

# Indian Point 3 Nuclear Power Plant

Systems Interaction Study Report

Volume 2



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Systems Interaction Study Report

Volume 2



COPY NUMBER 3

## 1.0 Rod Control

**R1** 

#### 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 accomodate 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. SYSTEM E-1

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

#### ROD CONTROL SYSTEM

#### ELECTRICAL

POI	CENTIALLY UNACCEPTABLE	FMEA (1) (2)	EIC (1) (2)	SPAN EVALUATION (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

Х

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

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

SYSTEM NO. E-1

SHEET <sup>1</sup> OF 2

## 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)
	350 MCM Cable	S	
MG-31 Motor	MG-31 Coupling .	S	
MG-31 Generator	MG-31 Coupling Neutral Ground Resistor Exiter Voltage Regulator Local Control Cabinets	S S S S	
Reactor Trip Switchgear	MG-31 Plug-in Bus Duct Assembly Plug-in Bus Fused Disconnect Switches	S S S	
480V SWGR 32 (Bus 6A)	350 MCM Cable	S	
MG-32 Motor	MG-32 Coupling	S	
MG-32 Generator	MG-32 Coupling Neutral Ground Resistor Exiter Voltage Regulator Local Control Cabinets	S S S S S	,
Reactor Trip Switchgear	MG-32 Plug-in Bus Duct Assembly Plug-in Bus Fused Disconnect S	S S witchesS	

E Volpe/9-22-82

PREPARED BY/DATE

J Montalbano/9-22-82

APPROVED BY/DATE

1

DIDIER NO	SYSTEM	NO.	E-1
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SHEET 2 OF 2

## 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 P	WR) S	
	10 KVA Sola Regulator (Contro	•	
	10 KVA Stepdown Transformer ( PWR)	Control N	<u>1</u> -E-1
Rod Cluster	Power Cabinets	S	
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

ROD CONTROL SYSTEM NAME

EVALUATION CATEGORY

NON-CONNECTED

INTERCONNECTED

· X \_\_\_\_\_

Z. n. Ver 9-28-82 E M Volpe/ INTERACTION ENGINEER/DATE

WA Griswold/9-28-82 VERIFIED/DATE

#### Sheet 1 of 1

#### 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

SYSTEM NAME ROD CONTROL

E-1

MATRIX CATEGORY

NON-CONNECTED X

PREPARED BY/DATE

|14|82 'DATE

Ebasco Services Incorporated

NOI I	
NOIT	
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	
<b>F</b> 8 1" CND 111K1 (CA) X	
9 3" CND 10K1 (CA) • X 10 2" CND 10K (CA) • X	
2 10 3" CND 1QG X	
II MG CNTL CAB X	
12 1 <sup>1</sup> <sub>4</sub> " CND 1J H1 (JC) X	
13 1" CND 1JU (JD) X	
14     2" CND 5RA (DD)     X       15     2" CND 1JZ (DA)     X	
15 2" CND 1JZ (DA) X	
16 3" CND 1JV (FB) X	

									S	OUR	CES	S				
					1	2	3									
		E-1		NO INTERACTION	SPEAKER	LICHT	LIGHT									
		17	2" CND IJN2 (DC)	x												
		18	1攴" CND 1JT1 (JC)	x												
		19	2" CND 1IZ (DA)	х	×											
		20	2" CND 1JW (DB)	X												
		21	ROD CONT CABINETS		E216											
		22	KG5 PLUG IN DISC SW	x												
	TARGETS	23	CABLE WAY	x		-										
E E		24	ROD CONTL PART LGTH	x												
ᡝ᠂		25	3/4" CND 1 W/S (JB)	x												
	41	26	1" CND 1ZZ (DC)	x									,			
		27	INVERTER GD7			E217.										
┛┛		28	$1\frac{1}{2}$ " CND 1JM (FA)	x												
4 4 4 -		29	1년" CND 5UU1 (FA)	x												
INCHES I MIMM		30	1七" CND 1KK1 (FA)	x									 			
INCHES		31	1" CND 1 WH (FA)	x									ĺ _			
		32	CONTROL DEVICES ROD CONT CAB FRONT				E306									
		FIRE	DING: <u>CONTROL BU</u>		NG								. •	,	•	
		L'OC WIT	ATION : ELEV 33' HIN FIRE ZONE			،	<u> </u>				RC	D CO	NTROI	L		
			SERVICES INCORP		-	POW			ORIT I PO				WYC	ORK	5209 E-1	.003
	DIV. ELEC DR. RS APPROVED DATE CH. J. F. MONTALBANO SCALE NONE						SYS	ТЕМ	S IN RACTI	TERA	CTIO	N ST	TUDY		SH 2	OF <sup>3</sup>

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						1	2										
		E-1			NO INTERACTION	LIGHT	LIGHT										
		33	CONTROL L ROD CONT C	CAB REAR	(	E307)											
		34	CONTROL I STAT INVE				E308										
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		WII	HIN FIRE	ZUNE			,						ROD				
				S INCORF			POW			ORIT PO				:W YC	DRK !	5209 E-1	.003
	DATI	E-878	DRRS 32CH ONE	J F MON'						S INT ACTI				UDY	9	<b>3H</b> 3	OF3
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# POWER AUTHORITY OF THE STATE OF NEW YORK INDIAN POINT 3 NUCLEAR POWER PLANT SYSTEM INTERACTION STUDY

# NON-CONNECTED INTERACTIONS EVALUATION

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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	<del>.</del>	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
RO	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

30/82 INTERACTION ENGINEER/DATE

9:30.82 W

Sheet <sup>1</sup> of <sup>5</sup>

System No. E-1

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 le	eft)
-------------------------------------	------

SOURCE: Speaker

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X \_\_\_\_\_ACCEPTABLE

E Licari/ 8-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 9-30-82

VERIFIED/DATE

POTENTIALLY

-UNACCEPTABLE

Sheet <sup>2</sup> of <sup>5</sup>

System No. E-1

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, FIR	E ZCNE:	EL 33'
POTENTIAL INTERACTI	E-1-27-2	
PHOTOGRAPH NO.:	E217	
BACKGROUND NO.:	Sheet 68	

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:	Inverter GD7	(not shown)

Light

SOURCE:

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

Sheet <sup>3</sup> of <sup>5</sup>

System No. E-1

#### 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

INTERACTION ENGINEER/DATE

W A Griswold/ 9-30-82

VERIFIED/DATE

System No. E-1

Sheet 4 of 5

#### 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-1-33-1

PHOTOGRAPH NO.: E307

BACKGROUND NO.: Sheet 68

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Control Devices, Rod Cont Cab Rear

Light

SOURCE:

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

UNACCEPTABLE

E Licari/ 8-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 9-30-82

Х

VERIFIED/DATE

POTENTIALLY

## 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

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

83 PREPARED BY/DATH

CHECKED BY/DATE

4.15.83 nisw VERIFIED BY/DATE

Ebasco Services Incorporated

System No. 1 Sheet 1 of 1

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.

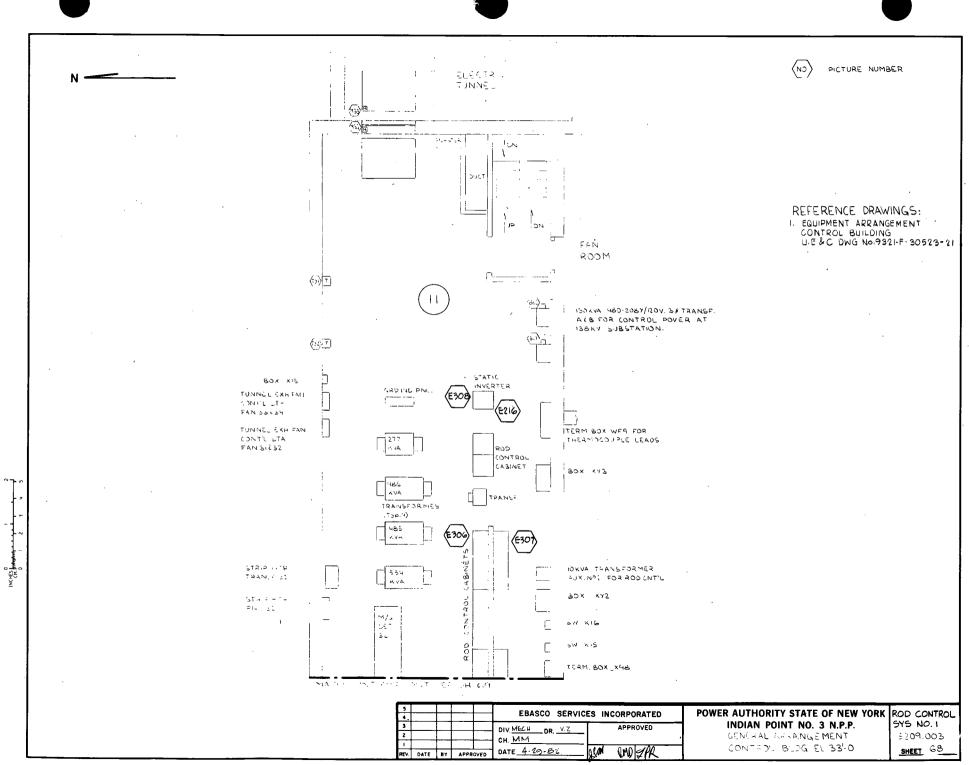
Postulated Failure Mode(s) and Evaluation:

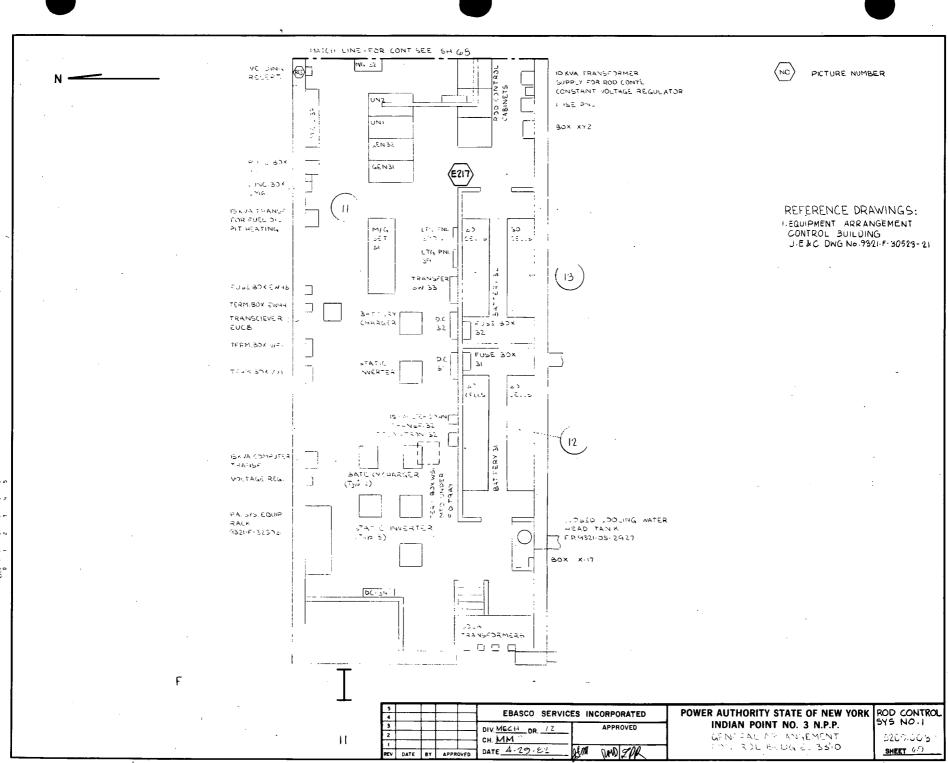
E-3-(P) (Break or Damage of Control Devices) Impact of light on control devices for rod control may lead to malfunction of rod control system.

	X	1	1	(X)	2	(,	)	3	(	)	4	(	)
Potentially	Unacceptable	e/S	Saf	ety	Fι	ind	:t:	ior	<b>n</b> .	Af	fe	cte	ed

Acceptable

R Sahu 2/23/83 EVALUATING ENGINEER/DATE G Durniak 3/15/83 CHECKED/DATE





INCHES INCHES

#### 2.0 Safety Injection System

#### Function & Applicability

2.1

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 unavilability of CVCS for normal shutdown.

**R1** 

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 values 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 values 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

P0'	TENTIALLY UNACCEPTABLE INTERACTION NUMBER	FMEA (1) (2)	EIC (1) (2)	SPAN EVALUATION (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-м-2-р	9-001-P	5209-9-019-A
*	L-2-19-6	2-м-3-р	9-002-P	NA
	L-2-19-7	2-м-3-р	9-003-A	NR
	L-2-21-1	2-M-4-P	9-001-P	5209-9-019-A
	L-2-53-2	2-м-5-р	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-М-10-Р	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

Х

6/9/82

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 EQUIPMENT	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
ACCUMULATOR TANK	LINE 1 SI-68	S	
NO. 31	LINE 1 SI-601	S	
NO. JI	LINE 10 SI-351	S	
	LINE 3/4 SI-69	S	
	LINE 1 SI-525	S	
	VALVE 837A LT 934A, PT 936A		
	VALVE 837B	S	
	VALVE 8376 LT 935A, PT 937A		
	VALVE 837C EI 935A, FI 937A VALVE 837D	S	
	VALVE 857D	5	
ACCUMULATOR TANK	LINE 1 SI-68	S	
NO. 32	LINE 1 SI-602	S	
No. 52	LINE 10 SI-352	S	
	LINE 3/4 SI-69	S	
	LINE 1 SI-525	S	
. · ·	VALVE 837E LT 934B, PT 936B		
	VALVE 837E EI 934B, FI 936B	5	
	VALVE 837G LT 935B, PT 937B	S	
	VALVE 837H	S	
		5	
ACCUMULATOR TANK	LINE 1 SI-68	S	
NO. 33	LINE 1 SI-603	S	
10.55	LINE 10 SI-353	S	·
	LINE 3/4 SI-69	S	
	LINE 1 SI-525	S	
	VALVE 837J - LT 934C, PT 936		
	VALVE 8375 EI 934C, FI 936	S S	
	VALVE 837L - LT 935C, PT 937		
	VALVE 837M	S	•
		5	

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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	LINE 1 SI-68	S	
NO. 33	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 9360	C S	
	VALVE 837K	S	
	VALVE 837L - LT 935C, PT 9370	C S	
	VALVE 837M	S.	
ACCUMULATOR TANK	LINE 1 SI-68	S	
NO. 34	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 936I		
	VALVE 837P	S	
	VALVE 837R - LT 935D, PT 937I	) S	`
	VALVE 837S	S	
BORON INJECTION	LINE 4 SI-16	S	
TANK	LINE 6 SI-550	S	
SAFETY INJECTION	LINE 4 SI-56	S	
PUMP #31	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	G S	<i>i i i i i i i i i i</i>
· · · · · · · · · · · · · · · · · · ·			

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SYSTEM	NO.	
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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)	
SAFETY INJECTION	LINE 4 SI-145	S	
PUMP #32	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 COOLI	NG S	
SAFETY INJECTION	LINE 4 SI-550	S	
PUMP #33	LINE 3/4 SI-434	S	
	LINE 6 SI-60-	S	
	480 VOLT SWGR 6A	S	
	DC POWER PANEL 32	S	
١	LINE AC-659 & 660 - COM COOLI	NG S	
REFUELING WATER	LINE 16 SI-155	S	
STORAGE TANK	LINE 12 SI-181	S	
	LINE 12 SI-252	S	
	LINE 3 SI-161	S	
	VALVE 840A LIC921	S	
REFUELING WATER	VALVE 844	S	
STORAGE TANK	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 <sup>.</sup>	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 Moy	LINE 8 SI-189 LINE 8 SI-189 MCC 36A	S S S	
847 S. O'Connor	LINE 8 SI-189 LINE 8 SI-189 6/9/82	S S T. P. Ruggiero	7/2/82

