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Indian Point 3 Nuclear Power Plant

Systems
Interaction
Study Report

Volume 17



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Volume 17



12.0 DC System

12.1 Function & Applicability

The dc system is required to accomplish each of the four basic safety functions in that as a minimum it provides:

- 1) Control power to all 480V Switchgear breakers.
- 2) Diesel Generator field flashing and control circuitry.
- 3) Power to solenoid operated valves and other miscellaneous control circuits.
- 4) Input to instrument power supplies.
- 5) Provides temporary emergency lighting.

Each of these functions are considered essential since they form an important part of the operation of the systems being reviewed in this study. This fact is evidenced by the number of auxiliary diagrams which reference the dc system.

12.2 Scope

- 12.2.1 The dc system is comprised of the following:
 - 1) Four (4) 125 volt lead acid batteries Nos 31-34.
 - 2) Four (4) Power Panels Nos 31-34.
 - 3) Four (4) Distribution Panels Nos 31-34.
 - 4) Battery Room Exhaust Fans.
 - 5) Interconnecting cables and raceway.

A complete description of the dc system can be found in System Description No. 27.1.

- 12.2.2 All devices located in the control room are evaluated generically as part of the control room review. The battery chargers are not included within the scope of this study since they are not operable during a loss of offsite power and are considered to be nonsafety related components.
- 12.2.3 The support systems relied upon for successful operation of the dc system are indicated in Auxiliary Diagram AD-12.

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

DC POWER SYSTEM

ELECTRICAL

POT	CENTIALLY UNACCEPTABLE	FMEA	EIC	SPAN EVALUATION
	INTERACTION NUMBER	(1) (2)	(1) (2)	(1) (2) (3)
*	E-12-1-1	12-E-1-P	12-001-P	NA
*	E-12-1-2	12-E-1-P	12-002-P	NA
	E-12-1-3	12-E-1-P	12-002-A	NR
*	E-12-1-4	12-E-1-P	12-003-P	NA
	E-12-1-5	12-E-1-P	12-003-A	NR
	E-12-1-6	12-E-1-P	12-004-A	NR
*	E-12-6-1	12-E-2-P	12-001-P	NA
*	E-12-6-2	12-E-2-P	12-002-P	NA
	E-12-6-6	12-E-2-P	12-004-A	NR
*	E-12-7-1	12-E-3-P	13-001-P	· NA
*	E-12-7-2	12-E-3-P	13-003-P	NA
	E-12-7-3	12-E-3-P	13-003-A	NR
*	E-12-7-4	12-E-3-P	13-002-P	NA
*	E-12-7-5	12-E-3-P	13-002-P	NA
*	E-12-11-1	12-E-4-P	13-001-P	NA
	E-12-11-2	12-E-4-P	13-003-A	NR
*	E-12-11-5	12-E-4-P	13-002-P	NA

NOTES: 1) Letter following numbers mean; A - Acceptable, P - Potentially Unacceptable.

²⁾ ${\it NR}$ - 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-12					
SYSTEM	NAME _	D-C POWER				جنگاویت	ì
	-			<u>. </u>			
MATRIX	CATEGORY	ť	·	NON-CONNECTED			
				INTERCONNECTED		X	

E.M. VOLPE/

J.F. MONTAGANO/ 9/24/82
APPROVED BY/DATE

SHEET	1	OF	4	

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)
125V D-C	4-500 MCM Cable	S	
BATTERY 31	800 A Fuses	S	
51112111 31	800 A Lugs	\$	
•	125V D-C Power Panel 31	S	
125V D-C	4-800A Lugs	S	
Power Pnl 31	4-500 MCM Cable (Bus Tie)	S	
	4-800A Lugs	S	
	125V D-C Power Panel 32	S	
	300 A Lugs	S	V.
	350 MCM Cable	S	
	37.5 KW Battery Charger 31	N	12-E-1
	#2/0 AWG Cable	. S	
	100A Lugs	S	
	125 V D-C Distr, Pnl 31	S	
	#2/0 AWG Cable	S	
	100 A Lugs	S	
	125V D-C Dist. Pn1 33	S	
	#4/0 AWG Cable	S	
	60A Transfer Switch 31	S	•
•	#6 AWG Cable	S	
	30A Transfer Switch 33	\mathbf{N} .	12-E-2
	#2 AWG Cable	S	
	30A Transfer Switch 35	11	12-E-3
	#2 AWG Cable	S	
	Throwover Switch (138kV Contr	ol H'SE)N	12-E-4

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

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

SHEET	2	OF	4

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)
125V D-C	3A Fuse	S	
Power Pnl 31	Voltmeter Switch	\$	
(Cont'd)	Voltmeter	S	
	125V D-C Distr. Panel 31	S	
	125V D-C Distr. Pn1 33	S	
125V D-C	4-500 MCM Cable	S	
Battery 32	800A Fuses	S	
·	800A Lugs	S	
	125V D-C Power Pn1 32	S	
125V D-C	200 A Lugs	S	
Power Panel 32	#4/0 AWG Cable	S	•
	25 KW Battery Charger 32	N	12-E-5
	#2/0 Cable	S	
	100A Lugs	S	
•	125V D-C Dist. Pn1 32	S	

_ E	Volne.	/9-23-	82_	
	PRI	EPARED	BY	DATE

SHEET	3	OF	4	

SYSTEM NO. E-12

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)
125V D-C	#2/0 Cable	S	
Power Pn1 32	100A Lugs	S	
(Cont'd)	125V D-C Distr. Pnl 34	S	
	#2/0 Cable	S	
	100A Transfer Switch 37	N	12-E-6
	4-350 MCM Cable	S	
•	100A Transfer Switch 34	N	12-E-7
	#2 AWG Cable	S	
	Throwover Switch (138 V Contr H	SE) N	12-E-3
	3A Fuse	S	
	Voltmeter Switch	S	
	Voltmeter	S	
125V D-C	125V D-C		
Distr. Pnl. 32	Distr. Pnl. 32		•
125V D-C	125V D-C		
Distr. Pnl 34	Distr. Pn1 34	,	

E	Volpe/9-23-8	2	
-	DDEDADED	BV	/DAT

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

SYSTEM	NO.	E-12

SHEET	4	OF	4

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)
105	050 NOV 013		
125V D-C	350 MCM Cable	S	
BATTERY 33	600A Fuses	S	
	600A Lugs	S	
	125V D-C Power Pn1 33	S	
125V D-C	600A Lugs	S	
Power Pnl 33	350 MCM Cable	Ş	
	200A Battery Charger 33	N	12-E-9
	3A Fuses	S	
	Voltmeter Switch	. S	
	Voltmeter	S	
125V D-C	4-350 MCM Cable	S	
Battery 34	125V D-C Power Panel 34	S	
125V D-C Power Pnl 34	Battery Charger 34	Ņ	12-E-10

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

SYSTEM NO.	E-12			
SYSTEM NAME	D-C POWER			
EVALUATION CA	ATEGORY	NON-CONNECTED		
		INTERCONNECTED	X	

E M Volpe/9-28-82

INTERACTION ENGINEER/DATE

WAGriswold 9-28-82

W A Griswold/9-28-82

VERIFIED/DATE

She	et	1	of	10

System	No	E-12
System	NO.	E-12

	EVALUATION SHEET	
POTENTIAL INTERACTION NUMBER: 12-E-1	N .	
CONNECTED COMPONENT:	Battery Charger 31	
	baccery dilarger 31	ť
BOUNDARY SAFETY RELATED COMPONENT (S):	TED 125 V D-C Power Panel 31	
•		
POSTULATED FAILURE (METHOD OF DETECTION:	(SEE NOTES): 6 Alarm	
	Alarm	
METHOD OF DETECTION: EVALUATION OF INTERAC When power from the c the charger is design	Alarm CTION: harger is lost, the battery cannot be reched to keep the battery fully charged at al on the battery is capable of delivering the content of the battery is capable of delivering the capa	ll times. From the
METHOD OF DETECTION: EVALUATION OF INTERAC When power from the c the charger is design fully charged condition as per the FSAR Table	Alarm CTION: harger is lost, the battery cannot be reched to keep the battery fully charged at alon the battery is capable of delivering the 8.2.2.	ll times. From the ne required loads
METHOD OF DETECTION: EVALUATION OF INTERAC When power from the c the charger is design fully charged condition as per the FSAR Table	Alarm CTION: harger is lost, the battery cannot be reched to keep the battery fully charged at al on the battery is capable of delivering the content of the battery is capable of delivering the capa	Il times. From the ne required loads POTENTIALLY
METHOD OF DETECTION: EVALUATION OF INTERAC When power from the c the charger is design fully charged condition as per the FSAR Table	Alarm CTION: Charger is lost, the battery cannot be reched to keep the battery fully charged at alon the battery is capable of delivering the 8.2.2.	ll times. From the ne required loads POTENTIALLY UNACCEPTABLE

POTENTIAL	INTERACTION
NUMBER.	12-E-2

CONNECTED COMPONENT:

Transfer Switch 33

BOUNDARY SAFETY RELATED

COMPONENT (S):

125 V D-C Power Panel 31

POSTULATED FAILURE (SEE NOTES): 7

METHOD OF DETECTION:

Alarm and visual investigation

EVALUATION OF INTERACTION:

Although the Transfer Switch is a Non Class I component, the design basis for IP3 permits the connection of such loads to the Class I power supplies thru industry approved disconnecting devices such as circuit breakers and fuses. Since this satisfies the licensing basis for the facility, the interaction is considered acceptable.

X	ACCEPTABLE		POTENTIALLY
E. Volpe	9/27/82	W. Griswold	9/27/82
INTERACTION	ENGINEER / DATE	VERIFIE	D/DATE

POTENTIAL	INTERACTION
NUMBER:	12-E-3

CONNECTED COMPONENT:

Transfer Switch 35

BOUNDARY SAFETY RELATED

125 V D-C Power Panel 31

COMPONENT (S):

POSTULATED FAILURE (SEE NOTES):

METHOD OF DETECTION: Alarm and Visual investigation

EVALUATION OF INTERACTION:

Although the Transfer Switch is a Non Class I component, the design basis for IP3 permits the connection of such loads to the Class I power supplies thru industry approved disconnecting devices such as circuit breakers and fuses. Since this satisfies the licensing basis for the facility, the interation is considered acceptable.

INT	ERACTION	ENGINEER / DATE	VERIFIED/DA	ATE
	Volpe	9/27/82	W. Griswold	9/27/82
	X	ACCEPTABLE		POTENTIALLY UNACCEPTABLE

POTENTIAL INTERACTION NUMBER: 12-E-4

CONNECTED COMPONENT:

Throwover Switch (138 KV Control House)

BOUNDARY SAFETY RELATED

125 V D-C Power Panel 31

COMPONENT (S):

POSTULATED FAILURE (SEE NOTES): 7

METHOD OF DETECTION:

Alarm and Visual investigation

EVALUATION OF INTERACTION:

Although the Transfer Switch is a Non Class I component, the design basis for IP3 permits the connection of such loads to the Class I power supplies thru industry approved disconnecting devices such as circuit breakers and fuses. Since this satisfies the licensing basis for the facility, the interaciton is considered acceptable.

X	ACCEPTABLE		POTENTIALLY UNACCEPTABLE
E. Volpe	9/27/82	W. Griswold	9/27/82
INTERACTION EN	GINEER / DATE	VERIFIE	ED/DATE

POTENTIAL NUMBER:	INTERACTION 12-E-5			
COMPONED	COMPONENT			
CONNECTED	COMPONENT:	Battery Charger 32		
BOUNDARY S COMPONENT	SAFETY RELATED (S):	125 V D-C Power Pa	nel 32	·
	FAILURE (SEE NO DETECTION: Alarr	••		
EVALUATION	OF INTERACTION:			
the charge	er is designed to	keep the battery f	ery cannot be recharged ully charged at all time e of delivering the requ	es.From the
X	ACCEPTABI	LE		POTENTIALLY - UNACCEPTABLE
E Volpe/9	3. 77. 89		W Griswold/9-27-82	
	N ENGINEER/DATE		VERIFIED/I	DATE

POTENTIAL INTERACTION NUMBER: 12-E-6

CONNECTED COMPONENT:

Transfer Switch 37

BOUNDARY SAFETY RELATED

125 V D-C Power Panel 32

COMPONENT (S):

POSTULATED FAILURE (SEE NOTES):

METHOD OF DETECTION:

Alarm and Visual investigation

EVALUATION OF INTERACTION:

Although the Transfer Switch is a Non Class I component, the design basis for IP3 permits the connection of such loads to the Class I power supplies thru industry approved disconnecting devices such as circuit breakers and fuses. Since this satisfies the licensing basis for the facility, the interaction is considered acceptable.

	X	ACCEPTABLE		POTENTIALLY UNACCEPTABLE
E. V	Volpe	9/27/82	W. Griswold	9/27/82
INTER	RACTION	ENGINEER / DATE	VERIFIED	DATE

POTENTIAL INTERACTION NUMBER: 12-E-7			
CONNECTED COMPONENT:	Transfer Switch 3	4	
BOUNDARY SAFETY RELATED COMPONENT (S):	125 V D-C Power P	anel 32	
	·		
POSTULATED FAILURE (SEE N METHOD OF DETECTION:	OTES): 7 Alarm and Visual	investigation	
EVALUATION OF INTERACTION:			
Although the Transfer Swi permits the connection of approved disconnecting de satisfies the licensing bacceptable.	such loads to the evices such as circ	Class I power supuit breakers and f	oplies thru industry Tuses. Since this
XACCEPTAB	LE		POTENTIALLY UNACCEPTABLE
:			
E. Volpe 9/27/82		W.' Griswold	9/27/82
INTERACTION ENGINEER / DATE		VERT	FIED/DATE

POTENTIAL INTERACTION NUMBER: 12-E-8			
CONNECTED COMPONENT:	Throwover Switch	(138 KV Control House)
BOUNDARY SAFETY RELATED COMPONENT (S):	125 V D-C Power Pa	anel 32	
POSTULATED FAILURE (SEE N METHOD OF DETECTION:	OTES): 7 Alarm and Visual :	investigation	
EVALUATION OF INTERACTION:			
Although the Transfer Swi permits the connection of approved disconnecting de- satisfies the licensing b- acceptable.	such loads to the vices such as circu	Class I power suppli- it breaker and fuses	es thru industry . Since this
XACCEPTAB	LE		POTENTIALLY UNACCEPTABLE
E. Volpe 9/27/82 INTERACTION ENGINEER/DATE		W. Griswold VERIFIED	9/27/82 /DATE

Sheet	9	of	10

INTERCONNECTED SYSTEMS INTERACTION EVALUATION SHEET	
•	
-	
	•
POTENTIAL INTERACTION NUMBER: 12-E-9	
Normality	
CONTINUED COMPOSITIVE TO A CONTINUE OF THE CON	
CONNECTED COMPONENT: Battery Charger 33	
POURING PARTY AND ADDRESS OF THE PARTY AND ADD	
BOUNDARY SAFETY RELATED 125 V D-C Power Panel 33 COMPONENT (S):	
POSTULATED FAILURE (SEE NOTES): 6	
METHOD OF DETECTION: Alarm	
EVALUATION OF INTERACTION:	
	•
When power from the charger is lost, the battery cannot be recharged; the charger is designed to keep the battery fully charged at all times	
fully charged condition the battery is capable of delivering the requi	
as per the FSAR table 8.2.2.	
X ACCEPTABLE	POTENTIALLY UNACCEPTABLE
E Volpe/9-27-82 W Griswold/9-27-82 INTERACTION ENGINEER/DATE VERIFIED/DATE	\TE
VERIFIED/ DE	TE

POTENTIAL	INTERACTION
NUMBER:	12-E-10

CONNECTED COMPONENT:

Battery Charger 34

BOUNDARY SAFETY RELATED

125 V D-C Power Panel 34

COMPONENT (S):

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

EVALUATION OF INTERACTION:

When power from the charger is lost, the battery cannot be recharged; however, the charger is designed to keep the battery fully charged at all times from the fully charged condition the battery is capable of delivering the required loads as per the FSAR table 8.2.2.

XACCEPTABLE	POTENTIALLY UNACCEPTABLE
E Volpe/9-27-82	W Griswold/9-27-82
INTERACTION ENGINEER / DATE	VERIFIED/DATE

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

SYSTEM NO _	E-12	·			
SYSTEM NAME	DC POWER			· ·	
					_
MATRIX CATEGOR	Y		NON-CONNECTED		X
			INTERCONNECTED		·
		٠.			

,							1				,					
				SOURCES												
					1.	2	3	4	5	6						
	E-12			NO INTERACTION	ELECTRIC HEATING UNIT	14" CND TO HEATER	LIGHTING CND	LIGHT	LAMP	SPEAKER						
	1	BATTERY 31	GE1			E219	E219	E221	E221)	E222)						
1	2	3" CND 1UA	(CB)		E218					E222						
	3	3" CND 1UA	1 (CB)		E218	E219	E219	E221	E221	E222						
	- 4	FUSE BOX 3	1 WV 7		E218	E219	E219	E221	E221	1						
	5 !	4" SLEEVIN	G (CB)	X)						
	6	CABLES TO	FUSE BOX		E218	E219			E221	E222						
S																
TARGETS																·
4RG																
1																
		,														
	,															
				-												
							<u> </u>								<u> </u>	
1	-IRE _OC WITI	DING: CONT ZONE: 1 ATION: B HIN FIRE	2 ATTERY R ZONE	OOM	31 E							POWER				
EBASCO SERVICES INCORPORATED POWER AUTHORITY STATE OF NEW YORK DIV. ELEC. DR.RS. APPROVED INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY INTERACTION MATRIX]	5209 E-12 SH ₁							

	SOURCES														
					1	2	3	4	5						
		E-12	2	NO INTERACTION	ELECTRIC HEATING UNIT	LIGHTS	LAMPS	"z' GNJ JNI THITI	14" CND HEATING UNIT						
		7	BATTERY 32		E223	E224	E224								
		8	3" CND 1UB (CA)		E223	E224	E224	E224	E223						
		.9	3" CND 1UB1 (CB)		E223	É224	E224	E224	E223						
		10	4" SLEEVE 10H (CA)	Х											
		11	CABLE TO FUSE BOX		E223	E224	E224	l	223						
i															
,	TARGETS														
•															
~7~			·												
J- 3															
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- -				ļ											
INCHES O CM. Turbyhary O					·										
INCHE															
BUILDING: CONTROL BUILDING FIRE ZONE: 13															
	I	_OC	ATION: BATTERY R	ООМ (32) E	lev.	33			·	D (C POW	ER SY	STEM	ŀ
			SERVICES INCORF				ER A					W YC			. 003
				ROVED					PO Ini			UDY		E-12 H ²	OF 8
	SCA	LE N	J. F. MO	NTALB 	ANO				ACTI						

SOURCES

E-1	2	NO INTERACTION				·			
12	BATT #34 GF1	X							
13	3" CND 5NW	Х							
14	CABLE TO FUSE BOX	Х							
15	3" CND 5NV	Х						,	
				,					
,									
			,						
				_					

FIRE ZONE: None

LOCATION: BATTERY ROOM #34
WITHIN FIRE ZONE

D C POWER SYSTEM

EBASCO SERVICES INCORPORATED

DIV. ELEC DR. RS **APPROVED**

DATE 7/1/87H_ SCALE NONE J. F. MONTALBANO POWER AUTHORITY STATE OF NEW YORK

INDIAN POINT No. 3

SYSTEMS INTERACTION STUDY INTERACTION MATRIX

5209.003

E-12

SH3 OF 8



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_ A (2)
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3

SOURCES

					 		 			,	_		
				1									
	E-1:	2	NO INTERACTION	LIGHT			,				,	-	
!	16	D C PWR PNL 31	Х		-								
	17	18" TRAY DB, FB	X										
	18	4" CND 1DI (CA)	Х										
	19	3½" CND 1LD (CD)	X										
	20	4" CND 1RK	Х										
	21	D C PWR PNL 32	X										
co.	22	18" TRAY FA	X						- 55, 1				
IARGETS	23	3" CND 1JB	Х			·	·						
14C	24	BATT CHGR 31 GE 3	Х										
*	25	1½" CND 1UZ1 (FB)	X			,							
	26	1" CND 1 VY/S (DB)	X										
	27	3" CND 5DC1 (FB)		E225									
	28	1" CND 5NN	Х										
•								_					
·								``					

BUILDING: ________BUILDING

11 FIRE ZONE:_

LOCATION: Elev. 33
WITHIN FIRE ZONE

D C POWER SYSTEM

EBASCO SERVICES INCORPORATED

DIV. ELEC DR. RS
DATE 7/1/82 CH.
SCALE NONE APPROVED MONTALBANO POWER AUTHORITY STATE OF NEW YORK INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY INTERACTION MATRIX

5209.003 E-12 SH 4 OF 8



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		1				S	DUR	CES	3			
•			NO INTERACTION									
	28	BATTERY 33	Х									
	29	CABLE TO FUSE BOX	X									
	30	FUSE BOX 33	Х							·		
	31	3" CND 5QG	х									
	32	Р. ВОХ W O7	Х									
"	33	3" CND 5QM	Х									
<u> </u>	34	P. BOX WO6	Х									
TARGE TS	35	3" SLEEVE 5QJ	x									
TA	36	1½" SLEEVE 52J1	X									
					·				·		<u>-</u>	
-												
						·						
i	BUIL	DING: DIESEL GEN	ERATO)R								

FIRE ZONE: 10

LOCATION: ELEV 15 WITHIN FIRE ZONE

D.C POWER SYSTEM

EBASCO SERVICES INCORPORATED

APPROVED DIV. ELEC. DR. RS DATE 7/82 CH_ J.F. MONTALBANO SCALE NONE

POWER AUTHORITY STATE OF NEW YORK 5209.003 INDIAN POINT No. 3

SYSTEMS INTERACTION STUDY INTERACTION MATRIX

SH 5 OF8

SOURCES

	SOURCES													
		· ·									4			
			NO INTERACTION							,		1		
		BATTERY 33	Х		,									
		P. BOX WO5	х											
		3" CND 5QH	X											
		1½" CND 5QH1	Х											
TARGETS		DC PWR PNL 33	Х											
\RG														
11														
		-												
											,			
1	RIIII	DING: CONTROL BI	ידת.דדו	1C	,									

BUILDING: CONTROL BUILDING

FIRE ZONE: 14

LOCATION : ELEV 15 WITHIN FIRE ZONE

EBASCO SERVICES INC	CORPORATED
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DIV. ELEC DR. RS APPROVED DATE 7/82 CH. SCALE NONE J.F. MONTALBANO POWER AUTHORITY STATE OF NEW YORK 5209.003

INDIAN POINT No. 3

SYSTEMS INTERACTION STUDY INTERACTION MATRIX

SH 6 OF 8



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S	U	U	П	C	ㄷ	J

							•••				
	E-1	2	NO INTERACTION		,			·		·	
	41	DC DIST PNL 31 PC3	X								
	42	1" CND 15W (DA)	Х								
	43	1½" CND 57B1 (FA)	X								
	44	1" C ISU (DD)	X								
	45	2" C 1SV1 (DB)	X		·						
	46	2½" C 1SV (DB)	х								
S	47	DC DIST PNL 32 PC4	X								
E I	48	1" CND 1TA (DD)	Х								
IAKGE I	49	1" CND 5RB (DC)	Х	-							
71	50	1" CND 1TB1(DB)	Х								
	51	2½" CND 1SZ (DA)	Х								
	52	1" CND 5RB1(DC)	х								
	53	2" CND 1TC (FA)	X								
	54	3" CND 1\$ Z1 (DA)	X								
	55	2½" CND 1SZ2 (DA)	Х				·				
							-	,			

BUILDING: CONTROL BUILDING

FIRE ZONE: 15

LOCATION: CONTROL ROOM WITHIN FIRE ZONE

D.C. POWER SYSTEM

EBASCO SERVICE	SINCORPORATED	POWER AUTHORITY STATE OF NEW YORK	5209.003
DIV. ELEC DR. RS	APPROVED	INDIAN POINT No. 3	E-12
DATE 8/82CH	T T NONTHAL DANG	SYSTEMS INTERACTION STUDY	SH 7 OF 8

SCALE NONE INTERACTION MATRIX

	SOURCES															
														T		
	E-1	2	NO INTERACTION						-							
	56	DC DIST PNL33 PC8	Х													
	57	2" CND 1TD (DD)	X							 	 					1
·	58	2" CND 1TH1 (FB)	Х													
	59	2½" CND 1TF (FB)	Х													
	60	2" CND 1TH (FB)	Х													
	61	2½" CND 1TF1 (DB)	х													
2	62	2" CND 1TG (DA)	х													
TARGETS	63	1" CND 5RC (DC)	х													
	64	DC DIST PNL 34 PD9	х													
77	65	2½"C 1TI (DA)	х					·								
	66	2½''CND 5RD (DC)	Х									-				
	67	2" CND 1TL (FA)	Х													
	68	2" CND 1TJ (DB)	Х													
	69	3" CND 1TJ1(DB)	Х													
		DING: CONTROL	BUIL	DINC	3											
		ZONE: 15 ATION: CONTRO	L RO	<u>ом</u> .	ı											
	HTIN	HIN FIRE ZONE									. PO					
ļ		SERVICES INCORP	ED	POW							W YC	RK	5209	.00	3	
DATE	DATE 8/82CH J.F. MONTALBAN				INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY INTERACTION MATRIX								8			

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.
- Acceptable Source has insufficient mass to damage the target component.
- 4. Acceptable Basis is engineering judgement. Specific justification is on the evaluation form.
- Potentially
 Unacceptable Discussion of specific is on the evaluation form.
- 6. Potentially
 Unacceptable Source pipe/conduit is large enough to damage target conduit/pipe/tubing.
- 7. Potentially
 Unacceptable Source will fall a sufficient distance, or has adequate mass such that damage to target conduit/box/instrument/tubing/panel may be possible.
- 8. No Interaction Upon further investigation of the source, this portion of its system is designated Seismic I.

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

R0 6/26/82

DIDITA NO.	E-12				
	,				
SYSTEM NAME	DC POWER		· · · · · · · · · · · · · · · · · · ·		
•					
, -					
·					
EVALUATION C	ATEGORY	·	NON-CONNECTED _	Х	
			INTERCONNECTED		 _

R. SAHU 10 82
INTERACTION ENGINEER/DATE

W.A. GRISWOLD WAGniswold 9.10.82

BUILDING:

Control

FIRE ZONE: 12

LOCATION WITHIN FIRE ZONE: Battery Room 31, EL 33'

POTENTIAL INTERACTION NO.:

E-12-1-1

PHOTOGRAPH NO.: E218

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Battery 31 GE1

SOURCE: Electric Heating Unit

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Battery will be damaged and/or shorted

POTENTIALLY ACCEPTABLE -UNACCEPTABLE

E Licari/ 7-30-82 W A Griswold/ 8-31-82 INTERACTION ENGINEER / DATE VERIFIED/DATE

BUILDING:

Control

FIRE ZONE:

12

LOCATION WITHIN FIRE ZONE:

Battery Room 31, EL 33'

POTENTIAL INTERACTION NO.:

E=12-1-2

PHOTOGRAPH NO.:

E219

BACKGROUND NO.:

Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Battery 31 GE1

SOURCE:

1½" Cnd to Heater

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

5

Battery will be damaged and/or shorted

ACCEPTABLE

X

POTENTIALLY UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

VERIFIED/DATE

BUILDING:

Control

FIRE ZONE:

12

LOCATION WITHIN FIRE ZONE:

Battery Room 31, EL 33'

POTENTIAL INTERACTION NO.:

E-12-1-3

PHOTOGRAPH NO.:

E219

BACKGROUND NO.:

Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Battery 31 GE1

SOURCE:

Lighting Cnd

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Battery will be damaged and/or shorted .

ACCEPTABLE

X

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

VERIFIED/DATE

BUILDING:

Control

FIRE ZONE:

12

LOCATION WITHIN FIRE ZONE:

Battery Room 31, EL 33'

POTENTIAL INTERACTION NO.:

E-12-1-4

PHOTOGRAPH NO.:

E221

BACKGROUND NO.:

Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Battery 31 GE1

SOURCE:

Light

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Battery will be damaged and/or shorted

ACCEPTABLE

POTENTIALLY UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

BUILDING:

Control

FIRE ZONE:

12

LOCATION WITHIN FIRE ZONE:

Battery Room 31, EL 33'

POTENTIAL INTERACTION NO.:

E-12-1-5

PHOTOGRAPH NO.:

E221

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Battery 31 GE1

SOURCE:

Lamp

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

5

Battery will be damaged and/or shorted

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

BUILDING:

Control

FIRE ZONE:

12

LOCATION WITHIN FIRE ZONE: Battery Room 31, EL 33'

POTENTIAL INTERACTION NO.:

E-12-1-6

PHOTOGRAPH NO.: E222

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Battery 31 GE1

SOURCE:

Speaker

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Battery will be damaged and/or shorted

ACCEPTABLE

POTENTIALLY

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

INTERACTION ENGINEER / DATE

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

E Licari/		UNACCEPTABLE
Х Д	ACCEPTABLE	POTENTIALLY
EVALUATION NO	OTE NO: 3	
EVALUATION OF INTE	ERACTION:	
Source Falls	s on Target	
DESCRIPTION OF POS	STULATED INTERACTION:	
SOURCE:	Electric Heating Unit	
TARGET:	3" Cnd 1UA (CB) (not shown)	
IDENTIFICATION OF	INTERACTION COMPONENTS:	
BACKGROUND NO.:	Sheet 69	
PHOTOGRAPH NO.:	E218	
POTENTIAL INTERACT	rion no.: E-12-2-1	
LOCATION WITHIN F	IRE ZONE: Battery Room 31, EL 33'	
FIRE ZONE:	12	
BUILDING:	Control	

W A Griswold/ 8-31-82

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Control

FIRE ZONE:

12

LOCATION WITHIN FIRE ZONE:

Battery Room 31, El 33'

POTENTIAL INTERACTION NO.:

E-12-2-6

PHOTOGRAPH NO.:

E 222

BACKGROUND NO.:

Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

3" Cnd 1UA (CB)

SOURCE:

Speaker

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

X ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82 INTERACTION ENGINEER/DATE

BUILDING:

Control

FIRE ZONE:

LOCATION WITHIN FIRE ZONE: Battery Room 31, EL 33'

POTENTIAL INTERACTION NO.:

E-12-3-1

PHOTOGRAPH NO.:

E218

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

3" Cnd lUA1 (CB) (not shown)

SOURCE:

Electric Heating Unit

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

Cnd mounted against wall

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

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Control

FIRE ZONE: 12

LOCATION WITHIN FIRE ZONE: Battery Room 31, EL 33'

POTENTIAL INTERACTION NO.:

E-12-3-2

PHOTOGRAPH NO.: E219

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3" Cnd 1UA1 (CB)

SOURCE:

1½" Cnd to Heater

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82 INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

DOTPI	JING.
FIRE	ZONE

Control

12

LOCATION WITHIN FIRE ZCNE: Battery Room 31, EL 33'

POTENTIAL INTERACTION NO.:

E-12-3-3

PHOTOGRAPH NO.:

E219

BACKGROUND NO.:

Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

3" Cnd 1UA1 (CB)

SOURCE:

Lighting Cnd

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

POTENTIALLY ACCEPTABLE UNACCEPTABLE

E Licari/ 7-30-82 INTERACTION ENGINEER / DATE

BUILDING:

Control ·

FIRE ZONE:

12

LOCATION WITHIN FIRE ZONE: Battery Room 31, EL 33'

POTENTIAL INTERACTION NO.:

E-12-3-4

PHOTOGRAPH NO.: E221

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3" Cnd 1UA1 (CB)

SOURCE:

Light

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

ACCEPTABLE

POTENTIALLY UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

INTERACTION ENGINEER / DATE

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

BUILDING: Co	ontrol			
FIRE ZONE: 12	2			
LOCATION WITHIN FIRE 2	ZCNE:	Battery Room	31, EL 33'	
POTENTIAL INTERACTION	NO.:	E-12-3-5	•	
PHOTOGRAPH NO.: E2	221			
BACKGROUND NO.: Sho	eet 69			
IDENTIFICATION OF INTE	ERACTION COMP	ONENTS:		
TARGET: 3"	' Cnd lUAl (C	CB)		·
				•
SOURCE: Lan	ımp	·		•
DESCRIPTION OF POSTULA	ATED INTERACT	ION:		
Source Falls on	Target			
EVALUATION OF INTERACT	TION:			
EVALUATION NOTE N	NO: 3			
		•		DOMESTME AT THE
XACCEF	PTABLE	. —	···	POTENTIALLY UNACCEPTABLE

W A Griswold/ 8-31-82

INTERACTION ENGINEER/DATE

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

BUILDING:	Control		
FIRE ZONE:	12		
LOCATION WITHIN FIR	RE ZONE:	Battery Room 31, EL 33'	
POTENTIAL INTERACT	ION NO.:	E-12-3-6	
PHOTOGRAPH NO.:	E222		
BACKGROUND NO.:	Sheet 69		
IDENTIFICATION OF :	INTERACTION COM	PONENTS:	
TARGET:	3" Cnd lUAl (CB)	
SOURCE:	Speaker		
DESCRIPTION OF POST	TULATED INTERAC	TION:	
Source Falls	on Target		
EVALUATION OF INTER			
XAC	CCEPTABLE		POTENTIALLY UNACCEPTABLE

W A Griswold/ 8-31-82

POTENTIALLY

-UNACCEPTABLE

W A Griswold/ 8-31-82

VERIFIED/DATE

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

BUILDING: Control
FIRE ZONE: 12
LOCATION WITHIN FIRE ZONE: Battery Room 31, EL 33'
POTENTIAL INTERACTION NO.: E-12-4-1
PHOTOGRAPH NO.: E218
BACKGROUND NO.: Sheet 69
IDENTIFICATION OF INTERACTION COMPONENTS:
TARGET: Fuse Box 31 WV 7
SOURCE: Electric Heating Unit
DESCRIPTION OF POSTULATED INTERACTION:
Source Falls on Target
EVALUATION OF INTERACTION:
EVALUATION NOTE NO: 4
Source will not damage target due to their relative locations
\cdot

ACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER/DATE

BUILDING:

Control

FIRE ZONE:

12

LOCATION WITHIN FIRE ZONE: Battery Room 31, EL 33'

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

PHOTOGRAPH NO.: E219

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Fuse Box 31 WV 7

SOURCE: 1½" Cnd to Heater

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 4

Source will not damage target due to their relative locations

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

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Control

FIRE ZONE:

12

LOCATION WITHIN FIRE ZONE: Battery Room 31, EL 33

POTENTIAL INTERACTION NO.: E-12-4-3

PHOTOGRAPH NO.: E219

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Fuse Box 31 WV 7

SOURCE:

Lighting Cnd

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

ACCEPTABLE

POTENTIALLY UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

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Control

FIRE ZONE: 12

LOCATION WITHIN FIRE ZCNE: Battery Room 31, EL 33'

POTENTIAL INTERACTION NO.: E-12-4-4

PHOTOGRAPH NO.: E221

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Fuse Box 31 WV 7

SOURCE: Light

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

POTENTIALLY ACCEPTABLE UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

INTERACTION ENGINEER / DATE

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

BUILDING:	Control			
FIRE ZONE:	12			
LOCATION WITHIN I	FIRE ZONE:	Battery Room 31	, EL 33'	
POTENTIAL INTERAC	CTION NO.:	E-12-4-5		
PHOTOGRAPH NO.:	E221			
BACKGROUND NO.:	Sheet 69			
IDENTIFICATION OF	F INTERACTION CO	MPONENTS:	•	·
TARGET:	Fuse Box 31 WV	7		
SOURCE:	Lamp	·		
DESCRIPTION OF PO	OSTULATED INTERA	CTION:		
Source Falls	s on Target			
EVALUATION OF INT	CERACTION:			
EVALUATION N	OTE NO: 3			
		•		
X	ACCEPTABLE		:	POTENTIALLY UNACCEPTABL
E Licari/	7-30-82		W A Griswold/	8-31-82

BUILDING:

Control

FIRE ZONE:

12

LOCATION WITHIN FIRE ZONE: Battery Room 31, EL 33'

POTENTIAL INTERACTION NO.:

E-12-6-1

PHOTOGRAPH NO.: E218

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Cables to Fuse Box

SOURCE:

Electric Heating Unit

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has adequate mass to damage cables

ACCEPTABLE

POTENTIALLY

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

BUILDING:

Control

FIRE ZONE: 12

LOCATION WITHIN FIRE ZONE: Battery Room 31, EL 33'

POTENTIAL INTERACTION NO.:

E-12-6-2

PHOTOGRAPH NO.: E219

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Cables to Fuse Box

SOURCE: $1\frac{1}{2}$ Cnd to Heater

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Cnd has adequate mass to damage cables

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

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Control

FIRE ZONE:

12

LOCATION WITHIN FIRE ZONE: Battery Room 31, EL 33'

POTENTIAL INTERACTION NO.: E-12-6-5

PHOTOGRAPH NO.: E221

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Cables to Fuse Box

SOURCE:

Lamp

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

POTENTIALLY ACCEPTABLE -UNACCEPTABLE E Licari/ 7-30-82 W A Griswold/ 8-31-82 INTERACTION ENGINEER / DATE VERIFIED/DATE

Ebasco Services Incorporated

BUILDING:

Control

FIRE ZONE:

12

LOCATION WITHIN FIRE ZONE: Battery Room 31, EL 33

POTENTIAL INTERACTION NO.:

E-12-6-6

PHOTOGRAPH NO.: E222

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Cables to Fuse Box

SOURCE:

Speaker

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

Speaker has adequate mass to damage cables

ACCEPTABLE

POTENTIALLY UNACCEPTABLE

E Licari/ 7-30-82 INTERACTION ENGINEER/DATE

W A Griswold/ 8-31-82

BUILDING:

Control

FIRE ZONE: 13

LOCATION WITHIN FIRE ZONE:

Battery Room 32, EL 33'

POTENTIAL INTERACTION NO.:

E-12-7-1

PHOTOGRAPH NO.: E223

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Battery 32

SOURCE:

Electric Heating Unit

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Battery will be damaged and/or shorted

ACCEPTABLE

POTENTIALLY UNACCEPTABLE

E Licari/ 7-30-82 INTERACTION ENGINEER / DATE

BUILDING:

Control

FIRE ZONE:

13

LOCATION WITHIN FIRE ZONE:

Battery Room 32, EL 33'

POTENTIAL INTERACTION NO.:

E-12-7-2

PHOTOGRAPH NO.: E224

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Battery 32

SOURCE:

Lights

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

Battery will be damaged and/or shorted

ACCEPTABLE

POTENTIALLY UNACCEPTABLE

E Licari/ 7-30-82
INTERACTION ENGINEER/DATE

W A Griswold/ 8-31-82

BUILDING:

Centro1

FIRE ZONE:

13

LOCATION WITHIN FIRE ZONE:

Battery Room 32, EL 33'

POTENTIAL INTERACTION NO.:

E-12-7-3

PHOTOGRAPH NO.: E224

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Battery 32

SOURCE:

Lamps

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Battery will be damaged and/or shorted

ACCEPTABLE

X

POTENTIALLY UNACCEPTABLE

E Licari/ 7-30-82
INTERACTION ENGINEER/DATE

BUILI	DING:

Control

FIRE ZONE:

13

LOCATION WITHIN FIRE ZONE:

Battery Room 32, EL 33'

POTENTIAL INTERACTION NO.:

E-12-7-4

PHOTOGRAPH NO.: E224

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Battery 32

SOURCE:

Lighting Cnd ½"

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

Battery will be damaged and/or shorted

ACCEPTABLE

POTENTIALLY UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

BUILDING:

Control

FIRE ZONE:

13

LOCATION WITHIN FIRE ZONE:

Battery Room 32, EL 33'

POTENTIAL INTERACTION NO.:

E-12-7-5

PHOTOGRAPH NO.: E223

BACKGROUND NO.:

Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Battery 32

SOURCE:

1½" Cnd Heating Unit

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

5

Battery will be damaged and/or shorted

ACCEPTABLE

X

POTENTIALLY UNACCEPTABLE

E Licari/ 7-30-82
INTERACTION ENGINEER/DATE

W A Griswold/ 8-31-82

BUILDING:

Control

FIRE ZONE:

13

LOCATION WITHIN FIRE ZONE: Battery Room 32, EL 33'

POTENTIAL INTERACTION NO.: E-12-8-1

PHOTOGRAPH NO.: E223

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3" Cnd 1UB (CA)

SOURCE: Electric Heating Unit

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 4

Cnd mounted against wall

ACCEPTABLE

POTENTIALLY UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER/DATE

BUILDING:

Control .

