ 1 () 2 () 3 () 4 ()
Potentially Unacceptable/Safety Function Affected

Raj G Chopra 2/7/83
EVALUATING ENGINEER/DATE

T P Ruggiero 3/30/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-M-9

Interaction Number(s): L-2-80-3

Fire Zone: 76A

Target Component(s)
Number, Description & Function:

3/4-S I-607 Test Line.
From Line 10"-351 (Accum Tank #31 to Cold Leg #1) to RWST via
Lines 606, 31 & 161.

Postulated Failure Mode(s)
and Evaluation:

- M-1 - (A) Interaction location is downstream of Valves 839A & 839B (Normally Closed, Fail Closed). Fluid loss prevented by closure of valves. Performs no safety function.
- M-2 - (A) No loss of fluid. S I capability maintained.

X
Acceptable

/ 1 () 2 () 3 () 4 ()
Potentially Unacceptable/Safety Function Affected

Raj G Chopra 2/7/83
EVALUATING ENGINEER/DATE

T P Ruggiero 3/30/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-M-10

Interaction Number(s): L-2-91-2

Fire Zone: 77A

Target Component(s)
Number, Description & Function:

1-SI-525 From 6" line #56 (Safety Injection Pumps to R C Loops) to
accumulator tanks.
Accumulator Make-Up/Fill Line

Postulated Failure Mode(s)
and Evaluation:

- M-1 - (P) Loss of S I fluid to potentially unacceptable level, because of unavailability of a closable safety class valve between interaction point and the conn. to 6" #56 S I line.
- M-2 - (A) No loss of S I fluid. S I capability maintained.

	X	/ 1 (X) 2 () 3 () 4 ()
Acceptable	Potentially Unacceptable/Safety Function Affected	

Raj G Chopra 2/7/83
EVALUATING ENGINEER/DATE

T P Ruggiero 3/30/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-M-11

Interaction Number(s): L-2-99-1

Fire Zone: 78-A

Target Component(s)
Number, Description & Function:

3/4-SI-607 Test Line. From Line 10"-351 (Accum Tank #31 to Cold Leg #1) to
RWST via Lines 606, 31, 161.

Postulated Failure Mode(s)
and Evaluation:

- M-1 - (P) No closable safety class valve between interaction pt to Line 351
conn. Unacceptable loss of fluid, S I capability affected.
- M-2 - (A) No loss of S I fluid. S I capability maintained.

	X	/ 1 (X) 2 () 3 () 4 ()
Acceptable	Potentially Unacceptable/Safety Function Affected	

Raj G Chopra 2/7/83
EVALUATING ENGINEER/DATE

T P Ruggiero 3/30/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-M-12

Interaction Number(s): V-2-102-1

Fire Zone: 72A

Target Component(s)
Number, Description & Function:

Valve 856D 2" M O Injection Valve on Line 16A (from S I pumps to Boron
Injection Tanks) to Cold Leg #2.

Postulated Failure Mode(s)
and Evaluation:

- M-4 - (P) S I capability affected because of unavailability of S I line.
- M-5 - (P) S I capability affected because of unavailability of S I line.

	<u>X</u>	<u>/ 1 (X) 2 () 3 () 4 ()</u>
Acceptable	Potentially Unacceptable/Safety Function Affected	
Raj G Chopra 2/7/83	T P Ruggiero 3/30/83	
EVALUATING ENGINEER/DATE	CHECKED/DATE	

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-M-13

Interaction Number(s): V-2-155-1

Fire Zone: 77A

Target Component(s)
Number, Description & Function:

HCV 943; 1" Control Valve, normally closed.

Postulated Failure Mode(s)
and Evaluation:

- M-4 - (A) Valve is 'Fail Close', normally closed. Not required to open to
- M-5 - (A) perform safety function.

X
Acceptable

/ 1 () 2 () 3 () 4 ()
Potentially Unacceptable/Safety Function Affected

Raj G Chopra 2/7/83
EVALUATING ENGINEER/DATE

T P Ruggiero 3/30/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-M-14

Interaction Number(s): V-2-163-2

Fire Zone: 77A

Target Component(s)
Number, Description & Function:

890B 1", Normally Closed, Air Operated Valve on Line #525 from Safety Injection Pumps to Accumulator Tank #32.

Postulated Failure Mode(s)
and Evaluation:

M-4 - (A) Valve is 'Fail Close', normally closed. Not required to open to
M-5 - (A) perform safety function.

X
Acceptable

/ 1 () 2 () 3 () 4 ()
Potentially Unacceptable/Safety Function Affected

Raj G Chopra 2/7/83
EVALUATING ENGINEER/DATE

T P Ruggiero 3/30/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-M-15

Interaction Number(s): V-2-180-2

Fire Zone: 78A

Target Component(s)
Number, Description & Function:

839A (Valve on Test Conn Line)
3/4" normally closed, air operated valve on Line 3/4"-607 from
Accumulator Tank #31 to Refueling Water Storage Tank.

Postulated Failure Mode(s)
and Evaluation:

M-4 - (A) Valve is 'Fail Close', normally closed. Not required to open to
M-5 - (A) perform safety injection.

X
Acceptable

/ 1 () 2 () 3 () 4 ()
Potentially Unacceptable/Safety Function Affected

Raj G Chopra 2/7/83
EVALUATING ENGINEER/DATE

T P Ruggiero 3/30/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3
 SYSTEMS INTERACTION STUDY
 TABULATION OF POTENTIALLY UNACCEPTABLE SPATIAL INTERACTIONS

SAFETY INJECTION SYSTEM
 I & C

POTENTIALLY UNACCEPTABLE INTERACTION NUMBER	FMEA		EIC		SPAN EVALUATION		
	(1)	(2)	(1)	(2)	(1)	(2)	(3)
I-2-10-1	2-I-1-P		78A-001-A				NR
I-2-11-1	2-I-2-P		78A-001-A				NR
I-2-12-1	2-I-3-P		78A-001-A				NR
I-2-13-1	2-I-4-A			NR			NR
I-2-13-2	2-I-4-A			NR			NR
I-2-13-3	2-I-4-A			NR			NR
I-2-13-4	2-I-4-A			NR			NR
I-2-14-1	2-I-5-A			NR			NR
I-2-14-2	2-I-5-A			NR			NR
I-2-14-3	2-I-5-A			NR			NR
I-2-14-4	2-I-5-A			NR			NR
* I-2-33-2	2-I-6-P		76A-002-P				NA
* I-2-33-3	2-I-6-P		76A-003-P				NA
* I-2-34-2	2-I-7-P		76A-002-P				NA
* I-2-34-3	2-I-7-P		76A-003-P				NA
* I-2-45-2	2-I-8-P		77A-003-P				NA
* I-2-47-1	2-I-9-P		77A-003-P				NA
* I-2-48-2	2-I-10-P		77A-003-P				NA

- NOTES: 1) Letter following numbers mean; A - Acceptable, P - Potentially Unacceptable.
 2) NR - Evaluation is Not Required since interaction is now acceptable.
 3) NA - Type of evaluation is not applicable to this interaction.
 4) Disposed of by repair in AFW pump building.
 * Unacceptable by all 3 types of evaluation.