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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 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	1 .
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	
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 L0	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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#### 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	
<b>S-1</b> 00	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	
852 <u>A</u>	LINE 4 SI-550 LINE 4 SI-550	S S	

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#### 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	
	•	5	
853C	LINE 4 SI-56	S	
	PT 922	S	
FEX 999	LINE 6 SI-56		
	LINE 6 SI-56	S S	
		5	
853A	LINE 6 SI-56	S	
	VENT	S	
S-103	LINE 6 CI EEO	-	
0.1200	LINE 6 SI-550 VENT	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 MCC 36A	S	
	HOC JUA	S	

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#### INTERFACING COMPONENTS

	RELATED ENT VALVES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1852B	MOV	LINE 4 SI-550 LINE 4 SI-550 MCC 36B	S S S	
S-105		LINE 6 SI 550 -DRAIN	S S	·
S-106		LINE 6 SI-550 VENT	S S	
1822		LINE 2 SI-284 LINE 2 SI-284	S ·	
1840	LO	LINE 2 SI-284 LINE 2 SI-284	S S	
1841		LINE 6 SI-550 SAMPLE	S S	
1843		LINE 6 SI-550 DRAIN	S S	
1851A	A0	LINE 2 SI-594 LINE 2 SI-594 DC PANEL # 31	S S S	· ·
1851B	A0	LINE 2 SI-594 LINE 2 SI-594 DC PANEL #32	S S S	
1849		LINE 2 SI-595 - LINE 2 SI-595	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)
1846	LINE 2 SI-595	S	
	LINE 2 SI-595	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	S S S	
	MCC 36A	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)	
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 <b>-</b> 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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## 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)	
890A AO	LINE 1 SI-525	S	
	LINE 1 SI-525 DC PANEL #31	S S	
890B AO	LINE 1 SI-525	S	· ·
	LINE 1 \$I-525 DC PANEL #32	S S	
890C AO	LINE 1 SI-525	S	
	LINE 1 SI-525 DC PANEL #31	S S	
890D AO	LINE 1 SI-525	S	
	LINE 1 SI-525 DC PANEL #32	S S	
954C	LINE 3/4 SI-69	S	
	LINE 3/4 SI-69	S	
954D	LINE 3/4 SI-69 LINE 3/4 SI-69	S S	
954E	LINE 3/4 SI-69	S	
	LINE 3/4 SI-69	S .	
954F	LINE 3/4 SI-69 LINE 3/4 SI-69	S S	
1801A	LINE 1 SI-601	S	
	VENT	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	I
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	
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)	
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 Ş	
837н	ACCUMULATOR TANK NO. 32 LT 935B, PT 937B	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)
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	
329 <u></u> G	ACCUMULATOR TANK NO. 34 DRAIN	S . S	
337R	ACCUMULATOR TANK NO. 34 LT 935D, PT 937D	S S	
837\$	ACCUMULATOR TANK NO. 34 LT 935D, PT 937D	S S	
S. O'Connor	6/9/82	I. P. Ruggiero APPROVED BY/DA	7/2/82

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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 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	
89.7D	LINE 10 SI-350 LINE 10 SI-350	S S	·
S-128	LINE 10 SI-350 VENT	S S	·
Ş-129	LINE 10 SI-350 VENT	S S	
89.3D	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-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	
S. O'Connor PREPARED BY	<u></u>	. P. Ruggiero APPROVED BY/DA	7/2/82

#### INTERFACING COMPONENTS

SAFETY RELATED COMPONENT VALVES	INTERFACING COMPONENT	S SAFETY(S) NONSAFETY(N)	
894C MOV	LINE 10 SI-353	S	
	LINE 10 SI-353 MCC 36A	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	S #2-M4 N	· ·

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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)
894B MOV	LINE 10 SI-352	S	
	LINE 10 SI-352 MCC 36B	S S	
89.5B	LINE 10 SI-352 LINE 10 SI-352	S S	
89_7B	LINE 10 SI-352 LINE 10 SI-352	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	S S	
ι,	DC PANEL #32	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	
89.3B	LINE 1 SI-339 LINE 1 SI-339	S S	2 <b>-</b> M4

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SYSTEM NO. 2

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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	S	
	LINE 10 SI-351	S	
	MCC 36A	S	
895A	LINE 10 SI-351	S	
	LINE 10 SI-351	S	
89.7A	LINE 10 SI-351	S	
•	LINE 10 SI-351	S	
S-113	LINE 10 SI-351	S	
	VENT	S	
S-114	LINE 10 SI-351	S	
· ·	VENT	S	
839B AO	LINE 3/4 SI-607	S	
· · ·	LINE 3/4 SI-607	S	
	DC PANEL #31	S	
839A AO	LINE 3/4 SI-607	S	
	LINE 3/4 SI-607	S	
	DC PANEL #31	S	
S-111	LINE 10 SI-351	S	
	VENT	S	
S-109	LINE 10 SI-351	S	
•	VENT	S	
S-126	LINE 10 SI-351	S	
	VENT	S	
S-127	LINE 10 SI-351	S	
	VENT	S	
S. O'Connor	6/9/82 т	- Ruggiero	7/2/82
PREPARED BY/		APPROVED BY/DA	

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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)
89 3 A	LINE 1 SI-339 LINE 1 SI-339 ITEM #2-M-4	S	<u></u>
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	
85.7P	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	
854N	FE 983 FI 983	S S	
854P	FE 983 FI 983	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)	
FE 926A	LINE 1½ SI-754 LINE 1½ SI-754 VALVE 854L VALVE 854M	S S S	
854L	FE 926A FT 926A	S S	
854M	FE 926A FT 926A	S S	
856F MOV	LINE 1½ SI-754 LINE 1½ SI-754 MCC 36B	S S S	
857M	LINE $1\frac{l}{2}$ SI-754 LINE $1\frac{l}{2}$ SI-754	S S	
857P	LINE $1\frac{1}{2}$ SI-754 LINE $1\frac{1}{2}$ SI-754	S S	
S-150	LINE 1 <sup>1</sup> 2 SI-754 DRAIN	S S	
S-160	LINE 1½ SI-754 DRAIN	S S	
FE 924A	LINE 1½ SI-753 LINE 1½ SI-753 VALVE 854J VALVE 854K	S S S S	
854J	FE 924A FT 924A	S S	
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SYSTEM NO. 2

SHEET \_\_\_\_\_ OF \_\_\_\_38

## 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)
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 $1\frac{1}{2}$ SI-753 LINE $1\frac{1}{2}$ SI-753	S S	
S-149	LINE 1½ SI-753 DRAIN	S	
\$ <del>~</del> 153	LINE 1½ SI-753 DRAIN	S	
FE 925	LINE 1 <sup>1</sup> 2 SI-16A LINE 1 <sup>1</sup> 2 SI-16A VALVE 854G VALVE 854H	S S S	
854G	FE 925 FT 925	S S	
854H	FE 925 FT 925	S S	
856D MOV	LINE $1\frac{l_2}{2}$ SI-16A LINE $1\frac{l_2}{2}$ SI-16A MCC 36B	S 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)
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 <del>-</del> 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 1 <sup>1</sup> 2 SI-16 LINE 1 <sup>1</sup> 2 SI-16 MCC 36A	S S S	
857J	LINE $1\frac{1}{2}$ SI-16 LINE $1\frac{1}{2}$ 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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SHEET \_\_\_\_\_\_ OF \_\_\_\_\_38

## 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-142	LINE 1½ SI-16	S S	
	DRAIN	S	
FE 924B	LINE 2 SI-56	S	
	LINE 2 SI-56	S	
	VALVE 854C	S	
	VALVE 854D	S	
854C	FE 924B	S	
	FT 924B	S	
854D	FE 924B	S	
	FT 924B	S	
856B MOV	LINE 2 SI-56	S	
	LINE 2 SI-56	S	
	MCC 36B	S	
85.7H	LINE 2 SI-56	S	
	LINE 2 SI-56	. S	
85.7 <u>B</u>		_	
<u></u>	LINE 2 SI-56	S	
	LINE 2 SI-56	S	
S-145	LINE 2 SI-56	S	
	DRAIN	S	
S-159	LINE 2SI-56	C	
	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)	
FE 926	LINE 2 SI-56A LINE 2 SI-56A VALVE 854A	S S S	
· ·	VALVE 854B	S	
854A	FE 926 FT 926	S S	
854B	FE 926 FT 926	S S	
856A MOV	LINE 2 SI-56A LINE 2 SI-56A MCC 36A	S S S	
857G	LINE 2 SI-56A LINE 2 SI-56A	S · S	
857 <u>A</u>	LINE 2 SI-56A LINE 2 SI-56A	S S	
S-154	LINE 2 SI-56A DRAIN	S S	
S-144	LINE 2 SI-56A DRAIN	S S	
FE 980	LINE 2 SI-844 LINE 2 SI-844 VALVE 854Q VALVE 854R	S S S S	
854Q	FE 980 FT 980	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)
	854R	FE-980 FT-980	S S	
ı	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	
·	8570	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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SHEET \_\_\_\_\_\_ OF 38

# 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)
857T	LINE 2 SI-845 LINE 2 SI-845	S S	
8575	LINE 2 SI-845 LINE 2 SI-845	S S	
S-148	LINE 2 SI-845 DRAIN	S S	
S-158	LINE 2 SI-845 DRAIN	S S	
FE 982	LINE 2 SI-846 LINE 2 SI-846 VALVE 8540 VALVE 854W	S S S S	
854U	FE 982 FT 982	S S	
854 <u>w</u>	FE 982 FT 982	S S	
856K MOV	LINE 2 SI-846 LINE 2 SI-846 MCC 36A	S S S	
857W	LINE 2 SI-846 LINE 2 SI-846	S S	
857U	LINE 2 SI-846 LINE 2 SI-846	S , S	

T. P. Ruggiero 7 APPROVED BY/DATE S. O'Connor 6/9/82 PREPARED BY/DATE 7/2/82 .

SYSTEM NO.

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SHEET <sup>29</sup> OF 38

## 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-151	LINE 2 SI-846 DRAIN	S S	
S-162	LINE 2 SI-846 DRAIN	S S	

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SYSTEM NO. 2

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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 LINES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	
3 SI-846	LINE 6 SI-56 LINE 2 SI-846 LINE 2 SI-845	S S S	
2 SI-846	LINE 3 SI-846 LINE 10 SI-350	S	
2 SI-845	LINE 3 SI-846 LINE 10 SI-352	S S	
2 SI-844	LINE 6 SI-56 LINE 10 SI-353	S S	•
2 SI-56A	LINE 6 SI-56 LINE 10 SI-351	S S	
2 SI-56	LINE 6 SI-56 LINE 2 RC-56	S S	
6 SI-56	LINE 2 SI-56 LINE 2 SI-56A LINE 2 SI-844 LINE 3 SI-846 LINE 3/4 SI-608 LINE 1 SI-525 LINE 4 SI-56 LINE 4 SI-550	S S S S S S S S S	
1½ SI-16	LINE 4 SI-16 LINE 1 <sup>1</sup> 2 RC-16	S S	
1½ SI-16A	LINE 4 SI-16 LINE 1 <sup>1</sup> / <sub>2</sub> RC-16A	S S	

S. O'Connor 6/9/82	T. P. Ruggiero 7/2/82
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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 LINES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1 <sup>1</sup> / <sub>2</sub> SI-753	LINE 4 SI-16 LINE 1 <sup>1</sup> / <sub>2</sub> RC-753	S S	
1½ SI-754	LINE 4 SI-16 LINE $1\frac{1}{2}$ RC-754	S S	
2 SI-843	LINE 4 SI-16 LINE 2 RC-843	S S	
4 SI-16	LINE $1\frac{1}{2}$ SI-16 LINE $1\frac{1}{2}$ SI-16A LINE $1\frac{1}{2}$ SI-753 LINE $1\frac{1}{2}$ SI-754 LINE 2 SI-843 LINE 3/4 SI-270 LINE 2 SI-594 BORON INJECTION TANK	S S S S S S S S S S S S	
3/4 SI-608	LINE 6 SI-56 LINE 4 SI-16 LINE 3/4 SI-38B LINE 3/4 SI-31	S S S S	
3/4 SI-38B	VALVE 855 LINE 3/4 SI-608	S S	
3/4 SI-31	LINE 2 SI-161 ISOLATION VALVE SEAL WATER SYS LINE 3/4 SI-608 LINE 3/4 SI-606 LINE 3/4 SI-605 LINE 10 SI-350	S S S S S S	· .

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6/9/82

T. P. Ruggiero 7/2/82 APPROVED BY/DATE

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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 LINES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	
1 SI-525	LINE 6 SI-56	S	
	ACCUMULATOR TANK NO. 34	S	
	ACCUMULATOR TANK NO, 33	S	
	ACCUMULATOR TANK NO. 32	S	
	ACCUMULATOR TANK NO. 31	S	
3/4 SI-69	ACCUMULATOR TANK NO. 31	\$	
	ACCUMULATOR TANK NO. 32	S	
1	ACCUMULATOR TANK NO. 33	S	
	ACCUMULATOR TANK NO. 34	S	
	LINE 3/8 SL-69	S	
1 SI-68	LINE 1 WD-68	S	
	VENT	S	
	ACCUMULATOR TANK NO. 31	S	
	ACCUMULATOR TANK NO. 32	S	
	ACCUMULATOR TANK NO. 33	S	
	ACCUMULATOR TANK NO. 34	S	
	LINE 3/4 SI-3001	S	
1 SI-601	LINE 2 SI-601	S	
	ACCUMULATOR TANK NO. 31	S	
	VENT	S	
2 SI-601	LINE 1 SI-601	S	·
·	VENT	S	
1 SI-602	LINE 2 SI-602	S	
	ACCUMULATOR TANK NO. 32	· S	
	VENT	S	
2 SI <del>-</del> 602	LINE 1 SI-602	S	
х.	VENT	S	

S. O'Connor 6/9/82 PREPARED BY/DATE

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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 LINES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1 SI-603	LINE 2 SI-603	S	
	ACCUMULATOR TANK NO. 33	S	
	VENT	S	
2 SI-603	LINE 1 SI-603	S	
	VENT	S	
1 SI-604	LINE 2 SI-604	S	
	ACCUMULATOR TANK NO. 34	S	
	VENT	S	
2 SI-604	LINE 1 SI-604	S	
	VENT	S	
1 SI-339	VALVE 893A	S	ζ.
	VALVE 893B	S	
	VALVE 893C	S	
	VALVE 893D	S	
	LINE 10 SI-350	S	
	LINE 10 SI-351	S	
	LINE 10 SI-352	Ŝ	
•	LINE 10 SI-353	S	
10 <u>SI-350</u>	ACCUMULATOR TANK NO. 34	S	
	LINE 1 SI-339	S '	
	VENT	S	
	VENT	S	
•	LINE 6 SI-361	S	
	LINE 3/4 SI-31	S	
	LINE 2 SI-846	S	
•	PRIMARY LOOP 4 COLD LEG	, 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 LINES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	
10 SI-352	ACCUMULATOR TANK NO. 32	S	
	LINE 1 SI-339	S	
	VENT	S	
	VENT	S	
	LINE 3/4 SI-605	S	
	LINE 6 SI-356	S	
	LINE 2 SI-845	S	
	PRIMARY LOOP 2 COLD LEG	S	
10 SI-351	ACCUMULATOR TANK NO, 31	S	
	LINE 1 SI-339	S	
4.	VENT	S	
	VENT	S	
	VENT	S	
	LINE 3/4 SI-607	S	
	LINE 6 SI-355	S	
	LINE 2 SI-56A	S	
`	PRIMARY LOOP 1 COLD LEG	S	
3/4 SI-605	LINE 3/4 SI-31	S	
· .	LINE 10 SI-352	S	
3/4 SI-606	LINE 3/4 SI-31	S	
·	LINE 10 SI-353	S	
3/4 SI-607	LINE 3/4 SI-606	S	
	LINE 10 SI-351	S	
14 SI-57	LINE 14-AC-10	S	
	CONTAINMENT SUMP	S	
8 SI-190	LINE 12 AC-9	S	
	LINE 12 SI-155	S	