FIRE ZONE:

13

LOCATION WITHIN FIRE ZONE: Battery Room 32, EL 33'

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

PHOTOGRAPH NO.: E224

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

3" Cnd 1UB (CA)

SOURCE:

Lights

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

Cnd mounted against wall

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82 INTERACTION ENGINEER / DATE

INTERACTION ENGINEER/DATE

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

BUILDING:	Control ·			
FIRE ZONE:	13			
LOCATION WITHIN F	IRE ZONE:	Battery Room 32,	EL 33't	
POTENTIAL INTERAC	TION NO.:	E-12-8-3		
PHOTOGRAPH NO.:	E224			•
BACKGROUND NO.:	Sheet 69			
				·
IDENTIFICATION OF	INTERACTION CON	PONENTS:		
TARGET:	3" Cnd 1UB (CA)			
•	·			
SOURCE:	Lamps			
DESCRIPTION OF PO	STULATED INTERAC	TION:		
Source Falls	on Target			
EVALUATION OF INTI	ERACTION:		•	
EVALUATION NO	OTE NO: 3	·	·	·
X	ACCEPTABLE	•		POTENTIALLY
	and the second s			UNACCEPTABLE

INTERACTION ENGINEER/DATE

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

BUILDING:	Control		
FIRE ZONE:	13		
LOCATION WITHIN F	IRE ZONE:	Battery Room 32, EL 33	
POTENTIAL INTERAC	TION NO.:	E-12-8-4	
PHOTOGRAPH NO.:	E224		
BACKGROUND NO.:	Sheet 69		
IDENTIFICATION OF	INTERACTION CON	PONENTS:	
TARGET:	3" Cnd 1UB (CA)		
SOURCE:	Lighting Cnd ½"		
DESCRIPTION OF POSTULATED INTERACTION:			
Source Falls	s on Target		
EVALUATION OF INT			·
x	ACCEPTABLE	•	POTENTIALLY UNACCEPTABLE

W A Griswold/ 8-31-82

INTERACTION ENGINEER/DATE

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

BUILDING:	Control		
FIRE ZONE:	13		
LOCATION WITHIN FI	IRE ZONE:	Battery Room 32, EL 33'	
POTENTIAL INTERACT	rion no.:	E-12-8-5	
PHOTOGRAPH NO.:	E223		·
BACKGROUND NO.:	Sheet 69		
IDENTIFICATION OF	INTERACTION COM	PONENTS:	
TARGET:	3" Cnd 1UB (CA)		·
SOURCE:	$1rac{1}{4}$ " Cnd Heating	Unit	
DESCRIPTION OF POS	STULATED INTERAC	CTION:	
Source Falls	on Target		
EVALUATION OF INTE	ERACTION:		
EVALUATION NO	TE NO: 2		
			•
XA	CCEPTABLE		POTENTIALLYINACCEPTABL

W A Griswold/ 8-31-82

BUILDING:

Control

FIRE ZONE:

13

LOCATION WITHIN FIRE ZONE: Battery Room 32, EL 33

POTENTIAL INTERACTION NO.: E-12-9-1

PHOTOGRAPH NO.: E223

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

3" Cnd 1UB1 (CB)

SOURCE:

Electric Heating Unit

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 4

Cnd mounted against wall

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER/DATE

W A Griswold/ 8-31-82 VERIFIED/DATE

Ebasco Services Incorporated

BUILDING:

Control

FIRE ZONE: 13

LOCATION WITHIN FIRE ZONE:

Battery Room 32, EL 33'

POTENTIAL INTERACTION NO.: E-12-9-2

PHOTOGRAPH NO.: E224

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

3" Cnd 1UB1 (CB)

SOURCE:

Lights

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

POTENTIALLY ACCEPTABLE UNACCEPTABLE

E Licari/ 7-30-82
INTERACTION ENGINEER/DATE

BU	ILD	ING	:
----	-----	-----	---

Control

FIRE ZONE:

13

LOCATION WITHIN FIRE ZONE: Battery Room 32, EL 33'

POTENTIAL INTERACTION NO.: E-12-9-3

PHOTOGRAPH NO.: E224

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3" Cnd 1UB1 (CB)

SOURCE:

Lamps

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

POTENTIALLY ACCEPTABLE

E Licari/ 7-30-82

X

INTERACTION ENGINEER/DATE

W <u>A Griswold/ 8-31-82</u>

-UNACCEPTABLE

Ebasco Services Incorporated

BUILDING: Control

FIRE ZONE: 13

LOCATION WITHIN FIRE ZONE:

Battery Room 32, EL 33'

POTENTIAL INTERACTION NO.: E-12-9-4

PHOTOGRAPH NO.: E224

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

3" Cnd 1UB1 (CB)

SOURCE:

Lighting Cnd ½"

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

ACCEPTABLE

POTENTIALLY UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

INTERACTION ENGINEER/DATE

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

BUILDING:	Control		
FIRE ZONE:	13	·	
LOCATION WITHIN FI	IRE ZONE:	Battery Room 32, EL 33'	
POTENTIAL INTERACT	TION NO.:	E-12-9-5	
PHOTOGRAPH NO.:	E223		
BACKGROUND NO.:	Sheet 69	•	
IDENTIFICATION OF	INTERACTION COM	PONENTS:	
TARGET:	3" Cnd lUB1 (CB))	
SOURCE:	$1rac{1}{4}$ " Cnd Heating	Unit	
DESCRIPTION OF POS	TULATED INTERAC	TION:	
Source Falls	on Target		
EVALUATION OF INTE	RACTION:		
EVALUATION NO	TE NO: 2		
· .		•	D0mDvmT
XA	CCEPTABLE		POTENTIALLY

W A Griswold/ 8-31-82

BUILDING:

Control

FIRE ZONE:

LOCATION WITHIN FIRE ZONE:

Battery Room 32, EL 33'

POTENTIAL INTERACTION NO.: E-12-11-1

PHOTOGRAPH NO.: E223

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Cable to Fuse Box

SOURCE:

Electric Heating Unit

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has adequate mass to damage cables

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82 INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82 VERIFIED/DATE

Ebasco Services Incorporated

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

BUILDING:

Control

FIRE ZONE: 13

LOCATION WITHIN FIRE ZONE:

Battery Room 32, EL 33'

POTENTIAL INTERACTION NO.: E-12-11-2

PHOTOGRAPH NO.: E224

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Cable to Fuse Box

SOURCE:

Lights

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has adequate mass to damage cables

ACCEPTABLE

X

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER/DATE

W A Griswold/ 8-31-82

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:

Control

FIRE ZONE:

LOCATION WITHIN FIRE ZONE:

Battery Room 32, EL 33'

POTENTIAL INTERACTION NO.:

E-12-11-3

PHOTOGRAPH NO.: E224

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Cable to Fuse Box

SOURCE:

Lamps

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3.

ACCEPTABLE

POTENTIALLY UNACCEPTABLE

E Licari/ 7-30-82 INTERACTION ENGINEER/DATE

W A Griswold/ _8-31-82 VERIFIED/DATE

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

BUILDING: Control

FIRE ZONE:

LOCATION WITHIN FIRE ZONE:

Battery Room 32, EL 33'

POTENTIAL INTERACTION NO.:

E-12-11-5

PHOTOGRAPH NO.: E223

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Cable to Fuse Box

SOURCE: 1½" Cnd Heating Unit

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has adequate mass to damage cables

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

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E Licari/ 7-30-82

INTERACTION ENGINEER/DATE

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

BUILDING:	Control				
FIRE ZONE:	11				
LOCATION WITHIN F	IRE ZONE:	EL 33'	·		
POTENTIAL INTERAC	TION NO.:	E-12-27-1			
PHOTOGRAPH NO.:	E225				
BACKGROUND NO.:	Sheet 69				
IDENTIFICATION OF	INTERACTION COM	PONENTS:			
TARGET:	3" Cnd 5DC1 (FF	3)			
SOURCE:	Light	·		·	
DESCRIPTION OF PO	STULATED INTERAC	TION:			
Source Falls	on Target				
EVALUATION OF INT	ERACTION:				•
EVALUATION NO	OTE NO: 3				·
		•			
X	ACCEPTABLE		···········		POTENTIALLY -UNACCEPTABLE

W A Griswold/ 8-31-82

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)

SYSTEM NO	E-12		
SYSTEM NAME	D C System		
			
FMEA CATEGORY	Ý	NON-CONNECTED	Х
		INTERCONNECTED	
•			
\wedge			
haly	- 4/4/83		•
PREPARED BY/	DATE	·	
Mondal	trana 4/6/83	Wariswold 5.5.83	
CHECKED BY	• •	VERIFIED BY/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: 12-E-1

Interaction Number(s): E-12-1-1

E-12-1-2 E-12-1-3 E-12-1-4 E-12-1-5

E-12-1-6

Fire Zone: 12

Target Component(s)

Number, Description & Function:

Battery 31 which supplies DC Power.

Postulated Failure Mode(s) and Evaluation:

M-2-(P) Damage or short curcuit to the battery would lead to the loss E-2-(P) of D C power to essential control, instrumentaion and other circuits. This may affect safety functions.

R Sahu 4/4/83 EVALUATING ENGINEER/DATE

J F Montalbano 4/6/83 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: 12-E-2

Interaction Number(s): E-12-6-1

E-12-6-2 E-12-6-6

Fire Zone: 12

Target Component(s)

Number, Description & Function:

Cables to fuse box of Battery 31, which supply DC Power.

Postulated Failure Mode(s) and Evaluation:

M-2-(P) Open or short circuit of the cables would lead to loss of D C power

E-1-(P) to essential control, instrumentation and other circuits. This may

E-2-(P) affect safety functions.

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

Acceptable

R Sahu 4/4/83

EVALUATING ENGINEER/DATE

J F Montalbano 4/6/83 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: 12-E-3

Interaction Number(s): E-12-7-1

E-12-7-2 E-12-7-3 E-12-7-4 E-12-7-5

Fire Zone: 13

Target Component(s)

Number, Description & Function:

Battery 32 which supplies D C Power.

Postulated Failure Mode(s) and Evaluation:

M-2-(P) Damage or short circuit to the battery may lead to the loss of E-2-(P) D C power to essential control, instrumentation and other circuits. This may affect safety functions.

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

R Sahu 4/4/83
EVALUATING ENGINEER/DATE

J F Montalbano 4/6/83 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: 12-E-4

Interaction Number(s): E-12-11-1

E-12-11-2 E-12-11-5

Fire Zone: 13

Target Component(s)

Number, Description & Function:

Cables to fuse box of Battery 32 which supplies D C Power.

Postulated Failure Mode(s) and Evaluation:

M-2-(P) Open or short circuit of the cables would lead to the loss of D C E-1-(P) power to essential control, instrumentation and other circuits. This

E-2-(P) may affect safety functions.

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

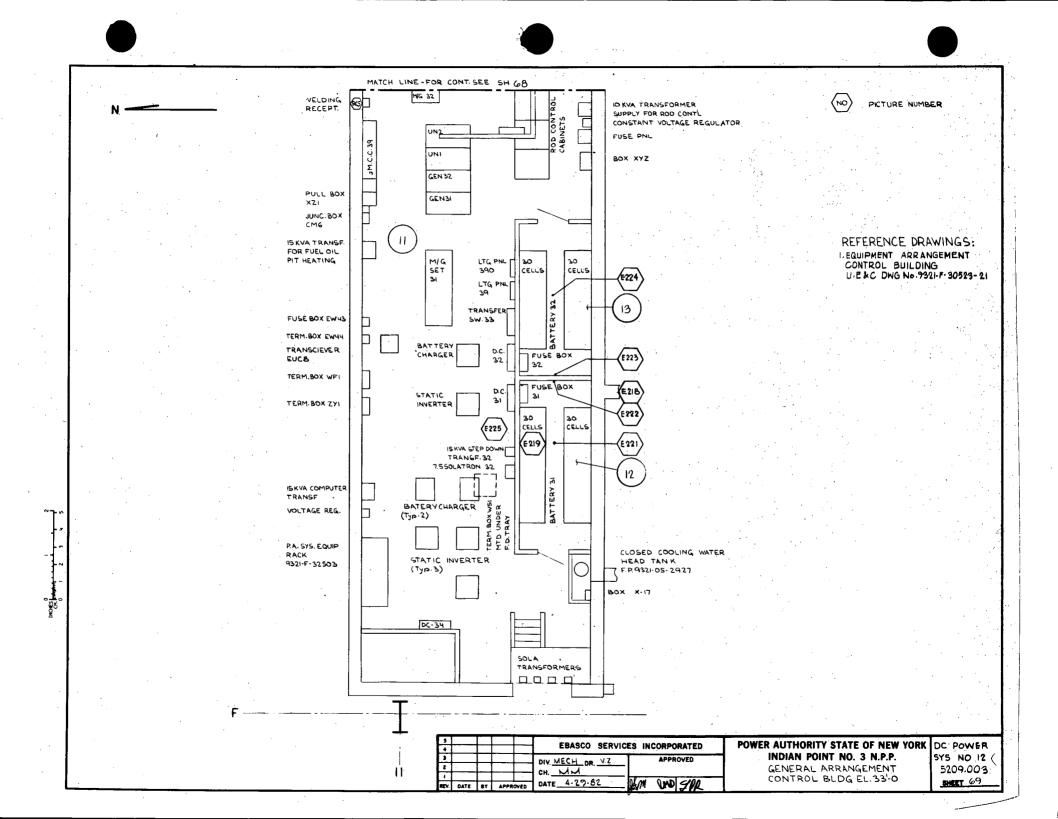
R Sahu 4/4/83

J F Montalbano 4/6/83

EVALUATING ENGINEER/DATE

CHECKED/DATE

Ebasco Services Incorporated



13.0 Containment Isolation System

13.1 Function & Applicability

The Containment Isolation System (CIS) is required to Maintain Containment Integrity (FT-2).* A detailed description of the CIS is provided in System Description No. 10.7.

13.2 Scope

- 13.2.1 For the purpose of this study CIS includes Piping, Valves, Instrumentation and Electrical components as indicated in the corresponding disciplines Nonconnected and Connected Matrices. It should be noted that many valves which are part of CIS are also part of other systems included in this study. Therefore, valves or piping which were studied as part of another system are not repeated in the study of CIS.
- 13.2.2 All safety related lines, valves and equipment of the Air Cooling System for Hot Penetrations are included in this study since this system is deemed necessary for the safe function of the Containment Isolation System.
- 13.2.3 Support systems relied upon for CIS safety related functions are indicated on Auxiliary Diagram AD-13.
- 13.2.4 Systems which interface with CIS but are not deemed necessary for the safety related functions are:

i) Instrument Air System

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

ii) <u>Isolation Valve Seal Water System and Containment Penetration</u> and Weld Channel Pressurization System

No credit has been taken for the operation of either system in the calculation of off-site accident doses (FSAR Section 6.5.1 and 6.6.1). These two systems were therefore not included within the scope of this study.

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

* Functional Table 2. See Volume I Tab entitled Functional Tables

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

POT	ENTIALLY UNACCEPTABLE INTERACTION NUMBER	FMEA (1) (2)	EIC (1) (2)	SPAN EVALUATION (1) (2) (3)
*	L-13-13-2	13-M-1-P	59A-002-P	NA
*	L-13-13-3	13-M-1-P	59A-005-P	NA
*	L-13-17-2	13-M-2-P	59A-002-P	NA
*	L-13-17-3	13-M-2-P	59A-005-P	NA
*	L-13-29-1	13-M-3-P	59A-011-P	NA
	L-13-29-2	13-M-3-P	59A-012-A	NR
	L-13-51-1	13-M-4-P	59A-032-A	NR
	L-13-51-2	13-M-4-P	59A-030-A	NR
	L-13-51-3	13-M-4-P	59A-029-A	NR
	L-13-51-4	13-M-4-P	59A-010-A	NR
*	L-13-53-4	13-M-5-P	59A-010-P	NA
	L-13-54-4	13-M-6-P	59A-003-A	NR
	L-13-55-4	13-M-7-P	59A-003-A	NR
	L-13-167-1	13-M-8-A	NR	NR
	L-13-168-1	13-M-9-A	NR	NR
	L-13-169-1	13-M-10-A	NR	NR
	L-13-170-1	13-M-11-A	NR	NR
	L-13-171-1	13-M-12-A	NR	NR
	L-13-172-1	13-M-13-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 SYSTEMS INTERACTION STUDY TABULATION OF POTENTIALLY UNACCEPTABLE SPATIAL INTERACTIONS

POTENTIALLY UNACC		EIC (1) (2)	SPAN EVALUATION (1) (2) (3)
L-13-173-1	13-M-14-A	NR	NR
L-13-174-1	13-M-15-A	NR	NR
L-13-175-1	13-M-16-A	NR	NR
L-13-176-1	13-M-17-A	NR	NR
L-13-177-1	13-M-18-A	NR	NR
L-13-178-1	13-M-19-A	NR	NR
V-13-19-1	13-M-20-A	NR	NR
V-13-19-2	13-M-20-A	NR	NR
V-13-20-1	13-M-21-A	NR	NR
V-13-20-2	13-M-21-A	NR	NR
V-13-23-1	13-M-22-A	NR	NR
V-13-23-2	13-M-22-A	NR	NR
* V-13-24-1	13-M-23-P	59A-002-P	NA
* V-13-24-2	13-M-23-P	59A-005-P	NA
* V-13-83-4	13-M-24-P	59A-010-P	NA
* V-13-84-4	13-M-25-P	59A-010-P	NA
L-13-111-2	13-M-26-P	85A-001-A	NR
L-13-111-3	13-M-26-P	85A-002-A	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 SYSTEMS INTERACTION STUDY TABULATION OF POTENTIALLY UNACCEPTABLE SPATIAL INTERACTIONS

POTENTIALLY UNACCEPTABLE INTERACTION NUMBER	FMEA (1) (2)	EIC (1) (2)	SPAN EVALUATION (1) (2) (3)
L-13-112-2	13-M-27-P	85A-001-A	NR
L-13-112-3	13-M-27-P	85A-002-A	NR
V-13-113-2	13-M-28-P	85A-001-A	NR
V-13-113-3	13-M-28-P	85A-002-A	NR
V-13-149-1	13-M-29-A	NR	NR
V-13-150-1	13-M-30-A	NR	NR
V-13-151-1	13-M-31-A	NR	NR
V-13-152-1	13-M-32-A	NR	NR
V-13-153-1 .	13-M-33-A	NR	NR
V-13-155-1	13-M-34-A	NR	NR
V-13-156-35	13-M-35-A	NR	NR
V-13-157-1	13-M-36-A	NR	NR
L-13-158-1	13-M-37-A	NR	NR
L-13-159-1	13-M-38-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.

13.0 Containment Isolation System

13.1 Function & Applicability

13.1.1 The Containment Isolation System (CIS) is required to Maintain Containment Integrity (FT-2). * A detailed description of the CIS is provided in System Description No. 10.7.

13.2 Scope

- 13.2.1 For the purpose of this study CIS includes Piping, Valves, Instrumentation and Electrical components as indicated in the corresponding disciplines Non-connected and connected Matrices. It should be noted that many valves which are part of CIS are also part of other systems included in this study. Therefore, valves or piping which were studied as part of another system are not repeated in the study of CIS.
- 13.2.2 All safety related lines, valves and equipment of the Air Cooling System for Hot Penetrations are included in this study since this system is deemed necessary for the safe function of the Containment Isolation System.
- 13.2.3 Support systems relied upon for CIS safety related functions are indicated on Auxiliary Diagram AD-13.
- 13.2.4 Systems which interface with CIS but are not deemed necessary for the safety related functions are:

i) Instrument Air System

All valves which are powered by instrument air will, upon loss of air, fail in their safety related position (Response to FSAR question 9.19.3).

Instrument Air is therefore not relied upon to accomplish the CIS safety related function.

- ii) Isolation Valve Seal Water System and Containment
 Penetration and Weld Channel Pressurization System
 No credit has been taken for the operation of either system
 in the calculation of off-site accident doses (FSAR Section
 6.5.1 & 6.6.1). These two systems were therefore not included
 within the scope of this study.
- 13.2.5 All devices in the Control Room are evaluated generically as part of the Control Room review.

^{*} Functional Table 2. See Volume I Tab entitled Logic Diagram.

SYSTEM	NO	13				
SYSTEM	NAME	CONTAINMENT	ISOLATION	SYSTEM	······································	
MATRIX	CATEGORY			NON-CONNECTED		
				INTERCONNECTED	X	

DM S 3/24/8)
PREPARED BY/DATE

APPROVED BY/DATE

Ebasco Services Incorporated

SHEET	1	OF	38	

SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	
4'' - #28	DOV. 1000		
4 - 1/20	PCV - 1230	S	
	PCV - 1229	S	
	1" #823 (Pressurization Air	S	
	System) 4" - #28	N	13-M-I
3/4" - #834	1890D VALVE	S	
	3/4" - #832	S	
	3/4" - #834	S	
	,	Б	
3/4" - #836	1890J VALVE	S	
	1890H VALVE	S	
	3/4" - #837	S	
	3/4" - #836 (Open to atmosphe:		
3/4" - #837	1890 G	S	
	3/4" - #836	S	
	3/4" - #837 (Open to atmospher		
	or woor to atmospher	re) S	
3/4" #831	1890C VALVE	S	
	3/4" - #832	S	
	3/4" - #831	S	
	· · · · · · · · · · · · · · · · · · ·	U	

D Mirkovic	3/24/83_
PREPARED	BY/DATE

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
3/4" - #832	1820B VALVE	S	
	1890F VALVE	S	
•	3/4" - #831	S	
	3/4" - #833	S	
	3/4" - #834	S	
	3/4" - #835	S	
	3/8" - #832	S	
	3/4" - #832	S	
3/4" - #833	1890E VALVE	S	
	3/4" - #832	S S	
	3/4" - #833	S	
3/4" - #835	- 1890A VALVE		
3/4 #033	3/4" - #832	S	
	3/4" - #832	S	
	3/4 - #835	S	•
2" - #338	1728 VALVE	C	
	1723 VALVE	S	
	2" - #338	S	13-M-2
	IVSWS	N	1,5-11-2
	TAOMO	S	
3/8" - #832	1891A VALVE	S	
	3/4" - #832	s S	
	· · · · · · · · · · · · · · · · · · ·	3	

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T. RUGGIERO - 3/27/83
APPROVED BY/DATE

SHEET	3	OF	38	

SYSTEM NO. 13

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

SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
3'' - #40	1702 VALVE	S	
	1705 VALVE	S	
	3" - #40	N	13-M-3
	IVSWS	S	
3/8" - #30	1788 VALVE	S	
	1789 VALVE	S	
	3/4" - #30	N	13-M-4
	IVSWS	S	
1" - #23	1786 VALVE	S .	
	1787 VALVE	S	1
	1" - #67	S	,
	IVSW	S	•
1" - #67	1" - #23	S	
•	1616 CHECK VALVE	S	
	1663 VENT VALVE	S	
	1610 VALVE	S	
1/2" - #823	1" - #66	S	
•	PCV - 1240	S	
	PCV - 1241	S	
	TEST CONNECTION	S	
1/2" - #823	1" - #65	S	•
	PCV - 1238	S	
	PCV - 1239	S	
	TEST CONNECTION	S	

D MIRKOVIC 3/24/83	T. RUGGIERO - 3/27/83
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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	
3/8" - #24	548 - VALVE	S	
	3/4" - #24	N	13-M-5
	IVSWS	S	13 11 3
	549 VALVE	S	
3/4" - #32	550 VALVE	S	
	PCV - 473	S	
	518 CHECK VALVE	S	
	550A TEST VENT VALVE	S	
3" - #33	519 VALVE	S	
	552 VALVE	S	
	520 CHECK VALVE	S .	
	IVSWS	S	•
36" - #50	FCV 1173	S	
	FVC 1170	S	
•	PCV-1110	S	
36" - #49	FCV 1171	S	
i	FCV 1170	S	
	PCV 1110	S	

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T. RUGGIERO - 3/27/83 APPROVED BY/DATE

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
10" - #58	PCV - 1190 PCV - 1192 PCV - 1191 PCV - 1110 PCV - 1110	S S S S	
1" - #65	PCV - 1235 1" - #65 (OPEN TO ATMOSPHERE) 1/2" - #823 PCV - 1234	S S S	
1" - #66	PCV - 1237 1" - #66 (OPEN TO ATMOSPHERE) 1/2" - #823 PCV - 1236	S S S S	
1½" - #36	PCV - 1111 PCV - 1110 PCV - 1110	S S S	
1½" - #37	PCV - 1111 PCV - 1110 PCV - 1110	S S S	
3" - #830	PS - 7 VALVE PS - 8 VALVE PS - 9 VALVE 3" - #830 (OPEN TO ATMOSPHERE PS - 10 (2") WC - 15 (½") ½" - MANUAL VALVE ½" - MANUAL VALVE	S S S S S S S	

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SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	
2" - #45	PCV - 1215A PCV - 1215 2" - #45 IVSWS	S S S	
2" - #46	PCV - 1214A PCV - 1214 2" - #46 IVSW	S S S S	
2" - #47	PCV - 1216A PCV - 1216 2" - #47 IVSWS	\$ \$ \$ \$	
2" - #48	PCV - 1217A PCV - 1217 2" - #48 IVSWS	S S S	
1/2" - #364	PCV - 1223A PCV - 1223 IVSWS 1/2" - #364	S S S S	

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SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1/2" - #365	PCV - 1224A PCV - 1224 IVSWS	S S S	
	1/2" - #365	S	
1/2" - #366	PCV - 1225A PCV - 1225 IVSWS 1/2" - #366	S S S S	1
1/2" - #367	PCV - 1226A PCV - 1226 IVSWS 1/2" - #367	S S S S	,
2" - #35	CAPS	S S	
2" - #34	SA - 24 VALVE SA - 24 VALVE 2" - #34	S S N	13-M-6
2" - #39	PCV - 1228 IA - 39 VALVE 2" - #39	s s s	

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SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	

3" - #20	UH - 37	S	
	2½" - #20	N	13-M-7
3'' - #95	ин - 38	S	
	2" - #95	N _.	13 - M-8
3/4" - #368	1814A VALVE	S	
-,	3/4" -#368 (OPEN TO ATMOSPE		
3/4" - #369	1814B VALVE	S	
3,1 "303	3/4" - #369 (OPEN TO ATMOSF	PHERE) S	
3/4" - #370	1814C	· S	
3/4 - 1 /3/0	3/4" - #370 (OPEN TO ATMOSP	•	,
	•	ŕ	
6" - #864	BLIND FLANGES	S	
6" - #865	BLIND FLANGES	s ·	

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	
3/4" - #866	BLIND FLANGE & CAP	S	
3/4" - #867	BLING FLANGE & CAP	S	
3/4" - 868	BLIND FLANGE & CAP	S	
3/4" - #25	956B VALVE 956A VALVE IVSWS 3/4" - #25	S S S S	
3/4" - #26	956D VALVE 956C VALVE IVSWS 3/4" - #26	S S S S	
3/4" - #59	956F VALVE 956E VALVE 3/4" - #59 IVSWS	S S S	

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

SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
3/4" - #69	956G VALVE	S	
•	956H VALVE	S	
	3/4" - #69	S	
	IVSWS	S	
3/8" - #711	990B VALVE	S	
	990A VALVE	S	
	IVSWS	S	i
	3/8" - #711	S	
1" - #68	863 VALVE	S	
•	8409 VALVE	S	
	8407 VALVE	S .	
	8408 VALVE	S	
	8406 VALVE		
	HCV - 943	S	
	891A VALVE	S	
	891B VALVE	S	
	891C VALVE	S	
	891D VALVE	S	
	863	S	
1" - #474	580A VALVE	S	
	580B VALVE	S S	
	INSTRUMENTATION (PT-458A)	S	

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SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
3",4",5" - #703	5" Discharge Silencer	S	
	¹½" Valve PCA-14	S	
	2½" Non Vibrating Relief	Valve . S	
1	4" Valve PCA-13	S	
	1½" Line #903	S	
	1½" Line #902	S	•
	1" Line #901	S	
	1" Line #900	S	•
	l" Line #899	S	
	l" Line #898	S	
	1" Line #897	S	
•	1" Line #896	S	
	1" Line #895	S	
	1" Line #894	S	
	1" Line #893	S	
4",5 - #704	5" Discharge Silencer	S	
5",6" - #701	½" Valve PCA-15 2½" Non Vibrating Relief 4" Valve PCA-12 Inlet Muffler Filter Blower BL-33	Valve S S S S S S	
5",6" - #702	Inlet Muffler Filter Blower BL-34	S S	
3/4",1" - #893	3" Line 703 PCA-1 Valve (1") Penetration DD	S S S	
D MIRKOVIC 3/24/83		T RUGGIERO 3/2	27/83
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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
3/4",1" - #894	3" Line 703 PCA-2 Valve (1")	S S	
3/4",1" - #895	Penetration CC 3" Line 703 PCA-3 Valve (1") Penetration BB	S S S S	
3/4",1" - #896	3" Line 703 PCA-5 Valve (1") Penetration T	S S S	
3/4",1" - #897	3" Line 703 PCA-4 Valve Penetration AA	S S S	
3/4",1" - #898	3" Line 703 PCA-6 Valve (1") Penetration S	S S S	
3/4",1" - #899	3" Line 703 PCA-7 Valve (1") Penetration X	S S S	
3/4",1" - #900	3" Line 703 PCA-8 Valve (1") Penetration V	S S S	
3/4",1" - #901	3" Line 703 PCA-9 Valve (1") Penetration W	S S S	
1½",1½" - #902	3" Line 703 PCA-10 Valve $(1\frac{1}{2}")$ Penetration K	S S S	

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

SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1½" - #903	3" Line 703 1½" Valve PCA-11 Penetration J	S S S	
1",1½" - #904	3" Line 705 Penetration J	S S	
1" - #905	3" Line 705 Penetration K	S S	
3/4",1" - #906	3" Line 705 Penetration W	S S	
3/4",1" - #907	3" Line 705 Penetration V	S S	
3/4",1" - #908	3" Line 705 Penetration X	S S	
3/4",1" - #909	3" Line 705 Penetration S	S S	
3/4",1" - #910	3" Line 705 Penetration AA	S S	
3/4",1" - #911	3" Line 705 Penetration T	S S	
3/4",1" - #912	3" Line 705 Penetration BB	S S	
3/4",1" - #913	3" Line 705 Penetration CC	S S	
3/4",1" - #914	3" Line 705 Penetration DD	S S	
3",4" - #705	1" Line 904	S	
	l" Line 905	S	
D MIRKOVIC 3/ PREPARED BY/I		r RUGGIERO 3/2 APPROVED BY/DAT	7/83 °F

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SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
3",4" - #705	1" Line 906	S	
(Cont'd)	1" Line 907	S	
	. 1" Line 908	S	
	l" Line 909	S	
	1" Line 910	S	
	l" Line 911	S	
	1" Line 912	S	
	1" Line 913	S	
	1" Line 914	S	
	1" Drain Line	S	
	PCA-28 Valve (1")	S	
5",10" - #530	4" Line 885	S	
•	4" Line 886	S	
	4" Line 887	S	
	4" Line 888	S	
	3" Line 889	S	
	3" Line 890	S	
	3" Line 891	S	
	3" Line 892	S	
	10" Line 700	S	
	PCA-25 Valve (10")	S	
	Relief Valve (2½")	S	
D MIRKOVIC		T RUGGIERO 3/2	7/83
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SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	
5",10" - #700	PCA-27 Valve (½")	S	
•	Blower B-31	S	
	10" Line #530	S	
	PCA 25A - Valve (10")	S	
	2½" Relief Valve	S	
	PCA-26 Valve (½'')	S	
·	Blower B-32	S	
1½", 4" - #885	10" Line 530	S	
	PCA-19 Valve (1½") Penetration A	S S	
1½", 4" - #886	10" Line 530	S	
	PCA-18 Valve (1½") Penetration B	S S	
1½",4" - #887	10" Line 530	S	
	PCA-17 Valve $(1\frac{1}{2}")$ Penetration C	S S	
1½", 4" - #888	10" Line 530	S	
	PCA-16 Valve (1½") Penetration D	S S	•
1½",3" - #889	10" Line 530	S	
-2 yo ", oo	PCA-23 Valve (1½")	S	•
	Penetration E	S .	
1½", 3" - #890	10" Line 530 PCA-22 Valve (1½")	S	
	Penetration F	S S	
1½", 3" - #891	10" Line 530	S	
•	PCA-21 Valve (1½")	S	
	Penetration G	S	
D MIRKOVIC 3/2	4/83	T RUGGIERO 3/	27/83
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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 (LINE)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1½", 3" - #892	10" Line 530 PCA-20 Valve $(1\frac{1}{2}")$ Penetration H	S S S	
5",10",12" - #698	12" Discharge Silencer	S	
	Blower BL-32	S	
5",6",10",12" - #695	12" Discharge Silencer	S	
	Blower BL-31	S	

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
PCV - 1230	4" - #28	N	13-M-9
(AIR OPER)	4" - #28	S	
SOV-1430	INSTR AIR	S	
	125V D-C PANEL 31	S	
PCV - 1229	4" - #28	S	
(AIR OPER)	INSTR AIR	S	
SOV-1429	125V D-C PANEL 31	S	
•			
1890J	3/4" - #836	S	
1891B TEST VALVE	3/4" - #836 OPEN TO ATMOSPHERE	S	ı

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SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	
1891A TEST VALVE	3/8" - #832	S	
1723 VALVE (AIR OPER.)	2" - #338 2" - #338 125V D-C PANEL 31	S N S	13-M-10
1705 VALVE (AIR OPER.)	3" - #40 INSTR AIR 125V D-C PANEL 31	S S S	
1789 (AIR OPER.)	3/4" - #30 3/4" - #30 INSTR AIR 125V D-C PANEL #L	S N S	13-M-11

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SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1787 (AIR OPER.)	1" - #23 INSTR. AIR 125V D-C PANEL 32 1" - #67	S S S	
1663 VENT VALVE	1" - #67 BLIND FLANGE	S S	
548 VALVE (AIR OPER.)	3/8" - #24 3/8" - #24 INSTR. AIR 125V D-C PANEL 31	S N S S	13-M-12
519 VALVE (AIR OPER.)	3" - #33 3" - #33 INSTR. AIR 125V D-C PANEL 31	S N S S	13-M-13

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SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	
FCV - 1172	36" - #50	S	,
(SOL. OPER.)	INST. AIR	S	
SOV - 1272	118V A-C INSTR. BUS 33	S	
FCV 1173	36" - #50	S	
(SOL. OPER.)	INSTR. AIR	S	
SOV-1273	118V A-C INSTR. BUS 34	S	
FCV 1171	36" - #49	S	
(SOL. OPER.)	INSTR. AIR	S	
SOV - 1271	118V - A-C INSTR. BUS 34	S	
FCV 1170	36" - #49	S -	
(SOL OPER.)	INST. AIR	S	
SOV-1270	118V A-C INSTR. BUS 34	S	
PCV 1190	10" - #58	S	,
(SOL OPER.)	INST. AIR	S	
SOV-1290	118V A-C INSTR. BUS 33	S	
PCV 1192	10" - #58	S	
(SOL. OPER.)	INST. AIR	S	
SOV-1292	118V A-C INSTR. BUS 33	S	
PCV - 1235	1" - #65	S	
(SOL. OPER.)	INSTR. AIR	S	•
SOV - 1535	125V D-C PANEL 32	S	
PCV - 1237	1" - #66	S	
(SOL. OPER.)	INSTR. AIR	S	
SOV-1537	125V D-C PANEL 32	S	·

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
PCV -1111 MANUAL VALVE	1½" - #36	S	
PCV - 1110	LINE #36 (1" BRANCH)	S	
PS - 8	3" - #830	S	
PS - 9	3" - #830	S	
PCV - 1215A (SOL. OPER.) SOV-1315A	2" - #45 2" - #45 INSTR. AIR 125V D-C PANEL 32	S N S S	13-M-14
PCV -1238 (SOL. OPER.) SOV-1538	1/2" - #823 INST. AIR 125V D-C PANEL 31	S S S	
PCV - 1239 (SOL. OPER.) SOV-1539	1/2" - #823 INSTR. AIR 125V D-C PANEL 32	S S S	
PCV - 1214A (SOL. OPER.) SOV-1314A	2" - #46 2" - #46 INSTR. AIR 125V D-C PANEL 32	S N S S	13-M-15

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	
		,	
PCV - 1216A (SOL. OPER.) SOV - 1316A	2" - #47 2" - #47 INSTR. AIR 125V D-C PANEL 32	S N S S	13-M-16
PCV-1240 (SOL. OPER.) SOV-1540	1/2" - #823 INSTR. AIR 125V D-C PANEL 31	S S S	
PCV1241 (SOL. OPER.) SOV ~ 1541	1/2" - #823 INSTR. AIR 125V D-C PANEL 32	S S S	
PCV - 1217A (SOL. OPER.) SOV - 1317A	2" - #48 2" - #48 INSTR. AIR 125V D-C PANEL 32	S N S S	13-M-17

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	
PCV- 1223A (SOL. OPER.) SOV-1523A	1/2" - #364 1/2" - #364 INSTR. AIR 125V D-C PANEL 32	S N S S	13-M-18
PCV - 1224A (SOL. OPER.) SOV-1524A	1/2" - #365 1/2" - #365 INSTR. AIR 125V D-C PANEL 32	S N S S	13-M-19
PCV - 1225A (SOL. OPER.) SOV-1525A	1/2" - #366 1/2" - #366 INSTR. AIR 125V D-C PANEL 32	S N S S	13- M-20
PCV - 1226A (SOL. OPER.) SOV-1526A SA-24 VALVE	1/2" - #367 1/2" - #367 125V D-C PANEL 32 INSTR. AIR 2" - #34	S N S S	13-M-21
	2" - #34	N	13-M-22