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3
SYSTEMS INTERACTION STUDY
TABULATION OF POTENTIALLY UNACCEPTABLE SPATIAL INTERACTIONS

SAFETY INJECTION SYSTEM
I & C

POTENTIALLY UNACCEPTABLE INTERACTION NUMBER	FMEA		EIC		SPAN EVALUATION		
	(1)	(2)	(1)	(2)	(1)	(2)	(3)
* I-2-53-3	2-I-11-P		77A-003-P				NA
* I-2-54-3	2-I-12-P		77A-003-P				NA
* I-2-56-4	2-I-13-P		77A-001-P				NA
* I-2-57-2	2-I-14-P		77A-003-P				NA
I-2-57-3	2-I-14-P		77A-002-P				5209-77A-009-A
* I-2-57-4	2-I-14-P		77A-001-P				NA
* I-2-59-4	2-I-15-P		77A-001-P				NA
* I-2-60-4	2-I-16-P		77A-001-P				NA
I-2-65-5	2-I-17-P		77A-004-A				NR
* I-2-65-6	2-I-17-P		77A-006-P				NA
I-2-66-3	2-I-18-P		77A-002-P				5209-77A-009-A
I-2-66-5	2-I-18-P		77A-004-A				NR
I-2-66-7	2-I-18-P		77A-005-A				NR
* I-2-73-1	2-I-19-P		87A-001-P				NA
* I-2-75-1	2-I-20-P		0-003-P				NA
* I-2-75-2	2-I-20-P		0-001-P				NA
* I-2-78-1	2-I-21-P		0-003-P				NA
I-2-83-3	2-I-22-P		9-001-P				5209-9-019-A
I-2-85-3	2-I-23-P		9-001-P				5209-9-019-A

- NOTES: 1) Letter following numbers mean; A - Acceptable, P - Potentially Unacceptable.
 2) NR - Evaluation is Not Required since interaction is now acceptable.
 3) NA - Type of evaluation is not applicable to this interaction.
 4) Disposed of by repair in AFW pump building.
 * Unacceptable by all 3 types of evaluation:

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
MATRIX PREPARATION

SYSTEM NO 2

SYSTEM NAME SAFETY INJECTION

MATRIX CATEGORY

NON-CONNECTED _____

INTERCONNECTED X

M. Soutouris 9/24/82
PREPARED BY/DATE

R. Daverns 9/24/82
APPROVED BY/DATE

Ebasco Services Incorporated

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
LT 934A	V837A	S	
	V837B	S	
	118 Vac Bus 32	S	
PT 936A	V837A	S	
	118 Vac Bus 31	S	
LT 935A	V837C	S	
	V837D	S	
	118 Vac Bus 34	S	
PT 937A	V837C	S	
	118 Vac Bus 34	S	
LT 934B	V837E	S	
	V837F	S	
	118 Vac Bus 32	S	
PT 936B	V837E	S	
	118 Vac Bus 31	S	
LT 935B	V837G	S	
	V837H	S	
	118 Vac Bus 34	S	
PT 937B	V837G	S	
	118 Vac Bus 34	S	
LT 934C	V837J	S	
	V837K	S	
	118 Vac Bus 32	S	

M. Socratous/9-15-82
PREPARED BY/DATE

R. Daverio/9-22-82
APPROVED BY/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT	INTERFACING COMPONENTS	SAFETY (S) NONSAFETY (N)	POTENTIAL INTERACTION (IF APPLICABLE)
PT 936C	V837J 118 Vac Bus 31	S S	
LT 935C	V837L V837M 118 Vac Bus 34	S S S	
PT 937C	V837L 118 Vac Bus 34	S S	
LT 934D	V837N V837P 118 Vac Bus 32	S S S	
PT 936D	V837N 118 Vac Bus 31	S S	
LT 935D	V837R V837S 118 Vac Bus 34	S S S	
PT 937D	V837R 118 Vac Bus 34	S S	
LIC 921	V840A	S	
LT 920	V840B 118 Vac Bus 31	S S	
PT 947	V1829 118 Vac Bus 34	S S	
FI 950	V1824A V1824B	S S	

M Socratous/9-15-82
 PREPARED BY/DATE

R Daverio/9-22-82
 APPROVED BY/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
PI 928	V860	S	
PT 923	V833B	S	
	118 Vac Bus 31	S	
PT 922	V853C	S	
	118 Vac Bus 31	S	
FI 983	V854N	S	
	V854P	S	
FT 926A	V854L	S	
	V854M	S	
	118 Vac Bus 31	S	
FT 924A	V854J	S	
	V854K	S	
	118 Vac Bus 31	S	
FT 925	V854G	S	
	V854H	S	
	118 Vac Bus 34	S	
FT 927	V854E	S	
	V854F	S	
	118 Vac Bus 34	S	
FI 924B	V854C	S	
	V854D	S	
	118 Vac Bus 31	S	

M Socratous/9-15-82
 PREPARED BY/DATE

R Daverio/9-22-82
 APPROVED BY/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
FT 926	V854A V854B 118 Vac Bus 31	S S S	
FT 980	V854Q V854R	S S	
FT 981	V854T V854S	S S	
FT 982	V854U V854W	S S	
LT 940	Cont Sump 118 Vac Bus 32	S S	
LT 941	Cont Sump	S	
TC 1116-S	Refueling Water Storage Tank Bus No. 120 Vac Dist Panel 32	S S	
TIC 918	Boron Injection Tank 118 Vac Bus 31	S S	
TW 917	Boron Injection Tank	S	
TE 918	118 Vac Bus 31	S	

M Socratous/9-15-82
PREPARED BY/DATE

R Daverio/9-22-82
APPROVED BY/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
SYSTEMS INTERACTION EVALUATION

SYSTEM NO. I-2

SYSTEM NAME SAFETY INJECTION

EVALUATION CATEGORY

NON-CONNECTED _____

INTERCONNECTED X

No evaluations required

R Daverio 9/23/82
INTERACTION ENGINEER/DATE

W Griswold 9-29-82
VERIFIED/DATE

Ebasco Services Incorporated

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
MATRIX PREPARATION

SYSTEM NO 2

SYSTEM NAME SAFETY INJECTION

MATRIX CATEGORY

NON-CONNECTED X

INTERCONNECTED _____

R. S. ... 9/17/82
PREPARED BY/DATE

R. Davens 9/17/82
APPROVED BY/DATE

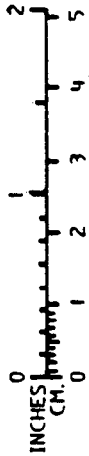
Ebasco Services Incorporated

SOURCES

I-2

		NO INTERACTION																	
	LOOP 1 - COLD LEG																		
	OFF LINE 2" #56A																		
1	FT 926	X																	
2	FT 926	X																	
3	FT 926 HP SENSING LINE	X																	
4	FT 926 LO P SENSING LINE	X																	

TARGETS



BUILDING: REACTOR CONTAINMENT BUILDING, EL 46'-0"

FIRE ZONE: 75A

LOCATION: QUAD I

WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

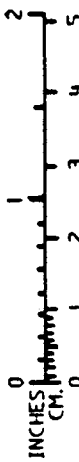
EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>I&C</u> DR. <u>MS</u>	APPROVED		I-2	
DATE _____ CH. _____	R.M. DAVERIO		SH 1 OF 14	
SCALE <u>NONE</u>	INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY INTERACTION MATRIX			

SOURCES

I-2

			1																	
		NO INTERACTION	LINE 1" RC508																	
	LOOP 1 - COLD LEG																			
	OFF LINE 1½" #753																			
5	FE 924A	X																		
6	FT 924A	X																		
7	FT 924A - Hi P SENSING LINE	X																		
8	FT 924A Lo P SENSING LINE	X																		
	LOOP 3 - COLD LEG																			
	OFF LINE 1½" #754																			
9	FE 926A	X																		
10	FT 926A		(I12)																	
11	FT 926A Hi P SENSING LINE		(I12)																	
12	FT 926A Lo P SENSING LINE		(I12)																	