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## INTERFACING COMPONENTS

	SAFETY RELATED COMPONENT LINES	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	
	10 CT 155	LINE 12 AC 10	C	
	12 SI-155	LINE 12 AC-10 LINE 8 SI-189	S S	
		LINE 8 SI-190	S	
		LINE 4 SI-205	S	
		LINE 4 SI-205 LINE 6 SI-518	S	
		VALVE S-200 VENT	S	
		REFUELING WATER STORAGE TANK	S	
	3/4 SI-3001	LINE 1 SI-68	S	
	57 . 22 5002	LINE 3/4 RC-3001	S	
			5	
	8 SI-60	LINE 8 SI-60 (RHR)	S	
1	0 01 00	LINE 6 SI-278	S	
		LINE 6 SI-277	S	
		LINE 6 SI-60	S	
	0	LINE 8 SI-189	S	
			5	
	1 SI-600	LINE-3/4 SI-600	S	
	•	LINE 2 CH-595	S	
	3/4 SI-600	LINE 2 SI-594	S	
	1	LINE 1 SI-600	S	
	2 SI-594	LINE 4 SI-16	S -	
		LINE 2 CH-594	S	•
		LINE 6 SI-550	S	
	2 SI-595	LINE 2 SI-594	S	
		LINE 2 CH-595	S	
	-			
	3/4 CH-875	LINE 2 CH595	S	
		VALVE 1825	S	

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ŚYSTEM NO.<sup>2</sup>

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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 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	
	LINE 0 51-350	5	
6 SI-550	BORON INJECTION TANK	S	
	LINE 2 SI-594	S	
	LINE 2 SI-284	S	
	LINE 3/4 SI-876	S	
	LINE 4 SI-550	S	
	LINE 4 SI-145	S	
•	LINE 4 SI-56	S	
2 SI-284	LINE 6 SI-550	S	
	LINE 2 CH-284	S°	
3/4 SI-876	LINE 6 SI-550	S	
-,	DRAIN	S	
8 SI-189	LINE 8 SI-60	S	
0 04 102	LINE 12 SI-155	S	
		<b>ک</b>	
6 SI-518	LINE 12 SI-155	S	
	LINE 6 SI-277	S S	
2 SI-161	LINE 3 SI-161	S	
	LINE 2 SI-154	S	
	LINE 3/4 SI-31	S .	
	LINE 4 SI-550	S	
	LINE 4 SI-145	S	
	LINE 4 SI-56	S	
3/4 SI-434	LINE 6 SI-60	S	
	SAFETY INJECTION PUMP #33	S	

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#### INTERFACING COMPONENTS

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

S. O <sup>4</sup> Connor 6/9/82	T. P. Ruggiero 7/2/82
PREPARED BY/DATE	APPROVED BY/DATE
 • •	

SYSTEM NO. 2

SHEET \_\_\_\_\_\_\_ OF \_\_\_\_\_\_

## POWER AUTHORITY OF THE STATE OF NEW YORK 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)
12 SI-252	REFUELING WATER STORAGE TANK LINE 6 SI-252	S N	2-M5



S. O'Connor 6/9/82

PREPARED BY/DATE

т.	Ρ.	Ruggie	ro	7/2/82
	API	PROVED	BY/DATE	

# 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

<u>6-9-82</u>

18.9.82

#### 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-1

CONNECTED COMPONENT: Line 3/4 SI-876

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

POSTUALATED 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

System No. 2

## Sheet <sup>2</sup> of <sup>5</sup>

#### 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-2

CONNECTED COMPONENT: 3/4 PW-875

BOUNDARY SAFETY RELATED COMPONENT (S): Valve 1825

POSTUALATED 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 boundry

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X ACCEPTABLE

POTENTIALLY --- UNACCEPTABLE

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

William 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 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

POSTUALATED 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 boundry.

Χ ACCEPTABLE POTENTIALLY UNACCEPTABLE

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

William Griswold 8/2/82

VERIFIED/DATE

System No. 2

### Sheet <sup>4</sup> of <sup>5</sup>

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-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)

POSTUALATED 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

<u>X</u>

POTENTIALLY UNACCEPTABLE

Sean O'Connor 6/9/82

INTERACTION ENGINEER / DATE

William Griswold 8/2/82

VERIFIED/DATE

2

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

POSTUALATED 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.

Х ACCEPTABLE

POTENTIALLY

**UNACCEPTABLE** 

Sean 0'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

5/25/82



										S	DUR	CES	5				
						1	2	3	4	5	6	7	8	9	10	11	12
		-	LINES L-2		NO INTERACTION	4" FLOOR DRAIN	LIGHT FIXTURE#1	LIGHT FIXTURE#2	E/T BORIC ACID SYS CABINET 33A	E/T BORIC ACID SYS PANEL 33A	1" CONDUIT	2" CONDUIT	GROUNDING CABLE	FLEXIBLE CONDULT	LIGHT FIXTURE#3	LIGHT FIXTURE#4	HVAC DUCT
·	[	1	3/4 SI-31		X												
		2	4 SI-56												M220	M221	
		3	6_SI-56		X												
		4	6 SI-60			M212						1218					
		5	8 SI-60		X												
		6	4 SI-145					M215				M218					
		7	3/4 SI-161				M214					M 218	M219	1219	M220		
$\boldsymbol{\leftarrow}$	ШЦ	8	2 SI-161					M215	, ,								M208 M209
∼	TARGE TS	9	8 SI-189			M212											
	1	10	6 SI-277		X												
- ~		11	6 SI-278		X				ļ								
- ~		12	2 SI-284						M217	и217	M217		 			ļ	
		13	3/4 SI-399			M213											
0		14	3/4 SI-434		X			ļ	<u> </u>			ļ				<u> </u>	
0		15	3/4 SI-467		X							<b> </b>	<u> </u>		ļ	<u> </u>	
		16	6 SI-518			M212						<u> </u>				M208 M209	
	1	FIRE	DING: <u>PRIMARY</u> ZONE: ATION:	•	TLTA	RY RI	ILDI	NG									
		WIT	HIN FIRE ZO	NE			•						_		-	YSTEM	
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		LINES L-2	NO INTERACTION	LIGHT FIXTURE#5	LIGHT FIXTURE#6										
	7	3/4 SI-161		M210	M211			ļ							
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	FIRE	DING: <u>PRIMARY</u> ZONE:9 ATION : HIN FIRE ZON				G		_	S	AFETY	INJ	ECTIO	ON SY	STEM	
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			LINES L-2		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 CONDUI	LIGHT FIXTURE#5	LIGHT FIXTURE#6	NO INTERACTION		
		17	4 SI-550		M212	M214	4216	M216	M216	M218			м210	M211			
		18	6 SI-550				И217	M21 <sup>.</sup> 7	M217								
		19	3/4 SI-270	)						M218	M219	1219					
		20	#31 PUMP												X		
	1	21	#32 PUMP		1213												
		22	#33 PUMP												X		
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			<sup>CH</sup> DR. <sup>SOC</sup>		ROVED		~	SYS	TEM		TERA	CTIC	N ST	UDÝ			<b>OF</b> 18
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			LINES L-2		3/8 RC-224	3/8 WD-30	1 WD-67	NO INTERACTION										
		23	4 SI-16		M225	M225	1225											
		24	3/4 SI-31					x										
		25	6 SI-56					x										
:		26	8 SI-60					X										
		27	3/4 SI-27	0	1225	м225	M225											
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			SERVICE				POW				Y ST/ INT			W YC	RK	5 <b>209</b> L-2	. 003	3
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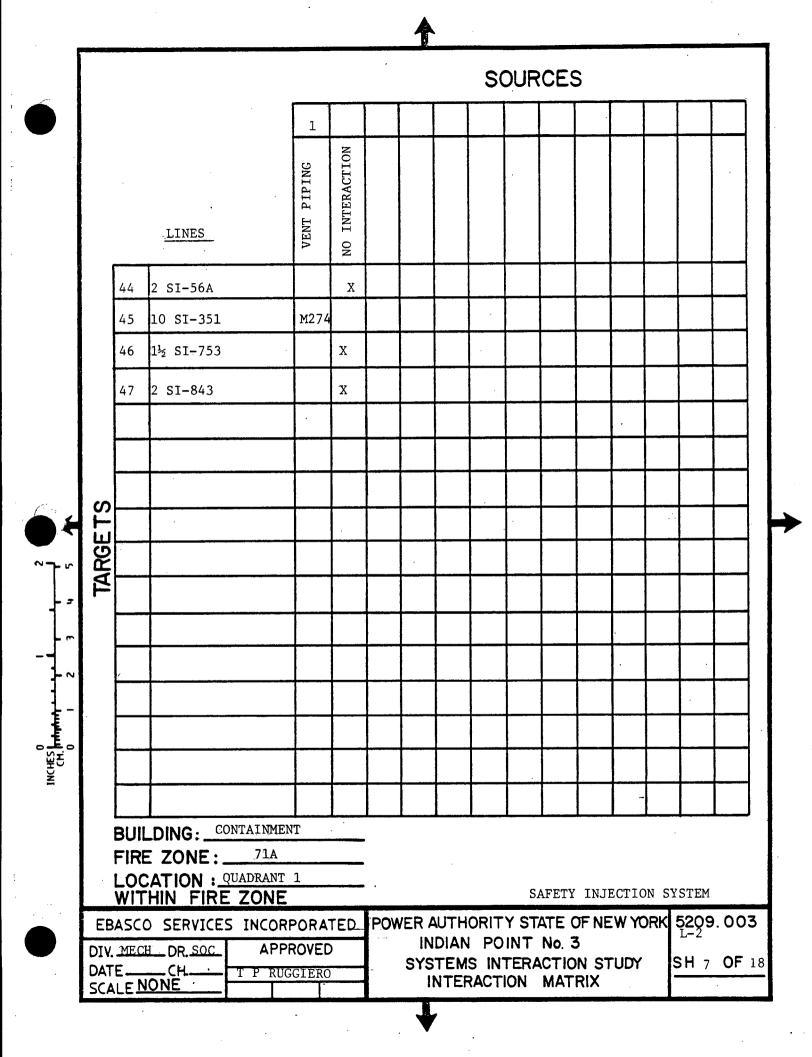
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			LINES L-2		FLEXIBLE CONDUI	LIGHT FIXTURE	3 AC-127	NO INTERACTION									
		28	6 SI-56		M224												
		29	8 SI-60			M223											
		30	3/4 SI-270		M224	M223											
		31	6 SI <del>-</del> 550					x									
		32	4 SI-16					X									
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		FIRE	ZONE:	62A													
		LOC WIT	ATION : HIN_FIRE_Z	ONE			, .			<u> </u>	SA	FETY	INJI	ECTIO	N SY	STEM	
	EB	ASCC	SERVICES	INCORF	ORA		POW			ORIT PO					ORK	5209 L-2	. 003
	DAT	E	DR. <u>SOC</u>	APPR			-	SYS	TEM	s in	TERA	CTIO	N ST			SH 4	<b>OF</b> 18
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		LINES	HAND RAILING	NO INTERACTION											
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	37	10 SI-353	M272												
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	39	2 SI-844		X											
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	FIRE LOC WIT	DING: CONTAINM ZONE: 70A ATION : QUADRA HIN FIRE ZONE	NT 3		,						INJE				
		SERVICES INCOR	PORA		POW			ORIT PO				.w YC	)RK	5209 L-2	.00
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		LINES	HAND RAILING	1 RC-383	NO INTERACTION									
	40	1 <sup>1</sup> <sub>2</sub> SI-16		ļ	X									
	41	3/4 SI-31			X									
	42	10 SI-350	1273	M275										
	43	2 SI-846		M275										
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<b>TARGE TS</b>		·												
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	FIRE LOC WIT	DING: ZONE: ATION : HIN FIRE ZO SERVICES IN	JADRANT 4								INJ:			
DIV.	MECH	DR.SOC	APPROVE	>		IN	DIAN	PO	INT	No. 3			1	L-2 SH 6
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	·	LINES.	3/4 RC-662	NO INTERACTION	4										
ſ	48	1½ SI-16A		x											
	49	10 SI-352	1229												
ſ	50	3/4 SI-605		x											
	51	2 SI <del>-</del> 843		x											
	52	2 SI-845		x											
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F	FIRÉ _OC	DING: CONTAINME ZONE: 71A ATION : QUADRA HIN FIRE ZONE	ANT 2		, .				S	AFETY	INJ	ECTI	ON SY	STEM	
EBA	ASCC	SERVICES INCO	RPORAT	ED_	POW	/ER / IN			Y ST/ INT	ATE ( No 3	OF NE	W Y	ORK	<b>5209</b> L-2	). 0
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		LINES	LIGHT FIXTURE#8	3" WD-40	4" WD-38	1" RC-507	NO INTERACTION									
	53	2SI-16	(	M118	4117											
	54	1 <sup>1</sup> ₂SI-16A	(	м118	1117							·				
	55	3/4 SI-31		M115	M115											
	56	3/4 SI-38B					х									
	57	6SI-56					x									
	58	1SI-68					X									. 
	59	10SI-352					x									
TARGETS	60	181-525					X									
RG	61	3/451-605					X									
4	62	3/451-606				M120										
	63	3/451-608					x									
	,64 ,	1 <sup>1</sup> ₂SI-753					X									
	65	1 <sup>1</sup> 2SI-754					x									
	66	2SI-843	M114													
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	FIRE	DING: CONTAINMENT ZONE: 72A ATION: QUADRANT HIN FIRE ZONE	r 2						, SA	AFETY	INJI	ECTIC	ON SY	STEM		
DIV. DAT	MEC	D SERVICES INCOR	PORA	>	POW	SYS	DIAN TEM	I PO	INT TERA	No. 3	3 N ST	• •		L <del>-</del> 2	9.00 9 <b>OF</b>	

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		<u>LINES</u> L-2		LIGHT FIXTURE#8	NO INTERACTION											
3	6.7	2 SI-845		M114												
	68	2 SI-846			x											
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DIV	MECH	DR.SOC	APPR	OVED	,	*-84	IN	DIAN	PO SIN <sup>-</sup>	INT	No. 3	3			L-2	<b>OF</b> 18
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		LINES L-2	NO INTERACTION												
	70	6 SI-56	X												
	71	2 SI-56A	X						· ·						
	72	3/4 SI-606	x												
	73	1 <sup>1</sup> <sub>2</sub> SI-753	х												
	74	1 <sup>1</sup> <sub>2</sub> SI-754	Χ.												
	75	2 SI-844	x												
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1	FIRE LOC WIT	DING: <u>CONTAIN</u> ZONE: <u>75A</u> ATION : <u>QUADRA</u> HIN FIRE ZON	NT 1 E		POW				Y ST	ATE	OF NE	EW YO	ORK	STEM 5209	0.003
DIV. DATI	IECH E E N		PROVED		· ·	SYS	TEM	s in	TER/	No. 3 ACTIC MAT	ON ST				1 <b>OF</b> :