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	
PCV - 1228 (AIR OPER.) SOV-1428	2" - #39 INSTR. AIR 125V D-C PANEL 31	S S S	
UH-37	3" - #20 3" - #20	S N	13-M-23
UH~38	3" - #95 3" - #95	s N	13-M-24
1814A	3/4" - #368	S	
1814B	3/4" - #369	S	
1814C	3/4" - #370	S	

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INTERFACING COMPONENTS

SAFETY	RELATED
COMPONI	ENT (VALVES)

INTERFACING COMPONENTS

SAFETY(S) NONSAFETY(N)

POTENTIAL INTERACTION

(IF APPLICABLE)

956B VALVE (AIR OPER.)	3/4" - #25 3/4" - #25 INSTR. AIR 125V D-C PANEL 32	S N S S	13-M-25
956D VALVE (AIR OPER.)	3/4" - #26 3/4" - #26 INSTR. AIR 125 V D-C PANEL 32	S N S S	13-M-26
956F VALVE (AIR OPER.)	3/4" - #59 INSTR. AIR ' 125V D-C PANEL 32	S S S	

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	
956G VALVE (AIR OPER.)	3/4" - #69 3/4" - #69 INSTR. AIR 125V D-C PANEL 31	S N S S	13-M-27
990B VALVE	3/8" - #711	S	
863 VALVE	1" - #68	S	
8409 VALVE	1" - #68	S	
8407 VALVE	1" - #68 BLIND FLANGE	S S	
8408 VALVE	1" - #68 BLIND FLANGE	S S	
580B VALVE	LINE #474	S	

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

SAFETY RELATED COMPONENT (VALVE)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1890D VALVE	3/4" - #834	S	
1890H VALVE	3/4" - #834	S	
1890 VALVE	3/4" - #837	S	
1890C VALVE	3/4" - #831	S	
1890F VALVE	3/4" - #832	S	
1890E VALVE	3/4" - #833	S	
1890A VALVE	3/4" - #835	S	•
SA - 24 VALVE	2" - #34	S	
IA-39 VALVE	2" - #39	S	
1786 VALVE	1" - #23	S	
(AIR OPER.)	INSTR. AIR	S	
	125V D-C PANEL 31	S	
1610 VALVE	1" - #67	S	
(AIR OPER.)	INSTR. AIR	S	
	POWER SOURCE CANNOT BE FO	UND	
1788 VALVE	3/4" - #30	S	
(AIR OPER.)	INSTR. AIR	S .	
	125V D-C PANEL 31	S	
1702 VALVE	3" - #40	S	
(AIR OPER.)	INSTR. AIR	S	
	125V D-C PANEL 31		

D MIRKOVIC	3/24/83	T. F	RUGGIERO -	3/27/83
PREPARED B	Y/DATE	APPR	OVED BY/DATE	· · · · · · · · · · · · · · · · · · ·

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SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1728 VALVE (AIR OPER.)	2" - #338 INSTR. AIR	S S	
	125V D-C PANEL 32	S	
8406 VALVE	1" - #68	S	
HCV - 943	1" - #68	S	
(AIR OPER.)	INSTR. AIR P.S. NOT FOUND	S	
891A VALVE	1" - #68	S	
(AIR OPER.)	INSTR. AIR	S	
	125V D-C PANEL 31	S	
891B VALVE	1" - #68	S	
(AIR OPER.)	INSTR. AIR	S	
	125V D-C PANEL 31	S	
891C VALVE	1" - #68	S	
(AIR OPER.)	INSTR. AIR	S	•
	125V D-C PANEL 32	S	
891D VALVE	1" - #68	S	
(AIR OPER.)	INSTR. AIR	S	
	125V D-C PANEL 32	S	
863 VALVE ·	1" - #68	S	
(AIR OPER.)	INSTR. AIR 125V D-C PANEL 31	S	

D MIRKOVIC 3/24/83	T. RUGGIERO - 3/27/83
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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	
550 VALVE (AIR OPER.)	3/4" - #32 INSTR. AIR P.S. NOT FOUND	S S	
PCV - 473 (AIR OPER.)	3/4" - #32 INSTR. AIR P.S. NOT FOUND	S S	·
518 CHECK VALVE	3/4" - #32	S	
590A VALVE TEST VENT VALVE	3/4" ~ #32 CAP.	S S	
580A VALVE	LINE #474	S	
549 VALVE (AIR OPER.)	3/8" - #24 INSTR. AIR 125V D-C PANEL 32	S S S	
552 VALVE (AIR OPER.)	3" - #33 INSTR. AIR 125V D-C PANEL 32	S S S	
520 CHECK VALVE	3" - #33	· S	
PCV - 1110 MANUAL VALVE	36" - #49 PENETRATION AND WELD CHANNEL PRESSURIZATION SYSTEM	S S	

D MIRKOVIC 3/24/83	T. RUGGIERO - 3/27/83
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SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	
PCV - 1110	36'' - #50	S	
MANUAL VALVE	PENETRATION AND WELD CHANNEL PRESSURIZATION	S	
PCV - 1191	10" - #58	S	
(SOL. OPER.) SOV-1291	INSTR. AIR P.S. NOT FOUND	S	
PCV - 1110	10" - #58	S	
MANUAL VALVE	PENETRATION AND WELD CHANNEL PRESSURIZATION SYSTEM	S	
PCV - 1110	10" - #58	S	
MANUAL VALVE	PENETRATION AND WELD CHANNEL PRESSURIZATION SYSTEM		
PCV - 1236	1" - #66	S	
(SOL. OPER.)	INSTR. AIR	S	
SOV- 1536	125V D-C PANEL 31	S	•
PCV - 1234	1" - #65	S	
(SOL. OPER.)	INSTR. AIR	S	•
SOV-1534	125V D-C PANEL 31	S	
PCV - 1110 MANUAL VALVE	LINE #36 (1" BRANCH)	S	

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

SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	
PCV - 1111 MANUAL VALVE	1½" - #37	S	
PCV - 1110 MANUAL VALVE	LINE #37 (1" BRANCH)	S	
PCV - 1110 MANUAL VALVE	LINE #37 (1" BRANCH)	S	
PS - 7 VALVE	3" - #830	S	
PS - 10 VALVE	3" - #830 2" - INSTR. AIR LINE	S S	
WC-15 (½" VALVE)	뉞" AIR TUBING (OFF 3" - #830)) S	
戈" MANUAL VALVE	1/4" AIR TUBING (QFF 3" - #830)) S	
½" MANUAL VALVE	½" AIR TUBING (OFF 3" - #830)	S	
PCV - 1215 (SOL OPER.) SOV-1315 PCV - 1214 (SOL. OPER.)	2" - #45 INSTR. AIR 125V D-C PANEL 31 2" - #46 INSTR. AIR	S S S	
SOV-1314	125V D-C PANEL 31	S	•
PCV-1216 (SOL. OPER.) SOV-1316	2" - #47 INSTR. AIR 125V D-C PANEL 31	S S S	

D MIRKOVIC 3/24/83	T. RUGGIERO - 3/27/83
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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)	
PCV - 1217	2" - #48	S	
(SOL. OPER.) SOV-1317	INSTR. AIR 125V D-C PANEL 31	S S	
PCV - 1223	12" - #364	S	
(SOL. OPER.) SOV-1523	INSTR. AIR 125V D-C PANEL 31	S S	
PCV - 1224	½" - #365	S	
(SOL. OPER.) SOV-1524	INSTR. AIR 125V D-C PANEL 31	S S	
PCV - 1225 (SOL. OPER.)	½" - #366 INSTR. AIR	S	
SOV-1525	125V D-C PANEL 31	S S	
PCV - 1226 (SOL. OPER.)	½" - #367 INSTR AIR	S S	
SOV-1526	125V D-C PANEL 31	S	
956A VALVE (AIR OPER.)	3/4" - #25 INSTR. AIR	S S	
	125V D-C PANEL 31	S	
956C VALVE (AIR OPER.)	3/4" - #26 INSTR. AIR	S S	
	125V D-C PANEL 31	S	
956E VALVE (AIR OPER.)	3/4" - <i>號</i> 59	S S	
	125V D-C PANEL 31	S -	
D MIRKOVIC	3/24/83	T. RUGGIERO -	3/27/83

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SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
956H VALVE (AIR OPER.)	3/4" - #69 INSTR. AIR	S S	
990A VALVE	125V D-C PANEL 32 3/8" - #711	s S	

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SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
½" Valve PCA-14	½" Line 703	S	
2½" Non-vibrating Relief Valve (Typ)	2½" Line 703	S	·
4" Valve PCA-13	4" Line 703	S	
½" Valve PCA-15	½" Line 704	S	
2½" Valve Non-Vibrating Relief Valve (Typ)	2½" Line 704	S	
4" Valve PCA-12	4" Line 704	S	
1½" Valve PCA-11	1½" Line 903	S	
1½" Valve PCA-10	l½" Line 902	· S	
1" Valve PCA-9	l" Line 901	S	·
1" Valve PCA-8	1" Line 900	S	
1" Valve PCA-7	1" Line 899	S	
1" Valve PCA-6	1" Line 898	S	
1" Valve PCA-4	1" Line 89.7	S	
1" Valve PCA-5	1" Line 896	S	
1" Valve PCA-3	1" Line 895	S	
1" Valve PCA-2	1" Line 894	S	•
1" Valve PCA-1	1" Line 893	S	
1" Valve PCA-28	1" Line 705	· S	
4" Valve PCA-16	4" Line 888	S	
4" Valve PCA-17	4" Line 887	S .	
4" Valve PCA-18	4" Line 886	S.	
D MIRKOVIC 3/24	4/83	T RUGGIERO 3/	27/83
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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)
4" Valves PCA-19	4" Line 885	S	
3" Valve PCA-20	3" Line 892	S	
3" Valve PCA-21	3" Line 891	S	•
3" Valve PCA-22	3" Line 890	S	
3" Valve PCA-23	3" Line 889	S	
10" Valve PCA-25A	10" Line 700	S	
2½" Vacuum Relief Valve (Typical)	$2\frac{1}{2}$ " Line 700	S	1
½" Valve PCA-26	½" Line 700	S	-
10" Valve PCA-25	10" Line 530	S	
½" Valve PCA-27	½" Line 530	S	
2½" Vacuum Relief Valve (Typical)	$2\frac{1}{2}$ " Line 530	S	

D MIRKOVIC 3/24/83
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SAFETY RELATED COMPONENT (EQUIPMENT)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
Blower BL-33	5" Line 701	S	
	5" Line 703	S	
Blower BL-34	5" Line 704	S	
	5" Line 702	S	
Inlet Muffler Filter	5" Line 701	S	
Inlet Muffler Filter	5" Line 702	S	
5" Discharge Silencer	4" Line 703	S	
5" Discharge Silencer	4" Line 704	S	
BL-31 (Blower)	5" Line 695	S	
	5" Line 530	S	
BL-32 (Blower)	5" Line 700	S	
	5" Line 698	S	
12" Discharge Silencer	12" Line 698	S	
	10" Line 698	S	
12" Discharge Silencer	12" Line 695	S	
	10" Line 695	S	
Penetration A	1½" Line 885	S	
	$1\frac{1}{2}$ " Line 884	N	13-M-27
	$1\frac{1}{2}$ " Line 884	N	13-M-28
Penetration B	$1\frac{1}{2}$ " Line 886	S	•
	$1\frac{1}{2}$ " Line 884	N	13-M-29
	1½" Line 884	N	13-M-30
D MIRKOVIC 3/2	4/83 T	RUGGIERO 3/27	loo.
PREPARED BY/DATE		APPROVED BY/DA	

SAFETY RELATED COMPONENT (EQUIPMENT)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
Penetration C	$1\frac{1}{2}$ " Line 887 $1\frac{1}{2}$ " Line 884 $1\frac{1}{2}$ " Line 884	S N N	13-M-31 13-M-32
Penetration D	$1\frac{1}{2}$ " Line 888 $1\frac{1}{2}$ " Line 884 $1\frac{1}{2}$ " Line 884	S N N	13-M-33 13-M-34
Penetration E	$1\frac{1}{2}$ " Line 889 $1\frac{1}{2}$ " Line 883	S N	13-M-35
Penetration F	$1\frac{1}{2}$ " Line 890 $1\frac{1}{2}$ " Line 883	S N	13-M-36
Penetration G	$1\frac{1}{2}$ " Line 891 $1\frac{1}{2}$ " Line 883	S N	13-M-37
Penetration H	$1\frac{1}{2}$ " Line 892 $1\frac{1}{2}$ " Line 883	S N	13-M-38
Penetration J	$1\frac{1}{2}$ " Line 903 $1\frac{1}{2}$ " Line 904	S S	
Penetration K	1 ¹ 4" Line 902 1 ¹ 4" Line 902 1" Line 905 1" Line 905	S S S	
Penetration W	3/4" Line 901 3/4" Line 906	S S	
Penetration V	3/4" Line 900 3/4" Line 907	S S	
Penetration X	3/4" Line 899 3/4" Line 908	S S	
•			

D MIRKOVIC	3/24/83	T	RUGGIERO	3/27/83
PREPARED	BY/DATE	 	APPROVED	BY/DATE

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (EQUIPMENT)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
Penetration S	3/4" Line 898 3/4" Line 909	S S	
Penetration AA	3/4" Line 897 3/4" Line 910	S S	
Penetration T	3/4" Line 896 3/4" Line 911	S S	
Penetration BB	3/4" Line 895 3/4" Line 912	S S	
Penetration CC	3/4" Line 894 3/4" Line 913	S S	
Penetration DD	3/4" Line 893 3/4" Line 914	S S	

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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

SYSTEM NO.	13		
SYSTEM NAME	CONTAINÆNT ISOLA	TION SYSTEM	
EVALUATION CA	TEGORY	NON-CONNECTED	
		INTERCONNECTED	Х
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INTERACTION EN	3/24/8 S GINEER/DATE	Wgriswold 3-	27.83

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SYSTEM INTERACTION STUDY INTERCONNECTED SYSTEMS INTERACTION EVALUATION SHEET
POTENTIAL INTERACTION NUMBER: 13-M-1
CONNECTED COMPONENT: 4"-#28 (Class III line inside containment)
BOUNDARY SAFETY RELATED COMPONENT (S): 4"-#28
POSTULATED FAILURE (SEE NOTES): 1 METHOD OF DETECTION: None
EVALUATION OF INTERACTION:
Isolation of penetration line is secured by two (2) automatic isolation valves upstream of connected component.
X ACCEPTABLE POTENTIALLY UNACCEPTABLE
D. MIRKOVIC 9-28-82 W. GRISWOLD 9-30-82 INTERACTION ENGINEER/DATE VERIFIED/DATE

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	EVALUATION	SHEET		
POTENTIAL INTERACTION NUMBER: 13-M-2				
CONNECTED COMPONENT: 2"-#338	(Class III	line inside	containment)	
BOUNDARY SAFETY RELATED COMPONENT (S): 2"-#338			,	
POSTULATED FAILURE (SEE NOTES): METHOD OF DETECTION: None	1			
EVALUATION OF INTERACTION:				
Isolation of penetration lirisolation valves.	ne is secure	l by two (2),	Fail-closed,	automatic
		·		
ACCEPTABLE				POTENTIALLY UNACCEPTABLE
D. MIRKOVIC 9-28-82 INTERACTION ENGINEER/DATE		W. GRI	SWOLD 9-30 VERIFIED/DA	1-82 TE

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POTENTIAL INTERACTION NUMBER: 13-M-3		
CONNECTED COMPONENT: 3"-#40 (Class III 1	, ine inside containment)	
BOUNDARY SAFETY RELATED COMPONENT (S): 3"-#40		
POSTULATED FAILURE (SEE NOTES): 1 METHOD OF DETECTION: None		
EVALUATION OF INTERACTION: Isolation of penetration line is secured automatic isolation valves.	by two (2) fail-closed,	
ACCEPTABLE		ENTIALLY CCEPTABLE
	W. GRISWOLD 9-30-82 VERIFIED/DATE	
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		EVALUATION SH	PP1	
POTENTIAL INTERAC NUMBER: 13-M-4	CTION			,
CONNECTED COMPONE	ENT: 3/8"-#30	(Class II lin	e inside containmen	ıt)
BOUNDARY SAFETY F COMPONENT (S): 3				
POSTULATED FAILUMETHOD OF DETECTI		2		
EVALUATION OF INT	ERACTION:			
Isolation of automatic isolati		ne is secured b	y two (2) fail-clos	ed
X	_ACCEPTABLE	-	· .	POTENTIALLY UNACCEPTABLE
D. MIRKOVIC		-	W. GRISWOLD 9-	
INTERACTION ENGIN	LEK / DATE	· ·	VERIFIE	D/ DATE

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						,
POTENTIAL INTERACTION NUMBER: 13-M-5						
CONNECTED COMPONENT:	3/4"-#24	(Seismic C	lass II		contai	nment)
BOUNDARY SAFETY RELAT				٠		
COMPONENT (S): 3/8	·· - #24					
POSTULATED FAILURE (SEE NOTES):	2				
METHOD OF DETECTION:	None					
EVALUATION OF INTERAC	TION:					
Isolation of pen automatic isolation v		e is secure	d by two	(2) fail-c	losed	
:						
XACC	EPTABLE					POTENTIALLY UNACCEPTABLE
•						
	8-82		₩.	GRISWOLD	9-30-	82
INTERACTION ENGINEER /	DATE			VERI	FIED/DA	TE
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NUMBER: 13-M-6 CONNECTED COMPONENT: 2"-#34 (Class III line inside containment) BOUNDARY SAFETY RELATED COMPONENT (S): 2"-#34 POSTULATED FAILURE (SEE NOTES): 1 METHOD OF DETECTION: None EVALUATION OF INTERACTION: Isolation of penetration line is secured by two (2) locked closed manual isolation valves. X ACCEPTABLE D. MIRKOVIC 9-28-82 W. GRISWOLD 9-30-82	INTERACTION ENGINEER / DATE	יים או מייני	ED/DATE
NUMBER: 13-M-6 CONNECTED COMPONENT: 2"-#34 (Class III line inside containment) BOUNDARY SAFETY RELATED COMPONENT (S): 2"-#34 POSTULATED FAILURE (SEE NOTES): 1 METHOD OF DETECTION: None EVALUATION OF INTERACTION: Isolation of penetration line is secured by two (2) locked closed manual isolation valves. X ACCEPTABLE		W. GRISWOLD 9	-30-82
NUMBER: 13-M-6 CONNECTED COMPONENT: 2"-#34 (Class III line inside containment) BOUNDARY SAFETY RELATED COMPONENT (S): 2"-#34 POSTULATED FAILURE (SEE NOTES): 1 METHOD OF DETECTION: None EVALUATION OF INTERACTION: Isolation of penetration line is secured by two (2) locked closed	ACCEPTABLE		POTENTIALLY UNACCEPTABLE
NUMBER: 13-M-6 CONNECTED COMPONENT: 2"-#34 (Class III line inside containment) BOUNDARY SAFETY RELATED COMPONENT (S): 2"-#34 POSTULATED FAILURE (SEE NOTES): 1 METHOD OF DETECTION: None EVALUATION OF INTERACTION: Isolation of penetration line is secured by two (2) locked closed	•		
NUMBER: 13-M-6 CONNECTED COMPONENT: 2"-#34 (Class III line inside containment) BOUNDARY SAFETY RELATED COMPONENT (S): 2"-#34 POSTULATED FAILURE (SEE NOTES): 1 METHOD OF DETECTION: None	Isolation of penetration line issecured manual isolation valves.	by two (2) locked c	losed
NUMBER: 13-M-6 CONNECTED COMPONENT: 2"-#34 (Class III line inside containment) BOUNDARY SAFETY RELATED COMPONENT (S): 2"-#34 POSTULATED FAILURE (SEE NOTES): 1	EVALUATION OF INTERACTION:	•	
NUMBER: 13-M-6 CONNECTED COMPONENT: 2"-#34 (Class III line inside containment) BOUNDARY SAFETY RELATED			
NUMBER: 13-M-6			
	CONNECTED COMPONENT: 2"-#34 (Class III	line inside containm	ent)
	POTENTIAL INTERACTION NUMBER: 13-M-6		

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POTENTIAL INTERACTION	
NUMBER: 13-M-7	
CONNECTED COMPONENT: 3½"-#20 (Class III 1	
CONNECTED COMPONENT: 3½"-#20 (Class III]	ine inside containment)
BOUNDARY SAFETY RELATED	
COMPONENT (S): 3"-#20	
•	
POSTULATED FAILURE (SEE NOTES): I METHOD OF DETECTION: None	
EVALUATION OF INTERACTION:	
•	is decised to esignic along III
The inside steam / condensate closed loop At the time the plant was designed this closed isolation. A locked closed manual isolation va	d loop was considered to provide redundant
of containment.	
X ACCEPTABLE	POTENTIALLY
ACCEL LABLE	UNACCEPTABLE
D MIRKOVIC 9-28-82 INTERACTION ENGINEER / DATE	W. GRISWOLD 9-30-82 VERIFIED/DATE
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POTENTIAL	INTERACTION
NUMBER:	13-M-8

CONNECTED COMPONENT: 2"-#95 (Class III line inside containment)

BOUNDARY SAFETY RELATED COMPONENT (S): 3"-95

POSTULATED FAILURE (SEE NOTES): 1 METHOD OF DETECTION: None

EVALUATION OF INTERACTION:

The inside steam / condensate closed loop is designed to seismic class III. At the time plant was designed this closed loop was considered to provide isolation redundancy. Locked closed manual isolation valve is located on the outside of containment.

					UNACCEPTABLE
D. MIRKOVIC	9-28-82	W.	GRISWOLD	9-30-8	32
INTERACTION ENGI	NEER / DATE		VER	IFIED/DA	ATE

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POTENTIAL INTERACTION NUMBER: 13-M-9	
CONNECTED COMPONENT: 4"-#28 (Se	eismic Class III pipe)
BOUNDARY SAFETY RELATED COMPONENT (S): PCV-1230	
	•
POSTULATED FAILURE (SEE NOTES): 1 METHOD OF DETECTION: None	
EVALUATION OF INTERACTION:	
Normally closed, fail closed aut between piping penetration and the ru	comatic isolation valve provides isolation aptured line.
X ACCEPTABLE	POTENTIALLY UNACCEPTABLE
D. MIRKOVIC 9-28-82 INTERACTION ENGINEER/DATE	W. GRISWOLD 9-30-82 VERIFIED/DATE

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POTENTIAL INTERACTION NUMBER: 13-M-10		
CONNECTED COMPONENT: 2"-#338	(Siesmiß class III pipe)	·
BOUNDARY SAFETY RELATED COMPONENT (S): Valve # 1723	(Air Oper)	
POSTULATED FAILURE (SEE NOTES): METHOD OF DETECTION: None	1	
EVALUATION OF INTERACTION:		
Fail closed automatic isolate penetration pipe and the ruptured	ion valve provides isolation between line.	containment
	•	
XACCEPTABLE		POTENTIALLY UNACCEPTABLE
D. MIRKOVIC 9-28-82	W. GRISWOLD 9-3	0-82
INTERACTION ENGINEER / DATE	W. GRISWOLD 9-3 VERIFIED/D	

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INTERACTION ENGINEER / DATE	VERIFIED/DATE
D. MIRKOVIC 9-28-82	W. GRISWOLD 9-30-82
X ACCEPTABLE	POTENTIALLY UNACCEPTABL
Fail closed automatic isolation valve penetration pipe and the leaking pipe.	e provides isolation between containment
EVALUATION OF INTERACTION:	,
POSTULATED FAILURE (SEE NOTES): 2 METHOD OF DETECTION: None	
BOUNDARY SAFETY RELATED COMPONENT (S): Valve #1789 (Air op	er.)
CONNECTED COMPONENT: 3/4"-#30 (Seismi	c Class II pipe)
POTENTIAL INTERACTION NUMBER: 13-M-11	
EVALUATI	ON SHEET

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INTERACTION ENGINEER / DATE		VERIFIED/DA	TE
D. MIRKOVIC 9-28-82	w.	GRISWOLD 9-30	-82
ACCEPTABLE		_	POTENTIALLY UNACCEPTABLE
	· .		
Same as 13-M-11			
EVALUATION OF INTERACTION:			
POSTULATED FAILURE (SEE NOTES): METHOD OF DETECTION: None	2		
BOUNDARY SAFETY RELATED COMPONENT (S): Valve #548	(Air oper.)		
CONNECTED COMPONENT: 3/8"-#24	(Seismic Class II pi	.pe)	
POTENTIAL INTERACTION NUMBER: 13-M-12			

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INTERACTION ENGINEER / 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

	EVALUATION SHEET
POTENTIAL INTERACTION NUMBER: 13-M-13	
CONNECTED COMPONENT: 3"-#33	(Seismi ^c Class II pipe)
BOUNDARY SAFETY RELATED COMPONENT (S): Valve #519	(Air operated)
POSTULATED FAILURE (SEE NOTES): METHOD OF DETECTION: None	2
EVALUATION OF INTERACTION: Same as 13-M-11	
•	
X ACCEPTABLE	POTENTIALLY UNACCEPTABLE
D. MIRKOVIC 9-28-82	W. GRISWOLD 9-30-82

VERIFIED/DATE

System	No.	13

POTENTIAL INTERACTION NUMBER: 13-M-14

CONNECTED COMPONENT: 2"-#45 (Seismic Class III pipe)

BOUNDARY SAFETY RELATED COMPONENT (S): PCV-1215A

POSTULATED FAILURE (SEE NOTES): 1
METHOD OF DETECTION: FT-1242, PT-1186

EVALUATION OF INTERACTION:

Same as 13-M-10

D. MIRKOVIC 9-28-82
UNACCEPTABLE

W. GRISWOLD 9-30-82
INTERACTION ENGINEER / DATE

VERIFIED / DATE

System	No.	13

INTERACTION ENGINEER / DATE

Sheet	.15	of	39

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: 13-M-15		
CONNECTED COMPONENT: 2"-#46 (Seismic Cla	ss III pipe)	
BOUNDARY SAFETY RELATED COMPONENT (S): PCV-1214A		
POSTULATED FAILURE (SEE NOTES): 1 METHOD OF DETECTION: FT-1241, PT-1185		
EVALUATION OF INTERACTION:	•	
Same as 13-M-10		
•		
XACCEPTABLE		POTENTIALLY UNACCEPTABLE
D MIRKOVIC 9-28-82	W. GRISWOLD	9-30-82

VERIFIED/DATE

System	No.	13

Sheet	16	of	39

		ECTED SYSTEM EVALUATION S		TION	
		•	•		
			,		
POTENTIAL INTERACTION					
NUMBER: 13-M-16					
	•				
CONNECTED COMPONENT:	2"-#47	(Seismic Cla	ass III pi	pe)	
BOUNDARY SAFETY RELATED		-			•
COMPONENT (S): PCV-1					
POSTULATED FAILURE (SEI	E NOTES):	1			
METHOD OF DETECTION:	FT-1243, P	r− 1187			
			•		
EVALUATION OF INTERACTION	ON:				
Same as 13-M-10					
					•
		•			
			•		
					POTENTIALLY
XACCEPT	TABLE			·	UNACCEPTABLE
	•				
D. MIRKOVIC 9-28-82			W. G	RISWOLD ·	9-30-82
INTERACTION ENGINEER / DA	TE.			VERIFIE	D/DATE

System	No.	13

POTENTIAL INTERACTION NUMBER: 13-M-17	
CONNECTED COMPONENT: 2"-#48 (Seismic Cla	ass III pipe)
BOUNDARY SAFETY RELATED	
COMPONENT (S): PCV-1217A	
POSTULATED FAILURE (SEE NOTES): 1 METHOD OF DETECTION: FT-1244, PT-1188	-
EVALUATION OF INTERACTION:	
Same as 13-M-10	
X ACCEPTABLE	POTENTIALLY
ACCEPTABLE	UNACCEPTABLE
D. MIRKOVIC 9-28-82 INTERACTION ENGINEER / DATE	W GRISWOLD 9-30-82 VERTETED/DATE

System	No.	13
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INTERACTION ENGINEER / DATE		VERIF	TIED/DATE
D. MIRKOVIC 9-28-82		W. GRISWOLD	9-30-82
XACCEPTABLE			POTENTIALLY UNACCEPTABLE
Same as 13-M-10			,
0 10 V 10			
EVALUATION OF INTERACTION:			
POSTULATED FAILURE (SEE NOTES): METHOD OF DETECTION: None	1	·	
			·
BOUNDARY SAFETY RELATED COMPONENT (S):PCV-1223A			
CONNECTED COMPONENT: ½"-#364	(Seismic Cla	ss III pipe)	
POTENTIAL INTERACTION NUMBER: 13-M-18			

Sheet	19	of	39

System	No.	13
SAPFEIII	140 •	

INTERACTION ENGINEER / DATE		VERIFI	ED/DATE
D. MIRKOVIC 9-28-82		W. GRISWOLD	9-30-82
XACCEPTABLE			POTENTIALLY UNACCEPTABLE
Same as 13-M-10			
EVALUATION OF INTERACTION:			
•			
POSTULATED FAILURE (SEE NOTES): METHOD OF DETECTION: None	1		
BOUNDARY SAFETY RELATED COMPONENT (S): PCV-1224A	,		
CONNECTED COMPONENT: ½"-#365	(Seismic Class II	I pipe)	
POTENTIAL INTERACTION NUMBER: 13-M-19			
	·		·
	BVIIBOILI TON BIIBBI		

POTENTIAL INTERACTION
NUMBER: 13-M-20
CONNECTED COMPONENT: ½"-#366 (Seismic Class III pipe)
BOUNDARY SAFETY RELATED COMPONENT (S): PCV-1225A
POSTULATED FAILURE (SEE NOTES): 1 METHOD OF DETECTION: None
EVALUATION OF INTERACTION:
Same as 13-M-10
X ACCEPTABLE POTENTIALLY UNACCEPTABLE
D. MIRKOVIC 9-28-82 W. GRISWOLD 9-30-82 INTERACTION ENGINEER/DATE VERIFIED/DATE

	D. MIRKOVIC 9-28-82		W. GRISWOLD	9-30-82
POTENTIAL INTERACTION NUMBER: 13-M-21 CONNECTED COMPONENT: ½"-#367 (Seismic Class III pipe) BOUNDARY SAFETY RELATED COMPONENT (S): PCV-1226A POSTULATED FAILURE (SEE NOTES): 1 METHOD OF DETECTION: None EVALUATION OF INTERACTION:	XACCEPTABLE			POTENTIALLY UNACCEPTABLE
POTENTIAL INTERACTION NUMBER: 13-M-21 CONNECTED COMPONENT: ½"-#367 (Seismic Class III pipe) BOUNDARY SAFETY RELATED COMPONENT (S): PCV-1226A POSTULATED FAILURE (SEE NOTES): 1 METHOD OF DETECTION: None EVALUATION OF INTERACTION:				
POTENTIAL INTERACTION NUMBER: 13-M-21 CONNECTED COMPONENT: ½"-#367 (Seismic Class III pipe) BOUNDARY SAFETY RELATED COMPONENT (S): PCV-1226A POSTULATED FAILURE (SEE NOTES): 1 METHOD OF DETECTION: None				
POTENTIAL INTERACTION NUMBER: 13-M-21 CONNECTED COMPONENT: ½"-#367 (Seismic Class III pipe) BOUNDARY SAFETY RELATED COMPONENT (S): PCV-1226A POSTULATED FAILURE (SEE NOTES): 1				
POTENTIAL INTERACTION NUMBER: 13-M-21 CONNECTED COMPONENT: ½"-#367 (Seismic Class III pipe) BOUNDARY SAFETY RELATED		1		
POTENTIAL INTERACTION NUMBER: 13-M-21 CONNECTED COMPONENT: ½"-#367 (Seismic Class III pipe)	BOUNDARY SAFETY RELATED			
POTENTIAL INTERACTION	CONNECTED COMPONENT: ½"-#367		III pipe)	
	POTENTIAL INTERACTION			

INTERCONNECTED SYSTEMS INTERACTION EVALUATION SHEET
POTENTIAL INTERACTION NUMBER: 13-M-22
CONNECTED COMPONENT: 2"-#34 (Seismic Class III pipe)
BOUNDARY SAFETY RELATED COMPONENT (S): SA-24 (Valve)
POSTULATED FAILURE (SEE NOTES): 1
METHOD OF DETECTION: None
EVALUATION OF INTERACTION:
Locked closed manual isolation valve provides isolation between the containment penetration $% \left(1\right) =\left(1\right) +\left(1\right)$
X ACCEPTABLE POTENTIALLY UNACCEPTABLE
D. MIRKOVIC 9-28-82 W. GRISWOLD 9-30-82 INTERACTION ENGINEER/DATE VERIFIED/DATE
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Sheet	23	of	39

INTERACTION ENGINEER / DATE		VERIFI	ED/DATE
D. MIRKOVIC 9-28-82		W. GRISWOLD	
X ACCEPTABLE			POTENTIALLY UNACCEPTABLE
			DOMPNIA 15
Same as 13-M-22			
EVALUATION OF INTERACTION:			
iminop of philotron.			
POSTULATED FAILURE (SEE NOTES): METHOD OF DETECTION: None	1		
OOLE ONEMI (b): OH 57	(valve)		
BOUNDARY SAFETY RELATED COMPONENT (S): UH-37	(Valve)		
CONNECTED COMPONENT: 3"-#20	(Seismic Class	III pipe)	
POTENTIAL INTERACTION NUMBER: 13-M-23			
,			

System	No.	13

Sheet	24	of	39
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		•		
POTENTIAL INTERACTION NUMBER: 13-M-24				
CONNECTED COMPONENT: 3"-95	(Seismic Class	III pipe)	,	
BOUNDARY SAFETY RELATED COMPONENT (S): U'H-37 (Valve)			
POSTULATED FAILURE (SEE NOTES): METHOD OF DETECTION: None	1			
EVALUATION OF INTERACTION:				
Same as 13-M-22	·		•	
XACCEPTABLE		 		POTENTIALLY UNACCEPTABLE
D. MIRKOVIC 9-28-82 INTERACTION ENGINEER/DATE		W. GRISWOLD VERIF	9-30 IED/D/)-82 ATE
, -		,	,	

Sheet	25	of	39

System	No.	13
SVSLEIII	110	1 2

EVALUA	TION SHEET
POTENTIAL INTERACTION NUMBER: 13-M-25	
CONNECTED COMPONENT: 3/4"-#25 (Seist	mic Class II pipe)
BOUNDARY SAFETY RELATED COMPONENT (S): 956B (Air oper. va	lve)
POSTULATED FAILURE (SEE NOTES): 2 METHOD OF DETECTION: None	
EVALUATION OF INTERACTION: Fail closed automatic isolation value penetration pipe and the leaking pipe.	lve provides isolation between containment
ACCEPTABLE	POTENTIALLY UNACCEPTABLE
D. MIRKOVIC . 9-28-82	W. GRISWOLD 9-30-82
INTERACTION ENGINEER / DATE	VERIFIED/DATE

System	No.	13

Sheet	26	of	39	

EVALUATION SHEET	
POTENTIAL INTERACTION NUMBER: 13-M-26	
CONNECTED COMPONENT: 3/4"-#26 (Seismic Class II pipe)	
BOUNDARY SAFETY RELATED COMPONENT (S): 956D (Air oper. valve)	
POSTULATED FAILURE (SEE NOTES): 2 METHOD OF DETECTION: None	
EVALUATION OF INTERACTION:	
Fail closed automatic isolation valve provides isolation between containment penetration pipe and the leaking pipe.	
X ACCEPTABLE POTENTIAL UNACCEPTA	
D. MIRKOVIC 9-28-82 W. GRISWOLD 9-30-82	
INTERACTION ENGINEER / DATE VERIFIED / DATE	

Sheet	27	of	39

System N	0.]	3
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E	EVALUATION SHE	ET	
POTENTIAL INTERACTION NUMBER: 13-M-27			
CONNECTED COMPONENT: 3/4"-#69	(Seismic Class	s II pipe)	
BOUNDARY SAFETY RELATED COMPONENT (S): 956G (Air oper.	. valve)		
POSTULATED FAILURE (SEE NOTES): 2 METHOD OF DETECTION: None	2		
EVALUATION OF INTERACTION:			
Fail closed automatic isolatic containment pevetration pipe and the	on valve provi he leaking pip	des isolation betwe	en
	·		
XACCEPTABLE			POTENTIALLY UNACCEPTABLE
D. MIRKOVIC 9-28-82			-30-82
INTERACTION ENGINEER / DATE	_	VERIFIED	/DATE

POTENTIAL	INTERACTION
NUMBER:	13-M-28

CONNECTED COMPONENT: 1½" Line 884

BOUNDARY SAFETY RELATED
COMPONENT (S): Penetration A

POSTULATED FAILURE (SEE NOTES): 5
METHOD OF DETECTION: None

EVALUATION OF INTERACTION:

Loss of cooling air at the hot penetration would not lead to a loss of structural strength at the penetration (Ref: IP #3 FSAR Section 5.1.4.2, Rev. 0, dated 7/82).