TARGETS



BUILDING: REACTOR CONTAINMENT BUILDING, EL 46'-0"

FIRE ZONE: 78A

LOCATION: QUAD I
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED
DIV. I&C DR. MS
DATE CH.
SCALE NONE

APPROVED
R.M. DAVERIO

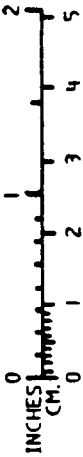
POWER AUTHORITY STATE OF NEW YORK
INDIAN POINT No. 3
SYSTEMS INTERACTION STUDY
INTERACTION MATRIX

5209.003
I-2
SH 2 OF 14

SOURCES

		SOURCES																				
		1	2	3	4																	
		NO INTERACTION	1" DRAIN PIPE	LINE 2"-WD-338-01	LINE 2"-WD-338-02	3" DRAIN PIPE																
I-2	AT CONTAINMENT SUMP																					
13	LT 940	I13 I14 I15 I16	I14 I15 I16	I14 I15 I16	I14 I15 I16																	
14	LT 941	I13 I14 I15 I16	I14 I15 I16	I14 I15 I16	I14 I15 I16																	

TARGETS



BUILDING: REACTOR CONTAINMENT BUILDING, EL 46'-0"
FIRE ZONE: 71A
LOCATION: QUAD II
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>I&C</u> DR. <u>MS</u>		INDIAN POINT No. 3.		I-2
DATE _____ CH. _____		SYSTEMS INTERACTION STUDY		SH <u>3</u> OF <u>14</u>
SCALE <u>NONE</u>		INTERACTION MATRIX		
APPROVED		R.M. DAVERIO		

SOURCES

I-2

TARGETS

		NO INTERACTION															
	LOOP 2 - COLD LEG																
	OFF LINE 2" #845																
15	FE 981	X															
16	FT 981	X															
17	FT 981 Hi P SENSING LINE	X															
18	FT 981 Lo P SENSING LINE	X															
	LOOP 2 - COLD LEG																
	OFF LINE 1½" #16A																
19	FE 925	X															
20	FT 925	X															
21	FT 925 - Hi P SENSING LINE	X															
22	FT 925 - Lo P SENSING LINE	X															
	LOOP 1 - HOT LEG																
	OFF LINE 2" #843																
23	FE 983	X															
24	FI 983	X															

BUILDING: REACTOR CONTAINMENT BUILDING, EL 46'-0"

FIRE ZONE: 72A

LOCATION: QUAD II

WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED

POWER AUTHORITY STATE OF NEW YORK

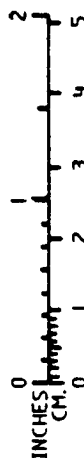
5209.003

DIV. I&C DR. MS
DATE _____ CH. _____
SCALE NONE

APPROVED
R.M. DAVERIO

INDIAN POINT No. 3
SYSTEMS INTERACTION STUDY
INTERACTION MATRIX

I-2
SH 4 OF 14



SOURCES

I-2

TARGETS

		1	2	3														
		NO INTERACTION	LIGHT	STATION AIR HEADER	RELIEF VALVE NO. 318													
25	FI 983 Lo P SENSING LINE	X																
26	FI 983 Hi P SENSING LINE	X																
	LOOP 3 - HOT LEG																	
	OFF LINE 2" #56																	
27	FE 924B	X																
28	FI 924B		I17															
29	FI 924B - Lo P SENSING LINE		I17															
30	FI 924B - Hi P SENSING LINE		I17															
	LOOP 3 - COLD LEG																	
	OFF LINE 2" #844																	
31	FE 980			I18														
32	FT 980			I18														
33	FT 980 Hi P SENSING LINE			I18	I18													
34	FT 980 Lo P SENSING LINE			I18	I18													

INCHES
CM.

BUILDING: REACTOR CONTAINMENT BUILDING EL 46'-0"

FIRE ZONE: 76A

LOCATION: QUAD III
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED
DIV. I&C DR. MS.
DATE CH.
SCALE NONE

POWER AUTHORITY STATE OF NEW YORK
INDIAN POINT No. 3
SYSTEMS INTERACTION STUDY
INTERACTION MATRIX

5209.003
I-2
SH 5 OF 14

SOURCES

I-2

		NO INTERACTION																	
	LOOP 4 - COLD LEG																		
	OFF LINE 2" #846																		
35	FE 982	X																	
36	FT 982	X																	
37	FT 982 Hi P SENSING LINE	X																	
38	FT 982 Lo P SENSING LINE	X																	
	LOOP 4 - COLD LEG																		
	OFF LINE 1½" #16																		
39	FE 927	X																	
40	FT 927	X																	
41	FT 927 LP SENSING LINE	X																	
42	FT 927 HP SENSING LINE	X																	

TARGETS



BUILDING: REACTOR CONTAINMENT BUILDING, EL. 46'-0"
 FIRE ZONE: 70A
 LOCATION: QUAD IV
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. <u>I&C</u> DR. <u>MS</u>	APPROVED		I-2	
DATE _____ CH. _____	R.M. DAVERIO		SH 6 OF 14	
SCALE <u>NONE</u>				

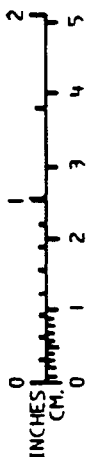
INDIAN POINT No. 3
 SYSTEMS INTERACTION STUDY
 INTERACTION MATRIX

SOURCES

I-2

		1	2	3											
		NO INTERACTION	LIGHT	LIGHT	LIGHT										
	ACCUMULATOR TANK NO 31:														
43	PT 936A SENSING LINE	X													
44	LT 934A		I22												
45	LT 934A SENSING LINE			I24 I25											
46	PT 937A SENSING LINE	X													
47	LT 935A		I23												
48	LT 935A SENSING LINE			I24 I25											
	ACCUMULATOR TANK NO 32:														
49	PT 936B SENSING LINE	X													
50	LT 934B	X													
51	LT 934B SENSING LINE	X													
52	PT 937B SENSING LINE	X													
53	LT 935B			I34											
54	LT 935B SENSING LINE			I34											

TARGETS



BUILDING: REACTOR CONTAINMENT BUILDING, EL. 46'-0"
FIRE ZONE: 77A
LOCATION: QUAD IV
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. I&C DR. MS	APPROVED		INDIAN POINT No. 3	
DATE _____ CH. _____	R.M. DAVERIO		SYSTEMS INTERACTION STUDY	
SCALE NONE			INTERACTION MATRIX	
			I-2	
			SH 7 OF 14	

SOURCES

I-2

		1	2	3	4	5	6	7						
	ACCUMULATOR TANK NO 33	NO INTERACTION												
55	PT 936C SENSING LINE	LINE #70												
56	LT 934C		LIGHT											
57	LT 934C SENSING LINE	LINE #40			PRT INSTRUMENTATION PIPING									
58	PT 937C SENSING LINE	LINE #33												
59	LT 935C	LINE #85												
60	LT 935C SENSING LINE	LINE #38												
	ACCUMULATOR TANK NO 34													
61	PT 936D SENSING LINE													
62	LT 934D													
63	LT 934D SENSING LINE													
64	PT 937D SENSING LINE													
65	LT 935D													
66	LT 935D SENSING LINE													

TARGETS

INCHES
CM

BUILDING: REACTOR CONTAINMENT BUILDING, EL. 46'-0".