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		•	1	2	3	4	5								
		LINES L-2	I.A. LINE	LIGHT	2 AC-317	1 RC-507	3 WD-40	NO INTERACTION					,		
	76	2 SI-56						x							
	Ż7	10 SI-351		·				x							
	78	10 SI-353	M12	1			M145								
	79	3/4 SI-606		M120	M11						ļ				
	80	3/4 SI-607		M17	M17	M17			ļ						
	81	2 SI-844			<b> </b>						ļ				
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	FIR	LDING: <u>CONT</u> E ZONE: <u>QU</u> CATION : QU HIN FIRE ZO	76A						S	AFETY	INJ	ECTIC	ON SY	STEM	
	BASC	O SERVICES IN	CORPORA		POV				Y ST			EW YO	ORK	5209 L-2	. 00
DI DA	V .TE		P RUGGIE			SYS	TEM	S IN		ACTIC	DN ST	ΓUDY		SH 13	2 <b>OF</b>
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			1	2	3	4	5	6	7	8						]
		LINES						4	.0		INTERACT ION					
		L-2	LIGHT	3WD-40	3RC-85	4RC-38	1WD-23	3/8 RC-24	3/4 WD-30	3RC-33						
					31	4	11	3	3	3	ON					
	82	1½ SI-16									X					4
	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			м151										]
6	88	10 SI-351									x		-			
<u> </u>	89_	10 SI-352								M153						
TARGE TS	90	10 SI-353		M146												]
TA	91	1 SI-525	M144	M146	1148 1149		M150	м150	M150	1150						]
	92	1 SI-601									x					]
	,93 ,	1 SI-602			į						X .					]
	94	1 SI-603									x					
	95	1 SI-604									х					]
	96	2 SI-846									x					]
-																
	FIRE LOC WIT	DING: <u>CONTAINME</u> ZONE: <sup>77A</sup> ATION: QUADRAN HIN FIRE ZONE	Г 4				[			AFETY		-				]
		SERVICES INCOR	PORA		POW					ATE C No. 3		w yc	RK	5209 L-2	. 00	13
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LINES L-2	SOUR	
97 3/4 SI-3001 X		
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TARGE TS		
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BUILDING: CONTAINMENT		

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		LINES						NOI							
		L-2	197-18	AC-379		∞	2	RACT				ļ			
		•			LIGHT	1RC-508	1SI-377	INTERACT ION							
			1"	1,		11	18	ON.				<u> </u>			
	98	10 SI-351	M75	M75											
	<u>99</u>	3/4 SI-607	( <u>M80</u> )		M79	M83						ļ			
	100	1 <sub>2</sub> SI-753					M89_								
	101	1½ SI-754						x							
	102	10 SI-293						x							
	103	8 SI-91				M82		-				-			
	104	2 SI-92						x							
TARGETS	105	3/4 SI-711						· X							
RG B															
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	BUIL	DING: CONTAIN	MENT	1	<u>и                                    </u>	<u> </u>	<b>.</b>	I	<u></u>	ł	<u> </u>	<u> </u>		4	<b>1</b>
	FIRE	ZONE:													
	LOC <u>WIT</u>	ATION : QUADRA HIN FIRE ZON	NT 3 E		•				S	AFETY	INJ	ECTI	ON SY	STEM	
		SERVICES INCO		TED	POW							EW YO			). (
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SCA	LEN		RUGGIER	20				RACTI					['		

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		<u>LINES</u> L-2	4" DRAIN LINE												,
	106	4 SI-16	M204												
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	FIRE LOC WIT	DING: PRIMARY ZONE: 88A ATION : HIN FIRE ZON	E		• • •					AFETY					_
DIV.	MECH		ORPORAT PROVED		POV	IN SYS		PO SIN	INT TERA	ATE ( No. 3 ACTIC MAT	3 )n st			L-2	9.00 6 OF

										S	DUR	CES	5				:
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			LINES		LIGHT FIXTURE#7	HVAC DUCT	6" ROOF DRAIN	NO INTERACTION									•
× .		108	4 SI-16					Х .									
		109	6 SI-550		M222	M222	M222										
		110	2 SI-5 <u>9</u> 4			·		X									•
		111	2 SI-595					X								<u>\</u>	
		112	1 SI-600					X									
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		LOC WIT	ATION :_ HIN FIRE	ZONE							S.	AFETY	INJ	ECTIC	ON SY	STEM	
	EB	ASCO	SERVICE	S INCORF	PORA		POW							EW YO	DRK	5209 L-2	. 003
	DIV. DAT	MECH	DR	APPF T P RU	ROVED	-	-	SYS	TEM		TERA	CTIC	N ST	UDY			7 <b>0F</b> 18
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		LINES L-2	NO INTERACTION				-							-	
[	113	8" - SI-190	x												
	114	12" - SI-155	x												
T															
		<u>t i i i i i i i i i i i i i i i i i i i</u>													Γ
F															
F		<u> </u>									<u> </u>				
TS		<u> </u>													
TARGETS			•	-,					1						
A		<u></u>									1				
┝		<u></u>									+				
F													[		ŀ
┝									1						
·  -								<u> </u>							
								1							
F		<u> </u>												<u> </u>	ŀ
F	IRE	DING: PRIMARY		RY B	UILD	ING	<u> </u>	<b>I</b>	<u> </u>	L	<b>I</b>	L	<u> </u>	Į	L
		ATION : HIN FIRE ZONI										ECTI			
		SERVICES INCO			POV			IORIT N PO				EW YO	ORK	5209	).
DIV DATE		DRAP CHTP_R TP_R	PROVED			SYS	TEM	IS IN RACT	TERA		N ST	rudy	5	SH 1	8
SCAL	. <u>E N</u>	JNE ·	I			l				WAI					

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			r	 			S(			S 	r			τ-
							<u> </u>							Ļ
		<u>VALVES</u> V-2	NO INTERACTION											
ſ		4 SI-56												
[	1	849A	x											
	2	850A	x							, ,				
ŀ				 							· ·			
╞		· · · · · · · · · · · · · · · · · · ·												╀
	3	853A	X	 		-		<u> </u>						
9       1       849A       X       1       849A       X       1 </td <td></td>														
4 SI-56														
AF AF		6 SI-60												
	6	· 848B	x			·	1							İ
ŀ	7	ST-49	x											ļ
ļ				 			 							
ļ		8 SI-60				. 					ļ	<b> </b>		
	8	PT947	X	 				<u> </u>						┥
1				 UILD								<u> </u>		

						S	DUR	CE	S		•··	
		1	#5 2	N								
	<u>VALVES</u> . V-2	LIGHT FIXTURE	LIGHT FIXTURE	NO INTERACTION								
	4 SI-145				•	 				ļ		
2	MOV 851A			X								
10	852A			X								,
11	MOV 851B			X								
12	852B			X								
13	S-101			X								
	MOV 851A         852A         MOV 851B         852B         852B         S-101         3/4 SI-161         884A         1807A         884B											
<b>TARGE TS</b>	884A			X							·	
<b>D</b> 15	1807A			X								
	884B	M214										
17	1807B	M214										
18	884C		M210									
19	1807C		M210									
20 21	S-100			x								
21	S-102		M210									

				,					S	DUR	CE	S				
)				1												
			<u>VALVES</u> V-2	HVAC DUCT	NO INTERACTION											
		_	2 SI-161		_											
ĺ		22	MOV 842	M208 M209												
		23	MOV 843	M208 M209				, /								
		24	F1-950		x											
			· · · · · · · · · · · · · · · · · · ·													
			8 SI-189													
	6	25	847		x			,								
×	TARGETS	26	MOV 1810		X	-			·			· ·				
ᡝ᠃	<b>NRG</b>	27	S-203		X											
	17															
- ~			6 SI <del>-</del> 277													
┥		,28	MOV 887A		x											
		29.	MOV 887B		x											
		30	ST-48		x								<u> </u>			
INCHES JUNNAN											·					
		FIRE	DING: PRIMARY A ZONE: 9 ATION: HIN FIRE ZONE		RY BI	JILDI	NG				4		E OF T	011 01	70000	
-			HIN FIRE ZONE SERVICES INCO			POV		UTH	IORIT						(STEM 5209	
	DIV.	<u>MEC</u>	DRsoc AP	PROVED	)		IN SYS		N PO IS IN RACT	INT TERA	No. 3	3 DN ST			SH 3	

									S	DUR	CES	5					
	-			1	2	3											
			VALVES V-2	BORIC CABINE	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	M21	7						· · ·				
C.	S	34	1840	M217	M217	M21											
┛≮ °⁻+∽	TARGE TS		3/4 SI-399														
	11	35	1819B	_			X										
- ~															<u> </u>		
 - ~			3/4 SI-434												<b></b>	<u> </u>	
- -		36	1819C		<u> </u>		x										
INCHES CM. <b>իւհւհւդ *</b> 0 1			3/4 SI-467														
Ň		37	1819A	1			x								1		1
		FIRE	DING: PRIMARY AU ZONE: 9 ATION: HIN FIRE ZONE	<u>.</u>	RY BI	JILDI	NG	<b>4</b>	I	S.	AFETY	INJ	ECTI	ON SY	STEM	·	ر
	EB DIV.	ASCC MECH	SERVICES INCOR		)	POW	IN SYS		ORIT I PO S IN RACT	INT TERA	No. 3 NCTIC	3 IN ST			5209 SH 4		

										S	DUR	CES	5				
					1	2	3	4	5								
			VALVES V-2		E/T BORIC ACID SYS CABINET 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	84 <u>9</u> B						1210								
	6	41	850B						1210							-	
	TARGETS	×															
᠉᠇᠃	RGI		6 SI-550														
	4	42	MOV 1852A		M216	M216	M216										
- ~		43	MOV 1852B		M217	M217	M217										
 }- ∾		44	1884							x							
		45	1847							x							
	•	46	S-105							x							
INCHES 0 CM. האאריא - DDDDDD		47	S-106	×				<u> </u>		x							
		48	1843							x							
		FIRE	DING:PR ZONE: _ ATION : HIN FIRE	9		ARY B	UILD	ING			S.	AFETY	INJ	ECTI	ON SI	YSTEM	
	EB	ASCO	SERVICES			TED	POW		UTH	ORIT	Y ST		OF NE	W YO	ORK	<u>520</u> 9	. 003
	DIV.	MECH	DR. SOC CH. ONE		ROVED	)	-	IN SYS		s in	INT TERA ION	NO. 2 CTIO	S N ST				5 <b>OF</b> 30

				S	OUR	CE	S		
	<u>VALVES</u> 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							Γ
State       3/4 SI-31       1         49       859B       X         50       862       X         51       PI 928       X         52       FI 929       X         53       859C       X         54       859A       X         8       SI-60       1         55       MOV 888A       X         56       MOV 888B       X							Γ		
Q       Image: Constraint of the constraint									
Se la	8 SI-60								
Q         Image: Constraint of the second secon									
56	MOV 888B	X							
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				SOURCES												
				1									Γ			
		VALVES V-2		3" AC-127	NO INTERACTION											
		14 SI-57														
	57	MOV 885A			X											
	58	MOV 885B		E138						-						
														,		
S																
<b>TARGE TS</b>											<u> </u>			ļ		
<b>JRG</b>																
Ĩ																
			X										<u> </u>		<u> </u>	
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							<u> </u>		<u> </u>				<u> </u>			
		<u> </u>														
1	FIRE	DING: _PR ZONE: _ ATION : _ HIN FIRE	52A		RY B	UILD	ING			S.	AFETY	í INJ	ECTI	on sy	STEM	
		SERVICES				POV				Y ST		OF NI	EWY	ORK	<b>5209</b> V-2	э. С
	MECH DR. SOC APPROVED ECHT P RUGGIERO						INDIAN POINT No. 3 V-2 SYSTEMS INTERACTION STUDY SH 7 OF									

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VALVES         1         0 <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>S</th> <th>OUF</th> <th>CE</th> <th>S</th> <th></th> <th></th> <th></th> <th></th>									S	OUF	CE	S				
E       P       P         2 SI-56       X       Image: Containment         59       857B       X       Image: Containment         10 SI-353       X       Image: Containment         61       S-123       X       Image: Containment         63       857F       X       Image: Containment         64       857Q       X       Image: Containment         FIRE ZONE :70A       Image: Containment				1												
59       857B       X       Image: Containment         10       SI-353       Image: Containment         60       897C       M273       Image: Containment         61       S-123       X       Image: Containment         62       S-124       X       Image: Containment         63       857F       X       Image: Containment         64       857Q       X       Image: Containment         FIRE       ZONE :70A       Image: Containment		•	VALVES													
Image: Second state sta			2 SI-56													
60       897C       M273       Image: Contrainment in the second secon		5 <u>9</u>	857B		x											
60       897C       M273       Image: Contrainment in the second secon																
60       897c       M273       Image: Contrainment         61       S-123       X       Image: Contrainment         62       S-124       X       Image: Contrainment         62       S-124       X       Image: Contrainment         11/2       SI-754       Image: Contrainment       Image: Contrainment         63       857F       X       Image: Contrainment         FIRE       ZONE :       70A	•															
60       897c       M273       Image: Contrainment         61       S-123       X       Image: Contrainment         62       S-124       X       Image: Contrainment         62       S-124       X       Image: Contrainment         11/2       SI-754       Image: Contrainment       Image: Contrainment         63       857F       X       Image: Contrainment         64       857Q       X       Image: Contrainment         FIRE       ZONE :       70A			10 SI-353													Ī
62     S-124     X     Image: Containment in the second		60		M273												T
1½ SI-754       1       1       1         63       857F       X       1       1         63       857F       X       1       1         1       1       1       1       1       1         63       857F       X       1       1       1         64       857Q       X       1       1       1         64       857Q       X       1       1       1         BUILDING:       CONTAINMENT		61	S-123		x						1					T
1½ SI-754       1       1       1         63       857F       X       1       1         63       857F       X       1       1         1       1       1       1       1       1         63       857F       X       1       1       1         64       857Q       X       1       1       1         64       857Q       X       1       1       1         BUILDING:       CONTAINMENT	TS	62	S-124		x											Ť
1½ SI-754       1       1       1         63       857F       X       1       1         63       857F       X       1       1         1       1       1       1       1       1         63       857F       X       1       1       1         64       857Q       X       1       1       1         64       857Q       X       1       1       1         BUILDING:       CONTAINMENT	RGE									1						I
63     857F     X     Image: Contrainment fire zone :	<b>A</b>															T
63     857F     X     Image: Contrainment filter       64     857Q     X     Image: Containment filter			1 <sup>1</sup> ₂ SI-754							†—						t
64 857Q X BUILDING: <u>CONTAINMENT</u> FIRE ZONE: <u>70A</u>		63	<u> </u>		x					· ·						T
64 857Q X BUILDING: <u>CONTAINMENT</u> FIRE ZONE: <u>70A</u>													$\square$			Ť
64 857Q X BUILDING: <u>CONTAINMENT</u> FIRE ZONE: <u>70A</u>								$\square$								T
64 857Q X BUILDING: <u>CONTAINMENT</u> FIRE ZONE: <u>70A</u>			2 SI-844													T
FIRE ZONE: 70A		64	857Q		x				1			Γ				T
		L BUII FIRE	857Q DING: <u>CONTAIN</u> ZONE: 70A													
■ 1	DIV. DAT	MECH		RPORA PROVED	>	POW	IN SYS		I PC Is in	Y ST	No. 3 ACTIC	3 DN S <sup>-</sup>		. [	5209 V-2 SH <sup>8</sup>	