X	ACCEPTABLE	**	POTENTIALLY UNACCEPTABLE
D MIRKOVIC	3/24/83	W GRISWOLD	3/27/83
INTERACTION	ENGINEER / DATE	VERT	FIED/DATE

INTERACTION ENGINEER / DATE	VERI	FIED/DATE
D MIRKOVIC 3/24/83	W GRISWOLD	3/27/83
ACCEPTABLE	-	POTENTIALLY UNACCEPTABLE
Same as 13-M-27	•	
EVALUATION OF INTERACTION:		,
POSTULATED FAILURE (SEE NOTES): 5 METHOD OF DETECTION: None		. •
BOUNDARY SAFETY RELATED COMPONENT (S): Penetration A		
CONNECTED COMPONENT: 1½" Line 884		
POTENTIAL INTERACTION NUMBER: 13-M-29		
		**

POTENTIAL INTERACTION		
NUMBER: 13-M-30		
CONNECTED COMPONENT: 1½" Line 884		
BOUNDARY SAFETY RELATED COMPONENT (S): Penetration B		
POSTULATED FAILURE (SEE NOTES): 5 METHOD OF DETECTION: None		
EVALUATION OF INTERACTION:		
Same as 13-M-27		
XACCEPTABLE	<u>.</u>	POTENTIALLY
D MIRKOVIC 3/24/83	W A GRISWOLD	3/27/83
INTERACTION ENGINEER / DATE	VERI	FIED/DATE

	31	_	39
Sheet		of	

POTENTIAL INTERACTION NUMBER: 13-M-31		
CONNECTED COMPONENT: 1½" Line 884		
BOUNDARY SAFETY RELATED COMPONENT (S): Penetration B		·
POSTULATED FAILURE (SEE NOTES): 5 METHOD OF DETECTION: None		·
EVALUATION OF INTERACTION:		
Same as 13-M-27		
XACCEPTABLE		POTENTIALLY UNACCEPTABLE
D MIRKOVIC 3/24/83 INTERACTION ENGINEER/DATE	W A GRISWOLD VERI	3/27/83 FIED/DATE

POTENTIAL INTERACTION NUMBER: 13-M-32

CONNECTED COMPONENT: 1½" Line 884

BOUNDARY SAFETY RELATED COMPONENT (S): Penetration C

POSTULATED FAILURE (SEE NOTES): 5
METHOD OF DETECTION: None

EVALUATION OF INTERACTION:

Same as 13-M-27

X ACCEPTABLE POTENTIALLY UNACCEPTABLE

D MIRKOVIC 3/24/83
INTERACTION ENGINEER/DATE

W A GRISWOLD 3/27/83 VERIFIED/DATE

EVILEDII 10N	OIIII I	
POTENTIAL INTERACTION NUMBER: 13-M-33		
·	,	
CONNECTED COMPONENT: 1½" Line 884	,	
BOUNDARY SAFETY RELATED COMPONENT (S): Penetration C		
POSTULATED FAILURE (SEE NOTES): 5 METHOD OF DETECTION: None		
EVALUATION OF INTERACTION: Same as 13-M-27		•
•		
XACCEPTABLE	·	POTENTIALLY UNACCEPTABLE
D MIRKOVIC 3/24/83 INTERACTION ENGINEER/DATE	W A GRISWOLD VERIF	3/27/83 TED/DATE

Ebasco Services Incorporated

System	No. 13	

INTERACTION ENGINEER / DATE

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

POTENTIAL INTERACTION NUMBER: 13-M-34		
CONNECTED COMPONENT: 1½" Line 884		
BOUNDARY SAFETY RELATED COMPONENT (S): Penetration D		
POSTULATED FAILURE (SEE NOTES): 5 METHOD OF DETECTION: None		
EVALUATION OF INTERACTION:		
Same as 13-M-27	•	
XACCEPTABLE	· · · · · · · · · · · · · · · · · · ·	POTENTIALLY UNACCEPTABLE
D MIDEOUTC 3/2//82	W A CRISHOLD	2/27/22

Ebasco Services Incorporated

VERIFIED/DATE

INTERACTION ENGINEER /DATE	VERTE	7TED/DATE
D MIRKOVIC 3/24/83	W A GRISWOLD	3/27/83
XACCEPTABLE		POTENTIALLY UNACCEPTABLE
Same as 13-M-27		
EVALUATION OF INTERACTION:		
POSTULATED FAILURE (SEE NOTES): 5 METHOD OF DETECTION: None		
BOUNDARY SAFETY RELATED COMPONENT (S): Penetration D		
CONNECTED COMPONENT: 1½" Line 884		
POTENTIAL INTERACTION NUMBER: 13-M-35	·	
•		

POTENTIAL INTERACTION NUMBER: 13-M-36
CONNECTED COMPONENT: 1½" Line 883
BOUNDARY SAFETY RELATED COMPONENT (S): Penetration E
POSTULATED FAILURE (SEE NOTES): 5 METHOD OF DETECTION: None
EVALUATION OF INTERACTION:
Same as 13-M-27

D MIRKOVIC 3/24/83
INTERACTION ENGINEER/DATE

ACCEPTABLE

X

W A GRISWOLD 3/27/83

VERIFIED/DATE

POTENTIALLY

UNACCEPTABLE

System No. 1	. 3
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EVALUATION S	HEET	
POTENTIAL INTERACTION NUMBER: 13-M-37		
13-r-3/		
COUNTE COMP OF COMP OF THE COM		
CONNECTED COMPONENT: 1½" Line 883		
BOUNDARY SAFETY RELATED COMPONENT (S): Report to the second of the sec		
Penetration F		
		•
POSTULATED FAILURE (SEE NOTES): 5		
METHOD OF DETECTION: None		
TIVIT IVATE ON OR TAMBEL OF TO		
EVALUATION OF INTERACTION:		
Same as 13-M-27		
X ACCEPTABLE		POTENTIALLY - UNACCEPTABLE
		UNACCEFIABLE
D MIRKOVIC 3/24/83	W A GRISWOLD 3/2	7/83
INTERACTION ENGINEER / DATE	VERIFIED/	DATE
,		

D_MIRKOVIC 3/24/83 INTERACTION ENGINEER/DATE	VERIFIED/DATE
D_MIRKOVIC3/24/83	W A GRISWOLD 3/27/83
X ACCEPTABLE	POTENTIALLY UNACCEPTABLE
Same as 13-M-27	
EVALUATION OF INTERACTION:	
POSTULATED FAILURE (SEE NOTES): 5 METHOD OF DETECTION: None	
2	
BOUNDARY SAFETY RELATED COMPONENT (S): Penetration G	
CONNECTED COMPONENT: 1½" Line 883	
POTENTIAL INTERACTION NUMBER: 13-M-38	,
	·

POTENTIAL INTERACTION NUMBER: 13-M-39		
CONNECTED COMPONENT: 1½" Line 883		
BOUNDARY SAFETY RELATED COMPONENT (S): Penetration H		
POSTULATED FAILURE (SEE NOTES): 5 METHOD OF DETECTION: None		
EVALUATION OF INTERACTION:		•
Source as 13-M-27		
XACCEPTABLE		POTENTIALLY UNACCEPTABLE
D_MIRKOVIC 3/24/83	W A GRISWOLD	3/27/83
INTERACTION ENGINEER / DATE	VERIF	ED/DATE

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

NON-CONNECTED INTERACTIONS EVALUATION

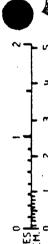
- 1. No Interaction Source is Class II and is therefore supported adequately. (See response to IP-3 FSAR question 5.24).
- 2. Acceptable Source pipe/conduit is equal size or smaller in diameter and/or the same thickness or thinner wall than the target pipe/conduit/tubing. Paragraph 6.2.2.1a Volume I.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

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

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

SYSTEM NO	13
SYSTEM NAME	CONTAINMENT ISOLATION SYSTEM
MATRIX CATEGORY	NON-CONNECTED X
	INTERCONNECTED
•	

INTERACTION MATRIX



								S	SOURCES						
				1	2	3									
	L-1	LINES	NO INTERACTION	1"-#67	3"-#830	3"-#830a		·							
	3	3 <u>"</u> AS-20	Х												
l	4	1 <u>"</u> WD-23	Х												
	5	3/8 " RC-24	Х												
	6	3/4"-SL-25	Х												
	7	3/4"-SL-26	Х												
	8	4"-CA-28		м340											
	9	3/4"-WD-30	х												
A L	10	3/8"-WD-30	Х												
TARGETS	11	3/4"-RC-32	Х				***********								
-	12	3"-RC-33	х						7						
	13	2"-SA-34		(M420	1420									
. ~	14	2"-#35	х												
-	15	1½"-#36	х												
0	16	1½"-37	х												
- 0	17	2"-IA-39			M420	1420									
		3"-WD-40	Х												
	FIRE	DING: PRIMARY A ZONE: S ATION: PIPING	59A			NG							,		
	WIT	HIN FIRE ZON	<u>E</u>										OLATI		
DIV.	_MEC		RPORATE RUGGIE)	POW	SYS	DIÀN TEMS	ORIT PO S INT ACTI	INT FERA	No. 3 CTIO	S N ST		I	5 209 5–13 5H 3	

		20	2"-BD-46	Х						
		21	2"-BD-47	Х						
		22	2"-BD-48	Х						
		23	36" DUCT-#49	Х						
		24	36" DUCT-#50	Х						
		25	10" DUCT-#58	Х		-				
-	<u>T</u> 3	26	3/4"-SL-59	Х						
~7~	TARGETS	27	1''-#65	Х						
- 3	T A	28	1"-#66	Х						
, ,		29	1"-SI-68	(M412 M341	и412 м341	M419	M419	M419	M419
		30	36"-SL-69	Х						
		31	3''-#95	Х						
INCHES TANKAN CM. TANKANAN O		32	2"-WD-338	Х						
NCHES (33	½''-SL-364	Х						
-		34	½"-SL-365	Х						
		BUIL	DING: PRIMARY AUX	KILIA	RY BI	JILDI	NG			

SOURCES

		30011023												
				1	2	3	4	5						
LINES L-13			NO INTERACTION	2"-#34	2"-#35	3/4"-#866	3/4"-#867	3/4"-#868	798#-19	3"-#33	3/4"-#32			
IARGE I S	19	2"-BD-45	X											
	20	2"-BD-46	Х											
	21	2"-BD-47	Х											
	22	2"-BD-48	Х											
	23	36" DUCT-#49	Х											
	24	36" DUCT-#50	Х											
	25	10" DUCT-#58	Х											
	26	3/4"-SL-59	Х											
	27	1''-#65	Х											
	28	1"-#66	Х											
	29	1"-SI-68	(M412 M341	и412 м342	M419	M419	M419	M419	M412	M412			
	30	36"-SL-69	Х			:					·			
	31	3''-#95	Х									i		
	32	2"-WD-338	Х								:			
	33	½''-SL-364	Х											
į	34	날"-SL-365	Х											

APPROVED

T P RUGGIERO

FIRE ZONE: 59A

EBASCO SERVICES INCORPORATED

DIV. MECH DR. DM

DATE ____

SCALE NONE

LOCATION: PIPING PENETRATION WITHIN FIRE ZONE

CONTAINMENT ISOLATION

POWER AUTHORITY STATE OF NEW YORK 5209.003 INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY INTERACTION MATRIX

L-13

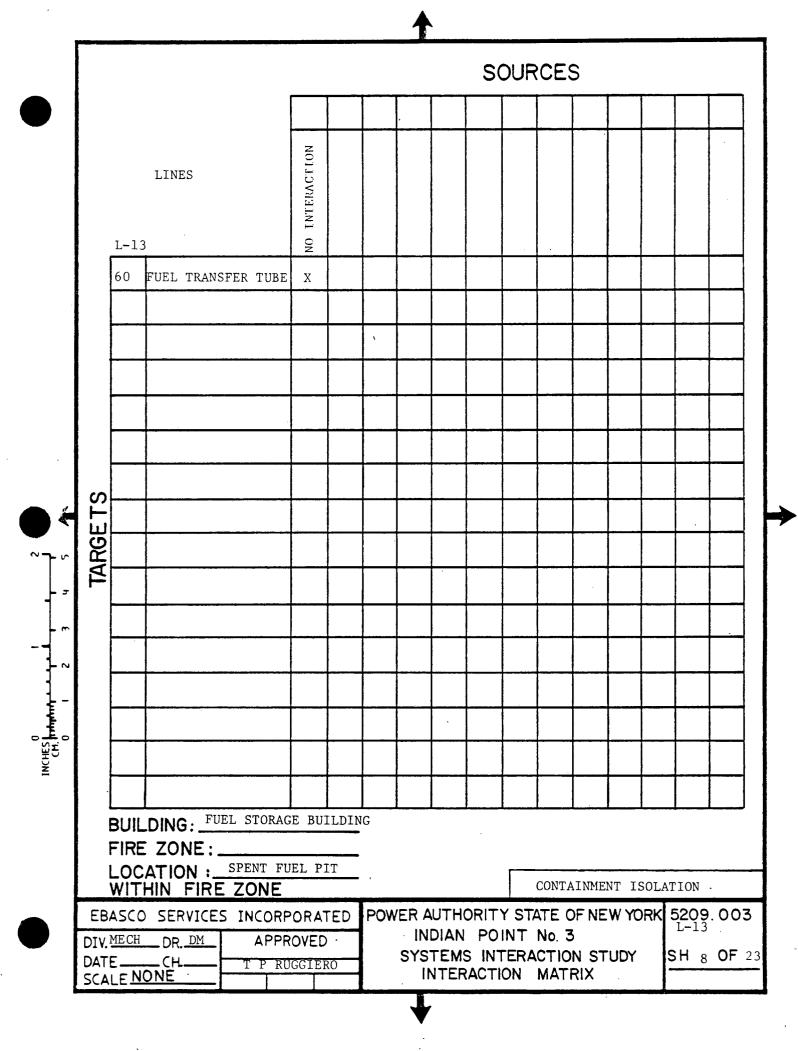
SH 4 OF 23

SOURCES INTERACTION LINES L-13 ½"-SL-366 35 Χ ½"-SL-367 36 X 3/4"-SI-368 37. Х 38 3/4"-SI-369 X 39 3/4"-SI-370 Х 1"-RC-474 40 X 3/8"-SL-711 41 X 42 3"-#830 X 3/4"-SL-831 43 X 44 3/4"-SL-832 X 3/8"-SL-832 45 Χ 46 3/4"-SL-833 X 47 3/4"-SL-834 Χ 48 3/4"-SL-835 Х 49 3/4"-SL-836 X 50 3/4"-SL-837 BUILDING: PRIMARY AUXILIARY BUILDING 59A FIRE ZONE: _ LOCATION :_ WITHIN FIRE ZONE CONTAINMENT ISOLATION EBASCO SERVICES INCORPORATED POWER AUTHORITY STATE OF NEW YORK 5209.003 L-13 INDIAN POINT No. 3 APPROVED DIV. MECH DR DM **SH** 5 **OF**23 SYSTEMS INTERACTION STUDY DATE _____CH_ T P RUGGIERO SCALE NONE INTERACTION MATRIX

1



SOURCES INTERACTION LINES L-13 36" DUCT-#49 56 Х 36" DUCT-#50 57 Х 10" DUCT-#58 58 Χ PERSONNEL AIRLOCK Χ BUILDING: FAN HOUSE 88A FIRE ZONE: _ LOCATION : CONTAINMENT ISOLATION WITHIN FIRE ZONE EBASCO SERVICES INCORPORATED POWER AUTHORITY STATE OF NEW YORK 5209. 003 L-13 INDIAN POINT No. 3 DIV. MECH DR. DM APPROVED SH 7 OF²³ DATE _____CH_ SCALE NONE SYSTEMS INTERACTION STUDY T P RUGGIERO INTERACTION MATRIX



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SOURCES

					·									
L-1	LINES	NO INTERACTION					,			,			-	·
61	3"-AS-20	Х												
62	1"-WD-23	Х												
63	3/8"-RC-24	Х												
64	3/4"-SL-25	Х												
65	3/4"-SL-26	X												
66	4"-CA-28	Х												
67	3/8"-WD-30	Х					·							
68	3/4"-RC-32	Х												
69	3"-RC-33	Х												
70	2"-SA-34	х												
71	2''-#35	Х												
72 、	1½''-#36	Х											_	
73	1''-#36	х												
74	1½" - #37	Х												
75	1''-#37	Х												
76	2"-IA-39	X .												
	61 62 63 64 65 66 67 68 69 70 71 72 73 74 75	L-13 61 3"-AS-20 62 1"-WD-23 63 3/8"-RC-24 64 3/4"-SL-25 65 3/4"-SL-26 66 4"-CA-28 67 3/8"-WD-30 68 3/4"-RC-32 69 3"-RC-33 70 2"-SA-34 71 2"-#35 72 1½"-#36 73 1"-#36 74 1½"-#37 75 1"-#37	L-13 € 61 3"-AS-20 X 62 1"-WD-23 X 63 3/8"-RC-24 X 64 3/4"-SL-25 X 65 3/4"-SL-26 X 66 4"-CA-28 X 67 3/8"-WD-30 X 68 3/4"-RC-32 X 69 3"-RC-33 X 70 2"-SA-34 X 71 2"-#35 X 72 1½"-#36 X 73 1"-#36 X 74 1½"-#37 X 75 1"-#37 X 76 2"-IA-39 X	L-13 ⊋ 1 61 3"-AS-20 X 62 1"-WD-23 X 63 3/8"-RC-24 X 64 3/4"-SL-25 X 65 3/4"-SL-26 X 66 4"-CA-28 X 67 3/8"-WD-30 X 68 3/4"-RC-32 X 69 3"-RC-33 X 70 2"-SA-34 X 71 2"-#35 X 72 1½"-#36 X 73 1"-#36 X 74 1½"-#37 X 75 1"-#37 X 76 2"-IA-39 X	L-13 ⊋ 1 61 3"-AS-20 X 62 1"-WD-23 X 63 3/8"-RC-24 X 64 3/4"-SL-25 X 65 3/4"-SL-26 X 66 4"-CA-28 X 67 3/8"-WD-30 X 68 3/4"-RC-32 X 69 3"-RC-33 X 70 2"-SA-34 X 71 2"-#35 X 72 1½"-#36 X 73 1"-#36 X 74 1½"-#37 X 75 1"-#37 X 76 2"-1A-39 X	L-13 ∑ .	L-13 ⊋ .	L-13 ∑ .						

BUILDING: REACTOR CONTAINMENT BUILDING

72A FIRE ZONE:_

LOCATION : II WITHIN FIRE ZONE II

CONTAINMENT ISOLATION

EBASCO SERVICES	S INCORPORATED
DIV. MECH DR. DM	APPROVED
DATE CH SCALE NONE	T P RUGGIERO
SCALE NONE	

POWER AUTHORITY STATE OF NEW YORK 5209.003 INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY INTERACTION MATRIX

L-13 SH 9 **OF**23



1	A
- 1	r
	_

SOURCES

								_		
L-1	LINES	NO INTERACTION						-		
77	3"-WD-40	Х								
78	2"-BD-45	Х								
79	2"-BD-46	X								
80	2"-BD-47	Х								
81	2''-BD-48	Х								
82	3/4"-SL-59	Х								
83	1''-#65	Х								
84	1''-#66	Х				-				
84	1"-SL-68	X								
86	3/8"-SL-69	Х					,			
87	2-WD-338	Х								
89	32''-SL-364	Х								
90	½"-SL-365 /	Х								
91	½"-SL-366	Х								
92	½"-SL-367	Х								
93	3/4"-SI-368	Х		-						

72A FIRE ZONE: _

II LOCATION :_____ WITHIN FIRE ZONE

CONTAINMENT ISOLATION

EBASCO	SERVICES	INC	ORPOR	ATED	POWER AUTH
DIV. MECH	DR. DM	A	PPROVE	ΞD	INDIAN
DATE	<u>-CH</u>	T	RUGG	IERO	SYSTEM
SCALE NO	NE				INTE

HORITY STATE OF NEW YORK 5209.003 N POINT No. 3 MS INTERACTION STUDY INTERACTION MATRIX

L-13 SH 30 OF23



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-		•				S	DUR	CES	3		
	L-13	LINES	NO INTERACTION								
	94	3/4 - SI-369	Х								
	95	3/4-SI-370	X								
	96	1-RC-474	Х								
	97	3/8-SL-711	Х								
	98	3''-#830	Х								
	99	3/4-SL-831	Х						٠		
(0	100	3/4-SL-832	Х								
TARGE TS	101	3/8-SL-832	Х								
IRG	102	3/4-SL-833	Х								
17	103	3/4-SL-834	Х								
	104	3/4-SL-835	Х						_		
	105	3/4-SL-836	Х								
	106	3/4-SL-837	х -								
	1									-	

BUILDING: REACTOR CONTAINMENT BUILDING

72A FIRE ZONE:_

II. LOCATION :_

WITHIN FIRE ZONE

CONTAINMENT ISOLATION

l	EBASCO SERVICE	S INCORPORATED	POWER AUTHORITY STATE OF NEW YORK	
1	DIV. MECH DR. DM	APPROVED	11151AIV 1 01IV 1 140. 5	L-13 SH 11 0F 23
	DATE CH SCALE NONE	T P RUGGIFRO	INTERACTION MATRIX	<u> </u>

								S	DUR	CE	S				
	L-1:	LINES	NO TNTERACTION												
	107	6''-#864 .	Х												
	108	6"-#865	Х												
	109	3/4''-#866	Х												
	110	3/4"-#867	Х												
	111	3/4"-#868	Х												
S											·				
TARGETS															
ARC															
				•						<u> </u>					
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	31111	DING. DEACTOR CO	NITE A TIME	AENITO	DIITT	DING									
		DING: REACTOR CO			PULL	DING									
	_OC WITI	ATION:II								CON	TAINN	1ENT	ISOL	ATION	J
EΒ	4500	SERVICES INCORP	,	ED	POW					ATE C	FNE		RK 5	5209	.003
DAT	<u> </u>	_CH T B BU	OVED			SYS	TEMS		TERA	CTIO	N ST	UDY		L-13 6H ₁₂	OF 23
SCA	DATECHT PRUGGIERO SYSTEMS INTERACTION STUDY SH 12 OF 23 INTERACTION MATRIX														

SOURCES NO INTERACTION LINES STEAM L-13 112 36" DUCT-#49 M460 113 36" DUCT-#50 Х 114 10" DUCT-#58 X BUILDING: REACTOR CONTAINMENT BUILDING FIRE ZONE: _ 84A LOCATION :_ WITHIN FIRE ZONE CONTAINMENT ISOLATION POWER AUTHORITY STATE OF NEW YORK 5209.003 EBASCO SERVICES INCORPORATED L-13 INDIAN POINT No. 3 DIV. MECH DR. DM **APPROVED** SYSTEMS INTERACTION STUDY **SH** 13**OF**23 DATE _____ CH. T P RUGGIERO SCALE NONE INTERACTION MATRIX

SOURCES NO INTERACTION LINES L-13 FUEL TRANSFER 116 TUBE X TARGETS BUILDING: REACTOR CONTAINMENT BUILDING FIRE ZONE:_ LOCATION : _ FUEL TRANSFER CANAL WITHIN FIRE ZONE CONTAINMENT ISOLATION POWER AUTHORITY STATE OF NEW YORK 5209.003 EBASCO SERVICES INCORPORATED INDIAN POINT No. 3 DIV. MECH DR. DM **APPROVED** DATE _____CH__ SCALE NONE SYSTEMS INTERACTION STUDY SH 15 OF 23 T P RUGGIERO INTERACTION MATRIX

SOURCES INTERACTION LINES 2 L-13 3" **-** 703 X 117 118 4" - 703 X 119 1½" - 903 Х X 1½" - 902 120 X 1½" - 902 121 122 1½" - 902 X 123 1" - 901 Х TARGETS 124 3/4" - 901 X 125 1" - 900 126 3/4" - 900 Х 127 1" - 899 X 128 3/4" - 899 X 129 1" - 898 X 130 3/4" - 898 X 131 1" - 897 Х 132 3/4" - 897 Х BUILDING: PRIMARY AUXILIARY BUILDING FIRE ZONE:____ 59A LOCATION: CONTAINMENT ISOLATION WITHIN FIRE ZONE POWER AUTHORITY STATE OF NEW YORK 5209.003 EBASCO SERVICES INCORPORATED INDIAN POINT No. 3 L-13 DIV. MECH DR. DM APPROVED SH ¹⁶ OF²³ SYSTEMS INTERACTION STUDY DATE _____CH. T P RUGGIERO SCALE NONE INTERACTION MATRIX

SOURCES INTERACTION LINES L-13 133 1" - 896 X 134 3/4" - 896 Х 135 1" - 895 Х 136 3/4" - 895 X X 137 1" - 894 138 3/4" - 894 Х 139 1" - 893 Х 140 3/4" - 893 X 141 1½" - 904 X 142 1" - 904 X Х 143 1½" - 904 144 1" - 905 Х X 145 1" - 905 146 1" - 906 X 147 3/4" - 906 X Х 148 1" - 907 BUILDING: PRIMARY AUXILIARY BUILDING FIRE ZONE: 59A LOCATION :_ WITHIN FIRE ZONE CONTAINMENT ISOLATION POWER AUTHORITY STATE OF NEW YORK 5209.003 EBASCO SERVICES INCORPORATED INDIAN POINT No. 3 DIV. MECH DR. DM **APPROVED** SYSTEMS INTERACTION STUDY SH 17 OF 23 DATE _____CH. T P RUGGIERO SCALE NONE INTERACTION MATRIX

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	LINE		NO LNTERACTION										
	149	3/4" - 907	X										
	150	1" - 908	X										
	151	3/4" - 908	Х		-								
	152	1" - 909	X.										
	153	3/4" - 909	Х										
	154	1" - 910	х										
. ^	155	3/4" - 910	Х										
H H H	155 156 157	1" - 911	Х										
PRG	157	3/4" - 911	Х	i									
12	158	1" - 912	Х										
	159	3/4" - 912	x										
	160	1" - 913	х										
	161	3/4" - 913	х										
	162	1" - 914	х										
	163	3/4" - 914	х										
	164	3'' - 705	х										

BUILDING: PRIMARY AUXILIARY BUILDING

FIRE ZONE:_

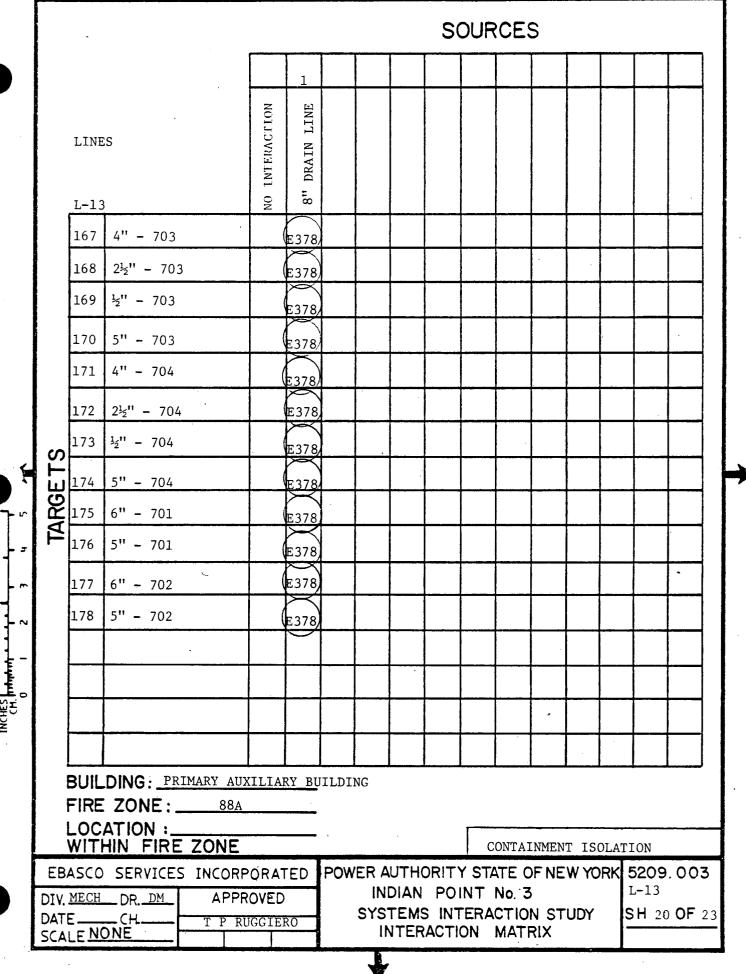
LOCATION : WITHIN FIRE ZONE

CONTAINMENT ISOLATION

EBASCO SERVICES	S INCORPORATED
DIV. MECH DR. DM	APPROVED
DATECH SCALE NONE	T P RUGGIERO
SCALE NONE	

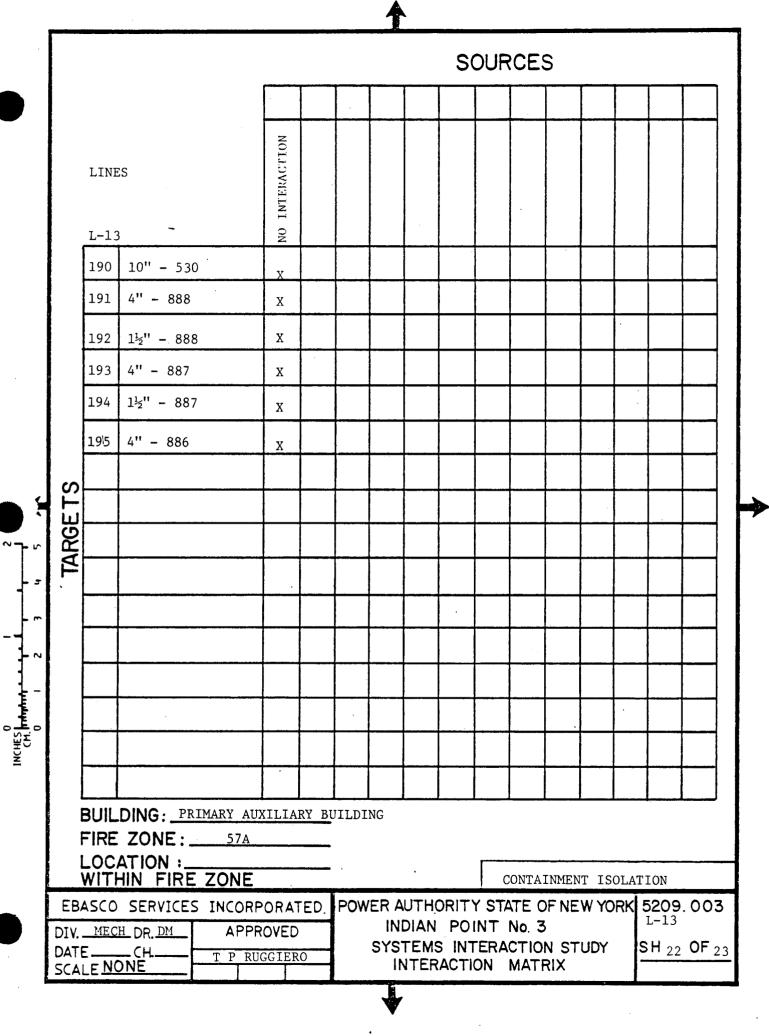
POWER AUTHORITY STATE OF NEW YORK 5209.003 INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY INTERACTION MATRIX

L-13 SH 18 OF 23



SOURCES NO INTERACTION LINES 179 10" - 530 Х 180 5" - 530 181 10" - 700 X X 5**" -** 700 182 12" - 698 X 183 10" - 698 184 X X 5" **-** 698 185 5" - 695 186 6" - 695 187 X 188 10" - 695 X 12" - 695 189 X BUILDING: PRIMARY AUXILIARY BUILDING FIRE ZONE:____ 52A LOCATION :_ WITHIN FIRE ZONE CONTAINMENT ISOLATION POWER AUTHORITY STATE OF NEW YORK 5209.003 EBASCO SERVICES INCORPORATED L-13 INDIAN POINT No. 3 DIV. MECH DR. DM **APPROVED** DATE ____CH. SYSTEMS INTERACTION STUDY SH21 OF23 T P RUGGIERO SCALE NONE INTERACTION MATRIX

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SOURCES INTERACTION LINES Ω . L-13 1½" - 886 196 X 197 4" - 885 Х 198 1½" - 885 X 199 3" - 889 X 200 1½" - 889 Х 201 3" - 890 Х 202 1½" - 890 X 203 3" - 891 204 | 1½" - 891 X 205 3" - 892 X 206 1½" - 892 BUILDING: PRIMARY AUXILIARY BUILDING FIRE ZONE: _____57A LOCATION :_ WITHIN FIRE ZONE CONTAINMENT ISOLATION POWER AUTHORITY STATE OF NEW YORK 5209.003 EBASCO SERVICES INCORPORATED L-13 INDIAN POINT No. 3 DIV. MECH DR. DM APPROVED SYSTEMS INTERACTION STUDY SH23 OF 23 DATE _____CH. T P RUGGIERO SCALE NONE INTERACTION MATRIX

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		1	2			,						
VALVES V-13	NO INTERACTION	1"-#115	LIGHT FIXTURE									
1"-S1-68												
1 S1-863 (AIR OPE	R)	M406	M406									
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S		-								,		
TARGETS												
AR .												
•												
		-				<u> </u>				· -		
BUILDING: _PI FIRE ZONE: _ LOCATION: _ WITHIN FIRE	17A			3	<u></u>		CONTA	INMEN	VT IS	OLAT	ION	
EBASCO SERVICE:	S INCORPORA		POWE	R AUTH INDIAN							5209 V-13	. 0
	APPROVED	. 1	4									

									S	DUR	CE	S					
		V-1	valves	NO INTERACTION													
			3"-AS-20														
		2	UH-37	Х													
						_											
			1"-WD-23														
		3	WD-1786	X													
		4	WD-1787	Х							,						
	S																
	TARGETS		3/8"-RC-24												<u> </u>		
2 + 2	J.R.G	5	RC-548	Х												; ; ;	
	1	6	RC-549	Х													
- ~																	
7 7 7			3/4"-SL-25														
-		7	SL-956A	Х													
S		8	SL-956B	Х						-							
INCHES Industral + CM Industral + CM																	
			• .								,						
	F	FIRE	DING: PRIMARY AUX ZONE: 59 ATION:		Y BUI	LDIN	G										
		MIT	HIN FIRE ZONE					1 199-1 1 4				INME					
			SERVICES INCOR	PORAT		POW			POI				w yo	KK 5	5209 V-13	. 00	5
	DATE	·	511	RUGGIE					ACTI				UDY	S -	SH ₂	OF:	30

LOCATION :____

WITHIN FIRE ZONE

CONTAINMENT ISOLATION

EBASCO SERVICES INCORPORATED POWER AUTHORITY STATE OF NEW YORK 5209.003

DIV. MECH DR.DM APPROVED INDIAN POINT No. 3

SYSTEMS INTERACTION STUDY SH 3 OF 30

INTERACTION MATRIX

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									S	DUR	CES	3					
					1	2											
		ν-	VALVES 13	NO INTERACTION	3"-#830	3"-#830a								·			
			3"-RC-33														
		17	RC-519	Х													
		18	RC-552	Х													
			2"-SA-34														
		19	SA-24		$\succ \prec$	M420											
	S	20	SA-24		M420	M420)											
	TARGETS			_													
~-~	TAR	,	1½"-#36 PCV-1111														
<u></u>		21	(MANUAL VLV.)	Х													
			1½"-#37														
		22	PCV-1111 (MANUAL VLV.)	х													
INCHES TOWN TO CH. TOWN TO U						-			-								
INCHES CP.																	
			DING: PRIMARY ZONE:		ARY B	UILD	ING										
			ATION : HIN FIRE ZON			1											-
			SERVICES INCO		TED	POW	ER A	UTH	ORIT	Y STA					LATIO 5209	ON . OO 3	H 3
	DIV.	MEC	L DR. DM AP	PROVED)		111	DIAN	PO S IN	IIN I	140, 3	•				OF :	
	SCA	LE N	ONE TP	RUGGIE	RO				RACTI				UD1			~ ·	_

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				1	2			,				
	V-13	VALVES	NO INTERACTION	3"-830	3"-830a							
		2"-1A-39										
	23	IA-39		M420	1420)							
	24	PCV-1228		M420	M420							
		3"-WD-40										
	25	WD-1702	Х									
	26	WD-1705	х									
IANGE IS												
2		2"-BD-45										
	27	PCV-1215	x									
ſ	28	PCV-1215A	Х									
		<u> </u>										
		2''-BD-46										
	29	PCV-1214 ·	Х									
	30.	PCV-1214A	х									
1												

FIRE ZONE: 59A

LOCATION :_______WITHIN FIRE ZONE

CONTAINMENT ISOLATION

EBASCO SERVI	CES INCORPORATED	POWER AUTHORITY STATE OF NEW YORK	5209.003
DIV. MECH DR. DM	APPROVED	INDIAN POINT No. 3	V-13
DATE CH	T P RUGGIERO	SYSTEMS INTERACTION STUDY INTERACTION MATRIX	SH 5 OF 30



							S	DUR	CE	S				·
	V-1	VALVES 3	NO INTERACTION.											
		2-BD-47												
	31	PCV-1216	Х											
	32	PCV-1216A	Х							:				
		2"-BD-48												
	33	PCV-1217	Х											
	34	PCV-1218	Х											
G														
TARGETS		3/4"-SL-59												
\RG	35	SL-956E	Х											
12	36	SL-956F	Х											
		·												
							-							
		DING: PRIMARY AU		UILDI	ING									
		ZONE:59		•							<u> </u>			
		ATION : HIN FIRE ZONE		1									ATION	
		SERVICES INCORF	PORATED	POW			ORIT' POI						5209 V-13	. 003
		CH T P RU		}	SYS	TEMS	ACT	ERA	CTIO	N ST		9	H 6	OF 30

DATE _____ CH_ SCALE NONE

· INTERACTION MATRIX

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		,					S	DUR	CES	3		
				·								
	V-:	VALVES	NO INTERACTION								,	
		1" - #65										
	37	PCV - 1234	X									
	38	PCV - 1235	Х									
	126	PCV - 1238	Х									
	127	PCV - 1239	Х									
(A)		1" - #66										
E	39 40 128	PCV - 1236	Х		÷							
YKG S	40	PCV - 1237	X,									
7	128	PCV - 1240	Х			_						
	129	PCV - 1241	Х									
	,											
		1" - WD 67										
	41	WD - 1610	Х									
	42	WD - 1616	Х									
	43	WD - 1663	Х			•						

BUILDING: PRIMARY AUXILIARY BUILDING

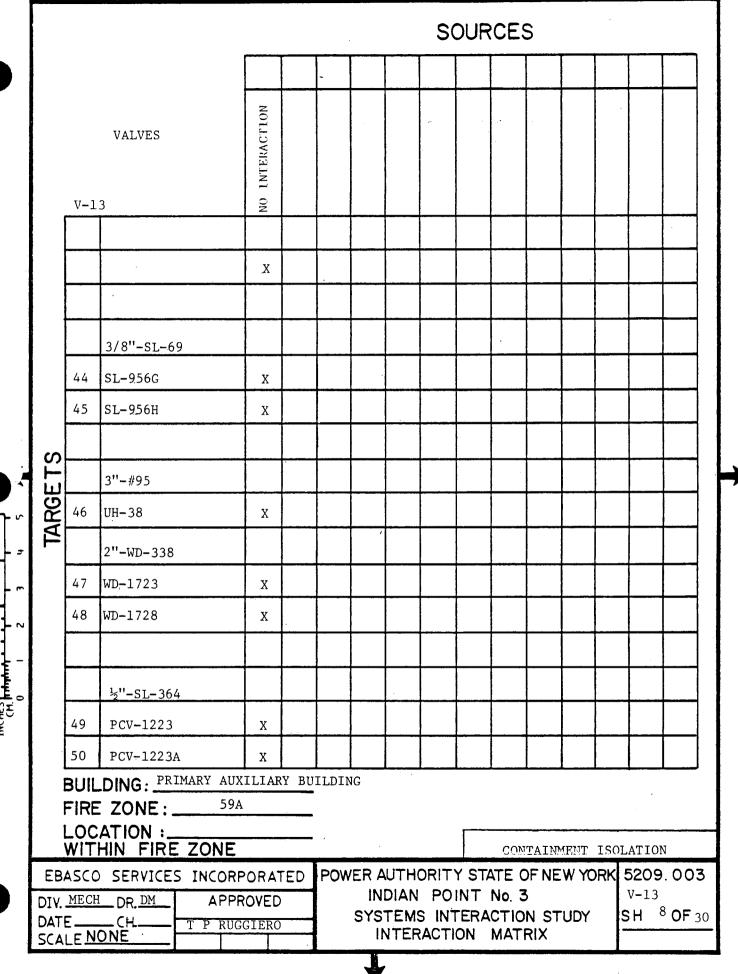
FIRE ZONE: ___59A

LOCATION : _____ WITHIN FIRE ZONE

DIV. MECH DR. DM **APPROVED** DATE _____ CH_ SCALE NONE RUGGIERO POWER AUTHORITY STATE OF NEW YORK 5209. 003 INDIAN POINT No. 3 V-13