FIRE ZONE: 77A

LOCATION: QUAD IV
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED

POWER AUTHORITY STATE OF NEW YORK

5209.003

DIV. I&C DR. MS

APPROVED

INDIAN POINT No. 3
SYSTEMS INTERACTION STUDY
INTERACTION MATRIX

I-2
SH 8 OF 14

DATE CH.

R.M. DAVERIO

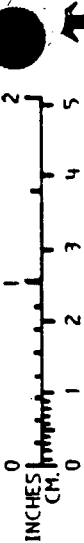
SCALE NONE

SOURCES

I-2

TARGETS

			1																	
		NO INTERACTION	LIGHT																	
	ACCUMULATOR TANK NO 31:																			
67	PT 936A		I19 I20																	
68	PT 937A		I19 I20																	
	ACCUMULATOR TANK NO 33:																			
69	PT 936C	X																		
70	PT 937C	X																		



BUILDING: REACTOR CONTAINMENT BUILDING EL. 68'

FIRE ZONE: 83A

LOCATION: IV
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED
 DIV. I&C DR. MS
 DATE CH.
 SCALE NONE

POWER AUTHORITY STATE OF NEW YORK
 INDIAN POINT No. 3
 SYSTEMS INTERACTION STUDY
 INTERACTION MATRIX

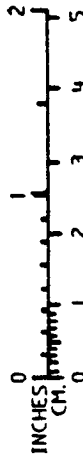
5209.003
 I-2
 SH 9 OF 14

SOURCES

I-2

		NO INTERACTION	LIGHT	1											
	ACCUMULATOR TANK NO 32														
71	PT 936B	X													
72	PT 937B	X													
	ACCUMULATOR TANK NO. 34														
73	PT 936D		(I21)												
74	PT 937D	X													

TARGETS



BUILDING: REACTOR CONTAINMENT BUILDING, EL. 68'
 FIRE ZONE: 87A
 LOCATION: IV
 WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

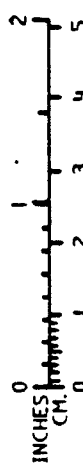
EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209. 003
DIV. I&C DR. MS	APPROVED		INDIAN POINT No. 3	I-2 .
DATE CH.	R.M. DAVERIO		SYSTEMS INTERACTION STUDY	SH 10 OF 14
SCALE NONE			INTERACTION MATRIX	

SOURCES

I-2

		1	2	3											
		NO INTERACTION	ROOF DRAIN	LIGHT	FLEX CABLE										
	BORON INJECTION TANK:														
75	TIC 918		I40 I41	I40 I41											
76	TIC 918 SENSING LINE	X													
77	TE 918	X													
78	TW 917		I40 I42												
79	TW917 SENSING LINE	X													
	OFF LINE #594														
80	FI 916				I43										

TARGETS



BUILDING: REACTOR CONTAINMENT BUILDING
FIRE ZONE: BIT
LOCATION:
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

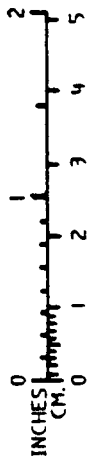
EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. I&C DR. MS	APPROVED	INDIAN POINT No. 3		I-2
DATE CH.	R.M. DAVERIO	SYSTEMS INTERACTION STUDY		SH 11 OF 14
SCALE NONE		INTERACTION MATRIX		

SOURCES

I-2

			1	2	3	4	5							
		NO INTERACTION	GROUND CABLE	FLEX CABLE	FLOOR DRAIN PIPE	GROUND CABLE	3/4" CONDUITS							
	OFF LINE # 56:													
81	PT 922		I44	I45										
82	PT 922 SENSING LINE	X												
83	PT 923				I46 I47									
84	PT 923 SENSING LINE	X												
	OFF LINE #60:													
85	PT 947				I46 I47	I48								
86	PT 947 SENSING LINE	X												
	OFF LINE #161:													
87	FI 950						I51							
88	FI 950 Lo P SENSING LINE						I51							
89	FI 950 Hi P SENSING LINE						I51							

TARGETS



BUILDING: PRIMARY AUXILIARY BUILDING, EL. 34'-0"

FIRE ZONE: 9

LOCATION: _____
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003
DIV. I&C DR. MS	APPROVED		INDIAN POINT No. 3	
DATE _____ CH. _____	R.M. DAVERIO		SYSTEMS INTERACTION STUDY	
SCALE NONE			INTERACTION MATRIX	
			I-2	
			SH 12 OF 14	

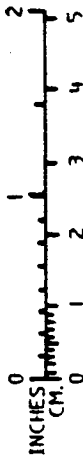
SOURCES

I-2

NO INTERACTION

	OFF LINE #31													
90	FI 929	X												
91	PI 928	X												
92	PI 928 SENSING LINE	X												

TARGETS



BUILDING: PRIMARY AUXILIARY BUILDING EL. 41'-0"
FIRE ZONE: 59A
LOCATION: PIPE TRENCH
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEMS

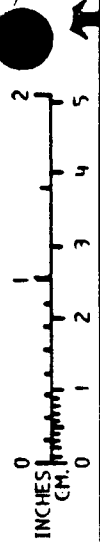
EBASCO SERVICES INCORPORATED DIV. <u>I&C</u> DR. <u>MS</u> DATE <u> </u> CH. <u> </u> SCALE <u>NONE</u>	POWER AUTHORITY STATE OF NEW YORK INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY INTERACTION MATRIX	5209. 003 I-2 SH 13 OF 14
APPROVED <u>R.M. DAVERIO</u>		

SOURCES

I-2

TARGETS

	AT REFUELING WATER STORAGE TANK:	NO INTERACTION																	
93	LT 920	X																	
94	LT 920 SENSING LINE	X																	
95	LIC 921	X																	
96	LIC 921 SENSING LINE	X																	
97	TC1116-S	X																	
98	TC 1116-S SENSING LINE	X																	



BUILDING: YARD, EL. 79'
FIRE ZONE: 106A
LOCATION: RWST
WITHIN FIRE ZONE

SAFETY INJECTION SYSTEM

EBASCO SERVICES INCORPORATED		POWER AUTHORITY STATE OF NEW YORK		5209.003	
DIV. <u>I&C</u> DR. <u>MS</u>	APPROVED		INDIAN POINT No. 3		I-2
DATE <u> </u> CH. <u> </u>	R.M. DAVERIO		SYSTEMS INTERACTION STUDY		SH 14 OF 14
SCALE <u>NONE</u>			INTERACTION MATRIX		

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY

NON-CONNECTED INTERACTIONS EVALUATION

1. No Interaction - Source is Class II and is therefore supported adequately. (See response to IP-3 FSAR question 5.24).
2. Acceptable - Source pipe/conduit is equal size or smaller in diameter and/or the same thickness or thinner wall than the target pipe/conduit/tubing. Paragraph 6.2.2.1a Volume I.
3. Acceptable - Source has insufficient mass to damage the target component.
4. Acceptable - Basis is engineering judgement. Specific justification is on the evaluation form.
5. Potentially Unacceptable - Discussion of specific is on the evaluation form.
6. Potentially Unacceptable - Source pipe/conduit is large enough to damage target conduit/pipe/tubing.
7. Potentially Unacceptable - Source will fall a sufficient distance, or has adequate mass such that damage to target conduit/box/instrument/tubing/panel may be possible.
8. No Interaction - Upon further investigation of the source, this portion of its system is designated Seismic I.