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	SOURCES
VALVES	
1½ SI-16	
65 856C X	
66 857C X	
67 857J X	
68 FE927 X	
69 S-142 X	
s-163 х	
3/4 SI-31	
71 839G X	
72 839н х	
BUILDING:	

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						S	OUF	CE	S			
		1										
	VALVES	HAND RAILING	NO INTERACTION									
1	0 SI-350											
73	894D		Х									
74	89 <u>5</u> D		X									
75	897D	M273					-	-				
76	S-128		X									
77	S-129		X									
78	S-130		X									
TARGE TS	S-139		X									
RG					<u> </u>			Ľ				
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80 81 82 83 84								S	OUF	CE	S	-			
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	2	VALVES	NO INTERACTION												
		2 SI-846	x												
	80	856K	x						ļ						Ļ
	81	8570	x			ļ									ļ
	82	857W	x	,											ļ
	83	FE982	x												ļ
	84	S-151	x			 		<u> </u>	<u> </u>						ļ
S	85	S-162	x					ļ	<u> </u>						╞
<b>TARGE TS</b>					ļ .										ļ
ARG	-											ļ		<b> </b>	ļ
F															ļ
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		DING: CONTAINMEN	I I												•
	FIRE LOC WIT	ZONE:	<u>.</u> 4		, , ,							ECTIC			
·		SERVICES INCOR	PORAT		POV	IN	DIA	N PC	Y ST	No. 3	3			5209 V-2 SH <sup>1</sup>	

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		ALVES	NO INTERACTION	-											
		2 SI-56A							ļ		ļ				
	86	857A	x							ļ					
						<u> </u>									
1										. 					
		10 SI-351													
	87	89.7A	X												
ഗ	88	S-112	x				 								
TARGE TS	89_	S-113	x												
ARG						<u> </u>	ļ			<u> </u>					
1															
		1½ SI-753					ļ								
	, 90	857E	x												
								<u> </u>						 	
		<u></u>								<u> </u>					
					<u> </u>	ļ				<u> </u>		ļ			
	FIRE	DING: <u>CONTAINM</u> ZONE: 71A ATION : QUADRA HIN FIRE ZONI	ANT 1		•				Sz	<b>AFETY</b>	INJ	ECTIC	ON SY	STEM	
EB	ASCO	SERVICES INCO	RPORA		POV							EW YO	ORK	<b>5209</b> v-2	. 00
DIV.	MECH	DR. SOC AP	PROVE						INT TERA					SH 12	2 OF

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		<u>VALVES</u>	3/4 RC-662	NO INTERACTION											
		1½ SI-16A												:	
	91	857D		х											
							. (			-		· ·			
		10 SI-352													
	92	895B		x							<u> </u>	<u> </u>			
S	93	897B	M229												
<b>JETS</b>	<u>9</u> 4	S-119		x					<u> </u>						
<b>TARGE TS</b>	95	S-120		x											
1	96	S-118		x											
	97	894B		x						<u> </u>					
	,														
												<u> </u>	<u> </u>		
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											<u> </u>	<u> </u>			
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	FIRE	DING: CONTAIN ZONE: 71A QUADRANT ATION : UNADRANT HIN FIRE ZONE			,		·		S	AFET	( INJ	ECTI	ON SY	STEM	1
		SERVICES INCOR	RPORA		POV										3
		L DR SOC APP	UGGTER		-	SYS	TEM	N PO IS IN RACT	TERA	CTIC	DN S			v-2 SH 1	3

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								S	OUF	CE	5				
		VALVES	NO INTERACTION												
		3/4 SI-605	_												
	98	839D	x									 			
						<u> </u>	•								
														ļ	
		2 SI-843													
	99	857N	x			<u> </u>	<u> </u>					ļ			
S															
<b>TARGE TS</b>				L					. 	ļ					
ARG		2 SI-845	_						 						
<u> </u>	100	857S	x											<u> </u>	
														<b>_</b>	
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						<u> </u>		-		<u> </u>	 		1		
]	31 111	DING: CONTAINM	ENT		<u> </u>	<u> </u>	L			1	<u> </u>	<u> </u>	L	<u> </u>	L
	FIRF	TONE: 71A ATION: QUADRAN HIN FIRE ZONE							_				_	YSTEM	
EB/ DIV.	ASCO MECH	SERVICES INCO		)	POV	IN SYS		IORIT I PO IS IN RACT	INT TERA	No. 3 ACTIC	3 IN ST			5209 V-2 SH <sup>1,</sup>	

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			1											
				z										
		V-2	3" WD-40	NO INTERACTION								-		
		4 SI-16												
	101	S-117		x		,								
		1 <sup>1</sup> <sub>2</sub> SI-16A												
	102	856D	м116									 		
	103	85 <u>7</u> K		x										
$\sim$	104	FT925		X										
ETS	105	S-148		X										
<b>TARGE TS</b>	106	S-157		x									 	
		3/4 SI-38B									   			
	<i>,</i> 107	85.5		x										
	108	6 SI-56 S-116		x										<b> </b>
	100												   .	
	FIRE LOCA WITH	DING: CONTAINME ZONE: 72A TION: OUADRA IIN FIRE ZON	NT 2 E					IORIT					 STEM	
DIV.	MECH		RPORA PROVEC	)	P.UV	IN SYS		N PO IS IN RACT	INT TERA	No, 3 ACTIC	3 DN ST	• •	V-2 SH 1	

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SOURCES NO INTERACTION VALVES . v−2 10 SI-352 109 894B Х 110 S-118 Х S-138 Х 111 **TARGETS** 3/4 SI-605 112 839C Х 3/4 SI-608 858A 113 Х INCHES IN 114 858B Х BUILDING: CONTAINMENT FIRE ZONE: \_\_\_\_72A LOCATION : QUADRANT 2 SAFETY INJECTION SYSTEM WITHIN FIRE ZONE POWER AUTHORITY STATE OF NEW YORK 5209.003 EBASCO SERVICES INCORPORATED V-2 INDIAN POINT No. 3 DIV. MECH DR. SOC APPROVED SH 16 OF 30 SYSTEMS INTERACTION STUDY DATE \_\_\_\_\_ CH. T P RUGGIERO INTERACTION MATRIX SCALE NONE

								S	DUR	CES	5				·
				1											
			<u>VALVES</u> -2	LIGHT FIXTURE#8	NO INTERACTION										
			2 SI-843												
		115	<b>8</b> 56G	M114											
		116	857P		X										
		117	FE983		х										
		118	S <b>-</b> 156		X										
		119	S-146		X		,								
	S	120	857N		X										
					•										
~~~	TARGET		2 SI-845												
	17	121	856J	M114	-										
- ~		122	857T		X										
		<u>,</u> 123	FT981		x										
4 4 4 -		124	S-148		x										
0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		125	S-158		X										
INCHES 0 CH. <b>הייאיאי 1</b> 0															
		FIRE	DING: CONTAINM ZONE: 72A ATION : QUADR												
r .		WIT	HIN FIRE ZON	E										STEM	
			SERVICES INCO	PROVED		P0W		ORIT I PO				W YC	ľ	V-2	.003
				RUGGTER		-		S IN RACT				UDY		SH 17	OF <sup>30</sup>

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										S	DUR	CES	5					
		•	VALVES		NO INTERACTION													
			2 SI-56A	•														
		126	856	A	х													
		127	857	'G	x													
		128	FE926	)	x													
		12 <u>9</u>	S-144	+	х													
		130	S-154	•	x													
	S																	ļ
	TARGETS				· ·													
~~~~	ARG								, .									
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4 																		
INCHES DAMANA																		
INCHE																		
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			DING: <u> </u>		<u>T</u>													
			ATION :_		т 1		•				S	\FETY	INJI	ECTIO	N SY	STEM		
			SERVICE				POW	/ER A	UTH	ORIT					RK	5209	.00	3
	DIV.	MECH	DR. SOC	APPF	ROVED	)		IN	DIAN	PO SIN	INT	No. 3	3			v-2 SH <sub>18</sub>		
	DAT SCA	E LE <u>N</u>	_CH	TPR	UGGIH	ERO	-								Ē	18	5 01	

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						S	OUR	CES	S			
		1	2									
	<u>VALVES</u> V-2	I A LINE	2 AC-317	NO INTERACTION								
	2 SI-56											
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SOURCES INTERACTION VALVES V-2 NO 3/4 SI-606 140 839E Х 839F 141 Х 2 SI-844 142 856H Х 143 857R Х **TARGE TS** 144 FE 980 Х 145 S-147 Х 146 S-161 Х INCHES CM. BUILDING: \_\_\_\_\_\_ FIRE ZONE: 76A LOCATION : QUADRANT 3 SAFETY INJECTION SYSTEM WITHIN FIRE ZONE POWER AUTHORITY STATE OF NEW YORK 5209.003 EBASCO SERVICES INCORPORATED V-2 INDIAN POINT No. 3 DIV. MECH DR. SOC APPROVED SH  $^{20}$  OF  $^{30}$ SYSTEMS INTERACTION STUDY DATE \_\_\_\_\_ CH. SCALE NONE T P RUGGIERO INTERACTION MATRIX

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		<u>VALVES</u> V-2	3RC-33	NO INTERACTION											
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	149	954E		x											
	150	954F		x											
		l SI-68													
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SOURCES 2 1 INTERACTION VALVES RC-508 797-IS **ÿ−**2 0N ----1½ SI-754 856F Х 187 188 857M Х Х FE 926A 189 ١. S-150 Х 190 Х 191 S-160 **IARGE TS** 10 SI-293 192 886A Х Х 193 1802A M78 M82 1802B 194 ~ 8 SI-91 INCHES CH. **Jump** X 195 886B BUILDING: CONTAINMENT FIRE ZONE: \_\_\_\_\_\_\_ LOCATION : QUADRANT 3 SAFETY INJECTION SYSTEM WITHIN FIRE ZONE POWER AUTHORITY STATE OF NEW YORK 5209.003 EBASCO SERVICES INCORPORATED V-2 INDIAN POINT No. 3 DIV. MECH\_DRSOC APPROVED SH 260F 30 SYSTEMS INTERACTION STUDY DATE \_\_\_\_ \_\_\_\_ CH. T P RUGGIERO SCALE NONE INTERACTION MATRIX

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# 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.
12	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.
	<b>7.</b>	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.

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

SYSTEM NO. 2

SYSTEM NAME

SAFETY INJECTION SYSTEM

EVALUATION CATEGORY

NON-CONNECTED X

INTERCONNECTED

INTERACTION

old 8.2.82

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

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

PHOTOGRAPH NO.: M220

BACKGROUND NO.: 2-28

#### IDENTIFICATION OF INTERACTION COMPONENTS:

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

SOURCE: Light Fixture #3 (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

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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE W A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZCNE:

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

Sean O'Connor 7/1/82

W A Griswold 8/2/82

INTERACTION ENGINEER/DATE

1

VERIFIED/DATE

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

## Sheet 5 of 132

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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE W A Griswold 8/2/82

VERIFIED/DATE

# System No. L-2

## Sheet<u>6</u> of <u>132</u>

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-2-6-7

PHOTOGRAPH NO.: M218

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4 SI-145 (Shown in lower left portion of photograph)

SOURCE: 2" Conduit (Shown by arrows)

DESCRIPTION OF POSTULATED INTERACTION:

2" conduit falls and hits line 4 SI-145

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

### System No. L-2

### Sheet 7 of 132

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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE W A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

1

LOCATION WITHIN FIRE ZCNE:

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 ivestigation needed.

ACCEPTABLE

v	POTENTIALLY
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Sean\_O'Connor\_\_\_7/1/82 INTERACTION\_ENGINEER/DATE W A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZCNE:

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 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

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: L-2-7-9

PHOTOGRAPH NO.: M219

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

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

SOURCE: Flexible Conduit (Shown by top arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Flexible conduit falls and hits line 3/4 SI-161.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY UNACCEPTABLE

6

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

W A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZCNE:

POTENTIAL INTERACTION NO.: L-2-7-10

PHOTOGRAPH NO.: M220

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

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

SOURCE: Light Fixture #3 (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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE W A Griswold 8/2/82 VERIFIED/DATE

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:

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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

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZCNE:

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

Sean O'Connor7/1/82INTERACTION ENGINEER/DATE

W A Griswold 8/2/82 VERIFIED/DATE

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)

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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

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

W A Griswold 8/2/82

VERIFIED/DATE

Sheet 15 of 132

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 ZCNE:

POTENTIAL INTERACTION NO.: L-2-8-12

PHOTOGRAPH NO.: M-208

M-209 BACKGROUND NO.: 2-29

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 2 SI-161 (2" line with valves 842 & 843)

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

### DESCRIPTION OF POSTULATED INTERACTION:

HVAC duct falls and hits line 2 SI-161

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 4

HVAC Duct support arrangements in the PAB were compared with CAT I Duct Supports & found to be adequate.

X ACCEPTABLE

1

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE W A Griswold 8/2/82 VERIFIED/DATE

Sheet 16 of 13.2

# 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

1

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

t

X ACCEPTABLE

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE W A Griswold 8/2/82

VERIFIED/DATE

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

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

<u>W A Griswold 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: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZCNE:

POTENTIAL INTERACTION NO.: L-2-12-5

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 right side of Sys. Panel 33A photograph)

DESCRIPTION OF POSTULATED INTERACTION:

E/T Boric Acid System Panel 33A . Falls and hits line 2SI-284.