SYSTEMS INTERACTION STUDY INTERACTION MATRIX

SH 7 OF 30



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										S	DUR	CES	3			
																·
		V-1	VALVES		NO INTERACTION											
	ſ		1 ₂ -SL-365											-		
		51	PCV-1224		Х											
		52	PCV-1224A		Х											
	-	<u> </u>	½"-SL-3:56													·
		53	PCV-1225		Х	,										
	S	57	PCV-1225A	·	Х											
~~ ·	TARGET		½"-SL-367													
		55	PCV-1226		Х											
		56	PCV-1226A	·	Х											
-			3/4"-S1-36	58												
INCHES Franch CH.		57	S1-1814A		Х											
INCH			-	·												
	F	FIRE	_DING: _ PRI E ZONE: _	59A		RY B	UILDI	ING								
L			ATION : HIN FIRE							_			AINME			
	DIV	MECI	SERVICES DRDM CH	APPR	OVED)	POW	IN SYS	DIAN TEMS	PO INI	INT FERA	No. 3 CTIO	S N ST	V-	-13	. 00 3
	SCAL	E <u>N</u>	ONE].			II	NIEK	ACTI	UN	MAH	KIX			

	SOURCES													
	·													
V-1	VALVES	NO INTERACTION												
	3/4"-\$1-369													
58	S1-1814B	Х												
	3/4"-S1-370							,						
59	S1-1814C	Х												
				,										
	1"-RC-474													
60	RC-580A(1/8")	Х												
60	RC-580B (1/8")	Х										•		
	3/8"-SL-711													
62	SL-990A	Х												
63	SL-990B	X												
			:											
	LDING: PRIMARY A			·	-									

59A FIRE ZONE:_

LOCATION :____ WITHIN FIRE ZONE

CONTAINMENT ISOLATION

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

V-13 SH 10 OF 30



SOURCES INTERACTION VALVES V-13 3"-#830 PS-7 Χ 64 PS-8 65 Х PS-9 66 Χ PS-10 (2") 67 Χ 68 WC-15 (½") 69 ½" MANUAL VLV. X 70 ½" MANUAL VLV. X 3/4"-LN-831 71 LN-1890C X 3/4"-LN-832 LN-1890B Х 73 LN-1890F BUILDING: PRIMARY AUXILIARY BUILDING 59A FIRE ZONE: _ LOCATION :_ WITHIN FIRE ZONE CONTAINMENT ISOLATION POWER AUTHORITY STATE OF NEW YORK 5209. 003 EBASCO SERVICES INCORPORATED V - 13INDIAN POINT No. 3 APPROVED DIV. MECH DRDM SH 11 OF 30 SYSTEMS INTERACTION STUDY T P RUGGIERO SCALE NONE INTERACTION MATRIX

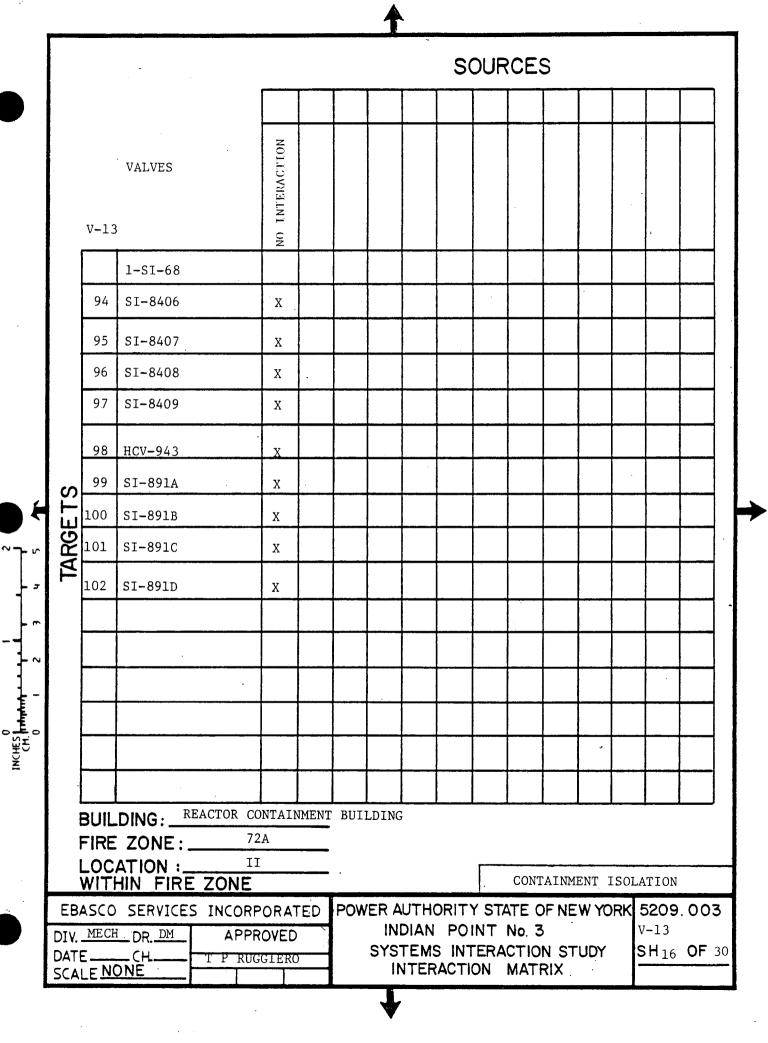
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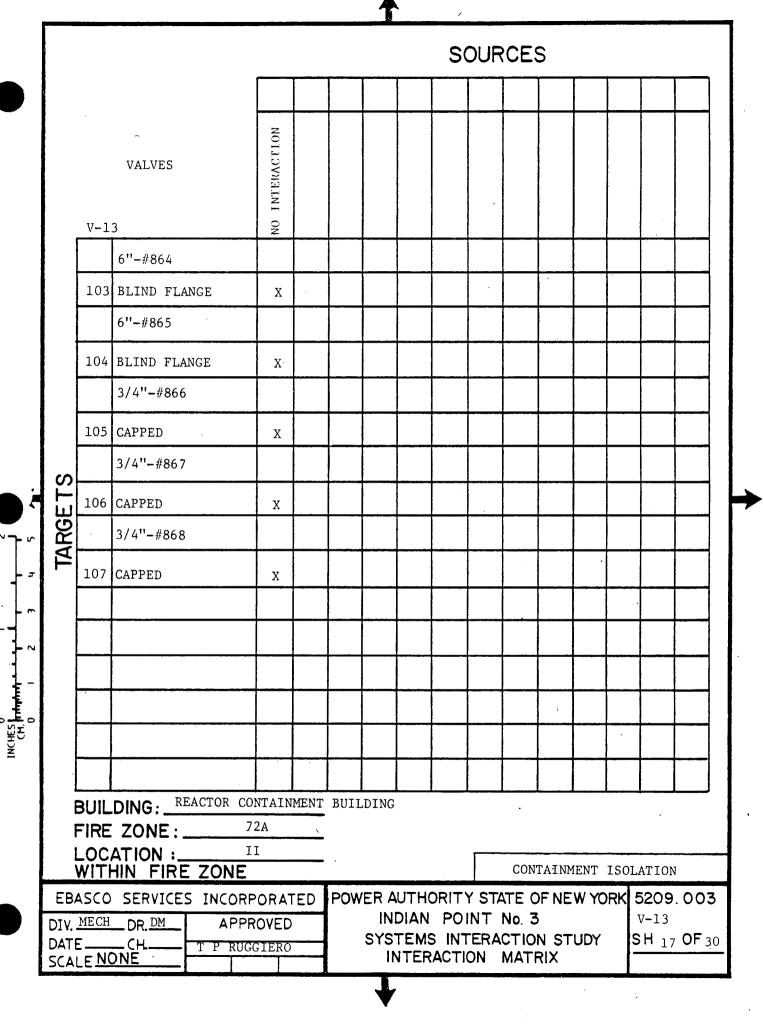
	SOURCES															
			•						-,							
		V-13	VALVES	NO INTERACTION												
			3/8" - SL-832								·					
		74	SL-1891A	Х												
			3/4"-LN-833													
		.75	LN-1890E	Х												
		3/4"-LN-834														
•		.76	LN-1890D	Х					·							
» آ د																
-			3/4"-LN-835													
		77	LN-1890A	Х	<u> </u>										<u> </u>	
}-~															<u> </u>	
- -			3/4"-LN-836												<u> </u>	
O INCHES Frinking A CM. Frinking A		78	LN-1890J	Х	<u> </u>		_								-	
INCHI		79_	LN-1890H	X												
			DDTMADY AT	N DU	TIDI	10		-								
			DING: PRIMARY AT ZONE: 59	KY BU	TLDII	NG										
	t		ATION : HIN FIRE ZONE												ATTON	
	EBASCO SERVICES INCORPORATED						POWER AUTHORITY STATE OF NEW YORK 5209.00									
	DIV. MECH DR. DM APPROVED DATE CH T P RUGGIERO					INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY SH 12 OF										
į	SCALE NONE T P RUG			RUGGIEF	RO	- INTERACTION MATRIX										

SOURCES 1 2 3 NO INTERACTION - #867 #864 **VALVES** V-133/4"-868 85 CAPPED X M419 M419 M419 BUILDING: PRIMARY AUXILIARY BUILDING FIRE ZONE:____ 59A LOCATION :_ WITHIN FIRE ZONE CONTAINMENT ISOLATION EBASCO SERVICES INCORPORATED POWER AUTHORITY STATE OF NEW YORK 5209.003 V-13 INDIAN POINT No. 3 **APPROVED** DIVMECH DR. DM SH 14 OF30 SYSTEMS INTERACTION STUDY DATE ____ CH. T P RUGGIERO SCALE NONE INTERACTION MATRIX

SOURCES INTERACTION VALVES V-13 3/4"-RC-32 86 RC-518 87 RC-590A X 3"-RC-33 88 RC-520 Х 2"-#35 89 CAPPED X 1"-#36 PCV-1110 90 (MANUAL VALVE) X PCV-1110 91 (MANUAL VALVE) X 1"-#37 PCV-1110 92 (MANUAL VALVE) Х PCV-1110 (MANIIAI, VALVE) BUILDING: REACTOR CONTAINMENT BUILDING FIRE ZONE: ____ 72A LOCATION :_ WITHIN FIRE ZONE CONTAINMENT ISOLATION POWER AUTHORITY STATE OF NEW YORK 5209.003 EBASCO SERVICES INCORPORATED V-13 INDIAN POINT No. 3 **APPROVED** DIV. MECH_DR.DM_ SYSTEMS INTERACTION STUDY SH 15 OF 30 DATE _____CH. T P RUGGIERO SCALE NONE INTERACTION MATRIX

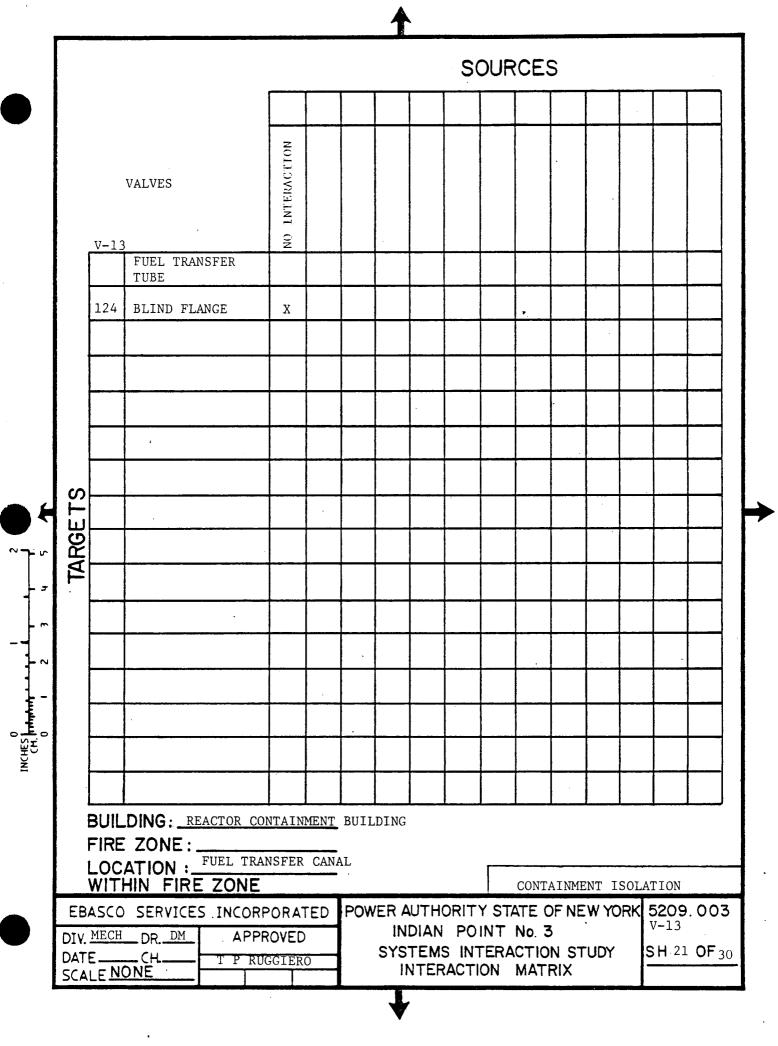
1

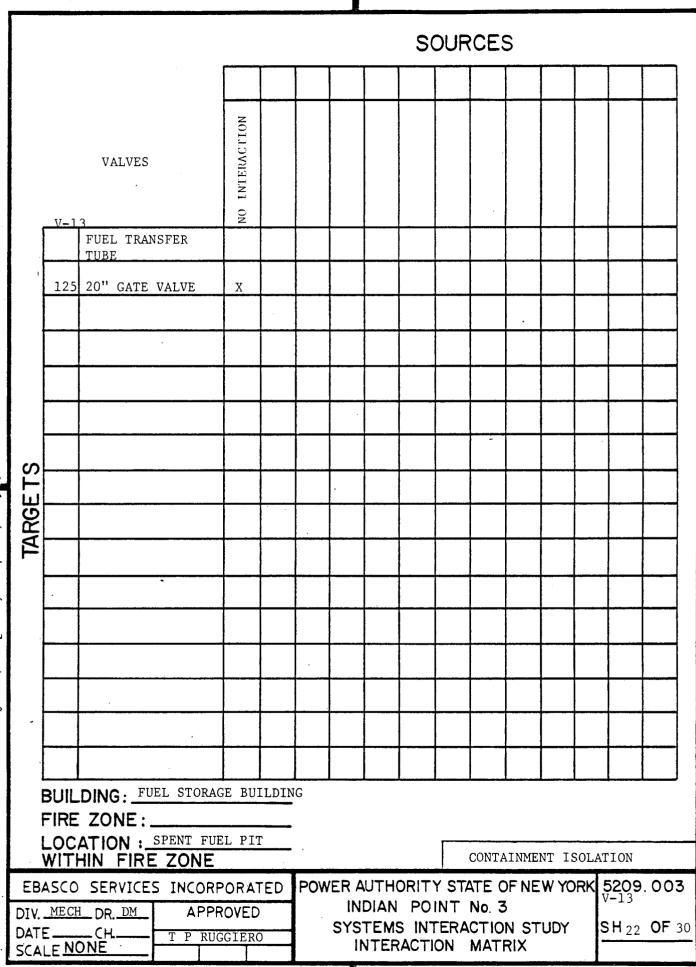




SOURCES LINE INTERACTION VALVES STEAM 36" DUCT-#49 108 FCV-1170 M460 36" DUCT-#50 109 FCV-1172 X 10" DUCT-#58 110 PCV-1190 Х BUILDING: REACTOR CONTAINMENT BUILDING FIRE ZONE: 84A LOCATION : ____ II WITHIN FIRE ZONE CONTAINMENT ISOLATION POWER AUTHORITY STATE OF NEW YORK 5209.003 EBASCO SERVICES INCORPORATED V-13 INDIAN POINT No. 3 DIV. MECH DR. DM **APPROVED** SH ¹⁸ OF 30 DATE _____ CH_ SCALE NONE SYSTEMS INTERACTION STUDY T P RUGGIERO INTERACTION MATRIX

			SOURCES														
	·	V-1	VALVES	NO INTERACTION													
			36" DUCT-#49														
2 3 4 5 2 5		114	FCV-1171	Х													
		115															
		116	PCV-1110 (1" MANUAL VALVE)	Х													
			36" DUCT-#50														
		117	FCV-1173	Х													
	ETS	118	PCV-1110 (1" MANUAL VALVE)	Χ .													
	TARGE					<u> </u>											
	1		10" DUCT-#58														
		119	PCV-1191	Х		·											
			PCV-1192	Х													
4 4 -		121	PCV-1110 (1" MANUAL VALVE)	х													
INCHES Proport		122	PCV-1110 (1" MANUAL VALVE)	х													
INCHE			PERSONNEL AIRLOCK		-												
	·		CB-4	Х		<u> </u>						<u> </u>					
			DING: FAN HOUSE ZONE: 88A	_				•									
		LOC	ATION : HIN FIRE ZONE						CONT	AINMI	ENT I	SOLA	TION				
			SERVICES INCORP	POW	POWER AUTHORITY STATE OF NEW YORK 5209. 003										3		
	DAT	DIV. MECH DR. DM APPROVED DATECH T P RUGGIERO					INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY SH 20 OF 30										
	SCALE NONE TO ROGGIERO				INTERACTION MATRIX												





SOURCES NO TREEMACTION VALVES 1½" - 903 126 PCA-11 X 127 PENETRATION J X 1½" - 902 128 PCA-10 X Х 129 PENETRATION K 1" - 901 130 131 PCA-9 X PENETRATION W X 1" - 900 132 PCA-8 X 133 PENETRATION V 1" - 899 134 PCA-7 135 PENETRATION X X BUILDING: PRIMARY AUXILIARY BUILDING FIRE ZONE: _____59A LOCATION :_ CONTAINMENT ISOLATION WITHIN FIRE ZONE POWER AUTHORITY STATE OF NEW YORK 5209.003 EBASCO SERVICES INCORPORATED INDIAN POINT No. 3 DIV. MECH_DR. DM_ APPROVED SH ²³ OF ³⁰ SYSTEMS INTERACTION STUDY DATE _____ CH. T P RUGGIERO SCALE NONE INTERACTION MATRIX

1

SOURCES NO INTERACTION VALVES 1" - 898 136 PCA-6 Χ 137 PENETRATION S X 1" - 897 138 PCA-4 X 139 PENETRATION AA Х 1" - 896 140 PCA-5 X 141 PENETRATION T X 1" - 895 X 142 PCA-3 Х 143 PENETRATION BB 1" - 894 144 PCA-2 X 145 | PENETRATION CC X BUILDING: PRIMARY AUXILIARY BUILDING FIRE ZONE:___ 59A LOCATION :_ WITHIN FIRE ZONE CONTAINMENT ISOLATION POWER AUTHORITY STATE OF NEW YORK EBASCO SERVICES INCORPORATED 5209.003 V - 13INDIAN POINT No. 3 DIV. MECH DR. DM **APPROVED** SYSTEMS INTERACTION STUDY SH 24 OF30 DATE ____ CH. T P RUGGIERO INTERACTION MATRIX SCALE NONE

SOURCES INTERACTION VALVES V-13 1" - 893 146 PCA-1 147 PENETRATION DD Х 4" - 705 1" - Drain 148 PCA-28 X TARGETS BUILDING: PRIMARY AUXILIARY BUILDING FIRE ZONE: 59A LOCATION :_____ WITHIN FIRE ZONE CONTAINMENT ISOLATION POWER AUTHORITY STATE OF NEW YORK EBASCO SERVICES INCORPORATED 5209.003 V-13 INDIAN POINT No. 3 **APPROVED** DIV. MECH_DR.DM SYSTEMS INTERACTION STUDY SH 25 OF 30 DATE _____CH. T P RUGGIERO SCALE NONE INTERACTION MATRIX

SOURCES 1 NO INTERACTION VALVES DRAIN V - 134**" -** 703 149 PCA-13 E378 (E378 150 PCA-14 (날") 151 Relief Valve (2½") E378 152 5" Disch-Silencer E378 153 Blower BL-33 E378 Inlet Muffler 154 Filter 4" - 704 155 PCA-12 (4") E378 E378 156 PCA-15 (½") 157 Relief Valve (2½" 5" Disch-Silencer 158 E378 BUILDING: PRIMARY AUXILIARY BUILDING FIRE ZONE:____ LOCATION :_ CONTAINMENT ISOLATION WITHIN FIRE ZONE 5209.003 V-13 POWER AUTHORITY STATE OF NEW YORK EBASCO SERVICES INCORPORATED INDIAN POINT No. 3 **APPROVED** DIV. MECH DR. DM SYSTEMS INTERACTION STUDY SH26 **OF**30 DATE _____ CH. SCALE NONE T P RUGGIERO INTERACTION MATRIX

SOURCES NO INTERACTION VALVES 10" - 530 161 | PCA-25 (10") X 162 PCA-27 (½") X Vac. Rel. Valv 163 $(2\frac{1}{2}")$ 164 Blower BL-31 X 165 12" Disch-Silencer X 10"-700 TARGETS 166 PCA-25A (10") X Vac. Rel. Valv 167 X $(2\frac{1}{2}")$ 168 PCA-26 X 169 Blower BL-32 170 12" Disch-Silencer X BUILDING: PRIMARY AUXILIARY BUILDING FIRE ZONE: ___ 52A LOCATION :_ WITHIN FIRE ZONE CONTAINMENT ISOLATION POWER AUTHORITY STATE OF NEW YORK 5209. 003 EBASCO SERVICES INCORPORATED V - 13INDIAN POINT No. 3 **APPROVED** DIV. MECH DR. DM SYSTEMS INTERACTION STUDY SH 28 **OF**30 DATE ____ CH. T P RUGGIERO SCALE NONE INTERACTION MATRIX

1

INTERACTION **VALVES** 4" - 886 171 PCA - 18 (4") X 172 Penetration B Х 4" - 885 173 PCA - 19 (4") X 174 | Penetration A X 3" - 892 PCA - 20 (3") 175 176 Penetration H X 3" - 891 Х 177 PCA - 21 (3") X 178 | Penetration G 3" - 890 179 PCA - 22 (3") 180 | Penetration F BUILDING: PRIMARY AUXILIARY BUILDING FIRE ZONE: ____ 57A LOCATION :_ WITHIN FIRE ZONE CONTAINMENT ISOLATION POWER AUTHORITY STATE OF NEW YORK EBASCO SERVICES INCORPORATED 5209.003 V-13 INDIAN POINT No. 3 DIV. MECH DR.DM **APPROVED** SYSTEMS INTERACTION STUDY SH29 **OF**30 DATE _____CH. T P RUGGIERO SCALE NONE INTERACTION MATRIX

SOURCES

SOURCES INTERACTION VALVES S V-13 4" - 888 181 PCA-16 (4") 182 Penetration D X 4" - 887 183 PCA-17 (4") Х 184 Penetration C X TARGETS 3" - 889 185 PCA-23 (3") X 186 Penetration E BUILDING: PRIMARY AUXILIARY BUILDING FIRE ZONE: 57A LOCATION: WITHIN FIRE ZONE AIR COOLING FOR HOT PENETRATIONS EBASCO SERVICES INCORPORATED POWER AUTHORITY STATE OF NEW YORK 5209.003 V-13 INDIAN POINT No. 3 APPROVED DIV. MECH DR. DM SH₃₀ OF₃₀ SYSTEMS INTERACTION STUDY DATE ____CH. T P RUGGIERO INTERACTION MATRIX SCALE NONE

SYSTEM NO.	13			
SYSTEM NAME	CONTAINMENT ISOLATIO	ON SYSTEM		
	Mary			
EVALUATION C	ATEGORY	NON-CONNECTED	Х	
		INTERCÓNNECTED _		

1/15/82 DAI/whi 5/12/8) INTERACTION ENGINEER/DATE

Wgriswold 5.18.83 VERIFIED/DATE

Sheet	1	of	84

System No. 13

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: 17A		
LOCATION WITHIN FIRE ZONE:		
POTENTIAL INTERACTION NO.: L-13-1-1		
PHOTOGRAPH NO.: M406		
BACKGROUND NO.:	•	
	•	
IDENTIFICATION OF INTERACTION COMPONENTS:	•	
TARGET: 1-S1-68 (Lower Black arrow)		
SOURCE: 1" -#115 (Lower White arrow)		
DESCRIPTION OF POSTULATED INTERACTION:		
Source falls on target		
EVALUATION OF INTERACTION:		
EVALUATION NOTE NO: 2		•
X ACCEPTABLE	-	POTENTIALLY UNACCEPTABLE
T P RUGGIERO 9/15/82 INTERACTION ENGINEER/DATE	W Griswold	
INTERACTION ENGINEER / DATE	VERIFI	ED/DATE

INTERACTION ENGINEER / DATE	VERIFIED,	DATE
T P RUGGIERO 9/15/82	W Griswold	9/24/82
XACCEPTABLE		POTENTIALLY ——UNACCEPTABLE
EVALUATION NOTE NO: 3		
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: LIGHT FIXTURE		
TARGET: 1-S1-68 (Lower Black arrow)		
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M406		
POTENTIAL INTERACTION NO.: L-13-1-2	•	
LOCATION WITHIN FIRE ZONE:		
FIRE ZONE: 17A		
BUILDING: PRIMARY AUXILIARY BUILDING		

BUILDING:	PRIMARY	AUXILIARY	BUILDING

FIRE ZONE: 59A

LOCATION WITHIN FIRE ZONE: PIPING PENETRATION

POTENTIAL INTERACTION NO.: L-13-8-1

PHOTOGRAPH NO.:

M340

BACKGROUND NO.:

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4"-CA-28 (Not Shown)

SOURCE: 1"-#67 (White arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X	ACCEPTABLE		POTENTIALLY ——UNACCEPTABLE
T P RUGGIERO	9/15/82	W Griswold	9/24/82
INTERACTION ENGIN	EER /DATE	VEDIETED	/DATE

System	No.	13

INTERACTION ENGINEER / DATE	VERIF	ED/DATE
T P RUGGIERO 9/15/82	W Griswold	9/24/82
ACCEPTABLE	X	POTENTIALLY UNACCEPTABLE
•		
EVALUATION NOTE NO: 6		
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 3"-#830 (2 top white arrows)		
TARGET: 2"-SA-34 (Black arrow)		
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		·
PHOTOGRAPH NO.: M420		
POTENTIAL INTERACTION NO.: L-13-13-2		
LOCATION WITHIN FIRE ZONE: PIPING PENETRATION		
FIRE ZONE: 59A		
BUILDING: PRIMARY AUXILIARY BUILDING		

INTERACTION ENGINEER / DATE	VERIFIE	ED/DATE
T P RUGGIERO 9/15/82	W Griswold	9/24/82
ACCEPTABLE	· X	POTENTIALLY UNACCEPTABLE
EVALUATION NOTE NO: 6		•
EVALUATION OF INTERACTION:		
TIME TO A THE TOTAL AND THE TO		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:	•	
SOURCE: 3"-#830a (Lowest white arrow)	1	
TARGET: 2"-SA-34 (Black arrow)		
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M420	,	
POTENTIAL INTERACTION NO.: L-13-13-3		
LOCATION WITHIN FIRE ZONE: PIPING PENETRATION	ON	
FIRE ZONE: 59A		
BUILDING: PRIMARY AUXILIARY BUILDING		•

INTERACTION ENGINEER / DATE	VERIFIE	D/DATE
T P RUGGIERO 9/15/82	W Griswold	9/24/82
ACCEPTABLE	X	POTENTIALLY UNACCEPTABLE
EVALUATION NOTE NO: 6		
EVALUATION OF INTERACTION:		
EVALUATION OF THEFPACETON		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 3"-#830 (2 top white arrow)		
TARGET: 2"-IA-39 (Green pipes at botto	m)	
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
11420		
POTENTIAL INTERACTION NO.: L-13-17-2 PHOTOGRAPH NO.: M420		
LOCATION WITHIN FIRE ZCNE: PIPING PENETRATI	ON	
FIRE ZONE: 59A		
BUILDING: PRIMARY AUXILIARY BUILDING		

BUILDING: PRIMARY AUXILIARY BUILDING		
FIRE ZONE: 59A		
LOCATION WITHIN FIRE ZONE: PIPING PENETRATION	1	
POTENTIAL INTERACTION NO.: L-13-17-3		
PHOTOGRAPH NO.: M420		
BACKGROUND NO.:		
IDENTIFICATION OF INTERACTION COMPONENTS:		
TARGET: 2"-IA-39 (Green pipes at bott	om)	
SOURCE: 3"-#830a (Lowest white arrow)		
DESCRIPTION OF POSTULATED INTERACTION:		t
Source falls on target		
EVALUATION OF INTERACTION:		
EVALUATION NOTE NO: 6	•	
•		
ACCEPTABLE	X	POTENTIALLYUNACCEPTABLE
T P RUGGIERO 9/15/82 INTERACTION ENGINEER/DATE	W Griswold	9/24/82
Z. Z	VERIFI	ED/DATE

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

BUILDING: PRIMA	ARY AUXILI	ARY BUI	LDING			
FIRE ZONE: 5	59A					,
LOCATION WITHIN	FIRE ZONE	: PIP	ING PENETE	ATION		
POTENTIAL INTERA	CTION NO.	: L-1	3-29-1			•
PHOTOGRAPH NO.:	M412,	M341				
BACKGROUND NO.:						
IDENTIFICATION O	F INTERAC	TION CC	MPONENTS:	-	•	
TARGET: 1	"-SI-68	(M412,	M341: Bla	ack arrow)		
SOURCE: 2				e arrow from righ	it)	
DESCRIPTION OF PO	OSTULATED	INTERA	ACTION:			
Source falls	on targe	t				·
EVALUATION OF INT	TERACTION	:				
EVALUATION N	NOTE NO:	6				
						•
	ACCEPTAB	LE		X		POTENTIALLY UNACCEPTABLE
T P RUGGIER	0 9/15	/82		W Griswold		9/24/82

T P RUGGIERO 9/15/82

INTERACTION ENGINEER/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 AUXIL	IARY BUILDING		
FIRE ZONE: 59A			
LOCATION WITHIN FIRE ZONE	: PIPING PENETRATION	ī	
POTENTIAL INTERACTION NO	.: L-13-29-2		
PHOTOGRAPH NO.: M412	, M341		
BACKGROUND NO.:			
IDENTIFICATION OF INTERAC	CTION COMPONENTS:		
TARGET: 1"-SI-68	(M412: Black arrow) (M341: Black arrow)	·	
SOURCE: 2"-#35	(M412: 1st white arrow	w from right)	
	(M341: 2nd white arrow		
DESCRIPTION OF POSTULATED	INTERACTION:	<i>1</i> .	
Source falls on targ	et		
EVALUATION OF INTERACTION	I:	·	
EVALUATION NOTE NO:	6		
ACCEPTAR	LE _	Х	POTENTIALLY UNACCEPTABLE

W Griswold

VERIFIED/DATE

9/24/82

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: 59 A			
LOCATION WITHIN FIRE ZONE:	PIPING PENETRATION		
POTENTIAL INTERACTION NO.:	L-13-29-3		
PHOTOGRAPH NO.: M419			
BACKGROUND NO.:			
IDENTIFICATION OF INTERACTION	N COMPONENTS:		
TARGET: 1"-SI-68 (Bla	ck arrow)		
SOURCE: 3/4"-#866 (3rd	white arrow from le	eft)	
DESCRIPTION OF POSTULATED INT	TERACTION:		
Source falls on target			
EVALUATION OF INTERACTION:			
EVALUATION NOTE NO: 2			
	•		
XACCEPTABLE			POTENTIALLY —UNACCEPTABLE
T P RUGGIERO 9/15/82		W Griswold	9/24/82

INTERACTION ENGINEER / DATE	VERIFI	ED/DATE
T P RUGGIERO 9/15/82	W Griswold	9/24/82
	•	• ~
X ACCEPTABLE		POTENTIALLY UNACCEPTABLE
EVALUATION NOTE NO: -2		
EVALUATION OF INTERACTION: .		
Source falls on target .		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 3/4"_#867 (2nd white arrow from	n left)	
TARGET: 1"-SI-68 (Black arrow)		
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M419		
POTENTIAL INTERACTION NO.: L-13-29-4		
LOCATION WITHIN FIRE ZONE: PIPING PENETRATIO	ON	
FIRE ZONE: 59A		
BUILDING: PRIMARY AUXILIARY BUILDING		

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: PIPING PENETRATION		
POTENTIAL INTERACTION NO.: L-13-19-5		
PHOTOGRAPH NO.: M419	•	
BACKGROUND NO.:		
	•	
IDENTIFICATION OF INTERACTION COMPONENTS:	,	
TARGET: 1"-SI-68 (Black arrow)		
SOURCE: 3/4"-#868 (1st arrow from left)		
DESCRIPTION OF POSTULATED INTERACTION:		
Source falls on target	,	
THAT HARTON OR THERE ARE ON		
EVALUATION OF INTERACTION:		
EVALUATION NOTE NO: 2		
X ACCEPTABLE		POTENTIALLY UNACCEPTABLE
		UNACCEPTABLE
T P RUGGIERO 9/15/82	W Griswold	9/24/82

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

w from right)	POTENTIALLY ——UNACCEPTABLE
S:	
S:	- -
TRATION	
•	
3	ETRATION

Ebasco Services Incorporated

BUILDING: PRIMARY AUXILIARY BUILDING
FIRE ZONE: 59A
LOCATION WITHIN FIRE ZONE: PIPING PENETRATION
POTENTIAL INTERACTION NO.: L-13-29-7
PHOTOGRAPH NO.: M412
BACKGROUND NO.:
√
IDENTIFICATION OF INTERACTION COMPONENTS:
TARGET: 1"-SI-68 (Black arrow)
SOURCE: 3"-#33 (2nd white arrow from left)
DESCRIPTION OF POSTULATED INTERACTION:
Source falls on target
EVALUATION OF INTERACTION:
EVALUATION NOTE NO: 1
X ACCEPTABLE POTENTIALLY UNACCEPTABLE
T P RUGGIERO 9/15/82 W Griswold 9/24/82
INTERACTION ENGINEER / DATE VERIFIED / DATE

INTERACTION ENGINEER / DATE	VERIFIE	D/DATE
T P RUGGIERO 9/15/82	W Griswold	9/24/82
XACCEPTABLE		UNACCEPTABLE
Y ACCEDMANT D		POTENTIALLY
EVALUATION NOTE NO: 2		
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: $\frac{3''-\#32}{4}$		
TARGET: 1"-SI-68 (Black arrow)		
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M412		
POTENTIAL INTERACTION NO.: L-13-29-8		
LOCATION WITHIN FIRE ZONE: PIPING PENETRATI	ON	
FIRE ZONE: 59A	·	
BUILDING: PRIMARY AUXILIARY BUILDING		

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-13-51-1		
PHOTOGRAPH NO.: M419		
BACKGROUND NO.:		
IDENTIFICATION OF INTERACTION COMPONENTS:		
TARGET: 6"-#865 (Bottom center penetra	tion)	·
SOURCE: 3/4"-866 (3rd white arrow from	left)	
DESCRIPTION OF POSTULATED INTERACTION:		
Source falls on target		
EVALUATION OF INTERACTION:		
EVALUATION NOTE NO: 6		
•		
ACCEPTABLE	X	POTENTIALLY UNACCEPTABLE
T P RUGGIERO 9/15/82	W Griswold	9/24/82

Ebasco Services Incorporated

INTERACTION ENGINEER / DATE	VERIFI	ED/DATE
T P RUGGIERO 9/15/82	W Griswold	9/24/82
ACCEPTABLE	X	POTENTIALLY UNACCEPTABL
EVALUATION NOTE NO: 6		
EVALUATION OF INTERACTION:		
EVALUATION OF TWEED OF TON.		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:	•	
SOURCE: $3/4$ "- $\#867$ (2nd white arrow	from left)	
TARGET: 6"-#865 (Bottom center p	enetration)	
IDENTIFICATION OF INTERACTION COMPONENT	TS:	
TRANSPORTED CARTON OR THERE CONTON ON TO SECOND		
DACAGACUND NO.:		•
BACKGROUND NO.:		
PHOTOGRAPH NO.: M419		•
POTENTIAL INTERACTION NO.: L-13-51-2		
LOCATION WITHIN FIRE ZONE:		
FIRE ZONE: 59A		
BUILDING: PRIMARY AUXILIARY BUILDING		

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-13-51-3		·
PHOTOGRAPH NO.: M419		
BACKGROUND NO.:		
IDENTIFICATION OF INTERACTION COMPONENTS:		ı
TARGET: 6"-#865 (Bottom center penetrate	ion)	
SOURCE: 3/4"-#868 (1st white arrow from 16	eft)	
DESCRIPTION OF POSTULATED INTERACTION:		
Source falls on target		
EVALUATION OF INTERACTION:	•	
EVALUATION NOTE NO: 6		ì
•	. ▼	POTENTIALLY
ACCEPTABLE	X	UNACCEPTABL
T P RUGGIERO 9/15/82	W Griswold	9/24/82

Ebasco Services Incorporated

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

BUILDING: PRIMARY AUXILIARY BUILDING		
FIRE ZONE: 59A		
LOCATION WITHIN FIRE ZONE:		
POTENTIAL INTERACTION NO.: L-13-51-4		
PHOTOGRAPH NO.: M419		
BACKGROUND NO.:		
	•	
IDENTIFICATION OF INTERACTION COMPONENTS:		
TARGET: 6"-#865 (Bottom center penetra	ition)	•
,		
SOURCE: 6"-#864	•	
DESCRIPTION OF POSTULATED INTERACTION:		
Source falls on target		
EVALUATION OF INTERACTION:	,	
EVALUATION NOTE NO: 6		
		,
ACCEPTABLE	X	POTENTIAŁLY UNACCEPTABLI
T P RUCCIERO 9/15/82	W Griswold	9/24/82

INTERACTION ENGINEER / DATE	VERIFII	ED/DATE .
T P RUGGIERO 9/15/82	W Griswold	9/24/82
X ACCEPTABLE		POTENTIALLY ——UNACCEPTABLE
EVALUATION NOTE NO: 2		
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 6"-#864 (1st white arrow	from right)	
TARGET: $6''-4864$ (Penetration at	top center)	
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M419		
POTENTIAL INTERACTION NO.: L-13-52-4		
LOCATION WITHIN FIRE ZONE:		
FIRE ZONE: 59A		
BUILDING: PRIMARY AUXILIARY BUILDING		

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-13-53-4		
PHOTOGRAPH NO.: M419		
BACKGROUND NO.:		
·		
IDENTIFICATION OF INTERACTION COMPONENTS:		
TARGET: 3/4'=#866 (3rd green pipe penetr	ation from left w/cap)	
SOURCE: 6"-#864		
DESCRIPTION OF POSTULATED INTERACTION:		
Source falls on target		
EVALUATION OF INTERACTION:		
EVALUATION NOTE NO: 6		
ACCEPTABLE	X	POTENTIALLYUNACCEPTABLE
T P RUGGIERO 9/15/82	W Griswold	9/24/82