R2 7/22/82
R1 6/30/82
R0 6/26/82

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
SYSTEMS INTERACTION EVALUATION

SYSTEM NO. 2

SYSTEM NAME SAFETY INJECTION

EVALUATION CATEGORY

NON-CONNECTED X

INTERCONNECTED _____

R Daveno 9/15/82
INTERACTION ENGINEER/DATE

W Griswold 9-22-82
VERIFIED/DATE

Ebasco Services Incorporated

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 78A

LOCATION WITHIN FIRE ZONE: Quadrant I

POTENTIAL INTERACTION NO.: I-2-10-1

PHOTOGRAPH NO.: I-12

BACKGROUND NO.: Sheet 9

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: FT 926A

SOURCE: Line 1"-RC508

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 78A

LOCATION WITHIN FIRE ZONE: Quadrant I

POTENTIAL INTERACTION NO.: I-2-12-1

PHOTOGRAPH NO.: I-12

BACKGROUND NO.: Sheet 9

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: FT 926A Lo P Sensing Line

SOURCE: Line 1" - RC508

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

R DAVERRO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 71A

LOCATION WITHIN FIRE ZONE: Quadrant II

POTENTIAL INTERACTION NO.: I-2-13-1

PHOTOGRAPH NO.: I-13, I-14, I-15, I-16

BACKGROUND NO.: Sheet 10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 940

SOURCE: 1" Drain Pipe (Lower left arrow I-16)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

X

POTENTIALLY
UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, E1 46'-0"

FIRE ZONE: 71A

LOCATION WITHIN FIRE ZONE: Quadrant II

POTENTIAL INTERACTION NO.: I-2-13-3

PHOTOGRAPH NO.: I-14, I-15, I-16

BACKGROUND NO.: Sheet 10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 940

SOURCE: Line 2" - WD-338-02 (Left arrow I-14)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

 ACCEPTABLE

 X POTENTIALLY UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 71A

LOCATION WITHIN FIRE ZONE: Quadrant II

POTENTIAL INTERACTION NO.: I-2-14-1

PHOTOGRAPH NO.: I-13, I-14, I-15, I-16

BACKGROUND NO.: Sheet 10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 941

SOURCE: 1" Drain Pipe (Lower left arrow I-16)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 71A

LOCATION WITHIN FIRE ZONE: Quadrant II

POTENTIAL INTERACTION NO.: I-2-14-2

PHOTOGRAPH NO.: I-14, I-15, I-16

BACKGROUND NO.: Sheet 10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 941

SOURCE: Line 2" - WD-338-01 (Lower left arrow I-16)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

 ACCEPTABLE

 X POTENTIALLY UNACCEPTABLE

 R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

 W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY
 NONCONNECTED SYSTEMS INTERACTION
 EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 71A

LOCATION WITHIN FIRE ZONE: Quadrant II

POTENTIAL INTERACTION NO.: I-2-14-3

PHOTOGRAPH NO.: I-14, I-15, I-16

BACKGROUND NO.: Sheet 10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 941

SOURCE: Line 2" - WD-338-02 (Left arrow I-14)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

_____ ACCEPTABLE

X

_____ POTENTIALLY
UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER / DATE

W GRISWOLD 9/22/82
VERIFIED / DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 71A

LOCATION WITHIN FIRE ZONE: Quadrant II

POTENTIAL INTERACTION NO.: I-2-14-4

PHOTOGRAPH NO.: I-14, I-15, I-16

BACKGROUND NO.: Sheet 10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 941

SOURCE: 3" Drain Pipe (Upper left arrow I-16)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

1
ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant III

POTENTIAL INTERACTION NO.: I-2-28-1

PHOTOGRAPH NO.: I-17

BACKGROUND NO.: Sheet 11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: FI 924B

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION: Light blocked by column

EVALUATION NOTE NO: 4

X ACCEPTABLE

_____ POTENTIALLY
UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant III

POTENTIAL INTERACTION NO.: I-2-29-1

PHOTOGRAPH NO.: I-17

BACKGROUND NO.: Sheet 11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: FI 924B - LOP Sensing Line

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION: Light blocked by column

EVALUATION NOTE NO: 4

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

R. DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W. GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant III

POTENTIAL INTERACTION NO.: I-2-30-1

PHOTOGRAPH NO.: I-17

BACKGROUND NO.: Sheet 11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: FI 924B - Hi P Sensing Line

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION: Light blocked by column

EVALUATION NOTE NO: 4

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, E1 46'-0"

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant III

POTENTIAL INTERACTION NO.: I-2-31-2

PHOTOGRAPH NO.: I-18

BACKGROUND NO.: Sheet 11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: FE-980

SOURCE: Station Air Header

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
~~UNACCEPTABLE~~

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant III

POTENTIAL INTERACTION NO.: I-2-32-2

PHOTOGRAPH NO.: I-18

BACKGROUND NO.: Sheet 11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: FT 980

SOURCE: Station Air Header

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

System No. 2

Sheet 17 of 54

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant III

POTENTIAL INTERACTION NO.: I-2-33-2

PHOTOGRAPH NO.: I-18

BACKGROUND NO.: Sheet 11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: FT 980 Hi P Sensing Line

SOURCE: Station Air Header

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

 ACCEPTABLE

 X POTENTIALLY UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
 VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant III

POTENTIAL INTERACTION NO.: I-2-34-2

PHOTOGRAPH NO.: I-18

BACKGROUND NO.: Sheet 11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: FT 980 Lo P Sensing Line

SOURCE: Station Air Header

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

1
ACCEPTABLE

X
POTENTIALLY
UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant III

POTENTIAL INTERACTION NO.: I-2-33-3

PHOTOGRAPH NO.: I-18

BACKGROUND NO.: Sheet 11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: FT 980 Hi P Sensing Line

SOURCE: Relief Valve No. 318

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

_____ ACCEPTABLE

_____ X _____ POTENTIALLY
UNACCEPTABLE

D Mirkovic 3/3/83
INTERACTION ENGINEER/DATE

W Griswold 4/30/83
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant III

POTENTIAL INTERACTION NO.: I-2-34-3

PHOTOGRAPH NO.: I-18

BACKGROUND NO.: Sheet 11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: FT 980 Lo P Sensing Line

SOURCE: Relief Valve No. 318

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target .