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

Sheet <sup>19</sup> of <sup>132</sup>

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 ZCNE:

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

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

<u>William A Griswold 8/2/82</u> VERIFIED/DATE

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

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

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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82

VERIFIED/DATE

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZCNE:

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

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

William A Griswold 8/2/82 VERIFIED/DATE

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

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

William A Griswold 8/2/82

VERIFIED/DATE

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

Sean O'Connor7/1/82INTERACTION ENGINEER / DATE

William A Griswold 8/2/82 VERIFIED/DATE

Sheet 26 of 132

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-2-17-4

PHOTOGRAPH NO.: M216

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4 SI-550 (Shown on Right 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 4 SI-550

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82 VERIFIED/DATE

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

Sheet  $^{28}$  of  $^{132}$ 

# 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

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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.: 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

ACCEPTABLE

POTENTIALLY --UNACCEPTABLE

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

Х

William A Griswold 8/2/82

VERIFIED/DATE

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 Sys Cabinet 33A (Shown by arrow on left)

# DESCRIPTION OF POSTULATED INTERACTION:

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

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

ACCEPTABLE

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

Х

William A Griswold 8/2/82

VERIFIED/DATE

Sheet 32 of 132

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

9 FIRE ZONE:

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)

E/T Boric Acid SOURCE: (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

Х ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

Sean 0'Connor 7/1/82 INTERACTION ENGINEER / DATE

William A Griswold 8/2/82

VERIFIED/DATE



BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZCNE:

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 ZCNE:

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

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

Х	POTENTIALLY

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

William A Griswold 8/2/82 VERIFIED/DATE

Sheet <u>36-</u> of 132

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 ZCNE:

POTENTIAL INTERACTION NO.: L-2-19-8

PHOTOGRAPH NO.: M219

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4 SI-270

(Shown with Heat Tracing in upper portion of Photograph)

SOURCE: Flexible Conduit (Shown by Top Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Flexible Conduit 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

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

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System No. L-2

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

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Sean O'Connor7/1/82INTERACTION ENGINEER/DATE

<u>William A Griswold 8/2/82</u> VERIFIED/DATE

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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Primary Auxiliary Building

FIRE ZONE: 59A

LOCATION WITHIN FIRE ZCNE:

POTENTIAL INTERACTION NO.: L-2-23-3

PHOTOGRAPH NO.: M225

BACKGROUND NO.: 2-17

IDENTIFICATION OF INTERACTION COMPONENTS:

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

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

DESCRIPTION OF POSTULATED INTERACTION: Line 1 WD-67 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

Sheet <sup>41</sup> of 132

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

Sheet 42 of 132

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

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

William A Griswold 8/2/82 VERIFIED/DATE

Sheet <u>43</u> of 132

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 ZCNE:

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

Sean O'Connor7/1/82INTERACTION ENGINEER/DATE

William A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Primary Auxiliary Building

FIRE ZONE: 62A

LOCATION WITHIN FIRE ZCNE:

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

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

William A Griswold 8/2/82 VERIFIED/DATE

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

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

William A Griswold 8/2/82

VERIFIED/DATE

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

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

William A Griswold 8/2/82

VERIFIED/DATE

BUILDING: Primary Auxiliary Building

FIRE ZONE: 62A

LOCATION WITHIN FIRE ZCNE:

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

Sean 0<sup>†</sup>Connor 7/1/82

INTERACTION ENGINEER / DATE

William A Griswold 8/2/82

VERIFIED/DATE

Sheet 49 of 132

# 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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82 VERIFIED/DATE

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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Containment

FIRE ZONE: 70A

LOCATION WITHIN FIRE ZCNE: 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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Containment

FIRE ZONE: 70A

LOCATION WITHIN FIRE ZCNE: Quadrant 4

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

PHOTOGRAPH NO.: M275

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:	2	ST-846	(Shown	in	Upper	Portion	of	Photograph	Tapping	into
	4	51 040	Line ]	10 \$	SI-350)	<u>)</u>				

SOURCE: 1 RC-383 (Shown by Arrow)

## DESCRIPTION OF POSTULATED INTERACTION:

See Evaluation Note 1

# EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

X ACCEPTABLE

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82

VERIFIED/DATE

BUILDING: Containment

FIRE ZONE: 71A

LOCATION WITHIN FIRE ZCNE: 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

BUILDING: Containment

FIRE ZONE: 71A

LOCATION WITHIN FIRE ZCNE: Quadrant 2

POTENTIAL INTERACTION NO.: L-2-49-1

PHOTOGRAPH NO.: M229

BACKGROUND NO.: 2-10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 10 SI-352 (10" Line Shown in Center of Photograph)

SOURCE: 3/4 RC-662 (Shown by Arrow)

## DESCRIPTION OF POSTULATED INTERACTION:

Line 3/4 RC-662 Falls and Hits Line 10 SI-352

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

System No. L-2

Sheet 55 of 132

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 ZCNE: 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

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William A Griswold 8/2/82 VERIFIED/DATE

System No. L-2

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

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

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

William & Griswold 8/2/82 VERIFIED/DATE

System No. <u>L-2</u>

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 ( $1\frac{1}{2}$ " 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  $1\frac{1}{2}$  SI-16A

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

In conformance with Evaluation Note 2, Interaction between line 3 WD-40 and  $l_2SI-16A$  is potentially unacceptable. Further investigation needed.

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

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

Part of the second from

William A Griswold 8/2/82

VERIFIED/DATE

BUILDING: Containment

FIRE ZONE: 72A

LOCATION WITHIN FIRE ZCNE: 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	(1½" Line with 90 of Photograph)	Bend shown in Center
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

BUILDING: Containment

FIRE ZONE: 72A

LOCATION WITHIN FIRE ZCNE: 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.

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Containment

FIRE ZONE: 72A

LOCATION WITHIN FIRE ZCNE: 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

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

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

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William A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Containment

FIRE ZONE: 72A

LOCATION WITHIN FIRE ZCNE: 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 Arrrow)

DESCRIPTION OF POSTULATED INTERACTION:

Light Fixture Falls and Hits Line 2 SI-843

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

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

William A Griswold 8/2/82 VERIFIED/DATE

System No. L-2

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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: 72A

LOCATION WITHIN FIRE ZCNE: 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

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

N. A. Marken

William A Griswold 8/2/82 VERIFIED/DATE

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

Sean\_O'Connor 7/1/82 INTERACTION\_ENGINEER/DATE

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William A Griswold 8/2/82

VERIFIED/DATE

BUILDING: Containment

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZCNE: 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

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

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William A Griswold 8/2/82 VERIFIED/DATE

System No. L-2

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 ZCNE: 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

Х ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

Sean 0'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82

VERIFIED/DATE

BUILDING: Containment

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZCNE: 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

Service and

William A Griswold 8/2/82 VERIFIED/DATE

Sheet 68 of 132

System No.\_\_\_\_L-2

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 ZCNE: 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)

·····A

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

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

1...

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82 VERIFIED/DATE

System No. <u>L-2</u>

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 ZCNE: 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

Res Contractor

William A Griswold 8/2/82 VERIFIED/DATE

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System No. L-2

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 ZCNE: 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

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

William A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZCNE: 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

R. W. W. W. W.

William A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZCNE: 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

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

William A Griswold 8/2/82

VERIFIED/DATE

System No. L-2

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-2-87-4

PHOTOGRAPH NO.: M151

BACKGROUND NO.: 2-12

IDENTIFICATION OF INTERACTION COMPONENTS:

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

SOURCE: 4 RC-38

(shown by arrow)

DESCRIPTION OF POSTULATED INTERACTION:

See evaluation note 1

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

X ACCEPTABLE

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

William A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZCNE: 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

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZCNE: 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

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

A. A. B. B.

William A Griswold 8/2/82

VERIFIED/DATE

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

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

\_\_\_\_\_\_ POTENTIALLY \_\_\_\_\_\_UNACCEPTABLE

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

H. C. Bart

William A Griswold 8/2/82 VERIFIED/DATE

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

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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 ZCNE: 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

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William A Griswold 8/2/82 VERIFIED/DATE

Sheet 80 of 132

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 ZCNE: 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

0

POTENTIALLY ---UNACCEPTABLE

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82 VERIFIED/DATE

Sheet  $^{81}$  of  $^{132}$ 

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 ZCNE: 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

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

William A Griswold 8/2/82

VERIFIED/DATE

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZCNE: 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 (s

(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

System No. L-2

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 ZCNE: 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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82 VERIFIED/DATE

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

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

William A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Containment

FIRE ZONE: 78A

LOCATION WITHIN FIRE ZCNE: 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

YOTENTIALLY UNACCEPTABLE

Sean O'Connor 7/1/82

William A Griswold 8/2/82

INTERACTION ENGINEER/DATE

VERIFIED/DATE

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

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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82

VERIFIED/DATE

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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Primary Auxiliary Building

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZCNE:

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

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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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82 VERIFIED/DATE

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

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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 ZCNE:

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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Primary Auxiliary Building

FIRE ZONE: Boron Injection Tank Room

LOCATION WITHIN FIRE ZCNE:

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

NE SE

William A Griswold 8/2/82 VERIFIED/DATE

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

Sean0'Connor7/1/82INTERACTIONENGINEER / DATE

William A Griswold 8/2/82

VERIFIED/DATE

l

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZCNE:

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

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

S. C. S. P. Martin

William A Griswold 8/2/82 VERIFIED/DATE

Sheet 95 of 132

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 ZCNE:

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

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZCNE:

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

E. Steature

William A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZCNE:

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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82

VERIFIED/DATE

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

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

Als which a set a set

William A Griswold 8/2/82

VERIFIED/DATE

System No. V-2

Sheet 99 of 132

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 ZCNE:

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

e. Hender

William A Griswold 8/2/82

VERIFIED/DATE

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZCNE:

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

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

A. Caller and

William A Griswold 8/2/82 VERIFIED/DATE

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

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

Rev & Balling and

William A Griswold 8/2/82 VERIFIED/DATE

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

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

14 Aliantee

William A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZCNE:

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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82 VERIFIED/DATE

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 inegrity is expected to remain intact.

X ACCEPTABLE

Sean 0'Connor 7/1/82

William A Griswold 8/2/82

INTERACTION ENGINEER / DATE

VERIFIED/DATE

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

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

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# 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

Х ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

Sean O'Connor 7/1/82 INTERACTION ENGINEER / DATE William A Griswold 3/2/82

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: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-38-4

PHOTOGRAPH NO.: M208, M209

BACKGROUND NO.: 2-29

#### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 898

(Shown in upper left portion of M-209)

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

DESCRIPTION OF POSTULATED INTERACTION:

HVAC Duct falls and hits valve 898.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 4 See evaluation on No. L-2-8-12 on Sh. 15.

X ACCEPTABLE

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

William A Griswold 8/2/82 VERIFIED/DATE

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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82

VERIFIED/DATE

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-41-5

PHOTOGRAPH NO .: M210

BACKGROUND NO.: 2-29

## IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 850B

(Not shown on photograph)

SOURCE: Light Fixture #5 (Shown by arrow)

# DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and hits valve 850B

# EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

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

William A Griswold 8/2/82

VERIFIED/DATE

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.

\_\_\_\_\_ ACCEPTABLE

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

William A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

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

PHOTOGRAPH NO.: M216

BACKGROUND NO.: 2-28

#### IDENTIFICATION OF INTERACTION COMPONENTS:

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

SOURCE: E/T Boric Acid (Shown by left arrow) 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 is expected to remain intact.

X ACCEPTABLE

Sean 0'Connor 7/1/82

William A Griswold 8/2/82

INTERACTION ENGINEER / DATE

VERIFIED/DATE

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-42-3

PHOTOGRAPH NO.: M216

BACKGROUND NO.: 2-28

#### IDENTIFICATION OF INTERACTION COMPONENTS:

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

SOURCE: 1" Conduit (Shown by bottom arrow)

DESCRIPTION OF POSTULATED INTERACTION: 1" Conduit falls and hits valve 1852A

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

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

William A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-43-1

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 right) Sys. Cabinet 33A

### DESCRIPTION OF POSTULATED INTERACTION:

E/T Boric Acid Cabinet 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

System No. V-2

Sheet<sup>114</sup> of 132

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 value 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

BUILDING: Primary Auxiliary Building

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V-2-43-3

PHOTOGRAPH NO.: M217

BACKGROUND NO.: 2-28

IDENTIFICATION OF INTERACTION COMPONENTS:

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

SOURCE: 1" Conduit (Shown by top arrow)

DESCRIPTION OF POSTULATED INTERACTION:

1" conduit falls and hits valve 1852B

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82

VERIFIED/DATE

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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82

VERIFIED/DATE

BUILDING: Containment

FIRE ZONE: 70A

LOCATION WITHIN FIRE ZCNE: Quadrant 3

POTENTIAL INTERACTION NO.: V-2-60-1

PHOTOGRAPH NO.: M272

BACKGROUND NO.: 2-11

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 897C

SOURCE: Hand Railing

# DESCRIPTION OF POSTULATED INTERACTION:

Hand railing falls and hits valve 897C

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

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

William A Griswold 8/2/82 VERIFIED/DATE

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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82

VERIFIED/DATE

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

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82

VERIFIED/DATE

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

v	POTENTIALLY
Δ	UNACCEPTABLE

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Containment

FIRE ZONE: 72A

LOCATION WITHIN FIRE ZONE: Quadrant 2

POTENTIAL INTERACTION NO.: V-2-115-1

PHOTOGRAPH NO.: M114

BACKGROUND NO.: 2-10

# IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 856G (Not shown in photograph)

SOURCE: Light Fixture #8 (Shown by arrow)

#### DESCRIPTION OF POSTULATED INTERACTION:

Light fixture falls and hits valve 856G

#### EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82 VERIFIED/DATE

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 0'Connor 7/1/82 INTERACTION ENGINEER / DATE

William A Griswold 8/2/82

VERIFIED/DATE

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

X ACCEPTABLE

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82

VERIFIED/DATE

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

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

Х	POTENTIALLY
<del>, , , , , , , , , , , , , , , , , , , </del>	UNACCEPTABLE

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZCNE: 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 value 890B is underterminable 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

BUILDING: Containment

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZCNE: 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 ACCEPTABLE

POTENTIALLY --UNACCEPTABLE

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

William A Griswold 8/2/82 VERIFIED/DATE

BUILDING: Containment

FIRE ZONE: 78A

LOCATION WITHIN FIRE ZCNE: 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

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

William A Griswold 8/2/82 VERIFIED/DATE

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

<u>,</u>	Х	POTENTIALLY
	<del>.</del>	UNACCEPTABLE

Sean O'Connor 7/1/82 INTERACTION ENGINEER/DATE William A Griswold 8/2/82 VERIFIED/DATE

System No. V-2

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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: 78A

LOCATION WITHIN FIRE ZCNE: 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

BUILDING: Containment

FIRE ZONE: 78A

LOCATION WITHIN FIRE ZONE: Quadrant 3

POTENTIAL INTERACTION NO.: V-2-194-1

PHOTOGRAPH NO.: M78

BACKGROUND NO.: 2-11

#### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1802B

SOURCE: 1 SI-797 (Shown by arrow)

# DESCRIPTION OF POSTULATED INTERACTION:

Line 1 SI-797 falls and hits valve 1802B

### EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

Sean 0'Connor 7/1/82 INTERACTION ENGINEER / DATE

William A Griswold 8/2/82

VERIFIED/DATE

BUILDING: Containment

FIRE ZONE: 78A

LOCATION WITHIN FIRE ZCNE: 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

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	
<u> </u>	-	open		

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

# INSTRUMENTATION & CONTROL FAILURES

С	-	1	Fail High
С	-	2	Fail Low
С	-	3	Fail Open
С	-	4	Fail Closed
С	-	5	Loss of Motive Power
С	-	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

Z Cerca 5-18-83 PREPARED BY/DATE FRuggenin 5/31/83

5/31/83 ECKED BY/DATE

6.1.82 VERIFIED BY/DATE

Sheet 1 of 1

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 creidt 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

3 130/82 CHECKED BY/DATE

VERIFIED BY/DATE

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Sheet 1 of 15

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.

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

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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.

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 P

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# 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.

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

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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.

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

Raj G Chopra 2/7/83 EVALUATING ENGINEER/DATE

Acceptable

T P Ruggiero 3/30/83 CHECKED/DATE

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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).

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

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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 ( ) Potentially Unacceptable/Safety Function Affected

Raj G Chopra 2/7/83 EVALUATING ENGINEER/DATE

Acceptable

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Sheet <u>7</u> of <u>15</u>

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

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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

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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 combility pointeringd.
- M-2 (A) No loss of S I fluid. S I capability maintained.

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

Raj G Chopra 2/7/83 EVALUATING ENGINEER/DATE

Acceptable

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.

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

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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.