Ebasco Services Incorporated

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

BUILDING: PRIMARY AUXILIARY BUILDING	
FIRE ZONE: 59A	
LOCATION WITHIN FIRE ZONE:	
POTENTIAL INTERACTION NO.: L-13-54-1	
PHOTOGRAPH NO.: M419	
BACKGROUND NO.:	
IDENTIFICATION OF INTERACTION COMPONENTS:	
TARGET: 3/4"-#867 (middle green pipe w/cap)	
SOURCE: $3/4$ "-#866 (3rd white arrow from left)	
DESCRIPTION OF DOCTOR AFFED TWEED COTTON	
DESCRIPTION OF POSTULATED INTERACTION:	•
Source falls on target	,
EVALUATION OF INTERACTION:	
EVALUATION NOTE NO: 2	
X ACCEPTABLE	POTENTIALLY
XACCEPTABLE	UNACCEPTABLE
T P RUGGIERO 9/15/82 W Griswold	9/24/82

INTERACTION ENGINEER / DATE	VERIFI	ED/DATE
T P RUGGIERO 9/15/82	W Griswold	9/24/82
ACCEPTABLE	X	POTENTIALLY UNACCEPTABLE
EVALUATION NOTE NO; O		
EVALUATION NOTE NO: 6	·	,
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 6"-#865 (1st right white a	rrow)	
TARGET: 3/4"-#867 (Middle green pipe	center w/cap)	
IDENTIFICATION OF INTERACTION COMPONENTS:		
TREMETEL CAMEON OF THEFT AGELON COMPONENTS.		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M419		·
POTENTIAL INTERACTION NO.: L-13-54-4		
LOCATION WITHIN FIRE ZONE:		
FIRE ZONE: 59A		
BUILDING: PRIMARY AUXILIARY BUILDING		

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-13-55-1		
PHOTOGRAPH NO.: M419		
BACKGROUND NO.:		
IDENTIFICATION OF INTERACTION COMPONENTS:		
TARGET: 3/4"-#868 (1st green pipe penetration	at left side w/	cap)
SOURCE: 3/4"-#866 (3rd white arrow from left)		
DESCRIPTION OF POSTULATED INTERACTION:		
Source falls on target		
EVALUATION OF INTERACTION;		
EVALUATION NOTE NO: 2		
XACCEPTABLE		POTENTIALLY —UNACCEPTABLI
T P RUGGIERO 9/15/82 W G	riswold	9/24/82

Ebasco Services Incorporated

BUILDING: PRIMARY AUXILIA	RY BUILDING		
FIRE ZONE: 59A			
LOCATION WITHIN FIRE ZONE:			
POTENTIAL INTERACTION NO.:	L-13-55-2		
PHOTOGRAPH NO.:	M419		
BACKGROUND NO.:	•		
IDENTIFICATION OF INTERACT	ION COMPONENTS:		
TARGET: 3/4"-#868	(1st green pipe pene	etration at left with	cap)
SOURCE: 3/4"-#867	(2nd white arrow fro	om left)	
DESCRIPTION OF POSTULATED	INTERACTION:		
Source falls on target	=		
EVALUATION OF INTERACTION:			
EVALUATION NOTE NO: 2	2		
·			
XACCEPTABL	E		POTENTIALLY ——UNACCEPTABLE
T P RUGGIERO 9/15/8	<u>32</u>	W Griswold	9/24/82
INTERACTION ENGINEER/DATE	•	VERIFIED/	/DATE

_		•
System	No	-13

ION ENGINEER/DATE VERIFIED/DATE
RUGGIERO 9/15/82 W Griswold 9/24/82
ACCEPTABLE X POTENTIALLY UNACCEPTABLE
LUATION NOTE NO: 6
ON OF INTERACTION:
ce falls on target
ION OF POSTULATED INTERACTION:
RCE: 6"-#865 (1st white arrow from right)
GET: 3/4"-#868 (1st green pipe penetration from left)
CATION OF INTERACTION COMPONENTS:
ND NO.:
PH NO.: M419
L INTERACTION NO.: L-13-55-4
WITHIN FIRE ZCNE:
E: 59A
: PRIMARY AUXILIARY BUILDING
• PRIMARY AUXILIARY BUILDING

Ebasco Services Incorporated

BUILDING: REACTOR CONTAINMENT BUILDING		
FIRE ZONE: 84A		ı
LOCATION WITHIN FIRE ZONE: II		
POTENTIAL INTERACTION NO.: L-13-112-1		
PHOTOGRAPH NO.: M460		
BACKGROUND NO.:		·
IDENTIFICATION OF INTERACTION COMPONENTS:		
TARGET: 36" DUCT-#49		
SOURCE: $1\frac{1}{2}$ " STEAM LINE (White arrow)		
DESCRIPTION OF POSTULATED INTERACTION:		·
Source falls on target		
EVALUATION OF INTERACTION:		
EVALUATION NOTE NO: 3		
X ACCEPTABLE		POTENTIALLY UNACCEPTABLE
T P RUGGIERO 9/15/82 INTERACTION ENGINEER/DATE	W Griswold VERIFIED/D	9/24/82 ATE
	· =	

INTERACTION ENGINEER / DATE	VERIFIEI	D/ DATE
T P RUGGIERO 9/15/82	W Griswold	9/24/82
XACCEPTABLE	<u></u>	UNACCEPTABLE
		. POTENTIALLY
EVALUATION NOTE NO: 3		
EVALUATION OF INTERACTION:		_
Source falls on target	·	
DESCRIPTION OF POSTULATED INTERACTION:		·
SOURCE: LIGHT FIXTURE		
TARGET: PERSONNEL AIRLOCK		
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M461		
POTENTIAL INTERACTION NO.: L-13-115-1		
LOCATION WITHIN FIRE ZCNE: II		
FIRE ZONE: 85A		
BUILDING: REACTOR CONTAINMENT BUILDING		

INTERACTION ENGINEER / DATE	VERIFII	ED/DATE
T P RUGGIERO 9/15/82	W Griswold	9/24/82
ACCEPTABLE		POTENTIALLY UNACCEPTABLI
EVALUATION NOTE NO: 3		
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 2½" STEAMLINE (White arrow at	right)	
TARGET: PERSONNEL AIRLOCK		
IDENTIFICATION OF INTERACTION COMPONENTS:	•	
BACKGROUND NO.:	,	T.
PHOTOGRAPH NO.: M461	١	
POTENTIAL INTERACTION NO.: L-13-115-2		
LOCATION WITHIN FIRE ZONE: II		
FIRE ZONE: 85A .		
BUILDING: REACTOR CONAINMENT BUILDING		

INTERACTION ENGINEER / DATE	VERIFII	ED/DATE
T P RUGGIERO 9/15/82	W Griswold	9/24/82
XACCEPTABLE		POTENTIALLY UNACCEPTABLE
EVALUATION NOTE NO: 3		
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 2" CONDENSATE RETURN (Middle wh	nite arrow)	
TARGET: PERSONNEL AIRLOCK		· .
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M461		
POTENTIAL INTERACTION NO.: L-13-115-3		
LOCATION WITHIN FIRE ZONE: II		
FIRE ZONE: 85A		
BUILDING: REACTOR CONAINMENT BUILDING		

FIRE ZONE: 17A	
LOCATION WITHIN FIRE ZCNE:	
POTENTIAL INTERACTION NO.: L-13-1-1	
PHOTOGRAPH NO.: M406	
BACKGROUND NO.:	
IDENTIFICATION OF INTERACTION COMPONENTS:	
TARGET: S1-863 (AIR OPER) (Bottom center)	
	,
SOURCE: 1"-#115 (Lower white arrow)	
DESCRIPTION OF POSTULATED INTERACTION:	
Source falls on target	
EVALUATION OF INTERACTION:	
EVALUATION NOTE NO: 3	
•	
X ACCEPTABLE	POTENTIALLY ——UNACCEPTABLE
T P RUGGIERO 9/15/82 W Griswold INTERACTION ENGINEER/DATE VERIFIED/	9/24/82
VERIFIED/	DAIE

INTERACTION ENGINEER / DATE	VERIFIE	ED/DATE
T P RUGGIERO 9/15/82	W Griswold	9/24/82
XACCEPTABLE		POTENTIALLY UNACCEPTABLE
EVALUATION NOTE NO: 3		
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: LIGHT FIXTURE		
TARGET: S1-863 (AIR OPER) (Bottom center)	
IDENTIFICATION OF INTERACTION COMPONENTS:		
;		•
BACKGROUND NO.:		
PHOTOGRAPH NO.: M406		
POTENTIAL INTERACTION NO.: V-13-1-2		
LOCATION WITHIN FIRE ZONE:		
FIRE ZONE: 17A		
BUILDING: PRIMARY AUXILIARY BUILDING		•

Ebasco Services Incorporated

VERIFIED/DATE

BUILDING: PRIMARY AUXILIARY BUILDING		
FIRE ZONE: 59A		
LOCATION WITHIN FIRE ZONE:		
POTENTIAL INTERACTION NO.: V-13-11-1		
PHOTOGRAPH NO.: M340		
BACKGROUND NO.:		
IDENTIFICATION OF INTERACTION COMPONENTS:		
TARGET: PCV-1229 (Not Shown)		
SOURCE: 1"-#67 (White arrow)		
DESCRIPTION OF POSTULATED INTERACTION:		
Source falls on target		
EVALUATION OF INTERACTION:		
EVALUATION NOTE NO: 3		
·		
X ACCEPTABLE		POTENTIALLYUNACCEPTABLE
	, ·	
T P RUGGIERO 9/15/82 INTERACTION ENGINEER/DATE	W Griswold VERIFIE	9/24/82 D/DATE

INTERACTION ENGINEER/DATE	VERIFIE	D/DATE
T P RUGGIERO 9/15/82	W Griswold	9/24/82
X ACCEPTABLE		POTENTIALLY UNACCEPTABLE
EVALUATION NOTE NO: 3	·	:
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		-
SOURCE: 1"-#67 (White arrow)		
TARGET: PCV-1230 (Not Shown)		
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M340		
POTENTIAL INTERACTION NO.: V-13-12-1		
LOCATION WITHIN FIRE ZONE:		
FIRE ZONE: 59A		
BUILDING: PRIMARY AUXILIARY BUILDING		

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BUILDING: PRIMARY AUXILIARY BUILDING		
FIRE ZONE: 59A		
LOCATION WITHIN FIRE ZONE:		
POTENTIAL INTERACTION NO.: V-13-19-1		
PHOTOGRAPH NO. M420		
BACKGROUND NO.:		/
IDENTIFICATION OF INTERACTION COMPONENTS:		
TARGET: SA-24 (Not Shown)		
SOURCE: 3"-#830(2 top white arrows)		
DESCRIPTION OF POSTULATED INTERACTION: .		
Source falls on target	,	
EVALUATION OF INTERACTION:		
EVALUATION NOTE NO: 5		
Source has adequate mass and will fall sufficien evaluation required.	t distance to da	nage target. Further
ACCEPTABLE	X	POTENTIALLYUNACCEPTABLE
T P RUGGIERO 9/15/82	W Griswold	9/24/82
INTERACTION ENGINEER / DATE	VERIFI	ED/DATE

INTERACTION ENGINEER / DATE	VERIFIEI	DOLDATE
T P RUGGIERO 9/15/82	W GRISWOLD	9/24/82
ACCEPTABLE	. X	POTENTIALLY UNACCEPTABLE
Source has adequate mass and will fall sufficie evaluation required.	nt distance to dama	
EVALUATION NOTE NO: 5		
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 3"-#830a (3rd white arrow from t	op)	
TARGET: SA-24 (Not shown)		
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M420	,	
POTENTIAL INTERACTION NO.: V-13-19-2		:
LOCATION WITHIN FIRE ZONE:		
FIRE ZONE: 59A		
BUILDING: PRIMARY AUXILIARY BUILDING	•	

INTERACTION ENGINEER / DATE	VERIFIED	/DATE
T P RUGGIERO 9/15/82	W GRISWOLD	9/24/82
ACCEPTABLE	X	POTENTIALLY UNACCEPTABLE
Source has adequate mass and will fall sufficie evaluation required.	ent distance to damag	e target. Further
EVALUATION NOTE NO: 5		
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 3"-#830 (Two top white arrows)		
TARGET: SA-24 (Not Shown)		
IDENTIFICATION OF INTERACTION COMPONENTS:		·
BACKGROUND NO.:		
PHOTOGRAPH NO.: M420		
POTENTIAL INTERACTION NO.: V-13-20-1		
LOCATION WITHIN FIRE ZONE:		
FIRE ZONE: 59A		
BUILDING: PRIMARY AUXILIARY BUILDING		

BUILDING: PRIMARY AUXILIARY BUILDING		
FIRE ZONE: 59A		
LOCATION WITHIN FIRE ZONE:		
POTENTIAL INTERACTION NO.: V-13-20-2		
PHOTOGRAPH NO.: M420		
BACKGROUND NO.:	•	
IDENTIFICATION OF INTERACTION COMPONENTS:	-	
TARGET: SA-24 (Not Shown)		,
SOURCE: 3"-#830a (3rd white arrow from	top)	
DESCRIPTION OF POSTULATED INTERACTION:		
Source falls on target		
EVALUATION OF INTERACTION:		
EVALUATION NOTE NO: 5		
Source has adequate mass and will fall suffici evaluation required.	ent distance to dama	age target. Furthe
ACCEPTABLE	X	POTENTIALLY ——UNACCEPTABLE
T P RUGGIERO 9/15/82	W GRISWOLD	9/24/82
INTERACTION ENGINEER / DATE	VERIFIEI)/DATE

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BUILDING: PRIMARY AUXILIARY BUILDING
FIRE ZONE: 59A
LOCATION WITHIN FIRE ZONE:
POTENTIAL INTERACTION NO.: V-13-23-1
PHOTOGRAPH NO.: M420
BACKGROUND NO.:
IDENTIFICATION OF INTERACTION COMPONENTS:
TARGET: IA-39 (Not Shown)
SOURCE: 3"-830 (Top 2 white arrow)
DESCRIPTION OF POSTULATED INTERACTION:
Source falls on target
EVALUATION OF INTERACTION:
EVALUATION NOTE NO: 5
Source has adequate mass and will fall sufficient distance to damage target. Further evaluation required.
ACCEPTABLE POTENTIALLY X UNACCEPTABLE
T P RUGGIERO 9/15/82 W GRISWOLD 9/24/82 INTERACTION ENGINEER/DATE VERIFIED/DATE
VERTIED/ DATE

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INTERACTION ENGINEER / DATE	VERIFIED	/DATE
T P RUGGIERO 9/15/82	W GRISWOLD	9/24/82
ACCEPTABLE	X	UNACCEPTABLE
		POTENTIALLY
		•
EVALUATION NOTE NO: 5		
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 3"-#830 (Two top white arrows)		
TARGET: IA-39 (Not Shown)		
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO. M420		
POTENTIAL INTERACTION NO.: V-13-23-2		
LOCATION WITHIN FIRE ZCNE:		
FIRE ZONE: 59A		
BUILDING: PRIMARY AUXILIARY BUILDING		

System	No.	13

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BUILDING: PRIMARY AUXILIARY BUILDING		
FIRE ZONE: 59A		
LOCATION WITHIN FIRE ZCNE:		
POTENTIAL INTERACTION NO.: V-13-24-1		
PHOTOGRAPH NO.: M420		
BACKGROUND NO.:		
IDENTIFICATION OF INTERACTION COMPONENTS:		
TARGET: PCV-1228 (Bottom right)		,
SOURCE: 3"-#830 (Two top white arrows)		
DESCRIPTION OF POSTULATED INTERACTION:		
Source falls on target		
EVALUATION OF INTERACTION:		
EVALUATION NOTE NO: 5		
Source has sufficient mass and will fall sufficient further evaluation required.	ent distance to da	mage target.
ACCEPTABLE	X	POTENTIALLY UNACCEPTABLE
T P RÜGGIERO 9/15/82	W GRISWOLD	9/24/82
INTERACTION ENGINEER / DATE	VERIFIE	D/DATE

BUILDING: PRIMARY AUXILIARY H	BUILDING		`.
FIRE ZONE: 59A			·
LOCATION WITHIN FIRE ZONE:			
POTENTIAL INTERACTION NO.: 7	J-13-24-2		
PHOTOGRAPH NO.: M420			
BACKGROUND NO.:	•		
IDENTIFICATION OF INTERACTION	COMPONENTS:		
TARGET: PCV-1228	(Bottom right)		
SOURCE: 3"-#830a	(3rd white arrow	w from top)	
DESCRIPTION OF POSTULATED INTE	ERACTION:		
Source falls on target			
EVALUATION OF INTERACTION:			
EVALUATION NOTE NO: 5			
Source has sufficient mass and Further evaluation required.	will fall sufficion.	ent distance to	damage target.
ACCEPTABLE		Х	POTENTIALLY UNACCEPTABLE
T P RUGGIERO 9/15/82 INTERACTION ENGINEER/DATE	-	W GRISWOLD	9/24/82 IED/DATE
The second secon		· DITT	

INTERACTION ENGINEER / DATE	VERIFIE	D/DATE
T P RUGGIERO 9/15/82	W GRISWOLD	9/24/82
X ACCEPTABLE		POTENTIALLY ——UNACCEPTABLE
- ·		
EVALUATION NOTE NO: 3		
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: $3/4$ "- $\#866$ (3rd white arrow f	rom left)	
<u> </u>		
TARGET: BLIND FLANGE (6"-865) (Top	center)	
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M419		
POTENTIAL INTERACTION NO.: V-13-81-1		
LOCATION WITHIN FIRE ZONE:	·	
FIRE ZONE: 59 A		
BUILDING: PRIMARY AUXILIARY BUILDING		

INTERACTION ENGINEER / DATE	VERIFIED	/DATE
T P RUGGIERO 9/15/82	W A GRISWOLD	9/24/82
X ACCEPTABLE		POTENTIALLY UNACCEPTABLE
EVALUATION NOTE NO: 3		
EVALUATION OF INTERACTION:		•
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 3/4"-#867 (2nd arrow from le	eft)	
TARGET: BLIND FLANGE (6"-865)		
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M419		
POTENTIAL INTERACTION NO.: V-13-81-2		•
LOCATION WITHIN FIRE ZCNE:		
FIRE ZONE: 59A		
BUILDING: PRIMARY AUXILIARY BUILDING		

INTERACTION ENGINEER / DATE	· VERIFIED,	/DATE
T P RUGGIERO 9/15/82	W GRISWOLD	9/24/82
XACCEPTABLE		POTENTIALLY UNACCEPTABLE
EVALUATION NOTE NO: 3		
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 3/4"-#868 (1st arrow from left)	
TARGET: BLIND FLANGE (6"-865)	·	
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:	·	
PHOTOGRAPH NO.: M419		
POTENTIAL INTERACTION NO.: V-13-81-3	,	
LOCATION WITHIN FIRE ZONE:		
-FIRE ZONE: 59A		
BUILDING: PRIMARY AUXILIARY BUILDING	•	

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POTENTIAL INTERACTION NO.: V-13-81-4 PHOTOGRAPH NO.: M419 BACKGROUND NO.: IDENTIFICATION OF INTERACTION COMPONENTS: TARGET: BLIND FLANGE (6"-865) SOURCE: 6"-#864 (1st arrow from right) DESCRIPTION OF POSTULATED INTERACTION: Source falls on target EVALUATION OF INTERACTION: EVALUATION NOTE NO: 3 X ACCEPTABLE T P RUGGIERO 9/15/82 INTERACTION ENGINEER/DATE	POTENTIALLY ——UNACCEPTABI OLD 9/24/82
PHOTOGRAPH NO.: M419 BACKGROUND NO.: IDENTIFICATION OF INTERACTION COMPONENTS: TARGET: BLIND FLANGE (6"-865) SOURCE: 6"-#864 (1st arrow from right) DESCRIPTION OF POSTULATED INTERACTION: Source falls on target EVALUATION OF INTERACTION: EVALUATION NOTE NO: 3	
PHOTOGRAPH NO.: M419 BACKGROUND NO.: IDENTIFICATION OF INTERACTION COMPONENTS: TARGET: BLIND FLANGE (6"-865) SOURCE: 6"-#864 (1st arrow from right) DESCRIPTION OF POSTULATED INTERACTION: Source falls on target EVALUATION OF INTERACTION:	
PHOTOGRAPH NO.: M419 BACKGROUND NO.: IDENTIFICATION OF INTERACTION COMPONENTS: TARGET: BLIND FLANGE (6"-865) SOURCE: 6"-#864 (1st arrow from right) DESCRIPTION OF POSTULATED INTERACTION: Source falls on target EVALUATION OF INTERACTION:	
PHOTOGRAPH NO.: M419 BACKGROUND NO.: IDENTIFICATION OF INTERACTION COMPONENTS: TARGET: BLIND FLANGE (6"-865) SOURCE: 6"-#864 (1st arrow from right) DESCRIPTION OF POSTULATED INTERACTION:	
PHOTOGRAPH NO.: M419 BACKGROUND NO.: IDENTIFICATION OF INTERACTION COMPONENTS: TARGET: BLIND FLANGE (6"-865) SOURCE: 6"-#864 (1st arrow from right)	
PHOTOGRAPH NO.: M419 BACKGROUND NO.: IDENTIFICATION OF INTERACTION COMPONENTS: TARGET: BLIND FLANGE (6"-865)	
PHOTOGRAPH NO.: M419 BACKGROUND NO.: IDENTIFICATION OF INTERACTION COMPONENTS:	
PHOTOGRAPH NO.: M419 BACKGROUND NO.:	
PHOTOGRAPH NO.: M419	
POTENTIAL INTERACTION NO.: V-13-81-4	
LOCATION WITHIN FIRE ZCNE:	
FIRE ZONE: 59A	

INTERACTION ENGINEER / DATE	VERIFIEI)/DATE
T P RUGGIERO 9/15/82	W GRISWOLD	9/24/82
ACCEPTABLE	X	POTENTIALLY UNACCEPTABLI
Source has adequate mass to damage target. Fu	rther evaluation red	quired.
EVALUATION NOTE NO: 6		
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 6"-#864 (White arrow at righ	t side)	
TARGET: CAPPED (3/4"-866)		
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M419		,
POTENTIAL INTERACTION NO.: V-13-83-4		
LOCATION WITHIN FIRE ZCNE:		
FIRE ZONE: 59A		
BUILDING: PRIMARY AUXILIARY BUILDING	•	

INTERACTION ENGINEER / DATE	VERIFIE	ED/DATE
T P RUGGIERO 9/15/82	W GRISWOLD	9/24/82
ACCEPTABLE		POTENTIALLYUNACCEPTABLE
	1	Domman
EVALUATION NOTE NO: 3		
EVALUATION OF INTERACTION:		
TWAT WARTON OF TWEED LOTTON		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 3/4"-#866 (3rd white arrow fr	com left)	
TARGET: CAPPED (3/4"-867)		
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M419		
POTENTIAL INTERACTION NO.: V-13-84-1		
LOCATION WITHIN FIRE ZONE:		
FIRE ZONE: 59A		
BUILDING: PRIMARY AUXILIARY BUILDING		•

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System	No.	13

BUILDING: PRIMARY AUXILIARY BUILDING		
FIRE ZONE: 59A		
LOCATION WITHIN FIRE ZONE:		
POTENTIAL INTERACTION NO.: V-13-84-4		
PHOTOGRAPH NO.: M419		
BACKGROUND NO.:		
IDENTIFICATION OF INTERACTION COMPONENTS:		
TARGET: CAPPED (3/4"-867)		
SOURCE: 6"-#864 (right white arrow)		
DESCRIPTION OF POSTULATED INTERACTION:		
Source falls on target		
EVALUATION OF INTERACTION:	•	
EVALUATION NOTE NO: 5		
Source has sufficient mass and will fall sufficient evaluation required.	distance to	damage target. Further
ACCEPTABLE	X	POTENTIALLY UNACCEPTABLE
T P RUGGIERO 9/15/82 INTERACTION ENGINEER/DATE	W GRISWOLD VERTE	9/24/82 IED/DATE
	VLICTI	:

INTERACTION ENGINEER / DATE	VERIFIE	D/DATE
T P RUGGIERO 9/15/82	W GRISWOLD	9/24/82
		UNACCEPTABLE
X ACCEPTABLE		POTENTIALLY
EVALUATION NOTE NO: 3		
EVALUATION OF INTERACTION:		
-		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
-/ (SIG WHILE ALLOW	TIOM TELL)	
SOURCE: 3/4"-#866 (3rd white arrow	from left)	
TARGET: CAPPED (3/4"-868)		
		·
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M419		
POTENTIAL INTERACTION NO.: V-13-85-1		
LOCATION WITHIN FIRE ZONE:	·	
FIRE ZONE: 59A		
BUILDING: PRIMARY AUXILIARY BUILDING		

INTERACTION ENGINEER / DATE	VERIFIED/	DATE
T P RUGGIERO 9/15/82	W GRISWOLD	9/24/82
XACCEPTABLE		POTENTIALLY UNACCEPTABLE
EVALUATION NOTE NO: 3		
EVALUATION OF INTERACTION:	· .	
-	1	
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 3/4"-#867 (2nd white arrow from	left)	
TARGET: CAPPED (3/4"-868)		
IDENTIFICATION OF INTERACTION COMPONENTS:	`	
BACKGROUND NO.:		
PHOTOGRAPH NO.: M419		
POTENTIAL INTERACTION NO.: V-13-85-2		
LOCATION WITHIN FIRE ZONE:		
FIRE ZONE: 59A		
BUILDING: PRIMARY AUXILIARY BUILDING		

BUILDING: PRIMARY AUXILIARY BUILDING		
FIRE ZONE: 59 A		
LOCATION WITHIN FIRE ZONE:		
POTENTIAL INTERACTION NO.: V-13-85-3		
PHOTOGRAPH NO.: M419		
BACKGROUND NO.:		
IDENTIFICATION OF INTERACTION COMPONENTS:		
TARGET: CAPPED (3/4"-868)	•	
SOURCE: 6"-#864 (1st white arrow from DESCRIPTION OF POSTULATED INTERACTION:	m right)	
DESCRIPTION OF TOSTOLATED INTERACTION.		
Source falls on target		
EVALUATION OF INTERACTION:		
EVALUATION NOTE NO: 5		
Source has adequate mass and will fall sufficient evaluation required.	nt distance to damage	target. Further
XACCEPTABLE		POTENTIALLY —UNACCEPTABLE
		CITIOGE INDEE
T P RUGGIERO 9/15/82	W GRISWOLD	9/24/82
INTERACTION ENGINEER / DATE	VERIFIED/D	ATE

System	No.	13

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VERIFIED/	DATE
W GRISWOLD	9/24/82
	POTENTIALLY UNACCEPTABLE
_	W GRISWOLD VERIFIED/I

INTERACTION ENGINEER / DATE	VERIFIEI)/DATE
T P RUGGIERO 9/15/82	W GRISWOLD	9/24/82
XACCEPTABLE		POTENTIALLY ——UNACCEPTABLI
EVALUATION NOTE NO: 3		
EVALUATION NOTE NO: 3		
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: LIGHT FIXTURE		
TARGET: CB-1 (Not Shown)		
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M461		
POTENTIAL INTERACTION NO.: V-13-111-1		
LOCATION WITHIN FIRE ZONE:		
FIRE ZONE: 85A		
BUILDING: REACTOR CONTAINMENT BUILDING		

INTERACTION ENGINEER / DATE	VERIFIED)/DATE
T P RUGGIERO 9/15/82	W GRISWOLD	9/24/82
ACCEPTABLE	X	POTENTIALLY UNACCEPTABLI
•		
EVALUATION NOTE NO: 6		·
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 2½" STEAM LINE (Right Arrow)		
TARGET: CB-1 (Not Shown)		
DENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M461		
POTENTIAL INTERACTION NO.: V-13-111-2		
LOCATION WITHIN FIRE ZONE:		
FIRE ZONE: 85A		· '
BUILDING: REACTOR CONTAINMENT BUILDING		

PHOTOGRAPH NO.: M461	
BACKGROUND NO.:	
IDENTIFICATION OF INTERACTION COMPONENTS:	
TARGET: CB-1 (Not Shown)	
SOURCE: 2" CONDENSATE RETURN (Middle arrow)	
DESCRIPTION OF POSTULATED INTERACTION:	
Source falls on target	
EVALUATION OF INTERACTION:	·
EVALUATION NOTE NO: 6	
ACCEPTABLE X	POTENTIALLY UNACCEPTABLE
T P RUGGIERO 9/15/82 W GRISWOLD	9/24/82
INTERACTION ENGINEER/DATE VERIFI	ED/DATE

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Svstem	No	13
2 A 2 C GIII	INO.	

INTERACTION ENGINEER / DATE	VERIFIED	/DATE
T P RUGGIERO 9/15/82	W GRISWOLD	9/24/82
XACCEPTABLE	· · · · · · · · · · · · · · · · · · ·	POTENTIALLY UNACCEPTABLE
EVALUATION NOTE NO: 3		
	•	
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: LIGHT FIXTURE		
TARGET: CB-2 (Not Shown)		
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M461		
POTENTIAL INTERACTION NO.: V-13-112-1		•
LOCATION WITHIN FIRE ZONE:		
FIRE ZONE: 85A		
BUILDING: REACTOR CONTAINMENT BUILDING		

INTERACTION ENGINEER / DATE	VERIFIED	/DATE
T P RUGGIERO 9/15/82	W GRISWOLD	9/24/82
ACCEPTABLE	X	POTENTIALLY UNACCEPTABLE
		-
EVALUATION NOTE NO: 6		
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 2½" STEAM LINE (Right arrow)		
TARGET: CB-2		
IDENTIFICATION OF INTERACTION COMPONENTS:		
		. `
BACKGROUND NO.:		
PHOTOGRAPH NO.: M461		
POTENTIAL INTERACTION NO.: V-13-112-2		
LOCATION WITHIN FIRE ZONE:		
FIRE ZONE: 85A		
BUILDING: REACTOR CONTAINMENT BUILDING		

_		1.
System	No.	

Sheet	59 of	34

INTERACTION ENGINEER / DATE	VERIFIED	/DATE
T P RUGGIERO 9/15/82	W GRISWOLD	9/24/82
ACCEPTABLE	. X	POTENTIALLYUNACCEPTABLE
•		
EVALUATION NOTE NO: 6		
EVALUATION OF INTERACTION:		
Source falls on target	•	
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 2" CONDENSATE RETURN (Middle a	rrow)	
TARGET: CB-2 (Not Shown)		
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M461		
POTENTIAL INTERACTION NO.: V-13-112-3	,	
LOCATION WITHIN FIRE ZCNE:		
FIRE ZONE: 85A		
BUILDING: REACTOR CONTAINMENT BUILDING		
, EVALUATION SHEE	.1	

T P RUGGIERO 9/15/82 INTERACTION ENGINEER/DATE	W GRISWOLD VERIFIE	9/24/82 D/DATE
XACCEPTABLE		POTENTIALLY UNACCEPTABL
EVALUATION NOTE NO: 3		
EVALUATION NOTE NO. 3		
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: LIGHT FIXTURE		
TARGET: CB-3 (Not Shown)		
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M461		
POTENTIAL INTERACTION NO.: V-13-113-1		
LOCATION WITHIN FIRE ZCNE:		
FIRE ZONE: 85A		
BUILDING: REACTOR CONAINMENT BUILDING	,	

INTERACTION ENGINEER / DATE VERY		RIFIED/DATE	
T P RUGGERIO 9/15/82	W GRISWOLD	9/24/82	
ACCEPTABLE	X	POTENTIALLY UNACCEPTABLE	
EVALUATION NOTE NO: 6			
EVALUATION OF INTERACTION:			
Source falls on target			
DESCRIPTION OF POSTULATED INTERACTION:	-		
SOURCE: 2½" STEAM LINE (Right Arrow)			
TARGET: CB-3 (Not Shown)			
IDENTIFICATION OF INTERACTION COMPONENTS:			
BACKGROUND NO.:			
PHOTOGRAPH NO.: M461			
POTENTIAL INTERACTION NO.: V-13-113-2			
LOCATION WITHIN FIRE ZONE:			
FIRE ZONE: 85A			
BUILDING: REACTOR CONAINMENT BUILDING		•	

_		13
System	No.	

	62		84	
Sheet		of	04	

INTERACTION ENGINEER / DATE	VERIFIED	/DATE
T P RUGGIERO 9/15/82	W GRISWOLD	9/24/82
ACCEPTABLE	X	POTENTIALLYUNACCEPTABLE
EVALUATION NOTE NO: 6		
EVALUATION OF INTERACTION:		
Source falls on target		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 2" CONDENSATE RETURN (Middle	arrow)	
COURCE		•
TARGET: CB-3 (Not Shown)		
IDENTIFICATION OF INTERACTION COMPONENTS:		
ZIONONOND NO		
BACKGROUND NO.:		
PHOTOGRAPH NO.: M461		
POTENTIAL INTERACTION NO.: V-13-113-3		
LOCATION WITHIN FIRE ZONE:		
FIRE ZONE: 85A		·
BUILDING: REACTOR CONTAINMENT BUILDING		
· · · · · · · · · · · · · · · · · · ·		
NONCONNECTED SYSTEMS EVALUATION S	INTERACTION	

BUILDING: Fan House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev 67'-6"

POTENTIAL INTERACTION NO.: V-13-159-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Blower BL-34

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

POTENTIALLY ACCEPTABLE -UNACCEPTABLE

D MIRKOVIC INTERACTION ENGINEER / DATE W GRISWOLD 5/18/83
VERIFIED/DATE

BUILDING: Fan House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev. 67'-6"

POTENTIAL INTERACTION NO.: V-13-158-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 5" Disch - Silencer

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

MIRKOVIC 5/12/83

INTERACTION ENGINEER/DATE

X POTENTIALLY
UNACCEPTABLE

W A GRISWOLD 5/18/83
VERIFIED/DATE

D MIRKOVIC 5/12/83
INTERACTION ENGINEER/DATE

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

ACCEPTABLE	· X	POTENTIALLY ——UNACCEPTABLE
EVALUATION NOTE NO: 6		· .
EVALUATION OF INTERACTION:		
THAT HARTON OF THEFT ACTION		
Source falls on target.		
DESCRIPTION OF POSTULATED INTERACTION:	·	
SOURCE: 8" Roof Drain		
TARGET: Relief Valve (2½")		
IDENTIFICATION OF INTERACTION COMPONENTS:		
•		
BACKGROUND NO.: 20		
PHOTOGRAPH NO.: E-378		
POTENTIAL INTERACTION NO.: V-13-157-1		
LOCATION WITHIN FIRE ZONE: Elev. 67'-6"		
FIRE ZONE: 88A		
BUILDING: Fan House		

Ebasco Services Incorporated

OLD 5/18/83 VERIFIED/DATE

W A GRISWOLD

BUILDING: Fan House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev. 67'-6"

POTENTIAL INTERACTION NO.: V-13-156-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: PCA-15 (½")

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

MIRKOVIC 5/12/83

D MIRKOVIC 5/12/83

INTERACTION ENGINEER/DATE

X POTENTIALLY
UNACCEPTABLE

W A GRISWOLD 5/18/83

VERIFIED/DATE

BUILDING: Fan House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev. 67'-6"

POTENTIAL INTERACTION NO.: V-13-155-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: PCA-12 (4")

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

MIRKOVIC 5/12/83

INTERACTION ENGINEER/DATE

X POTENTIALLY
UNACCEPTABLE

W A GRISWOLD 5/18/83

VERIFIED/DATE

BUILDING: Fan House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev. 67!-6"

POTENTIAL INTERACTION NO.: V-13-153-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Blower BL-33

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

X POTENTIALLY
UNACCEPTABLE

D MIRKOVIC 5/12/83
INTERACTION ENGINEER/DATE

W A GRISWOLD 5/18/83
VERIFIED/DATE

BUILDING:	Fan	House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev. 67!-6"

POTENTIAL INTERACTION NO.: V-13-152-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 5" Disch-Silencer

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target. "

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE		X	UNACCEPTABLE	
D MIRKOVIC	5/12/83	W A GRISWOLD	5/18/83	
INTERACTION E	ENGINEER / DATE	VEDIET	ED/DATE	_

BUILDING: Fan House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev. 67'-6"

POTENTIAL INTERACTION NO.: V-13-151-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: R.V. $(2\frac{1}{2})$

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

POTENTIALLY Х ACCEPTABLE -UNACCEPTABLE

5/12/83 D MIRKOVIC W A GRISWOLD 5/18/83 INTERACTION ENGINEER / DATE VERIFIED/DATE

BUILDING: Fan House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev. 67'-6"

POTENTIAL INTERACTION NO.: V-13-150-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: PCA-14 (1/2")

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

MIRKOVIC 5/12/83
INTERACTION ENGINEER/DATE

ACCEPTABLE

W A GRISWOLD 5/18/83

VERIFIED/DATE

BUILDING: Fan House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev. 67'-6"

POTENTIAL INTERACTION NO.: V-13-149-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: PCA-13

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

POTENTIALLY ACCEPTABLE -UNACCEPTABLE D MIRKOVIC 5/12/83 W A GRISWOLD 5/18/83 INTERACTION ENGINEER / DATE VERIFIED/DATE

BUILDING: Fan House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev. 67!-6"

POTENTIAL INTERACTION NO.: L-13-178-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 5"-702

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE X POTENTIALLY UNACCEPTABLE

D MIRKOVIC 5/12/83
INTERACTION ENGINEER/DATE

W A GRISWOLD 5/18/83

VERIFIED/DATE

D MIRKOVIC 5/12/83 INTERACTION ENGINEER/DATE	W A GRISWOLD VERIFIE	5/18/83
ACCEPTABLE	X	POTENTIALLY UNACCEPTABLE
EVALUATION NOTE NO: 6		•
EVALUATION OF INTERACTION:		
Source falls on target.		
DESCRIPTION OF POSTULATED INTERACTION:		
SOURCE: 8" Roof Drain	•	
TARGET: 6"-702		
IDENTIFICATION OF INTERACTION COMPONENTS:		
BACKGROUND NO.: 20		
PHOTOGRAPH NO.: E-378		•
POTENTIAL INTERACTION NO.: L-13-177-1		
LOCATION WITHIN FIRE ZONE: Elev. 67'-6"		
FIRE ZONE: 88A		
BUILDING: Fan House		

Ebasco Services Incorporated

VERIFIED/DATE

BUILDING: Fan House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev. 67'-6"

POTENTIAL INTERACTION NO.: L-13-176-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 5"-701

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE X POTENTIALLY UNACCEPTABLE

D MIRKOVIC 5/12/83
INTERACTION ENGINEER/DATE

W A GRISWOLD 5/18/83

VERIFIED/DATE

BUILDING: Fan House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev. 67!-6"

POTENTIAL INTERACTION NO.: L-13-175-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 6"-701

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

MIRKOVIC 5/12/83

INTERACTION ENGINEER/DATE

X POTENTIALLY UNACCEPTABLE

W A GRISWOLD 5/18/83

VERIFIED/DATE

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

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

BUILDING: Fan House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev. 67'-6"

POTENTIAL INTERACTION NO.: L-13-174-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 5"-704

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

ACCEPTABLE

X
POTENTIALLY
UNACCEPTABLE

D MIRKOVIC 5/12/83
INTERACTION ENGINEER/DATE

W A GRISWOLD 5/18/83
VERIFIED/DATE

BUILDING: Fan House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev. 67'-6"

POTENTIAL INTERACTION NO.: L-13-173-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1/3!!-704

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE X POTENTIALLY UNACCEPTABLE

D MIRKOVIC 5/12/83
INTERACTION ENGINEER/DATE

W A GRISWOLD 5/18/83 VERIFIED/DATE

BUILDING: Fan House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev. 67'-6"

POTENTIAL INTERACTION NO.: L-13-172-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 2½"-704

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE X POTENTIALLY UNACCEPTABLE

D MIRKOVIC 5/12/83
INTERACTION ENGINEER/DATE

W A GRISWOLD 5/18/83 VERIFIED/DATE

BUILDING: Fan House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev. 67'-6"

POTENTIAL INTERACTION NO.: L-13-171-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4"-704

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE X POTENTIALLY UNACCEPTABLE

D MIRKOVIC 5/12/83
INTERACTION ENGINEER/DATE

W A GRISWOLD 5/18/83 VERIFIED/DATE

BUILDING: Fan House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev. 67'-6"

POTENTIAL INTERACTION NO.: L-13-170-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 5"-703

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

POTENTIALLY X ACCEPTABLE -UNACCEPTABLE D MIRKOVIC 5/12/83 W A GRISWOLD 5/18/83 INTERACTION ENGINEER / DATE

Ebasco Services Incorporated

VERIFIED/DATE

BUILDING: Fan House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev. 67'-6"

POTENTIAL INTERACTION NO.: L-13-169-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: ½"-703

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

X

POTENTIALLY -UNACCEPTABLE

D MIRKOVIC 5/12/83
INTERACTION ENGINEER/DATE

W A GRISWOLD

5/18/83

VERIFIED/DATE

BUILDING: Fan House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev. 67'-6"

POTENTIAL INTERACTION NO.: L-13-168-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 2½"-703

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE X POTENTIALLY UNACCEPTABLE

D MIRKOVIC 5/12/83 W A GRISWOLD 5/18/83
INTERACTION ENGINEER/DATE VERIFIED/DATE

BUILDING: Fan House

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev. 67'-6"

POTENTIAL INTERACTION NO.: L-13-167-1

PHOTOGRAPH NO.: E-378

_ ---

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4"-703

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

	ACCEPTABLE		· X	POTENTIALLYUNACCEPTABLE
D MIRKOVIC	5/12/83		W A GRISWOLD	5/18/83
INTERACTION E	NGINEER / DATE	•	VERTETE	D/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	13			
SYSTEM NAME	Containment Isolat	ion System		
			ſ	
FMEA CATEGORY			NON-CONNECTED X	
			INTERCONNECTED	
	•			
Dhopse PREPARED BY/DATE	3/4/83	·		
Program -	3/30/82	W4. a	ris1N7/1/ 4.29.83	

Ebasco Services Incorporated

VERIFIED BY/DATE

FMEA NUMBER: 13-M-1

Interaction Number(s): L-13-13-2

L-13-13-3

Fire Zone: 59A

Target Component(s)

Number, Description & Function:

2"-SA-34 Service air line through containment penetration Y.