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

_____ ACCEPTABLE

_____ X _____ POTENTIALLY
UNACCEPTABLE

D Mirkovic 3/3/83
INTERACTION ENGINEER/DATE

W Griswold 4/30/83
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: I-2-44-1

PHOTOGRAPH NO.: I-22

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 934A

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION: Light blocked by steel beam

EVALUATION NOTE NO: 4

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: I-2-45-2

PHOTOGRAPH NO.: I-24, I-25

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 934A Sensing Line

SOURCE: Lights

DESCRIPTION OF POSTULATED INTERACTION:

Source fall on target

EVALUATION OF INTERACTION: 7

EVALUATION NOTE NO:

 ACCEPTABLE

 X POTENTIALLY UNACCEPTABLE

R DAVERIO 9/15/82

W GRISWOLD 9/22/82

INTERACTION ENGINEER/DATE

VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: I-2-47-1

PHOTOGRAPH NO.: I-23

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 935A

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

1
ACCEPTABLE

X
POTENTIALLY
UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: I-2-55-1

PHOTOGRAPH NO.: I-26, I-27

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: PT 936C

SOURCE: Line #70

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 1

X ACCEPTABLE

~~POTENTIALLY UNACCEPTABLE~~

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W. GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: I-2-56-4

PHOTOGRAPH NO.: I-29, I-30, I-31

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 934C

SOURCE: PRT Instrumentation Piping

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
 INDIAN POINT 3 NUCLEAR POWER PLANT
 SYSTEM INTERACTION STUDY
 NONCONNECTED SYSTEMS INTERACTION
 EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: I-2-57-1

PHOTOGRAPH NO.: I-26, I-27

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Lt 934C Sensing Line

SOURCE: Line #70

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 1

 X ACCEPTABLE

_____ POTENTIALLY UNACCEPTABLE

 R DAVERIO 9/15/82
 INTERACTION ENGINEER/DATE

 W GRISWOLD 9/22/82
 VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: I-2-57-2

PHOTOGRAPH NO.: I-28, I-35

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 934C Sensing Line

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

<p style="text-align: center;"> </p> <hr/> <p style="text-align: center;">ACCEPTABLE</p>	<p style="text-align: center;">X</p> <hr/> <p style="text-align: center;">POTENTIALLY UNACCEPTABLE</p>
<p>R DAVERIO 9/15/82</p> <hr/> <p>INTERACTION ENGINEER/DATE</p>	<p>W GRISWOLD 9/22/82</p> <hr/> <p>VERIFIED/DATE</p>

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46-'0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: I-2-57-3

PHOTOGRAPH NO.: I-28, I-35

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 934C Sensing Line

SOURCE: Line #40

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: I-2-58-1

PHOTOGRAPH NO.: I-26, I-27

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: PT 937C Sensing Line

SOURCE: Line #70

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 1

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: I-2-59-4

PHOTOGRAPH NO.: I-29, I-30, I-31

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 935C

SOURCE: PRT Instrumentation Piping

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

R DAVERIO 9/15/82

INTERACTION ENGINEER/DATE

X

POTENTIALLY UNACCEPTABLE

W GRISWOLD 9/22/82

VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: I-2-60-4

PHOTOGRAPH NO.: I-29, I-30

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 935C Sensing Line

SOURCE: PRT Instrumentation Piping

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

R DAVERIO 9/15/82

INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82

VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"
FIRE ZONE: 77A
LOCATION WITHIN FIRE ZONE: Quadrant IV
POTENTIAL INTERACTION NO.: I-2-65-6
PHOTOGRAPH NO.: I-33
BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 935D

SOURCE: Line #85 (Lower arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: I-2-66-7

PHOTOGRAPH NO.: I-36

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 935D Sensing Line

SOURCE: Line #38 (Upper arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

_____ ACCEPTABLE

_____ X _____ POTENTIALLY UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 68'

FIRE ZONE: 83A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: I-2-67-1

PHOTOGRAPH NO.: I-19, I-20

BACKGROUND NO.: Sheet 8

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: PT 936A

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building, El 68'

FIRE ZONE: 83A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: I-2-68-1

PHOTOGRAPH NO.: I-19, I-20

BACKGROUND NO.: Sheet 8

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: PT 937A

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER / DATE

W GRISWOLD 9/22/82
VERIFIED / DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building

FIRE ZONE: BIT

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-2-75-1

PHOTOGRAPH NO.: I-40, I-41

BACKGROUND NO.: Sheet 15

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: TIC 918

SOURCE: Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

R DAVERIO 9/15/82

INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82

VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building

FIRE ZONE: BIT

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-2-75-2

PHOTOGRAPH NO.: I-40, I-41

BACKGROUND NO.: Sheet 15

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: TIC 918

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

1
ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building

FIRE ZONE: BIT

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-2-78-1

PHOTOGRAPH NO.: I-40, I-42

BACKGROUND NO.: Sheet 15

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: TW 917

SOURCE: Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION: 7

EVALUATION NOTE NO:

1
ACCEPTABLE

X
POTENTIALLY UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Reactor Containment Building

FIRE ZONE: BIT

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-2-80-3

PHOTOGRAPH NO.: I-43

BACKGROUND NO.: Sheet 15

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: FI 916

SOURCE: Flex Cable

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION: 3

EVALUATION NOTE NO:

X ACCEPTABLE

POTENTIALLY UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building, El 34'-0"

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-2-81-1

PHOTOGRAPH NO.: I-44

BACKGROUND NO.: Sheet 28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: PT 922

SOURCE: Ground Cable

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

~~POTENTIALLY UNACCEPTABLE~~

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building, El 34'-0"

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-2-81-2

PHOTOGRAPH NO.: I-45

BACKGROUND NO.: Sheet 28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: PT 922

SOURCE: Flex Cable

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X

ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building, El 34'-0"

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-2-83-3

PHOTOGRAPH NO.: I-46, I-47

BACKGROUND NO.: Sheet 29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: PT 923

SOURCE: Floor Drain Pipe

DESCRIPTION OF POSTULATED INTERACTION:

Source fall on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

1
ACCEPTABLE

X POTENTIALLY
UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building, El 34'-0"

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-2-85-3

PHOTOGRAPH NO.: I-46, I-47

BACKGROUND NO.: Sheet 29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: PT 947

SOURCE: Floor Drain Pipe

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

 ACCEPTABLE	X	POTENTIALLY UNACCEPTABLE
R DAVERIO 9/15/82	W GRISWOLD 9/22/82	
_____ INTERACTION ENGINEER/DATE	_____ VERIFIED/DATE	

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building, El 34'-0"

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-2-85-4

PHOTOGRAPH NO.: I-48

BACKGROUND NO.: Sheet 29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: PT 947

SOURCE: Ground Cable

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building, El 34'-0"

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-2-87-5

PHOTOGRAPH NO.: I-51

BACKGROUND NO.: Sheet 29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: FI 950

SOURCE: 3/4" Conduits

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building, El 34'-0"

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-2-88-5

PHOTOGRAPH NO.: I-51

BACKGROUND NO.: Sheet 29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: FI 950 Lo P Sensing Line

SOURCE: 3/4" Conduits

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY
UNACCEPTABLE

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
NONCONNECTED SYSTEMS INTERACTION
EVALUATION SHEET

BUILDING: Primary Auxiliary Building, El 34'-0"

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-2-89-5

PHOTOGRAPH NO.: I-51

BACKGROUND NO.: Sheet 29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: FI 950 Hip Sensing Line

SOURCE: 3/4" Conduits

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

~~POTENTIALLY UNACCEPTABLE~~

R DAVERIO 9/15/82
INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82
VERIFIED/DATE

Postulated Failure Modes

MECHANICAL FAILURES

- M - 1 Ruptured Pipe or Tube
- M - 2 Crimped or Collapsed Pipe or Tube
- M - 3 Loss of Function (Pump, Fan, Blowers etc.)
- M - 4 Loss of Valve Motive Power
- M - 5 Failure of or damage to Valve Actuating Mechanism
- M - 6 Other (Explain)

ELECTRICAL FAILURES

- E - 1 Open Circuit
- E - 2 Short Circuit
- E - 3 Other (Explain)

INSTRUMENTATION & CONTROL FAILURES

- C - 1 Fail High
- C - 2 Fail Low
- C - 3 Fail Open
- C - 4 Fail Closed
- C - 5 Loss of Motive Power
- C - 6 Other (Explain)

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 NUCLEAR POWER PLANT
SYSTEM INTERACTION STUDY
FMEA PREPARATION

SYSTEM NO I-2

SYSTEM NAME Safety Injection System

FMEA CATEGORY

NON-CONNECTED X

INTERCONNECTED _____

Mary Ann 3/8/83
PREPARED BY/DATE

JR Price 4/8/83
CHECKED BY/DATE

W. Griswold 5-5-83
VERIFIED BY/DATE

Ebasco Services Incorporated

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-1

Interaction Number(s): I-2-10-1

Fire Zone: 78A

Target Component(s)

Number, Description & Function: FT 926A

Safety Injection Flow to Loop 3 Cold Leg.