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

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Sheet <u>13</u> of <u>15</u>

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

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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

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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

	ENTIALLY UNACCEPTABLE INTERACTION NUMBER	FMEA (1) (2)	EIC (1) (2)	SPAN EVALUATION (1) (2) (3)
	I-2-10-1	2-I-1-P	78A-001-A	NR
	1-2-11-1	2-I-2-P	78A-001-A	NR .
	1-2-12-1	2-1-3-P	78A-001-A	NR
	I-2-13-1	2-1-4-A	NR	NR
	1-2-13-2	2-1-4-A	NR	NR
	1-2-13-3	2-I-4-A	NR	NR
	I-2-13-4	2-1-4-A	NR	NR
	I-2-14-1	2-1-5-A	NR	/ NR
	I-2-14-2	2-1-5-A	NR	NR
	1-2-14-3	2-1-5-A	NR	NR
	I-2-14-4	2-1-5-A	· NR	NR
*	I-2-33-2	2-1-6-P	76A-002-P	ŇA
*	1-2-33-3	2-1-6-P	76A-003-P	NA
*	I-2-34-2	2-I-7-P	76 <b>A-</b> 002-P	NA
*	1-2-34-3	2-1-7-P	76A-003-P	NA
*	1-2-45-2	2-1-8-P	77A-003-P	NA
*	I-2-47-1	2-1-9-P	.77A-003-P	NA .
*	I-2-48-2	2-1-10-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. SYSTEM 1-2

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

### SAFETY INJECTION SYSTEM Í & C

	ENTIALLY UNACCEPTABLE	FMEA (1) (2)	EIC (1) (2)	SPAN EVALUATION
*	INTERACTION NUMBER I-2-53-3	2-I-11-P	77A-003-P	(1) (2) (3) NA
*	1-2-54-3	2-I-12-P	77A-003-P	NA
*	I-2-56-4	2-1-13-P	77A-001-P	NA
*	1-2-57-2	2-I-14-P	77A-003-P	NA
	1-2-57-3	2-1-14-P	77A-002-P	5209-77A-009-A
*	1-2-57-4	2-1-14-P	77A-001-P	NA
*	1-2-59-4	2-I-15-P	77A-001-P	NA
*	I-2-60-4	2-1-16-P	77A-001-P	NA
	I-2-65-5	2-1-17-P	77A-004-A	NR
*	I-2-65-6	2-1-17-P	7 7A-006-P	NA
	1-2-66-3	2-1-18-P	77A-002-P	5209-77A-009-A
	1-2-66-5	2-1-18-P	7 7A-004-A	NR
	I-2-66-7	2-1-18-P	77A-005-A	NR
*	1-2-73-1.	2-1-19-P	87A-001-P	NA
*	1-2-75-1	2-1-20-P	0-003-P	NA
*	I-2-75-2	2-1-20-P	0-001-P	NA
*	1-2-78-1	2-I-21-P	0-003-P	NA
	1-2-83-3	2-I-22-P	9-001-P	5209-9-019-A
	I-2-85-3	2-1-23-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

SAFETY INJECTION

SYSTEM NAME

MATRIX CATEGORY

NON-CONNECTED

INTERCONNECTED

X

9/24/82

- RDavens 9/24/82

APPROVED BY/DATE

Ebasco Services Incorporated

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141

SYSTEM NO. I-2

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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)
LT 934A	V837A	S	
	V837B 118 Vac Bus 32	S S	
PT 936A	V837A	S	
	118 Vac Bus 31	S	
LT 935A	V837C V837D	S S	-
	118 Vac Bus 34	S	
PT 937A	V837C 118 Vac Bus 34	S S	
LT 934B	V837E	S	
	V837F 118 Vac Bus 32	S S	
PT 936B	V837E 118 Vac Bus 31	S S	
LT 935B	V837G V837H 118 Vac Bus 34	S S S	
<u>אר מיים</u>	V837G		
PT 937B	118 Vac Bus 34	S S	· · · · ·
LT 934C	V837J V837K	S S	
	118 Vac Bus 32	S	

M Socratous/9-15-82R Daverio/9-22-82PREPARED BY/DATEAPPROVED BY/DATE

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Ebasco Services Incorporated

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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)	
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	
<u>M Socratous/9-1</u> PREPARED BY		R Daverio/9-22-8 APPROVED BY/DA	32 FE

SYSTEM NO. \_\_\_\_\_\_

# 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)	
PI 928	V860	S	
PT 923	V833B 118 Vac Bus 31	S S	
PT 922	V853C 118 Vac Bus 31	S S	
FI 983	V854N V854P	S S	
FT 926A	V854L V854M 118 Vac Bus 31	S S S	
FT 924A	V854J V854K 118 Vac Bus 31	S S S	
FT 925	V854G V854H 118 Vac Bus 34	S S S	
FT 927	V854E V854F 118 Vac Bus 34	S S S	
FI 924B	V854C V854D 118 Vac Bus 31	S S S	

M Socratous/9-15-82 PREPARED BY/DATE R Daverio/9-22-82 APPROVED BY/DATE

Ebasco Services Incorporated

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SHEET 4\_\_\_\_ OF \_\_\_\_4

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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)
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	x
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 R Daverio/9-22-82 APPROVED BY/DATE PREPARED BY/DATE

- . <u>.</u> . . . . .

SYSTEM NO. I-2

SYSTEM NAME

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SAFETY INJECTION

EVALUATION CATEGORY

NON-CONNECTED

INTERCONNECTED X

No evaluations required

INTERACTION

1 9-29-82

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 Х

INTERCONNECTED

9/17/82 PREP. BY

9/17/82

APPROVED BY/DATE

Ebasco Services Incorporated

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	I <b>-</b> 2			NO INTERACTION									-			
ſ		LOOP 1 -	COLD LEG													
		OFF LINE	2" #56A													
	1	FT 926	······································	х												
	2	FT 926		x												
	3	FT 926 HP SENSING L	INE	x												
	4	FT 926 LO SENSING L		x												
S			• 													
TARGETS			<u></u>													
ARC			,													
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		- 														
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		-										•				
F		DING: <u>RE</u> ZONE: _ ATION: _ HIN FIRE	75A QUAD I	TAINM		LBUILI	DING,	EL 4	46 '-0	r	SAFET	Y IN.	JECTI	I	YSTE	۱ 
5		SERVICE		ORAT	ED	POW	'ER A	UTH	ORIT	1						
DIV.	I&C	DR. <u><sup>MS</sup></u> CH DNE	APPR	OVED			IN SYS	DIAN TEM	PO S INT ACTI	INT ΓERA	No. 3 CTIO	S N ST			1-2 5H 1	

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									S	OUR	CES	S				
					1			-								
			I-2	NO INTERACTION	LINE 1" RC508											
			LOOP 1 - COLD LEG													
			OFF LINE 1岁" #753													
		5	FE 924A	X												
		6	FT 924A	x												
		7	FT 924A - Hi P SENSING LINE	x												
			FT 924A LO P SENSING LINE	x												
	5		LOOP 3 - COLD LEG													0
1	TARGE TS		OFF LINE 1攴" #754													
Ś	<b>JRG</b>	9	FE 926A	x						 				ļ		
=	F		FT 926A		112							-				
~			FT 926A HI P SENSING LINE		112											
. N		12	FT 926A Lo P SENSING LINE		112											
-																
- 0																
												<u> </u>				
	Į															
			DING: REACTOR CON	TAIN	(ENT	BUIL	DING,	EL	46'-0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
	L	_00	ATION : QUAD I							<b></b>						
╞			HIN FIRE ZONE			DOIN			ORIT	Y CT				TION		
┟			SERVICES INCORP			<b>F</b> 0%	IN	DIAN	PO	INT	No. 3	5			I-2	
			CH. R.M. DAT	_					S INT RACTI				UDY	9	SH 2	$OF_1$

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									S	DUR	CES	S				
					1	2	3	4								
	I-2			NO INTERACTION	1" DRAIN PIPE	LINE 2"-WD-338-01	LINE 2"-WD-338-02	3" DRAIN PIPE								
		AT CONTA: SUMP	INMENT		110											
	<u>1</u> 3	LT 940			113 114 115 116	114 115 116	114 115 116	I15								
	.14	LT 941			113 114 115 116		114 115 116	114 115 16					`			
TS																
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		DING:R		ONTAIN	MENT	BUII	.DING	, EL	46'-	0"			-			
		ATION :		I		<b>3</b>					SAF	ETY	INTEC	TTO	N SYSI	'EM
		SERVICE			TED	POW	/ER A	UTH	ORIT	Y ST/					5209	
DIV.	160	DR. MS CH. ONE	APP	ROVED			SYS	TEM	PO S INT RACTI	TERA		N ST	UDY		1-2 SH 3	OF

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	. 003
	<b>OF</b> 14
	TION SYST RK 5209 I-2 SH 4

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					1	2	3								
		I-2		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		117										
	(0)	29	FI 924B - Lo P SENSING LINE		117										
	ETS	30	FI 924B - Hi P SENSING LINE		117										
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	TARGE 1		LOOP 3 - COLD LEG												
- 7	ЦЛ		OFF LINE 2" #844						-						
- 6		31	FE 980			118					•				
		32	FT 980			I18									
		33	FT 980 Hi P SENSING LINE			118									
INCHES <b>CHENCE -</b> INCHES <b>CHENCE</b>		34	FT 980 LO P SENSING LINE				118								
INCHES CM.															
		FIRE	DING: REACTOR CON ZONE: 76A ATION : QUAD III		IENT	BUILI	DING	EL 40	5'-0"	<b>—</b>			 		
, 19. s.			HIN FIRE ZONE			DON		ITU					-	YSTEN	003
	DIV. DAT	1&C E	DR. <u>MS</u> APPR	ROVED	)		IN SYS	DIAN TEM	PO SIN	INT TERA	No. 3 .CT10	S N ST		I-2	OF 1
	SCA	LEN					11	NTER	RACTI	ON	MAT	RIX			

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	1-2		NO INTERACTION											
		LOOP 4 - COLD LEG										ļ		
		OFF LINE 2" #846					<u> </u>						 	
	35	FE 982	X											-
	36 37	FT 982 FT 982 Hi P	X											
	37	SENSING LINE FT 982 Lo P SENSING LINE	X											
	- 30	LOOP 4 - COLD LEG	X					· · ·						
ETS		OFF LINE 1½" #16												
TARGET	39	FE 927	x											
12		FT 927	x				 							
	41	FT 927 LP SENSING LINE	x											
	42	FT 927 HP SENSING LINE	X				 							
								<u> </u>						