Postulated Failure Mode(s) and Evaluation:

M-1-(P) A pipe rupture could result in a loss of containment integrity therefore, it is an unacceptable interaction.

M-1-(A) A collapsed or crimped pipe will not affect the containment isolation system.

L Cerra 4/1/83

EVALUATING ENGINEER/DATE

D Mirkovic 4/19/83

CHECKED/DATE

FMEA NUMBER: 13-M-2

Interaction Number(s): L-13-17-2

L-13-17-3

Fire Zone: 59A

Target Component(s)

Number, Description & Function:

2"-IA-39 Instrument air line through containment penetration Y.

Postulated Failure Mode(s) and Evaluation:

M-1-(P)

Refer to FMEA 13-M-1

M-2-(A)

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

L Cerra 4/1/83

D Mirkovic 4/19/83

EVALUATING ENGINEER/DATE

CHECKED/DATE

FMEA NUMBER: 13-M-3

Interaction Number(s): L-13-29-1

L-13-29-2

Fire Zone: 59A

Target Component(s)

Number, Description & Function:

1''-SI-68 Safety injection system line through containment penetration RR. Contains pressurizing N_2 gas for accumulators.

Postulated Failure Mode(s) and Evaluation:

M-1-(P)

Refer to FMEA 13-M-1

M-1-(A)

Acceptable $\frac{X}{Potentially}$ Unacceptable/Safety Function Affected

L Cerra 4/1/83

EVALUATING ENGINEER/DATE

D Mirkovic 4/19/83
CHECKED/DATE

FMEA NUMBER: 13-M-4

Interaction Number(s): L-13-51-1

L-13-51-2 L-13-51-3 L-13-51-4

Fire Zone: 59A

Target Component(s)

Number, Description & Function:

6"-865 Containment penetration XX. Used for containment leak rate test, then capped or flanged closed.

Postulated Failure Mode(s) and Evaluation:

M-1-(P)

Refer to FMEA 13-M-1

M-1-(A)

Acceptable $\frac{X}{Potentially} \frac{()2()3()4(X)}{Potentially}$

L Cerra 4/1/83

EVALUATING ENGINEER/DATE

D Mirkovic 4/19/83 CHECKED/DATE

FMEA NUMBER: 13-M-5

Interaction Number(s): L-13-53-4

Fire Zone: 59A

Target Component(s)

Number, Description & Function:

3/4"-866 Line through containment penetration RR. Used for containment leak rate test, then capped or flanged closed.

Postulated Failure Mode(s) and Evaluation:

M-1-(P)

Refer to FMEA 13-M-1

M-1-(A)

Acceptable $\frac{X}{Potentially\ Unacceptable/Safety\ Function\ Affected}$

L Cerra 4/1/83

EVALUATING ENGINEER/DATE

D Mirkovic 4/19/83

CHECKED/DATE

FMEA NUMBER: 13-M-6

Interaction Number(s): L-13-54-4

Fire Zone: 59A

Target Component(s)

Number, Description & Function:

3/4"-867 Containment leak rate test penetration line at penetration RR.

Postulated Failure Mode(s) and Evaluation:

M-1-(P)

Refer to FMEA 13-M-1

M-1-(A)

L Cerra 4/1/83

D Mirkovic 4/19/83 CHECKED/DATE

FMEA NUMBER: 13-M-7

Interaction Number(s): L-13-55-4

Fire Zone: 59A

Target Component(s)

Number, Description & Function:

3/4"-868 Containment leak rate test penetration line at penetration RR.

Postulated Failure Mode(s) and Evaluation:

M-1-(P)

Refer to FMEA 13-M-1

M-1-(A)

L Cerra

D Mirkovic 4/19/83

EVALUATING ENGINEER/DATE

CHECKED/DATE

FMEA NUMBER: 13-M-8

Interaction Number(s): L-13-167-1

Fire Zone: 88A

Target Component(s)
Number, Description & Function:

4"-703 Cooling air supply header for misc hot penetrations.

Postulated Failure Mode(s) and Evaluation:

M-1-(A) Damaged cooling air pipe resulting in loss of hot penetration cooling would not lead to a loss of structural strength at the penetrations (Reference: IP#-3 FSAR Section 5.1.4.2, Rev O dated 7/82). Therefore containment integrity is not effected.

M-2-(A) See M-1

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

L Cerra 4/1/83
EVALUATING ENGINEER/DATE

D Mirkovic 4/19/83 CHECKED/DATE

FMEA NUMBER: 13-M-9

Interaction Number(s): L-13-168-1

Fire Zone: 88A

Target Component(s)
Number, Description & Function:

 $2\ 1/2$ "-703 Line to relief valve downstream of hot penetrations air blower BL-33.

Postulated Failure Mode(s) and Evaluation:

M-1-(A)

Refer to FMEA 13-M-8

M-2-(A)

X Acceptable /1()2()3()4()

Potentially Unacceptable/Safety Function Affected

L Cerra 4/1/83

EVALUATING ENGINEER/DATE

D Mirkovic 4/19/83.

CHECKED/DATE

FMEA NUMBER: 13-M-10

Interaction Number(s): L-13-169-1

Fire Zone: 88A

Target Component(s)
Number, Description & Function:

1/2"-703 Instrument line off main run to PI 1337.

Postulated Failure Mode(s) and Evaluation:

M-1-(A)

Refer to FMEA 13-M-8

M-2-(A)

X Acceptable /1()2()3()4()

Potentially Unacceptable/Safety Function Affected

L Cerra 4/1/83
EVALUATING ENGINEER/DATE

D Mirkovic 4/19/83 CHECKED/DATE

FMEA NUMBER: 13-M-11

Interaction Number(s): L-13-170-1

Fire Zone: 88A

Target Component(s)
Number, Description & Function:

5"-703 Discharge pipe from penetration air blower BL-33.

Postulated Failure Mode(s) and Evaluation: M-1-(A) Refer to FMEA 13-M-8 M-2-(A)

/1()2()3()4()

Potentially Unacceptable/Safety Function Affected

L Cerra 4/1/83
EVALUATING ENGINEER/DATE

D Mirkovic 4/19/83 CHECKED/DATE

FMEA NUMBER: 13-M-12

Interaction Number(s): L-13-171-1

Fire Zone: 88A

Target Component(s)
Number, Description & Function:

4"-704 Part of the discharge line from penetration air blower BL-34.

Postulated Failure Mode(s) and Evaluation:

M-1-(A)

Refer to FMEA 13-M-8

M-2-(A)

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

L Cerra 4/1/83 D Mirkovic 4/19/83
EVALUATING ENGINEER/DATE CHECKED/DATE

FMEA NUMBER: 13-M-13

Interaction Number(s): L-13-172-1

Fire Zone: 88A

Target Component(s)
Number, Description & Function:

 $2 \frac{1}{2}$ Line to relief valve downstream of hot penetrations air blower BL-34.

Postulated Failure Mode(s) and Evaluation:

M-1-(A)

Refer to FMEA 13-M-8

M-2-(A)

X	/ 1 () 2 () 3 () 4 ()
Acceptable	Potentially Unacceptable/Safety Function Affected
L Cerra 4/1/83	D Mirkovic 4/19/83
EVALUATING ENGINEER/DATE	CHECKED/DATE

FMEA NUMBER: 13-M-14

Interaction Number(s): L-13-173-1

Fire Zone: 88A

Target Component(s)

Number, Description & Function:

1/2"-704 Instrument line off main run of PI 1338.

Postulated Failure Mode(s) and Evaluation:

M-1-(A)

Refer to FMEA 13-M-8

M-2-(A)

X Acceptable Po

L Cerra 4/1/83

EVALUATING ENGINEER/DATE

D Mirkovic 4/19/83

FMEA NUMBER: 13-M-15

Interaction Number(s): L-13-174-1

Fire Zone: 88A

Target Component(s)
Number, Description & Function:

5"-704 Discharge pipe from penetration air blower BL-34.

Postulated Failure Mode(s) and Evaluation:

M-1-(A)

Refer to FMEA 13-M-8

M-2-(A)

X
Acceptable Potentially Unacceptable

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

L Cerra 4/1/83

EVALUATING ENGINEER/DATE

FMEA NUMBER: 13-M-16

Interaction Number(s): L-13-175-1

Fire Zone: 88A

Target Component(s)
Number, Description & Function:

6"-701 Section of line between inlet muffler filter and penetration air blower.

Postulated Failure Mode(s) and Evaluation:

M-1-(A)

See FMEA.13-M-8

M-2-(A)

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

L Cerra 4/1/83
EVALUATING ENGINEER/DATE

FMEA NUMBER: 13-M-17

Interaction Number(s): L-13-176-1

Fire Zone: 88A

Target Component(s)
Number, Description & Function:

5"-701 Section of the inlet to air blower line by muffler filter and blower suction, separated by 6"-701.

Postulated Failure Mode(s) and Evaluation:

M-1-(A)

Refer to FMEA 13-M-8

M-2-(A)

	<u>X</u>		/1()	2 () 3 () 4 ()
٠	Acceptable	Potentially	Unacceptable/Safety	Function Affected
	L Cerra 4/1/83		D Mirkovic	4/19/83
	EVALUATING ENGINEER/DAT	 E	CHECKEI	

FMEA NUMBER: 13-M-18

Interaction Number(s): L-13-177-1

Fire Zone: 88A

Target Component(s)
Number, Description & Function:

6"-702 Section of line between inlet muffler filter and penetration air blower.

Postulated Failure Mode(s) and Evaluation:

M-1-(A)

Refer to FMEA 13-M-8

M-2-(A)

Acceptable Potentially Unacceptable/Safety Function Affected

L Cerra D Mirkovic 4/19/83

EVALUATING ENGINEER/DATE CHECKED/DATE

FMEA NUMBER: 13-M-19

Interaction Number(s): L-13-178-1

Fire Zone: 88A

Target Component(s)
Number, Description & Function:

5"-702 Section of the inlet to air blower line by muffler filter and blower suction, separated by 6"-702.

Postulated Failure Mode(s) and Evaluation:

M-1-(A)

Refer to FMEA 13-M-8

M-2-(A)

X Acceptable

/1 () 2 () 3 () 4 ()

Potentially Unacceptable/Safety Function Affected

L Cerra 4/1/83

EVALUATING ENGINEER/DATE

D Mirkovic 4/19/83

FMEA NUMBER: 13-M-20

Interaction Number(s): V-13-19-1

V-13-19-2

Fire Zone: 59A

Target Component(s)

Number, Description & Function:

SA-24 A normally locked closed isolation valve in line 2"-SA-34.

Postulated Failure Mode(s) and Evaluation:

M-5-(A) Valve SA-24 is in a safe locked closed position, therefore damage to The valve actuating mechanism is acceptable.

X Acceptable /1()2()3()4()

Potentially Unacceptable/Safety Function Affected

L Cerra 4/4/83

EVALUATING ENGINEER/DATE

D Mirkovic 4/19/83

FMEA NUMBER: 13-M-21

Interaction Number(s): V-13-20-1

V-13-20-2

Fire Zone: 59A

Target Component(s)

Number, Description & Function:

SA-24 Refer to FMEA 13-M-20

Postulated Failure Mode(s) and Evaluation:

 \dot{M} -5-(A) Refer to FMEA 13-M-20

X Acceptable Potentiall

/ 1 () 2 () 3 () 4 ()

Potentially Unacceptable/Safety Function Affected

L Cerra 4/4/83

EVALUATING ENGINEER/DATE

D Mirkovic 4/19/83

FMEA NUMBER: 13-M-22

Interaction Number(s): V-13-23-1

V-13-23-2

Fire Zone: 59A

Target Component(s)

Number, Description & Function:

IA-39 Check valve on line 2"-IA-39, located outside containment upstream of penetration Y.

Postulated Failure Mode(s) and Evaluation:

M-6-(A) Valve has no external actuating mechanism that can be damaged. For a pipe break at pipe/valve connection see FMEA 13-M-2.

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

L Cerra 4/4/83
EVALUATING ENGINEER/DATE

FMEA NUMBER: 13-M-23

Interaction Number(s): V-13-24-1

V-13-24-2

Fire Zone: 59A

Target Component(s) Number, Description & Function:

PCV-1228 A normally open, fail closed, air/hand operated gate containment isolation valve located on line 2"-IA-39 outside.

Postulated Failure Mode(s) and Evaluation:

- M-4-(A) Since the valve will fail closed interaction is acceptable. The valve may have to be opened intermittently for post accident venting, in which case the hand operator could be used.
- M-5-(P) Loss of actuator mechanism is unacceptable since the valve is normally open.

		X	·/ 1 ()	2 () 3	() 4 (s)
Acceptable	Potentially	Unacceptab	le/Safety	Function	Affected
 L Cerra 4/4/83		D	Mirkovic	4/19/83	
EVALUATING ENGINEER/DATE			CHECKE	D/DATE	

FMEA NUMBER: 13-M-24

Interaction Number(s): V-13-83-4

Fire Zone: 59A

Target Component(s)

Number, Description & Function:

Cap on line 3/4"-866, part of containment isolation boundary.

Postulated Failure Mode(s) and Evaluation:

M-6-(P) Damage to the cap may effect containment isolation.

L Cerra 4/4/83
EVALUATING ENGINEER/DATE

D Mirkovic 4/19/83 CHECKED/DATE

Ebasco Services Incorporated

FMEA NUMBER: 13-M-25

Interaction Number(s): V-13-84-4

Fire Zone: 59A

Target Component(s)

Number, Description & Function:

Cap on line 3/4"-867, part of containment isolation boundary.

Postulated Failure Mode(s) and Evaluation:

M-6-(P) Damage to the cap may effect containment isolation.

Acceptable $\frac{X}{Potentially}$ Unacceptable/Safety Function Affected

L Cerra 4/4/83

EVALUATING ENGINEER/DATE

D Mirkovic 4/19/83

FMEA NUMBER: 13-M-26

Interaction Number(s): L-13-111-2

L-13-111-3

Fire Zone: 85A

Target Component(s)

Number, Description & Function:

CB-1 Spring loaded check valve inside containment for personnel air lock.

Postulated Failure Mode(s) and Evaluation:

M-6-(P) Containment integrity would not be maintained should the valve break from the line.

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

L Cerra 4/4/83
EVALUATING ENGINEER/DATE

FMEA NUMBER: 13-M-27

Interaction Number(s): L-13-112-2

L-13-112-3

Fire Zone: 85A

Target Component(s)

Number, Description & Function:

CB-2 Spring loaded check value at the personnel air lock inside the containment.

Postulated Failure Mode(s) and Evaluation:

M-6-(P) Containment integrity would not be maintained should the valve break from the line.

Acceptable $\frac{X}{Potentially}$ Unacceptable/Safety Function Affected

L Cerra
EVALUATING ENGINEER/DATE

FMEA NUMBER: 13-M-28

Interaction Number(s): V-13-113-2

V-13-113-3

Fire Zone: 85A

Target Component(s)
Number, Description & Function:

CB-3 Equalizing ball valve interlocked with personnel air lock door.

Postulated Failure Mode(s) and Evaluation:

M-5-(A) Failure or damage to the operating mechanism will have no effect on the containment isolation system since the valve is normally closed.

M-6-(P) The integrity of the containment would not be maintained should valve CB-3 break from the line.

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

L Cerra 4/4/83
EVALUATING ENGINEER/DATE

FMEA NUMBER: 13-M-29

Interaction Number(s): V-13-149-1

Fire Zone: 88A

Target Component(s)
Number, Description & Function:

PCA 13 Manual butterfly isolation valve on discharge line of blower BL-33.

Postulated Failure Mode(s) and Evaluation:

M-6-(A) Damage to valve/equipment resulting in loss of function will have no effect on containment integrity. Loss of cooling air at the hot penetrations would not lead to a loss of structural strength at the penetration (Reference IP#3 FSAR Section 5.1.4.2, Rev 0, dated 7/82).

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

L Cerra 4/4/83 D Mirkovic 4/19/83
EVALUATING ENGINEER/DATE CHECKED/DATE

FMEA NUMBER: 13-M-30

Interaction Number(s): V-13-150-1

Fire Zone: 88A

Target Component(s)
Number, Description & Function:

PCA 14 (1/2") Isolation root valve for instrument PI 1337.

Postulated Failure Mode(s) and Evaluation:

M-6-(A) Same as FMEA 13-M-29.

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

L Cerra 4/13/83
EVALUATING ENGINEER/DATE

FMEA NUMBER: 13-M-31

Interaction Number(s): V-13-151-1

Fire Zone: 88A

Target Component(s)
Number, Description & Function:

Relief Valve (2 1/2") Relief valve between blower BL-33 and isolation valve PCA-13.

Postulated Failure Mode(s) and Evaluation:

M-6-(A) Same as FMEA 13-M-29

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

L Cerra 4/4/83
EVALUATING ENGINEER/DATE

FMEA NUMBER: 13-M-32

Interaction Number(s): V-13-152-1

Fire Zone: 88A

Target Component(s)

Number, Description & Function:

5" Disch-Silencer Located downstream of blower BL-33 on line #703.

Postulated Failure Mode(s) and Evaluation:

M-6-(A) Same as FMEA 13-M-29

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

L Cerra 4/13/83
EVALUATING ENGINEER/DATE

FMEA NUMBER: 13-M-33

Interaction Number(s): V-13-153-1

Fire Zone: 88A

Target Component(s)
Number, Description & Function:

Blower BL-33 Air blower for hot penetrations cooling system.

Postulated Failure Mode(s) and Evaluation:

M-6-(A) Same as FMEA 13-M-29

X / 1 () 2 () 3 () 4 ()

Acceptable Potentially Unacceptable/Safety Function Affected

L Cerra 4/13/83
EVALUATING ENGINEER/DATE

FMEA NUMBER: 13-M-34

Interaction Number(s): V-13-155-1

Fire Zone: 88A

Target Component(s)
Number, Description & Function:

PCA-12 (4") Manual, butterfly isolation valve on discharge line of blower BL-34.

Postulated Failure Mode(s) and Evaluation:

M-6-(A) Same as FMEA 13-M-29

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

L Cerra 4/13/83
EVALUATING ENGINEER/DATE

FMEA NUMBER: 13-M-35

Interaction Number(s): V-13-156-35

Fire Zone: 88A

Target Component(s)
Number, Description & Function:

PCA-15 (1/2") Isolation root valve for instrument PI 1338.

Postulated Failure Mode(s) and Evaluation:

M-6-(A) Same as FMEA 13-M-29

Acceptable / Dotentially Unacceptable/Safety Function Affected

L Cerra 4/13/83
EVALUATING ENGINEER/DATE

'FMEA NUMBER: 13-M-36

Interaction Number(s): V-13-157-1

' Fire Zone: 88A

Target Component(s)
Number, Description & Function:

Relief Valve (2 1/2") Relief valve between blower BL-34 and isolation valve PCA-12.

Postulated Failure Mode(s) and Evaluation:

M-6-(A) Same as FMEA 13-M-29

Acceptable Potentially Unacceptable/Safety Function Affected

L Cerra 4/13/83 D Mirkovic 4/19/83

EVALUATING ENGINEER/DATE CHECKED/DATE

FMEA NUMBER: 13-M-37

Interaction Number(s): L-13-158-1

Fire Zone: 88A

Target Component(s)
Number, Description & Function:

5" Disch-Silencer Located downstream of blower BL-34 on line 704.

Postulated Failure Mode(s) and Evaluation:

M-6-(A) Same as FMEA 13-M-29

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

L Cerra 4/13/83
EVALUATING ENGINEER/DATE

FMEA NUMBER: 13-M-38

Interaction Number(s): L-13-159-1

Fire Zone: 88A

Target Component(s)

Number, Description & Function:

Blower BL-34 Refer to FMEA 13-M-33

Postulated Failure Mode(s) and Evaluation:

M-6-(A) Same as FMEA 13-M-29

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

L Cerra 4/13/83
EVALUATING ENGINEER/DATE

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

CONTAINMENT ISOLATION SYSTEM

ELECTRICAL

POTENTIALLY UNACCEPTABLE INTERACTION NUMBER	FMEA (1) (2)	EIC (1) (2)	SPAN EVALUATION (1) (2) (3)
E-13-88-1	13-E-1-A	NR	NR
E-13-88-2	13-E-1-A	NR	NR
E-13-88-3	13-E-1-A	NR	NR
E-13-88-4	13-E-1-A	NR	NR
E-13-89-1	13-E-1-A	NR	NR
E-13-89-2	13-E-1-A	NR	NR
E-13-89-3	13-E-1-A	NR	NR
E-13-89-4	13-E-1-A	NR	NR
E-13-90-1	13-E-1-A	NR	NR
E-13-90-2	13-E-1-A	NR	NR
E-13-90-3	13-E-1-A	NR	NR
E-13-90-4	13-E-1-A	NR	NR
E-13-91-1	13-E-2-A	NR	NR
E-13-91-2	13-E-2-A	NR	NR
E-13-91-3	13-E-2-A	NR	NR
E-13-91-4	13-E-2-A	NR	NR
E-13-92-1	13-E-2-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 SYSTEMS INTERACTION STUDY TABULATION OF POTENTIALLY UNACCEPTABLE SPATIAL INTERACTIONS

CONTAINMENT ISOLATION SYSTEM

ELECTRICAL

POTENTIALLY UNACCEPTABLE INTERACTION NUMBER	FMEA (1) (2)	EIC (1) (2)	SPAN EVALUATION (1) (2) (3)
E-13-92-2	13-E-2-A	NR	NR
E-13-92-3	13-E-2-A	NR	NR
E-13-92-4	13-E-2-A	NR	NR
E-13-93-1	13-E-2-A	NR	NR
E-13-93-2	13-E-2-A	NR	NR
E-13-93-3	13-E-2-A	NR	NR
E-13-93-4	13-E-2-A	NR	NR
E-13-163-1	13-E-4-A	NR	NR
E-13-164-1	13-E-4-A	NR	NR
E-13-165-1	13-E-4-A	NR	NR
E-13-166-1	13-E-4-A	NR	NR
E-13-167-1	13-E-4-A	NR	NR .
E-13-183-1	13-E-3-A	NR	NR
E-13-184-1	13-E-3-A	NR	NR
E-13-185-1	13-E-3-A	NR	NR
E-13-186-1	13-E-3-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	E-13			
SYSTEM NAME	CONTAINMENT ISOL	ATION		
		,		
MATRIX CATEGO)RY	NON-CONNECTED	X	
		TATERCONNECTED		

Eugene Liconi 7/30/82

APPROVED BY/DATE

Ebasco Services Incorporated

NO LNTERACTION E-13 AOV 956A FLEX CNDS Х BOX SH7 1½" CND 7GT X AOV 956B FLEX CNDS X 5 BOX SH8 X 1½" CND 7GW X AOV 956C FLEX CNDS X BOX SH9 X 1坛 CND 7GU Х AOV 956D 10 FLEX CNDS X 11 BOX SI1 Х 1½" CND 7GY 12 BUILDING: PRIMARY AUXILIARY FIRE ZONE: _____59A LOCATION : PIPING PENET AREA EL 54' CONTAINMENT ISOLATION WITHIN FIRE ZONE

EBASCO SERVICES INCORPORATED POWER AUTHORITY STATE OF NEW YORK 5209.003

APPROVED

J F MONTALBANO

INDIAN POINT No. 3

SYSTEMS INTERACTION STUDY

INTERACTION MATRIX

E - 13

SH 1 OF 19

SOURCES

DIV. ELEC DR. EL

DATE^{7/82} CH_

SCALE NONE

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E-13	NO INTERACTION						
AOV 956E							
13 FLEX CNDS	Х						
14 BOX SI2	Х						
15 1½" CND 7GV	Х						
AOV 956F							
16 FLEX CNDS	х						
17 BOX SI3	х						
18 1½" CND 7GZ AOV 956G	х						
AOV 956G							
19 FLEX CNDS	x						
20 BOX SI4	х						
1½" CND 7KI 21 TO DB @ 7053	х						
AOV 956H							
22 FLEX CNDS	х						
23 BOX SI5	х						
24 1 ¹ / ₄ " CND 7KJ TO DA @ 7028	х						<u> </u>

BUILDING: PRIMARY AUXILIARY

FIRE ZONE:

LOCATION: PIPING PENET AREA EL 54'
WITHIN FIRE ZONE

CONTAINMENT ISOLATION

EBASCO	SERVICES	INC	ORPOR	ATED	ľ
DIV. ELEC	DR. EL	A	PPROVE	D	l
DATE	2CH	JF	MONTAI	BANO	ŀ
SCALE NO	NE [

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

5209.003 E-13

SH 2 OF 19



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				1						·	
	E-1:	3	NO INTERACTION	LIGHT FIXTURE							
	$/\!\!/$	PCV 1214									
	25	FLEX CNDS	х								
	26	BOX V87	Х					_			
	27	1½" CND 7VI	Х								
		PCV 1214A									
	28	FLEX CNDS	х								
م	29	BOX V91	X								
<u>-</u> ال	30	1년" CND 7VM		E248							
I HUGE I S	///	PCV 1215							,		
<u>-</u>	31	FLEX CNDS	х								
	32	BOX V88	х								
	33	1½" CND 7VJ	х								
		PCV 1215A									
	34	FLEX CNDS		E248							
	35	BOX V92	х								
	36	1½" CND 7VN		E248							

BUILDING: PRIMARY AUXILIARY
FIRE ZONE: 59A
LOCATION: PIPING PENET AREA EL 54'
WITHIN FIRE ZONE

CONTAINMENT ISOLATION

EBASCO SERVICES	S INCORPORATED	POWER AUTHORITY STATE OF NEW YORK	5209.	003
DIV. ELEC DR. EL	APPROVED	INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY	E-13 SH3	OF 19
SCALE NONE	J F MONTALBANO	INTERACTION MATRIX		

			00011020												
				1											
	E-13	3	NO INTERACTION	LIGHT FIXTURE											
		PCV 1216		-											
	37	FLEX CNDS	х	•											
	38	BOX V89	х												
	39	1½" CND 7VK	Х												
	$/\!\!/$	PCV 1216A													
	40	FLEX CNDS	X												
	41	BOX V93	х												
	42	1½" CND 7VP		E248											
IARGE 13		PCV 1217											·		
	43	FLEX CNDS	x												
	44	BOX V90	Х												
	45	1坛" CND 7VL	Х												
		PCV 1217A													
	46	FLEX CNDS	Х												
	47	BOX V94	Х												
	48	1½" CND 7VQ		E248											

BUILDING: PRIMARY AUXILIARY

FIRE ZONE: 59A
LOCATION: PIPING PENET AREA EL 54'
WITHIN FIRE ZONE

CONTAINMENT ISOLATION

EBASCO SERVICES	S INCORPORATED.						
DIV. ELEC DR. EL	APPROVED						
	J F MONTALBANO						
SCALE NONE							

POWER AUTHORITY STATE OF NEW YORK 5209. 003 INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY INTERACTION MATRIX

E-13



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					1									
		SOURCES												
E+13	3	NO INTERACTION												
	PCV 1223													
53	FLEX CNDS	х										,		
54	BOX S59	х										·		
55	1½" CND 7VB	х												
	PCV 1224													
56	FLEX CNDS	х												
57	BOX S60	х												
58	1년" CND 7VD	х												-
<u></u>	PCV 1225													
59	FLEX CNDS	х												
60	BOX S61	Х												
61	1년" CND 7VA	Х												
	PCV 1226													
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BUILDING: PRIMARY AUXILIARY

59A FIRE ZONE:

1½" CND 7VC

FLEX CNDS

BOX S62

LOCATION : PIPING PENET AREA EL 54 NITHIN FIRE ZONE

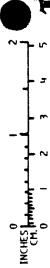
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CONTAINMENT ISOLATION

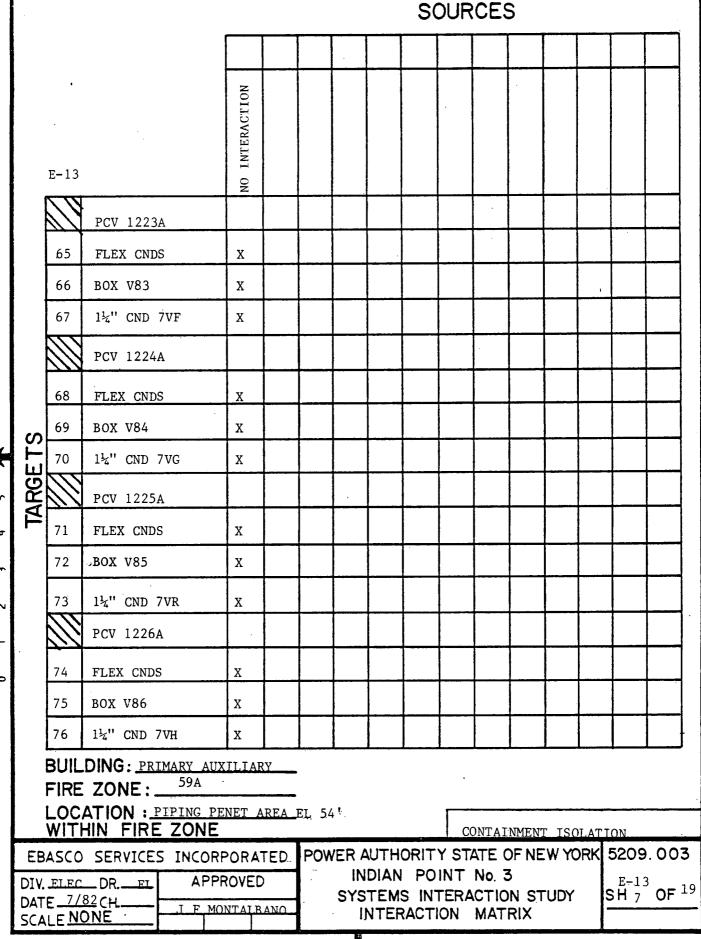
POWER AUTHORITY STATE OF NEW YORK 5209.003 EBASCO SERVICES INCORPORATED DIV. ELEC DR. DATE 7/82 CH. INDIAN POINT No. 3 DR. EL APPROVED E - 13SYSTEMS INTERACTION STUDY SH 6 OF 19 J F MONTALBANO SCALE NONE INTERACTION MATRIX



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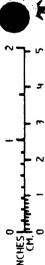
	*					•					
	E-13	3	NO INTERACTION	1" LINE 67		٠					
		PCV 1229									
	77	FLEX CNDS	Х								
	78	BOX S73	х								
	79	1½" CND 7JB TO DB @ 7097	х						·		
		PCV 1230									
	80	FLEX CNDS	Х								
	81	BOX S74	х					·			
2	82	1坛" CND 7JC	х		į						
I ARGE I	83	PB ZW8	Х				·				
إ≥	84	3½"CND 7JA TO DA @7019	х								
ļ		AOV 1610									
	85	FLEX CNDS	х								
	86	BOX	х								
	87	1½" CND	х	E249							

BUILDING: PRIMARY AUXILIARY
FIRE ZONE: 59A

LOCATION : PIPING PENET AREA EL 54 MITHIN FIRE ZONE

CONTAINMENT ISOLATION

EBASCO SERVICES	S INCORPORATED_	POWER AUTHORITY STATE OF NEW YORK	
DIV. ELEC DR. EL	APPROVED	INDIAN POINT No. 3	E-13 SH 8 OF 19
DATE 7/82 CH. SCALE NONE	J F MONTALBANO	SYSTEMS INTERACTION STUDY INTERACTION MATRIX	SH 8 UP 19



S		1 1				C
J	v	U	\Box	U	ᄃ	J

						١			<u> </u>				
				1	2	3	4						
	E-1	3	NO INTERACTION	2" LINE 45	2" LINE 46	2" LINE 47	2" LINE 48						
		AOV 1702									_		
	88	FLEX CNDS	·				£258 £258				·		
	89	BOX SL9		E258	£257 £ 25 8	\$258	£258						
	90	1½" CND 7JY TO DB @ 7052				,	£258 £258						
		AOV 1705					y						
	91	FLEX CNDS		E258	£258	E252	£25λ £258						
S	92	BOX SM1	-	E258	E258	E258	£257 £258						
ET	93	1元"CND 7JW TO DA @ 7026					E257 E 258			ļ			
TARGET		AOV 1723		ļ									
1	94	FLEX CNDS	х										
	95	BOX SM2	х										
	96	TO DB @ 7053	х	<u> </u>								-	
		AOV 1728		<u> </u>									
	97	FLEX CNDS	Х										
	98	BOX SM3	Х	<u> </u>									
	99	TO DA @ 7028	х		<u> </u>			 <u> </u>		<u> </u>		ļ	

BUILDING: PRIMARY AUXILIARY

59A FIRE ZONE:_

LOCATION: PIPING PENET AREA EL 41' WITHIN FIRE ZONE

CONTAINMENT ISOLATION

EBASCO SERVICES	S INCORPORATED_	PC
DIV. ELEC DR. EL DATE CH.	APPROVED	
DATE	J F MONTALBANO	-
SCALE NONE		ŀ

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

E-13 SH 9 OF 19

5209.003

SOL	JRC	ES
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	•								
E-13		NO INTERACTION							
	AOV 1786								
100	FLEX CNDS	х							
101	BOX SQ3	Х							
102	1坛" CND 7HC	Х							
	AOV 1787								
103	FLEX CNDS	X							
104	вох sq4	x							
105	1½" CND 7HD	х				٠			
105	AOV 1788								
106	FLEX CNDS	х							
107	BOX SQ5	х							
108	1坛" CND 7HF	х			•				
	AOV 1789								
109	FLEX CNDS	х							
110	BOX SQ6	Х							
111	1½" CND 7HG	Х			-				

BUILDING: PRIMARY AUXILIARY

FIRE ZONE: 59A

LOCATION :PIPING PENET AREA EL, 541

WITHIN FIRE ZONE

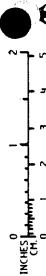
CONTAINMENT ISOLATION

EBASCO SERVICES INCORPORATED. POWER AUTHORITY STATE OF NEW YORK 5209.003

DIV. ELEC DR. EL APPROVED INDIAN POINT No. 3

DATE 7/8CH J F MONTALBANO SCALE NONE INTERACTION MATRIX

SCALE NONE INTERACTION MATRIX



SOURCES

							 	 	,	
E-13	NO INTERACTION		,							
BOX WU1										
112 BOX WU1	х									
3" CND 7HA TO DB @ 7049	x									
BOX WU3		-								
114 BOX WU3	x								,	
115 3" CND 7HB TO DA @ 7022	Х									
									-	
				,						

BUILDING: PRIMARY AUXILIARY

FIRE ZONE: 59A

LOCATION: PIPING PENET AREA EL 54'
WITHIN FIRE ZONE

CONTAINMENT ISOLATION

EBASCO SERVICE	S INCORPORATED	POWER AUTHORITY STATE OF NEW YORK	5209.003
DIV. ELEC DR. EL DATE 7/82 CH. SCALE NONE	APPROVED J F MONTALBANO	INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY INTERACTION MATRIX	E-13 SH11 OF 19

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							S	DUR	CE	S					
	E-13		NO INTERACTION									,			
		PCV 1234													
	122	FLEX CNDS	X												
	123	BOX S80	X												
	124	1½" CND 6DA	Х												
		PCV 1235													
	125	FLEX CNDS	Х												
S	126	BOX S81	х										<u> </u>		
ETS	127	1埕" CND 6DB	х												
1RG	127	PCV 1236			·	·							<u> </u>		
1/1	128	FLEX CNDS	Х												
	129	BOX S82	х												
	130	1坛" CND 6DC	х												
	777	PCV 1237		<u> </u>									ļ		
	131	FLEX CNDS	x			<u> </u>									
	132	BOX S83	Х							ļ 				,	
		1坛" CND 6DD	Х		÷					<u> </u>					
	BUILDING: PRIMARY AUXILIARY FIRE ZONE: 59A														
	LOCATION: PIPING PENET AREA EL 41' WITHIN FIRE ZONE CONTAINMENT ISOLATION														
		SERVICES INCORF	PORATED	POW	ER A	UTH	ORIT							. 00	3
DIV.	ELE(ROVED		IN SYS	DIAN TEM:	PO S INT ACTI	INT ΓERA	No. 3 CTIO	S N ST			E-13 S H 13		