Postulated Failure Modes(s)
and Evaluation:

C-2-(P) Operator must isolate any Safety Injection line when flow is
approximately twice that of any other line. False Lo indication
may mask a safety injection line break and delay operation action.

	<u>X</u>	<u>/</u>	<u>1</u>	<u>(X)</u>	<u>2</u>	<u>()</u>	<u>3</u>	<u>()</u>	<u>4</u>	<u>()</u>
Acceptable	Potentially Unacceptable/Safety Function Affected									
G Durniak 3/8/83	J R Price 4/8/83									
EVALUATING ENGINEER/DATE	CHECKED/DATE									

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-2

Interaction Number(s): I-2-11-1

Fire Zone: 78A

Target Component(s)

Number, Description & Function: FT 926A Hi Press Sensing Line

Safety Injection Flow to Loop 3 Cold Leg.

Postulated Failure Modes(s)
and Evaluation:

C-6-(P) (Crimp/Break) See FMEA 2-I-1

	<u>X</u>	<u>/ 1 (X) 2 () 3 () 4 ()</u>
Acceptable	Potentially Unacceptable/Safety Function Affected	

G Durniak 3/8/83
EVALUATING ENGINEER/DATE

J R Price 4/8/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-3

Interaction Number(s): I-2-12-1

Fire Zone: 78A

Target Component(s)

Number, Description & Function: FT 926A Lo Press Sensing Line

Safety Injection Flow to Loop 3 Cold Leg.

Postulated Failure Modes(s)
and Evaluation:

C-6-(P) (Crimp/Break) See FMEA 2-I-1

	X	/ 1 (X) 2 () 3 () 4 ()
Acceptable	Potentially Unacceptable/Safety Function Affected	

G Durniak 3/8/83
EVALUATING ENGINEER/DATE

J R Price 4/8/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-4

Interaction Number(s): I-2-13-1
I-2-13-2
I-2-13-3
I-2-13-4

Fire Zone: 71A

Target Component(s)
Number, Description & Function: LT 940

Containment Sump Level, for Level indication on Safeguards Panel in CCR

Postulated Failure Modes(s)
and Evaluation:

C-1-(A)/C-2-(A) Containment Sump Level Indication does not affect the Maintenance of the Reactor Coolant Pressure boundary. In addition, the Operator can operate the plant for seven days after loss of Sump Level Indication.

X
Acceptable

/ 1 () 2 () 3 () 4 ()
Potentially Unacceptable/Safety Function Affected

G Durniak 3/8/83
EVALUATING ENGINEER/DATE

J R Price 4/8/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-5

Interaction Number(s): I-2-14-1
I-2-14-2
I-2-14-3
I-2-14-4

Fire Zone: 71A

Target Component(s)
Number, Description & Function: LT 941

Containment Sump Level, for Level indication on Safeguards Panel in CCR

Postulated Failure Modes(s)
and Evaluation:

C-1-(A)/C-2-(A) See FMEA 2-I-4

X / 1 () 2 () 3 () 4 ()
Acceptable Potentially Unacceptable/Safety Function Affected

G Durniak 3/8/83
EVALUATING ENGINEER/DATE

J R Price 4/8/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-6

Interaction Number(s): I-2-33-2
I-2-33-3

Fire Zone: 76A

Target Component(s)

Number, Description & Function: FT 980 Hi Press Sensing Line

Safety Injection Flow to Loop 3 Cold Leg.

Postulated Failure Modes(s)
and Evaluation:

C-6-(P) (Crimp/Break) See FMEA 2-I-1

_____ X / 1 (X) 2 () 3 () 4 ()
Acceptable Potentially Unacceptable/Safety Function Affected

G Durniak 3/8/83
EVALUATING ENGINEER/DATE

J R Price 4/8/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-7

Interaction Number(s): I-2-34-2
I-2-34-3

Fire Zone: 76A

Target Component(s)

Number, Description & Function: FT 980 Lo Press Sensing Line

Safety Injection Flow to Loop 3 Cold Leg.

Postulated Failure Modes(s)
and Evaluation:

C-6-(P) (Crimp/Break) See FMEA 2-I-1

	<u>X</u>	<u>/ 1 (X) 2 () 3 () 4 ()</u>
Acceptable	Potentially Unacceptable/Safety Function Affected	
 G Durniak 3/8/83	 J R Price 4/8/83	
EVALUATING ENGINEER/DATE	CHECKED/DATE	

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-8

Interaction Number(s): I-2-45-2

Fire Zone: 77A

Target Component(s)

Number, Description & Function: LT 934A Sensing Line

Safety Injection Accumulator Tank 31 Level, to LI 934A on Safeguards
Panel SBF-1 in CCR.

Postulated Failure Modes(s)
and Evaluation:

C-6-(P) (Crimp/Break) Operator must be able to verify that the Accumulators
have discharged during Safety Injection.

	<u>X</u>	<u>-</u>	<u>/ 1 (X) 2 () 3 () 4 ()</u>
Acceptable	Potentially Unacceptable/Safety Function Affected		
G Durniak 3/8/83	J R Price 4/8/83		
EVALUATING ENGINEER/DATE	CHECKED/DATE		

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-9

Interaction Number(s): I-2-47-1

Fire Zone: 77A

Target Component(s)

Number, Description & Function: LT 935A

Safety Injection Accumulator Tank 31 Level, to LI 935A on SI Supervisory
Panel SMF

Postulated Failure Modes(s)
and Evaluation:

C-1-(P) See FMEA 2-I-8

_____ X / 1 (X) 2 () 3 () 4 ()
Acceptable Potentially Unacceptable/Safety Function Affected

G Durniak 3/8/83
EVALUATING ENGINEER/DATE

J R Price 4/8/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-10

Interaction Number(s): I-2-48-2

Fire Zone: 77A

Target Component(s)

Number, Description & Function: LT 935A Sensing Line

Safety Injection Tank 31 Level

Postulated Failure Modes(s)
and Evaluation:

C-6-(P) See FMEA 2-I-8

_____ X / 1 (X) 2 () 3 () 4 ()
Acceptable Potentially Unacceptable/Safety Function Affected

G Durniak 3/8/83

EVALUATING ENGINEER/DATE

J R Price 4/8/83

CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-11

Interaction Number(s): I-2-53-3

Fire Zone: 77A

Target Component(s)

Number, Description & Function: LT 935B

Safety Injection Accumulator Tank 32 Level, to LI 935B on SI Supervisory Panel SMF in CCR

Postulated Failure Modes(s)
and Evaluation:

C-1-(P) See FMEA 2-I-8

_____ X / 1 (X) 2 () 3 () 4 ()
Acceptable Potentially Unacceptable/Safety Function Affected

G Durniak 3/8/83
EVALUATING ENGINEER/DATE

J R Price 4/8/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-12

Interaction Number(s): I-2-54-3

Fire Zone: 77A

Target Component(s)

Number, Description & Function: LT 935B Sensing Line

Safety Injection Accumulator Tank 32 Level.