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									S		CE	S				
					1	2	3									
-		I-2		NO INTERACTION	LIGHT	LHOLL	LIGHT									
			ACCUMULATOR TANK NO 31:													
		43	PT 936A SENSING LINE	x												
		44	LT 934A		122	124										
		45	LT 934A SENSING LINE	 	. (	124										
		46	PT 937A SENSING LINE	x			-					. 				
`		47	LT 935A LT 935A		123	124										
	S	48	SENSING LINE	<u> </u>	(	125										
	GE 1		ACCUMULATOR													
~~~	TARGET		TANK NO 32: PT 936B													
	-	49 50	SENSING LINE LT 934B	X X		· ·										
			LT 934B SENSING LINE	x												
		52	PT 937B SENSING LINE	x												
INCHES DAMAN -	-	53	LT 935B				134									
INCHES		54	LT 935B SENSING LINE			•										
Γ.																
		FIRE	DING: REACTOR CON	NTAINN	<u>1ENT</u>	BUILI	DING,	EL.	46'- `	·0"						
		LOC WIT	ATION : QUAD IV HIN FIRE ZONE			, 	<u></u>				SAFEI	Y IN	JECTI	ION S	YSTEN	1
			SERVICES INCOR	· · · · · · · · · · · · · · · · · · ·		POW			ORIT PO				W YC		5209 -2	. 003
-	DAT	E	DR. <u>MS</u> APPI — CH.—— R.M. DAV ONE		)		SYS	TEM	S INT RACTI	TERA	CTIO	N ST	UDY			<b>OF</b> 14

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					1	2	3	4	5	6	7						
		I-2	·	NO INTERACTION	LINE #70	LIGHT	LINE #40	PRT INSTRUMEN- TATION PIPING	LINE #33	LINE #85	LINE #38						
			ACCUMULATOR TANK NO 33														
		55	PT 936C SENSING LINE		126 127												
		56	LT 934C					1290 139									
		57	LT 934C SENSING LINE		126 • 127	128 135	128	[13]									
		58	PT 937C SENSING LINE		. <del>1</del> 29,												
		59	LT 935C	-					)								
	S	60	LT 935C SENSING LINE	<u> </u>	126 127			129 130									
● <b>€</b> ~구 ∽	TARGE TS		ACCUMULATOR TANK NO 34														
	4	61	PT 936D SENSING LINE	x		•								• .			
- ~			LT 934D	. x													
	·	63	LT 934D SENSING LINE	x													
4 4 4 4 -		<b>b</b> /1	PT 937D SENSING LINE	x													
0 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			LT 935D				133		132 132	133							
INCHES <b>Internet</b>		nn	LT 935D SENSING LINE				136	) (			136						
		FIRE	DING: <u>REACTOR CO</u>	NTAIN	MENT	BUÌI	.DING	, EL.	. 46'	-0".	<u> </u>						
			ATION : QUAD IV HIN FIRE ZONE			,				SAI	FETY	INJE	CTION	I SYS	TEM		
			SERVICES INCORF			POW			ORIT' POI				W YC	RK	5209 1-	.003	
	DΔTI	F	DR. MS APPF	ROVED ERIO	)		SYS	TEM		<b>FERA</b>	стю	N ST	UDY	S		<b>OF</b> <sup>14</sup>	-

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TERACTION				
I-2 Q DI				
ACCUMULATOR TANK NO 31:				
67 PT 936A I19 120		 		
68 PT 937A 119 120				
ACCUMULATOR TANK NO 33:	-			
69 PT 936C X				
70 PT 937C X				
TARGE TS				
ARGE				
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			INTERACTION												
	1-2		INI ON	LIGHT											
		ACCUMULATOR TANK NO 32									· · ·				
	71	PT 936B	<u>x</u>							 					
	72	PT 937B	X												
		ACCUMULATOR TANK NO. 34													
	73	PT 936D		121											
S	74	PT 937D	· x												
ARGE T															
TARGE 1															
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		DING: REACTOR	CONTAIN	MENT	BUIL	DING,	EL.	68'							
		ZONE: <u>87A</u> ATION : <sup>IV</sup> HIN FIRE ZOI							Г <sup></sup>			÷			
					2014					SAFE?				-	
		DR. <u>MS</u>	ORPORA		PUN			PO				W TC		1-2	
DAT		CH	DAVERIO					S IN" RACTI				UDY	9	H 1	0 <b>OF</b>
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				1	2	3									
	I-2		NO INTERACTION	ROOF DRAIN	LIGHT	FLEX CABLE						·			
		BORON INJECTION TANK:													
	75	TIC 918	(	140 141											
	76	TIC 918 SENSING LINE	x												
	77	TE 918	x												
	78	TW 917		140 142										_	
	79	TW917 SENSING LINE	x												
TARGE TS		OFF LINE #594			 										
TAR	80	FI 916				143									
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1 2	· · · · · · · · ·														
0		· · · · · · · · · · · · · · · · · · ·						_					-		
	FIRE	DING: <u>REACTOR CO</u> ZONE: <u>BIT</u> ATION: HIN FIRE ZONE		1ENT	BUILI	DING			A E12000		ECT		C TIPL		
		SERVICES INCOR		TED	POW	ER A	UTHORI							. 00	3
DTV	T&C	DR. MS APPI CH. R.M. DA	ROVED			IN SYS	DIAN PO TEMS IN NTERACI	DINT	No. 3 CTIO	3 IN ST			1-2 5H <u>1</u>		

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				1	2	3	4	5							
	I-2	•	NO INTERACTION	GROUND CABLE	FLEX CABLE	FLOOR DRAIN PIPE	GROUND CABLE	3/4" CONDUITS							
		OFF LINE # 56:													
	81	PT 922		144	I45										
	82	PT 922 SENSING LINE	x												
	83	PT 923				146 147									
	84	PT 923 SENSING LINE	x												
		OFF LINE #60:						·							
	85	РТ 947				146 147	148								
TARGETS	86	PT 947 SENSING LINE	x												
NRG V		OFF LINE #1 <b>6</b> 1:													
4	87	FI 950						151							
~		FI 950 Lo P SENSING LINE						151							
J .	89	FI 950 Hi P SENSING LINE						151							
							•								
5													·		
-															
											· ,				
	FIRE	DING: PRIMARY AUX	ILIAF	RY BU	ILDIN	IG, E	L. 34	4 <b>'-0''</b>						_	
	LOC WIT	ATION : HIN FIRE ZONE			,					SAFEI	Y IN	JECT	ION S	YSTE	м
EB DIV.	ASCC I&C	D SERVICES INCORP DR. MS APPR CH. R.M. DA ONE	OVED	)	POW	IN SYS	DIAN TEM	ORIT PO SINT ACTI	INT TERA	No. 3 CT10	3 IN ST			5209 1-2 SH 1:	

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									S	OUF	CE	S				
	1-2			NO INTERACTION												
		OFF LINE	#31													
	90	FI 929		x												
	91	PI 928		x												
	92	PI 928 SENSING L	INE	x												
				T												
TARGETS																
RGE		<u></u>														
IA I																
												<u> </u>				
			<u></u>					<u> </u>	<u> </u>						<u> </u>	
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			<u> </u>										<u> </u>			
												· ·		<b> </b>		
	FIRE	L DING: ZONE:_ ATION:_ HIN_FIRE	59A		PY BI	JILDI	I NG	EL.	41'-	r	I AFETY			DN SY	STEM	L 
		) SERVICE			TED	POW				Y ST	ATE (	OF NE		RK !	5209	
DIV.	I&C	DR. <u>MS</u> CH ONE	APP	ROVED			IN	DIAN	I PO S IN	INT	No. 3	3			1-2 SH 1:	

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									S	DUR	CES	5					
		I-2	•	NO INTERACTION													
			AT REFUELING WATER STORAGE TANK														
		93	LT 920	x		,											
		94	LT 920 SENSING LINE	x													
		95	LIC 921 LIC 921	x													
		96	SENSING LINE	x		Ì											
	S	97	TC1116 <b>-S</b>	X													
64		98	TC 1116-S SENSING LINE	X													
∼┮∽	TARGE T																
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INCHES CM. <b>(111111111111111111111111111111111111</b>																	
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			DING: YARD, EL.	79													
		LOC	ATION :			,				<b>—</b>	SAFE	TY II	NJECI	TON	ŞYŞTI	EM	-
-			HIN FIRE ZONE SERVICES INCORF			POW		UTH		Y ST						. 003	,
			DRMSAPPR				IN	DIAN	PO	INT	No. 3	<b>\$</b>			<b>1-2</b>		
-	DAT	E	ONE R.M. DAVI	ERIO					S INT ACTI				UDY	S -	H 14	OF 1	.4
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## 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.
-	<b>7.</b>	Potentially Unacceptable	<b>-</b>	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
RO	6/26/82

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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

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SAFETY INJECTION

EVALUATION CATEGORY

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 78A

LOCATION WITHIN FIRE ZONE: Quadrant I

POTENTIAL INTERACTION NO.: 1-2-10-1

PHOTOGRAPH NO.: I-12

BACKGROUND NO.: Sheet 9

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: FI 926A

SOURCE: Line 1"-RC508

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

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ACCEPTABLE

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R DAVERIO 9/15/82 INTERACTION ENGINEER/DATE W GRISWOLD 9/22/82

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 78A

LOCATION WITHIN FIRE ZONE: Quadrant I

POTENTIAL INTERACTION NO.: 1-2-11-1

PHOTOGRAPH NO.: I-12

BACKGROUND NO .: Sheet 9

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Ft 926A Hi P Sensing Line

SOURCE: Line 1"-RC508

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

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R DAVERIO 9/15/82 INTERACTION ENGINEER/DATE W GRISWOLD 9/22/82 VERIFIED/DATE

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System No. 2

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

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Sheet <sup>4</sup> 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: 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

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R DAVERIO 9/15/82 INTERACTION ENGINEER/DATE W GRISWOLD 9/22/82 VERIFIED/DATE

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System No. 2

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 71A

LOCATION WITHIN FIRE ZONE: Quadrant II

POTENTIAL INTERACTION NO.: I-2-13-2

PHOTOGRAPH NO.: I-14, I-15, I-16

BACKGROUND NO.: Sheet 10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 940

SOURCE: Line 2" - WD-338-01 (Upper right arrow I-16)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

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System No. 2

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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: Reactor Containment Building, El 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

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R DAVERIO 9/15/82 INTERACTION ENGINEER/DATE W GRISWOLD 9/22/82

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 71A

LOCATION WITHIN FIRE ZONE: Quadrant II

POTENTIAL INTERACTION NO.: I-2-13-4

PHOTOGRAPH NO.: I-14, I-15, I-16

BACKGROUND NO.: Sheet 10

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 940

SOURCE: 3" Drain Pipe (Upper left arrow I-16)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

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R DAVERIO 9/15/82 INTERACTION ENGINEER/DATE W GRISWOLD 9/22/82 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: 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

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R DAVERIO 9/15/82 INTERACTION ENGINEER/DATE W GRISWOLD 9/22/82 VERIFIED/DATE

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System No. 2

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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: 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

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R DAVERIO 9/15/82 INTERACTION ENGINEER/DATE

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System No. 2

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 71A

LOCATION WITHIN FIRE ZONE: Quadrant II

POTENTIAL INTERACTION NO.: 1-2-14-3

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

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 71A

LOCATION WITHIN FIRE ZONE: Quadrant II

POTENTIAL INTERACTION NO.: 1-2-14-4

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

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System No. 2

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant III

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

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

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Sheet <u>13</u> of <u>54</u>

System No. 2

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant III

POTENTIAL INTERACTION NO.: 1-2-29-1

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

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZCNE: Quadrant III

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

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

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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: Reactor Containment Building, El 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

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant III

POTENTIAL INTERACTION NO.: 1-2-32-2

PHOTOGRAPH NO.: 1-18

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

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R DAVERIO 9/15/82 INTERACTION ENGINEER/DATE W GRISWOLD 9/22/82

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZCNE: Quadrant III

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

PHOTOGRAPH NO.: 1-18

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

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant III

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

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

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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: 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

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 76A

LOCATION WITHIN FIRE ZONE: Quadrant III

POTENTIAL INTERACTION NO.: 1-2-34-3

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

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: I-2-44-1

PHOTOGRAPH NO.: 1-22

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

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R DAVERIO 9/15/82 INTERACTION ENGINEER/DATE W GRISWOLD 9/22/82 VERIFIED/DATE

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System No. 2

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

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

PHOTOGRAPH NO.: 1-24, 1-25

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:

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System No. 2

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: 1-2-47-1

PHOTOGRAPH NO.: I-23

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 935A

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Sourcr falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

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R DAVERIO 9/15/82 INTERACTION ENGINEER/DATE Sheet 22 of 54

System No. 2

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZCNE: Quadrant IV

POTENTIAL INTERACTION NO.: 1-2-48-2

PHOTOGRAPH NO.: 1-24, 1-25

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 935A Sensing Line

SOURCE: Lights

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

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EVALUATION NOTE NO: 7

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: 1-2-53-3

PHOTOGRAPH NO.: I-34

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 935B

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZCNE: Quadrant IV

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

PHOTOGRAPH NO.: I-34

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 935B Sensing Line

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

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9/22/82 W GRISWOLD

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: 1-2-55-1

PHOTOGRAPH NO.: 1-26, 1-27

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

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZCNE: Quadrant IV

POTENTIAL INTERACTION NO.: 1-2-56-4

PHOTOGRAPH NO.: 1-29, 1-30, 1-31

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

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R DAVERIO 9/15/82 INTERACTION ENGINEER/DATE W GRISWOLD 9/22/82

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: 1-2-57-1

PHOTOGRAPH NO.: 1-26, 1-27

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Lt 934C Sensing Line

SOURCE: Line #70

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

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EVALUATION OF INTERACTION: EVALUATION NOTE NO: 1

X ACCEPTABLE

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R DAVERIO	9/15/82
INTERACTION	ENGINEER / DATE

W GRISWOLD 9/22/82 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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: 1-2-57-2

PHOTOGRAPH NO.: 1-28, 1-35

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 934C Sensing Line

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Sourcr falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

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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: Reactor Containment Building, El 46-'0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZCNE: Quadrant IV

POTENTIAL INTERACTION NO.: 1-2-57-3

PHOTOGRAPH NO.: 1-28, 1-35

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

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System No. 2

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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: Reactor Containment Building, El 46'-0' FIRE ZONE: 77A LOCATION WITHIN FIRE ZCNE: Quadrant IV POTENTIAL INTERACTION NO.: 1-2-57-4

PHOTOGRAPH NO.: I-31

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 934C Sensing Line

SOURCE: PRT Instrumentation Piping

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

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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: Reactor Containment Building, El 46'-0" FIRE ZONE: 77A LOCATION WITHIN FIRE ZCNE: 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

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: 1-2-59-4

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

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZCNE: Quadrant IV

POTENTIAL INTERACTION NO.: 1-2-60-1

PHOTOGRAPH NO.: 1-26, 1-27

BACKGROUND NO .: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 935C Sensing Line

SOURCE: Line #70

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 1

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: 1-2-60-4

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

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: 1-2-65-5

PHOTOGRAPH NO.: 1-32

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 935D

SOURCE: Line #33

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: 1-2-65-6

PHOTOGRAPH NO.: 1-33

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

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZCNE: Quadrant IV

POTENTIAL INTERACTION NO.: 1-2-66-3

PHOTOGRAPE NO.: 1-33, 1-36

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 935D Sensing Line

SOURCE: Line #40 (Upper left arrow I-33)

DESCRIPTION OF POSTULATED INTERACTION:

Source fall on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

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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: Reactor Containment Building, El 46'-0"

FIRE ZONE: 77A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: 1-2-66-5

PHOTOGRAPH NO.: I-32

BACKGROUND NO.: Sheet 12

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LT 935D Sensing Line

SOURCE: Line #33

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

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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: Reactor Containment Building, El 46'-0" FIRE ZONE: 77A LOCATION WITHIN FIRE ZCNE: 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

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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: Reactor Containment Building, El 68'

FIRE ZONE: 83A

LOCATION WITHIN FIRE ZONE: Quadrant IV

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

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

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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: Reactor Containment Building, El 68'

FIRE ZONE: 83A

LOCATION WITHIN FIRE ZONE: Quadrant IV

POTENTIAL INTERACTION NO.: 1-2-68-1

PHOTOGRAPH NO.: 1-19, 1-20

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

R DAVERIO 9/15/82 INTERACTION ENGINEER/DATE W GRISWOLD 9/22/82

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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: Reactor Containment Building, El 68'

FIRE ZONE: 87A

LOCATION WITHIN FIRE ZONE: Quadrant IV /

POTENTIAL INTERACTION NO.: I-2-73-1

PHOTOGRAPH NO.: I-21

BACKGROUND NO.: Sheet 8

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: PT 936D

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

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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: Reactor Containment Building

FIRE ZONE: BIT

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: 1-2-75-1

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:

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INTERACTION ENGINEER / DATE

EVALUATION NOTE NO: 7

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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: Reactor Containment Building

FIRE ZONE: BIT

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: 1-2-75-2

PHOTOGRAPH NO.: 1-40, 1-41

BACKGROUND NO.: Sheet 15

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: TIC 918

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

INTERACTION ENGINEER / DATE

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EVALUATION NOTE NO: 7

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System No. 2

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.: 1-2-78-1

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:

ACCEPTABLE

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System No. 2

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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: Reactor Containment Building

FIRE ZONE: BIT

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: 1-2-80-3

PHOTOGRAPH NO.: 1-43

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

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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, El 34'-0"

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-2-81-1

PHOTOGRAPH NO.: 1-44

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

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System No. 2

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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, El 34'-0"

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: 1-2-81-2

PHOTOGRAPH NO.: 1-45

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

R DAVERIO 9/15/82 INTERACTION ENGINEER/DATE W GRISWOLD 9/22/82 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: Primary Auxiliary Building, El 34'-0"

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: 1-2-83-3

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

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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, El 34'-0"

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: 1-2-85-3

PHOTOGRAPH NO.: 1-46, 1-47

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

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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, El 34'-0"

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-2-85-4

PHOTOGRAPH NO.: 1-48

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

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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, El 34'-0"

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: 1-2-87-5

PHOTOGRAPH NO.: 1-51

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

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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, El 34'-0"

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-2-88-5

PHOTOGRAPH NO.: 1-51

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

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R DAVERIO 9/15/82 INTERACTION ENGINEER/DATE

W GRISWOLD 9/22/82 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: Primary Auxiliary Building, El 34'-0"

FIRE ZONE: 9

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: 1-2-89-5

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

R DAVERIO 9/15/82 INTERACTION ENGINEER/DATE W GRISWOLD 9/22/82 VERIFIED/DATE

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## Postulated Failure Modes

## MECHANICAL FAILURES

- M 1 Ruptured Pipe or TubeM 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

5151EM NO			
SYSTEM NAME	Safety Injection System		
FMEA CATEGORY		NON-CONNECTED	х

CVCTEM NO

INTERCONNECTED

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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: 2-1-1

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.

Acceptable

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

<u>G Durniak 3/8/83</u> EVALUATING ENGINEER/DATE JR Price 4/8/83 CHECKED/DATE

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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

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

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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

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

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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

Number(s):	1-2-13-1
	1-2-13-2
	I-2-13-3
	I-2-13-4
	Number(s):

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

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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 Acceptable

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/ 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

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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: 2-1-6

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

Acceptable

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

G Durniak 3/8/83 EVALUATING ENGINEER/DATE

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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: 2-1-7

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.



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Postulated Failure Modes(s) and Evaluation:

C-6-(P) (Crimp/Break) See FMEA 2-I-1

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

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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.

Acceptable

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

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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: 2-1-9

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	Unacceptabl	e/Safety	Function Affected
			-	-	
G Durniak	3/8/83		. J	R Price	4/8/83
EVALUATING	ENGINEER/DATE		•	CHECKED,	/DATE

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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	(	)
Potentially	Unacceptable/	'Sat	fety	Fu	Inc	ti	on	ŀ	ſĮ	fec	te	ed

Acceptable

G Durniak 3/8/83 EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

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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

Acceptable		Potentially	Unacceptable	/ 1 (X) e/Safety	2 () 3 () 4 Function Affec
G Durniak	3/8/83		J	R Price	4/8/83
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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: 2-1-12

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 2-1-8

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

Acceptable

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

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

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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 2-1-8

 	X	/ 1										
Potentially	Unaccepta	ble/Saf	ety	Fu	nc	tic	n	Af	fec	te	d	

G Durniak 3/8/83

Acceptable

EVALUATING ENGINEER/DATE

J R Price 4/8/83 CHECKED/DATE

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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	(	)
Potentially Unaccept	able/Sa:	fety	Fu	inc	ti	Lor	1	Af	fec	te	≥d

Acceptable

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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

Acceptable

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

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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

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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

Acceptable

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

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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	(	)
Potentially Unacceptable	/Sa	ąf	ety	F	und	et:	ioı	n	Af	fec	te	ed
										•		

Acceptable

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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: 2-1-20

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.

Acceptable

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

<u>G Durniak 3/8/83</u> EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

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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

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

Acceptable

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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: 2-1-22

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.

Acceptable

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

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FMEA NUMBER: 2-1-23

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.

Acceptable

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

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