Postulated Failure Modes(s)
and Evaluation:

C-6-(P) See FMEA 2-I-8

_____ X / 1 (X) 2 () 3 () 4 ()
Acceptable Potentially Unacceptable/Safety Function Affected

G Durniak 3/8/83

EVALUATING ENGINEER/DATE

J R Price 4/8/83

CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-13

Interaction Number(s): I-2-56-4

Fire Zone: 77A

Target Component(s)

Number, Description & Function: LT 934C

Safety Injection Accumulator Tank 33 Level, to LI 934C on Safeguards
Panel SBF-1 in CCR.

Postulated Failure Modes(s)
and Evaluation:

C-1-(P) See FMEA 2-I-8

_____ X / 1 (X) 2 () 3 () 4 ()
Acceptable Potentially Unacceptable/Safety Function Affected

G Durniak 3/8/83
EVALUATING ENGINEER/DATE

J R Price 4/8/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-14

Interaction Number(s): I-2-57-2
I-2-57-3
I-2-57-4

Fire Zone: 77A

Target Component(s)
Number, Description & Function: LT 934C Sensing Line
Safety Injection Accumulator Tank 33 Level

Postulated Failure Modes(s)
and Evaluation:

C-6-(P) See FMEA 2-I-8

<u>Acceptable</u>	X / 1 (X) 2 () 3 () 4 ()
	Potentially Unacceptable/Safety Function Affected
<u>G Durniak 3/8/83</u>	<u>J R Price 4/8/83</u>
EVALUATING ENGINEER/DATE	CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-15

Interaction Number(s): I-2-59-4

Fire Zone: 77A

Target Component(s)

Number, Description & Function: LT 935C

Safety Injection Accumulator Tank 33 Level, to LI 935C on SI Supervisory Panel SMF in CCR

Postulated Failure Modes(s)
and Evaluation:

C-1-(P) See FMEA 2-I-8

_____ X / 1 (X) 2 () 3 () 4 ()
Acceptable Potentially Unacceptable/Safety Function Affected

G Durniak 3/8/83

EVALUATING ENGINEER/DATE

J R Price 4/8/83

CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-16

Interaction Number(s): I-2-60-4

Fire Zone: 77A

Target Component(s)

Number, Description & Function: LT 935C Sensing Line

Safety Injection Accumulator Tank 33 Level

Postulated Failure Modes(s)
and Evaluation:

C-6-(P) See FMEA 2-I-8

_____ X / 1 (X) 2 () 3 () 4 ()
Acceptable Potentially Unacceptable/Safety Function Affected

G Durniak 3/8/83

EVALUATING ENGINEER/DATE

J R Price 4/8/83

CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-17

Interaction Number(s): I-2-65-5
I-2-65-6

Fire Zone: 77A

Target Component(s)
Number, Description & Function: LT 935D

Safety Injection Accumulator Tank 34 Level, to LI 935D on SI Supervisory
Panel SMF in CCR

Postulated Failure Modes(s)
and Evaluation:

C-1-(P) See FMEA 2-I-8

Acceptable X / 1 (X) 2 () 3 () 4 ()
Potentially Unacceptable/Safety Function Affected

G Durniak 3/8/83
EVALUATING ENGINEER/DATE

J R Price 4/8/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-18

Interaction Number(s): I-2-66-3
I-2-66-5
I-2-66-7

Fire Zone: 77A

Target Component(s)
Number, Description & Function: LT 935D Sensing Line
Safety Injection Accumulator Tank 34 Level

Postulated Failure Modes(s)
and Evaluation:

C-6-(P) See FMEA 2-I-8

	<u>X</u>	/ 1 (X)	2 ()	3 ()	4 ()
Acceptable	Potentially Unacceptable/Safety Function Affected				
G Durniak 3/8/83	J R Price 4/8/83				
EVALUATING ENGINEER/DATE	CHECKED/DATE				

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-19

Interaction Number(s): I-2-73-1

Fire Zone: 87A

Target Component(s)

Number, Description & Function: PT 936D

Safety Injection Accumulator Tank 34 Pressure, to PI 936D on Safeguards Panel SBF-1 in CCR.

Postulated Failure Modes(s)
and Evaluation:

C-1-(P) See FMEA 2-I-8

	X		/ 1 (X) 2 () 3 () 4 ()
Acceptable	Potentially Unacceptable/Safety Function Affected		
G Durniak 3/8/83		J R Price 4/8/83	
EVALUATING ENGINEER/DATE		CHECKED/DATE	

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-20

Interaction Number(s): I-2-75-1
I-2-75-2

Fire Zone: BIT (Boron Injection Tank)

Target Component(s)
Number, Description & Function: TIC 918

Boron Injection Tank Heaters Temperature Indication.

Postulated Failure Modes(s)
and Evaluation:

C-1-(P) Temperature must be monitored in Boron Tank to insure proper Boron
addition during Safety Injection.

_____ X / 1 (X) 2 () 3 () 4 ()
Acceptable Potentially Unacceptable/Safety Function Affected

G Durniak 3/8/83
EVALUATING ENGINEER/DATE

J R Price 4/8/83
CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-21

Interaction Number(s): I-2-78-1

Fire Zone: Boron Injection Tank

Target Component(s)

Number, Description & Function: TW 917

Boron Injection Tank Heaters, backup Temperature control, to indication and alarm on Safeguards Panel in CCR.

Postulated Failure Modes(s)
and Evaluation:

C-1-(P) See FMEA 2-I-20

	<u>X</u>	<u>/</u>	<u>1 (X)</u>	<u>2 ()</u>	<u>3 ()</u>	<u>4 ()</u>
Acceptable	Potentially Unacceptable/Safety Function Affected					
G Durniak 3/8/83	J R Price 4/8/83					
EVALUATING ENGINEER/DATE	CHECKED/DATE					

POWER AUTHORITY OF THE STATE OF NEW YORK
INDIAN POINT 3 SYSTEMS INTERACTION STUDY
FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-22

Interaction Number(s): I-2-83-3

Fire Zone: 9

Target Component(s)

Number, Description & Function: PT 923

Safety Injection Pumps 32 and 33 Discharge Header Pressure to Boron Injection Tank.

Postulated Failure Modes(s)
and Evaluation:

C-1-(P) Operator must have correct flow indication to insure proper Boron addition during Safety Injection.

	X / 1 (X) 2 () 3 () 4 ()
Acceptable	Potentially Unacceptable/Safety Function Affected
G Durniak 3/8/83	J-R Price 4/8/83
EVALUATING ENGINEER/DATE	CHECKED/DATE

POWER AUTHORITY OF THE STATE OF NEW YORK
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FAILURE MODES AND EFFECTS ANALYSIS
OF POTENTIALLY UNACCEPTABLE INTERACTIONS

FMEA NUMBER: 2-I-23

Interaction Number(s): I-2-85-3

Fire Zone: 9

Target Component(s)
Number, Description & Function: PT 947

Safety Injection Pumps Suction Header Pressure

Postulated Failure Modes(s)
and Evaluation:

C-1-(P) Operator must have Lo Flow Annunciation to warn of loss of water
during recirculation phase of Safety Injection.

	<u>X</u>	/ 1	(X)	2 ()	3 ()	4 ()
Acceptable	Potentially Unacceptable/Safety Function Affected					
G Durniak 3/8/83	J R Price 4/8/83					
EVALUATING ENGINEER/DATE	CHECKED/DATE					