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•											
E-13	·	NO INTERACTION			·					,	
	PCV 1238										
134	FLEX CNDS	Х									
135	BOX S84	Х									
136	1½" CND 6DF	х									
	PCV 1239										
137	FLEX CNDS	Х						 			
138	BOX S85	х									
138 139 140	1½" CND 6DG	X									
	PCV 1240			<u> </u>							
140	FLEX CNDS	X					ļ				
141	BOX S86	Х									
142	1½" CND 6DH	Х									
	PCV 1241	<u> </u>			,						
143	FLEX CNDS	х				<u> </u>					
144	BOX S87	х				<u> </u>	_		\ \		<u> </u>
145	1½" CND 6DI	x	<u> </u>	·	<u> </u>		<u> </u>	<u> </u>			

59A FIRE ZONE:_

LOCATION: PIPING PENET AREA EL 41' WITHIN FIRE ZONE

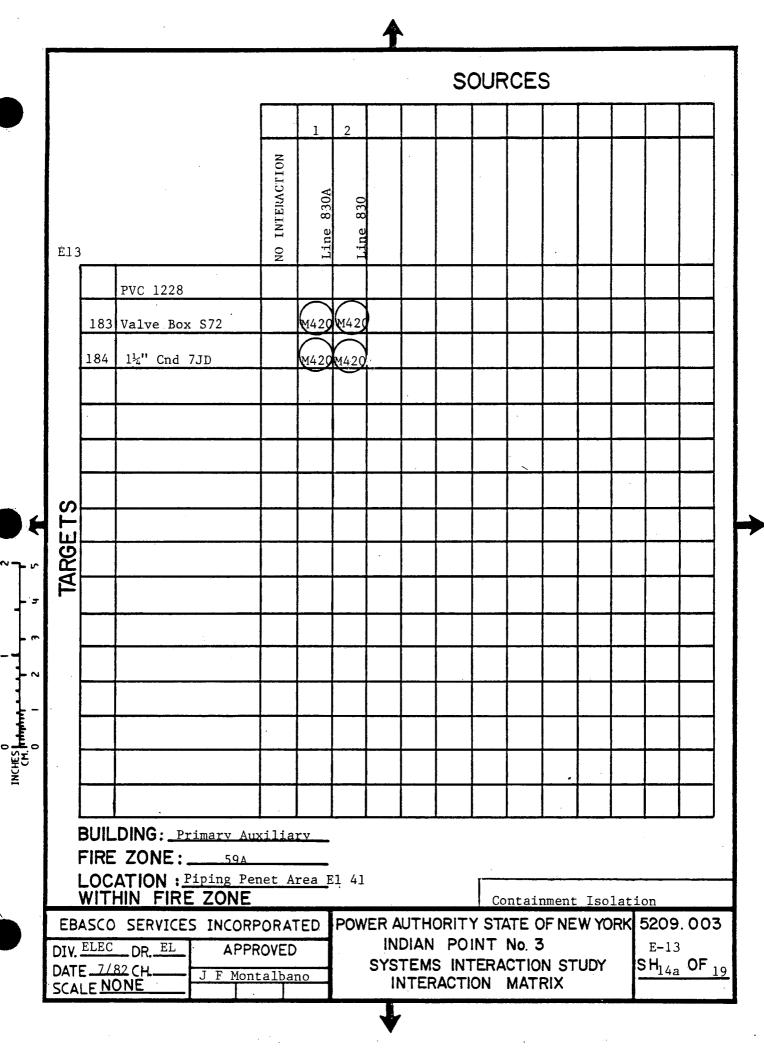
CONTAINMENT ISOLATION

EBASCO SERVICES	S INCORPORATED				
DIV. ELEC DR. EL DATE 7/82 CH	APPROVED				
DATE -7/02 CH	J F MONTALBANO				
SCALE NONE					

POWER AUTHORITY STATE OF NEW YORK 5209.003 INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY INTERACTION MATRIX

E-13 SH_{14} OF^{19}





SOURCES

			300110L3										
	E-1	3	NO INTERACTION								-		
		TB X48											
	146	тв х48	х										
	147	2½" CND 6DK	X										
	148	2½" CND 6DJ	X										
		PCV 1192	Х										
	149	Valve Box AAJQ	Х										
'n	150	2½" CND 6CC	X					,					
Н	151	Box XG5	Х										
NG BG	151 152	2½" CND 6CB	Х										
7		PCV 1191	Х										
	153	Valve Box AAJR	Х										
	154	2½" CND 6CF	X										
		AOV 552 & 519	х										
	155	Valve Box SC7&SC2	Х										
	156	1垓" Cnd 7KG & 7KH	Х							,			
							·	<u> </u>	<u> </u>				

BUILDING: PRIMARY AUXILIARY

59A FIRE ZONE:

LOCATION: PIPING PENET AREA EL 41'
WITHIN FIRE ZONE

CONTAINMENT ISOLATION

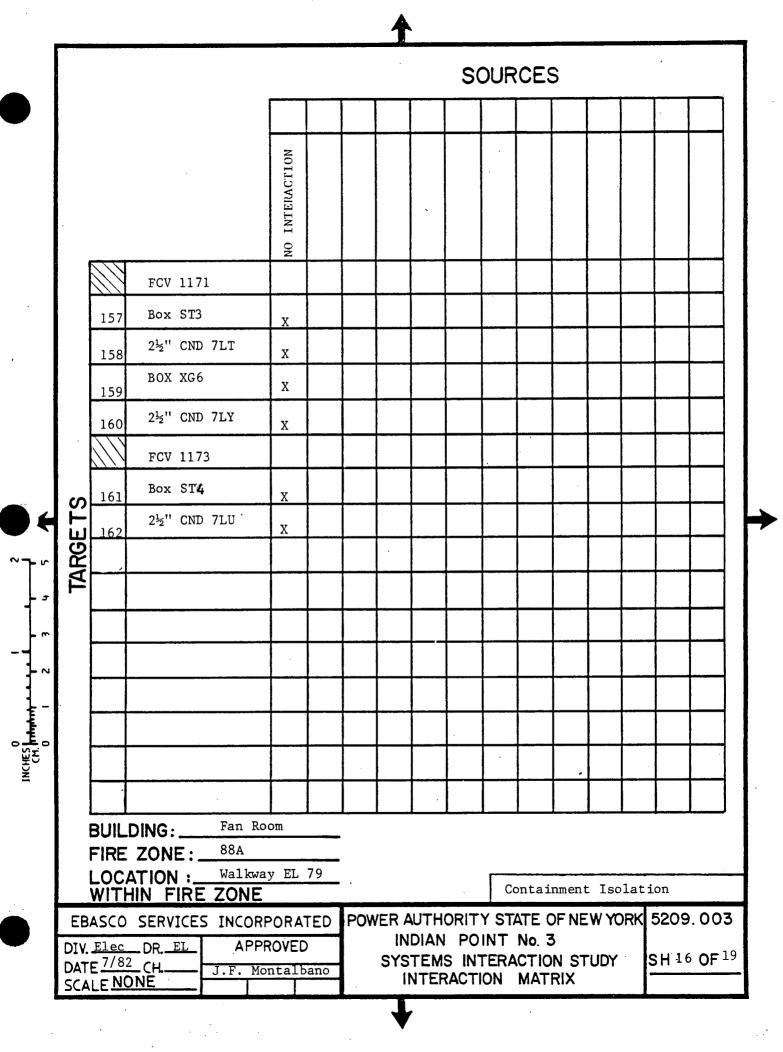
EBASCO SERVICE	S INCORPORATED_	PO
DIV. ELEC DR. EL	APPROVED	
DATE <u>7/82</u> CH SCALE <u>NONE</u> ·	J F MONTALBANO	
SCALE NONE		

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

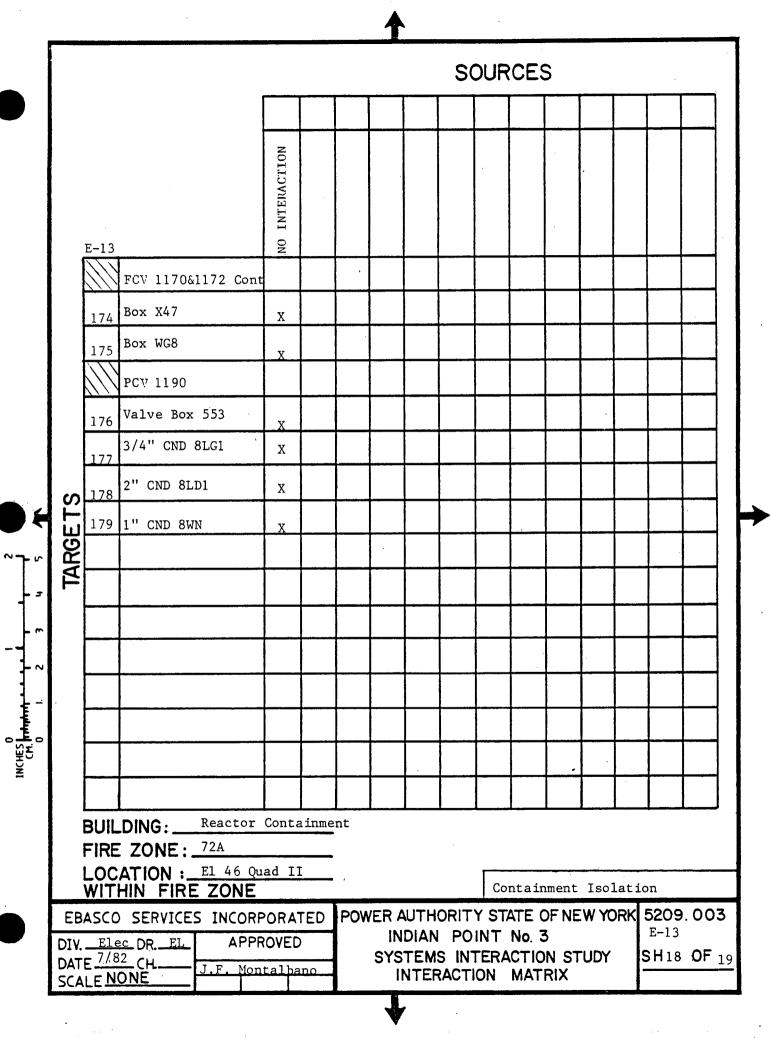
E - 13SH 15 OF 19

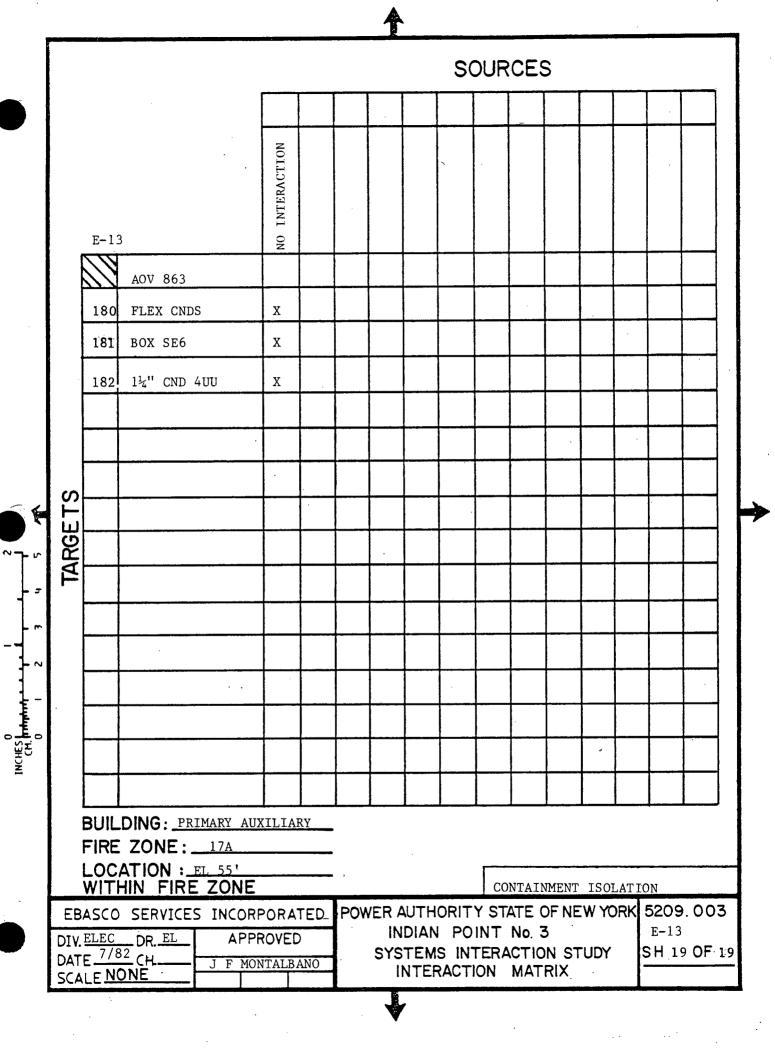
5209.003





FIRE ZONE: 84A LOCATION: EL 68 Quad II WITHIN FIRE ZONE Containment Isolation										
.003										
OF ₁₉										





							S	DUR	CE	S				
			1											
	E-13 PENETRATION	NO INTERACTION	8" DRAIN LINE											
	AIR BOILER #33	-				·								
	183 MOTOR BLOWER 33 (MS)	(E378							ļ				
	184 1" CND 7LB (FC) PENETRATION	(E378)							<u> </u>				
	AIR BLOWER #34 MOTOR-BLOWER 34													
	185 (MS2)		£378											
	186 1" CND 7LA		E378											
2	0 187 P BOX WH1	Х								<u> </u>				
	188 3" CND 7LG (FC) 189 1½" CND 6 DR (FC)	X												
~ - ~ 6	189 1½" CND 6 DR (FC)	Х			·									
├ ॗ ॗ													·	
									·					
}~														
-														
INCHES TOPPORT														
INC										<u>,</u>				
	BUILDING: FAN HOUSE	;							<u> </u>					
	FIRE ZONE:88A													
	LOCATION: ELEV 67'-WITHIN FIRE ZONE	•0		,			<u> </u>	CC	NTAI	NMENT	'ISO	LATIC	ON	
	BASCO SERVICES INCOR	PORAT		POW			ORIT'				W YC	RK 5	209	.003
DI DA	V. ELEC DR.R.S. APP ATE 3/9/83CH J F MONE	ROVED			SYS	TEMS	S INT	ERA	CTIO	N ST	UDY	s	H ₁₉	A OF 19
SC	ALE NONE	TALKAN				NTER	ACTI	UN	MAT	RIX				

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.
- Acceptable Source has insufficient mass to damage the target component.
- 4. Acceptable Basis is engineering judgement. Specific justification is on the evaluation form.
- Potentially
 Unacceptable Discussion of specific is on the evaluation form.
- 6. Potentially
 Unacceptable Source pipe/conduit is large enough to damage target conduit/pipe/tubing.
- 7. Potentially Unacceptable Source will fall a sufficient distance, or has adequate mass such that damage to target conduit/box/instrument/tubing/panel may be possible.
- 8. No Interaction Upon further investigation of the source, this portion of its system is designated Seismic I.

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

SYSTEM NO.	E-13			
SYSTEM NAME	CONTAINMENT ISOLATION			
;				
EVALUATION C.	, ATEGORY	NON-CONNECTED	v	
·		INTERCONNECTED		

Euge Lican 7/36/82
INTERACTION ENGINEER/DATE

Waniswold 9.24.82 VERIFIED/DATE

Ebasco Services Incorporated

E Licari/7-30-82

INTERACTION ENGINEER / 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 Auxil	iary	
FIRE ZONE:	59A		
LOCATION WITHIN FIR	RE ZONE:	Piping Penet Area, EL 54'	1
POTENTIAL INTERACT	ION NO.:	E-13-30-1	
PHOTOGRAPH NO.:	E248		
BACKGROUND NO.:	Sheet 16		
IDENTIFICATION OF	INTERACTION CO	MPONENTS:	
TARGET:	1½" Cnd 7VM	(below red valve)	
SOURCE:	Light Fixture	·	
DESCRIPTION OF POST	rulated intera	CTION:	
Source Falls or	n Target		
EVALUATION OF INTER	RACTION:	•	
EVALUATION NOT	TE NO: 3		
XA(CCEPTABLE		POTENTIALLY —UNACCEPTABLE

W A Griswold/ 8-31-82

В	T	Т	T.	D	T	N	G	•	

Primary Auxiliary

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZONE:

Piping Penet Area, EL 54'

POTENTIAL INTERACTION NO.:

E-13-34-1

PHOTOGRAPH NO.: E248

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Flex Cnds (Not shown)

SOURCE:

Light Fixture

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

ACCEPTABLE

POTENTIALLY UNACCEPTABLE

E Licari/ 7-30-82 INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82 VERIFIED/DATE

E Licari/ 7-30-82

INTERACTION ENGINEER/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 Auxil	Liary	•
FIRE ZONE:	59A		
LOCATION WITHIN FI	RE ZONE:	Piping Penet Area, EL 54	
POTENTIAL INTERACT	ION NO.:	E-13-36-1	
PHOTOGRAPH NO.:	E248		
BACKGROUND NO.:	Sheet 16		
IDENTIFICATION OF	INTERACTION CO	OMPONENTS:	·
TARGET:	1½" Cnd 7 V N	(below red valve)	
SOURCE:	Light Fixture		-
DESCRIPTION OF POS	TULATED INTERA	ACTION:	
Source Falls o	n Target		
EVALUATION OF INTE	RACTION:		
EVALUATION NO	TE NO: 3	·	
A	CCEPTABLE		POTENTIALLY UNACCEPTABLE

W A Griswold/ 8-31-82

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DU	\perp \perp	4171	.N(7 .

Primary Auxiliary

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZONE:

Piping Penet Area, EL 54'

POTENTIAL INTERACTION NO.:

E-13-42-1

PHOTOGRAPH NO.: E248

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1½" Cnd 7VP (below red valve)

SOURCE:

Light Fixture

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

E Licari/ 7-30-82

INTERACTION ENGINEER / 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 Auxil	iary	
FIRE ZONE:	59A		•
LOCATION WITHIN FIR	RE ZONE:	Piping Penet Area, EL 54'	
POTENTIAL INTERACT	ION NO.:	E-13-48-1	
PHOTOGRAPH NO.:	E248		
BACKGROUND NO.:	Sheet 16		
IDENTIFICATION OF	INTERACTION CO	MPONENTS:	
TARGET:	l½" Cnd 7VQ	(below red valve)	
source:	Light Fixture		
DESCRIPTION OF POST	TULATED INTERA	CTION:	
Source Falls or	n Target		
EVALUATION OF INTE			
XA	CCEPTABLE		POTENTIALLYUNACCEPTABLE

W A Griswold/ 8-31-82

В	U	Ί	L	D	I	N	G	:
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Primary Auxiliary

FIRE ZONE: 59A

LOCATION WITHIN FIRE ZONE: Piping Penet Area, EL 54'

POTENTIAL INTERACTION NO.:

E-13-52-1

PHOTOGRAPH NO.: E248

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

3" Cnd 7HK (Not shown)

SOURCE:

Light Fixture

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82 INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82 VERIFIED/DATE

BUILDING:

Primary Auxiliary

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZONE:

Piping Penet Area, EL 54'

POTENTIAL INTERACTION NO.:

E-13-87-1

PHOTOGRAPH NO.: E249

BACKGROUND NO.: Sheet 17

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1½" Cnd

SOURCE:

1" Line 67

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

ACCEPTABLE

POTENTIALLY UNACCEPTABLE

E Licari/ '7-30-82 INTERACTION ENGINEER / DATE W A Grisweld/ 8-31-82 VERIFIED/DATE

BUILDING:

Primary Auxiliary

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZCNE: Piping Penet Area, EL 41'

POTENTIAL INTERACTION NO.:

E-13-88-1

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.:

Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Flex Cnds

SOURCE:

2" Line 45

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

BUILDING:

Primary Auxiliary

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZCNE: Piping Penet Area, EL 41'

POTENTIAL INTERACTION NO.:

E-13-88-2

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Flex Cnds

SOURCE:

2" Line 46

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82 INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82 VERIFIED/DATE

Ebasco Services Incorporated

BUILDING:

Primary Auxiliary

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZCNE: Piping Penet Area, EL 41'

POTENTIAL INTERACTION NO.:

E-13-88-3

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Flex Cnds

SOURCE:

2" Line 47

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

UNACCEPTABLE

E Licari/ 7-30-82 INTERACTION ENGINEER / DATE

VERIFIED/DATE

Ebasco Services Incorporated

BUILDING:

Primary Auxiliary

FIRE ZONE: 59A

LOCATION WITHIN FIRE ZONE: Piping Penet Area, EL 41'

POTENTIAL INTERACTION NO.:

E-13-88-4

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Flex Cnds

SOURCE: 2" Line 48

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82 INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82 VERIFIED/DATE

ΒU	IL	DI	NG	:
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Primary Auxiliary

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZONE: Piping Penet Area, EL 41'

POTENTIAL INTERACTION NO.: E-13-89-1

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Box SL9

SOURCE:

2" Line 45

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82 INTERACTION ENGINEER/DATE

W A Griswold/ 8-31-82 VERIFIED/DATE

BUILDING:

Primary Auxiliary

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZONE:

Piping Penet Area, EL 41'

POTENTIAL INTERACTION NO.:

E-13-89-2

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Box SL9

SOURCE:

2" Line 46

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

POTENTIALLY UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

BUILDING:

Primary Auxiliary

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZONE:

Piping Penet Area, EL 41'

POTENTIAL INTERACTION NO.:

E-13-89-3

PHOTOGRAPH NO.:

E257, E258

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Box SL9

SOURCE:

2" Line 47

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82 VERIFIED/DATE

Ebasco Services Incorporated

Primary Auxiliary

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZCNE:

Piping Penet Area, EL 41'

POTENTIAL INTERACTION NO.:

E-13-89-4

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Box SL9

SOURCE:

2" Line 48

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

E Licari/ 7-30-82
INTERACTION ENGINEER/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 Auxil	iary		
FIRE ZONE:	59A			
LOCATION WITHIN FIR	RE ZONE:	Piping Penet Area	, EL 41'	
POTENTIAL INTERACT	ION NO.:	E-13-90-1		
PHOTOGRAPH NO.:	E257, E258	·		
BACKGROUND NO.:	Sheet 16	·		
				•
IDENTIFICATION OF 1	INTERACTION CO	MPONENTS:		
TARGET:	1元" Cnd 7JY			
SOURCE:	2" Line 45			
DESCRIPTION OF POST	TULATED INTERA	CTION:		
Source Falls o	on Target	•		
EVALUATION OF INTER	RACTION:			
EVALUATION NOT	E NO: 6			•
AC	CCEPTABLE		X	POTENTIALLY UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / 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 Auxil	iary		
FIRE ZONE:	59A			
LOCATION WITHIN FIR	RE ZONE:	Piping Penet Area,	EL 41'	
POTENTIAL INTERACT	ION NO.:	E-13-90-2		
PHOTOGRAPH NO.:	E257, E258			
BACKGROUND NO.:	Sheet 16			
			•	
IDENTIFICATION OF	INTERACTION CO	MPONENTS:		
TARGET:	l½" Cnd 7JY		,	
•				
SOURCE:	2" Line 46			
		CTT ON		
DESCRIPTION OF POST	TULATED INTERA	CTION:		
Source Falls on	n Target			
EVALUATION OF INTE	RACTION:			
EVALUATION NOT	TE NO: 6			
				ጋ ረጥሮኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒኒ
A(CCEPTABLE		X	POTENTIALLY

W A Griswold/ 8-31-82

BUILDING:

Primary Auxiliary

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZONE:

Piping Penet Area, EL 41

POTENTIAL INTERACTION NO.: E-13-90-3

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

1½" Cnd 7JY

SOURCE:

2" Line 47

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82 INTERACTION ENGINEER/DATE W A Griswold/ 8-31-82 VERIFIED/DATE

BUILDING: Primary Auxiliary

FIRE ZONE: 59A

LOCATION WITHIN FIRE ZONE:

Piping Penet Area, EL 41'

POTENTIAL INTERACTION NO.: E-13-90-4

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1½" Cnd 7JY

SOURCE:

2" Line 48

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

В	T	ĬΤ	T.	.D	Τ	NG	:

Primary Auxiliary

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZONE:

Piping Penet Area, EL 41'

POTENTIAL INTERACTION NO.: E-13-91-1

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Flex Cnds

SOURCE: 2" Line 45

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

BUILDING:

Primary Auxiliary

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZONE:

Piping Penet Area, EL 41'

POTENTIAL INTERACTION NO.: E-13-91-2

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.:

Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Flex Cnds

SOURCE: 2" Line 46

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82 INTERACTION ENGINEER / DATE

VERIFIED/DATE

BUI	LDI	NG:

Primary Auxiliary

FIRE ZONE: 59A

LOCATION WITHIN FIRE ZONE:

Piping Penet Area, EL 41'

POTENTIAL INTERACTION NO.: E-13-91-3

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Flex Cnds

SOURCE:

2" Line 47

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

X

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

BUILDING:

Primary Auxiliary

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZCNE:

Piping Penet Area, EL 41'

POTENTIAL INTERACTION NO.:

E-13-91-4

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Flex Cnds

SOURCE: 2" Line 48

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

POTENTIALLY UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

BUILDING:

Primary Auxiliary

FIRE ZONE:

59 A

LOCATION WITHIN FIRE ZONE:

Piping Penet Area, EL 41'

POTENTIAL INTERACTION NO.:

E-13-92-1

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Box SM1

SOURCE: 2" line 45

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

POTENTIALLY UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

BUILDING: Primary Auxiliary

FIRE ZONE:

59 A

LOCATION WITHIN FIRE ZCNE:

Piping Penet Area, EL 41'

POTENTIAL INTERACTION NO.:

E-13-92-2

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Box SM1

SOURCE: 2" Line 46

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

• EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

X

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

BUILDING:

Primary Auxiliary

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZONE:

Piping Penet Area, EL 41'

POTENTIAL INTERACTION NO.: E-13-92-3

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Box SM1

SOURCE: 2" Line 47

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

D	11	т	т	T	т	N	\sim	٠

Primary Auxiliary

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZONE:

Piping Penet Area, EL 41'

POTENTIAL INTERACTION NO.: E-13-92-4

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Box SM1

SOURCE:

2" Line 48

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82 INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82 VERIFIED/DATE

BUILDING:

Primary Auxiliary

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZCNE: Piping Penet Area, EL 41'

POTENTIAL INTERACTION NO.: E-13-93-1

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.:

Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

1½" Cnd 7JW

SOURCE:

2" Line 45

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/

8-31-82

BUILDING:

Primary Auxiliary

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZCNE:

Piping Penet Area, EL 41

POTENTIAL INTERACTION NO.:

E-13-93-2

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1½" Cnd 7JW

SOURCE: 2" Line 46

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

BUILDING:

Primary Auxiliary

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZONE: Piping Penet Area, EL 41'

POTENTIAL INTERACTION NO.:

E-13-93-3

PHOTOGRAPH NO.: E257, E258

BACKGROUND NO.: Sheet 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

1½" Cnd 7JW

SOURCE: 2" Line 47

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

E Licari/ 7-30-82

INTERACTION ENGINEER/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 Auxil	liary		
FIRE ZONE:	59A			
LOCATION WITHIN FIR	RE ZONE:	Piping Penet Area,	EL 41'	
POTENTIAL INTERACT	ION NO.:	E-13-93-4		
PHOTOGRAPH NO.:	E257, E258			
BACKGROUND NO.:	Sheet 16			
IDENTIFICATION OF 1	INTERACTION CO	MPONENTS:		
TARGET:	1½" Cnd 7JW			
	•			
SOURCE:	2" Line 48	•		
DESCRIPTION OF POST	rulated intera	,		
Source Falls o	n Target			
EVALUATION OF INTER	RACTION:			
EVALUATION NOT	TE NO: 6			
				_
A(CCEPTABLE	•	X	POTENTIALLYUNACCEPTABLE

W A Griswold/ 8-31-82

		/
BUILDING: Reactor Containment		
FIRE ZONE: 84A		
LOCATION WITHIN FIRE ZCNE: E1 68; Quad II		
POTENTIAL INTERACTION NO.: E-13-163-1		
PHOTOGRAPH NO.: M460		
BACKGROUND NO.: 6	·	
IDENTIFICATION OF INTERACTION COMPONENTS:		
TARGET: Valve Box ST1		
•		
SOURCE: 1½"Steam Line		
DESCRIPTION OF POSTULATED INTERACTION:		
Source falls on target		
EVALUATION OF INTERACTION:		1
EVALUATION NOTE NO: 7		
ACCEPTABLE	X	POTENTIALLYUNACCEPTABLE
I_F_Montalbano7/30/82 INTERACTION_ENGINEER/DATE	W Griswold 8/31/82 VERIFIED/	DATE

	33	_	
Sheet		of	40

· '		
BUILDING: Reactor Containment		
FIRE ZONE: 84A	÷	
LOCATION WITHIN FIRE ZONE: E1 68; Quad II		
POTENTIAL INTERACTION NO.: E-13-164-1		,
PHOTOGRAPH NO.: M460		
BACKGROUND NO.: 6	•	
IDENTIFICATION OF INTERACTION COMPONENTS:		
TARGET: 14" Cnd 8LB1		
SOURCE: 1½" Steam Line		
DESCRIPTION OF POSTULATED INTERACTION:		
Source falls on target		
EVALUATION OF INTERACTION:		•
EVALUATION NOTE NO: 7		
ACCEPTABLE	X	POTENTIALLY UNACCEPTABLE
J F Montalbano 7/30/82 INTERACTION ENGINEER/DATE	W Griswold 8-31/82	
INTERACTION ENGINEER/DATE	VERIFIE	

INTERACTION ENGINEER/DATE

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

\cdot
BUILDING: Reactor Containment
FIRE ZONE: 84A
LOCATION WITHIN FIRE ZONE: El 68; Quad II
POTENTIAL INTERACTION NO.: E-13-165-1
PHOTOGRAPH NO.: M460
BACKGROUND NO.: 6
is the second of
IDENTIFICATION OF INTERACTION COMPONENTS:
TARGET: 2" Cnd 8LA1
SOURCE: 1½" Steam Line
DESCRIPTION OF POSTULATED INTERACTION:
Source falls on target
EVALUATION OF INTERACTION:
EVALUATION NOTE NO: 7
ACCEPTABLE X POTENTIALLY UNACCEPTABLE
J F Montalbano 7/30/82 W Griswold 8/31/82

•		
BUILDING: Reactor Containment	•	•
FIRE ZONE: 84A		
LOCATION WITHIN FIRE ZONE: E1 68; Quad II	•	
POTENTIAL INTERACTION NO.: E-13-166-1		
PHOTOGRAPH NO.: M460		
BACKGROUND NO.: 6		
IDENTIFICATION OF INTERACTION COMPONENTS:		
TARGET: Flex End		
SOURCE: 1½" Steam Line		
DESCRIPTION OF POSTULATED INTERACTION:		
Source falls on target		
EVALUATION OF INTERACTION:		·
EVALUATION NOTE NO: 7		
ACCEPTABLE	X	POTENTIALLY
J F Montalbao 7/30/82 INTERACTION ENGINEER/DATE	W Griswold 8/31/82 VERIFIED/1	DATE

BUILDING: Reactor Containment	
FIRE ZONE: 84A	
LOCATION WITHIN FIRE ZONE: E1 68; Quad II	
POTENTIAL INTERACTION NO.: E-13-167-1	
PHOTOGRAPH NO.: M 460	
BACKGROUND NO.: 6	
IDENTIFICATION OF INTERACTION COMPONENTS:	
TARGET: Box ZF3	
SOURCE: 1½" Steam Line	
DESCRIPTION OF POSTULATED INTERACTION:	
Source falls on target	
EVALUATION OF INTERACTION:	
EVALUATION NOTE NO: 7	

W Griswold 8/31/82 J F Montalbano 7/30/82 INTERACTION ENGINEER/DATE

ACCEPTABLE

VERIFIED/DATE

POTENTIALLY

-UNACCEPTABLE

·
BUILDING: Primary Auxiliary
FIRE ZONE: 59A
LOCATION WITHIN FIRE ZONE: Piping penetration area el 41
POTENTIAL INTERACTION NO.: E-13-183-1
PHOTOGRAPH NO.: M420
BACKGROUND NO.: 16
•
IDENTIFICATION OF INTERACTION COMPONENTS:
TARGET: Valve box S72
SOURCE: Line 830A
DESCRIPTION OF POSTULATED INTERACTION:
Source falls on target.
EVALUATION OF INTERACTION:
EVALUATION NOTE NO: 7
ACCEPTABLE POTENTIALLY UNACCEPTABLE
m x 4
E Licari 7/30/82 W Griswold 8/31/82 INTERACTION ENGINEER/DATE VERIFIED/DATE

BUILDING:

PRIMARY AUXILIARY

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZONE: Piping Penetration Area EL 41

POTENTIAL INTERACTION NO.: E-13-183-2

PHOTOGRAPH NO.:

M-420

BACKGROUND NO .:

16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Valve Box S72

SOURCE:

Line 830

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

X

POTENTIALLY -UNACCEPTABLE

E. Lacari July 30, 1982
INTERACTION ENGINEER/DATE

W.A. Griswold August 31, 1982 VERIFIED/DATE

BUILDING:

PRIMARY AUXILIARY

FIRE ZONE:

59 A

LOCATION WITHIN FIRE ZONE: Piping Penetration Area EL 41

POTENTIAL INTERACTION NO.: E-13-184-1

PHOTOGRAPH NO.: M-420

BACKGROUND NO.: 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Valve Box S72

SOURCE: Line 830A

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

E. Lacari July 30, 1982 INTERACTION ENGINEER / DATE

W.A. Griswold August 31, 1982 VERIFIED/DATE

BUILDING:

PRIMARY AUXILIARY

FIRE ZONE:

59A

LOCATION WITHIN FIRE ZONE: Piping Penetration Area EL 41

POTENTIAL INTERACTION NO.: E-13-184-2

PHOTOGRAPH NO.: M-420

BACKGROUND NO.: 16

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Valve Box S72

SOURCE: Line 830

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

ACCEPTABLE

Х

POTENTIALLY -UNACCEPTABLE

E. Licari July 30, 1982 INTERACTION ENGINEER / DATE

W.A. Griswold August 31, 1982

VERIFIED/DATE

BUILDING:

Fan Room

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev 67'-6"

POTENTIAL INTERACTION NO.: E-13-183-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Motor - Blower Motor 33

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

INTERACTION ENGINEER / DATE

W A Griswold 5/18/83

VERIFIED/DATE

BUILDING: Fan Room

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev 67'-6"

POTENTIAL INTERACTION NO.: E-13-184-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1" Conduit 7LB

SOURCE: 8" Roof Drain

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

INTERACTION ENGINEER / DATE

W A Griswold VERIFIED/DATE

5/18/83

BUILDING:

Fan Room

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev 87'-6"

POTENTIAL INTERACTION NO.: E-13-185-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

Motor - Blower #34

SOURCE: 8" Drain Line

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

POTENTIALLY ACCEPTABLE -UNACCEPTABLE R Sahu 5/12/83 INTERACTION ENGINEER/DATE W A Griswold 5/18/83

VERIFIED/DATE

BUILDING:

Fan Room

FIRE ZONE: 88A

LOCATION WITHIN FIRE ZONE: Elev 67!-6"

POTENTIAL INTERACTION NO.: E-13-186-1

PHOTOGRAPH NO.: E-378

BACKGROUND NO.: 20

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1" Conduit 7LA

SOURCE: 8" Roof Drain.

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

R Sahu

5/12/83

INTERACTION ENGINEER/DATE

W A Griswold

5/18/83

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-13		
SYSTEM NAME	Containment Isola	tion System	
	·		
FMEA CATEGORY		NON-CONNEC	TED X
		INTERCONNE	CTED
,			
Q a hu -	_ 3/12/83		
PREPARED BY/DA	TE		
eland Cerro	17/83	W Griswold	5.21.83
CHECKED BY/D.		VERIFIED BY	

Ebasco Services Incorporated

FMEA NUMBER: 13-E-1

Interaction Number(s): E-13-88-1, 2, 3, 4

E-13-89-1, 2, 3, 4 E-13-90-1, 2, 3, 4

Fire Zone: 59A

Target Component(s)

Number, Description & Function:

Flexible conduit, Box SL9, 1-1/4" Conduit 7JY routes cables for Air Operated Valve AOV-1702 in the Waste Disposal System.

Postulated Failure Mode(s) and Evaluation:

E-1-(A) Open or short circuit of the cables connected to AOV-1702 would lead E-2-(A) to the valve failing in the closed position, which is the desirable E-2-(A) position for isolating the containment.

X

/1()2()3()4()

Acceptable

Potentially Unacceptable/Safety Function Affected

R Sahu 3/12/83

EVALUATING ENGINEER/DATE

L Cerra 4/4/83

FMEA NUMBER: 13-E-2

Interaction Number(s): E-13-91-1, 2, 3, 4

E-13-92-1, 2, 3, 4 E-13-93-1, 2, 3, 4

Fire Zone: 59A

Target Component(s)

Number, Description & Function:

Flexible conduit, Box SM1, 1-1/4" Conduit 7JW routes cables for Air Operated Valve AOV-1705 in the Waste Disposal System.

Postulated Failure Mode(s) and Evaluation:

E-1-(A) Open or short circuit of the cables connected to AOV-1705 would lead E-2-(A) to the valve failing in the closed position, which is the disirable position for isolating the containment.

X Acceptable /1()2()3()4()

Potentially Unacceptable/Safety Function Affected

R Sahu 3/12/83

EVALUATING ENGINEER/DATE

L Cerra 4/4/83

FMEA NUMBER: 13-E-3

Interaction Number(s): E-13-183-1, 2

E-13-184-1, 2

Fire Zone: 59A

Target Component(s)

Number, Description & Function:

Box S72, 1-1/4" Conduit 7JD house cables connected to PCV-1228 on the Instrument Air System.

Postulated Failure Mode(s) and Evaluation:

E-1-(A) Open or short circuit of the cables connected to PCV-1228 would lead E-2-(A) to the valve failing in the closed position, which is the desirable position for isolating the containment.

X Acceptable / 1 () 2 () 3 () 4 ()

Potentially Unacceptable/Safety Function Affected

R Sahu 3/12/83

EVALUATING ENGINEER/DATE

L Cerra 4/4/83

FMEA NUMBER: 13-E-4

Interaction Number(s): E-13-163-1

E-13-164-1 E-13-165-1 E-13-166-1 E-13-167-1

Fire Zone: 59A

Target Component(s)

Number, Description & Function:

Box ST1, 1-1/4" Conduit 8LB1, 2" Cond 8LA1 Flex Conduit and Box ZF3 route cables connected to FCV-1170 in the Containment Recirculation System.

Postulated Failure Mode(s) and Evaluation:

E-1-(A) Open or short circuit of the cables connected to FCV-1170 would lead E-2-(A) to its failing closed position, which is the desirable position for isolating the containment.

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

R Sahu 3/12/83
EVALUATING ENGINEER/DATE

L Cerra 4/4/83
CHECKED/DATE

FMEA NUMBER: 13-E-5

Interaction Number(s): E-13-183-1

E-13-184-1

Fire Zone: 88A

Target Component(s)
Number, Description & Function:

Motor driving Penetration Air Blower #33 and 1" Conduit 7LB routing cable to motor.

Postulated Failure Mode(s) and Evaluation:

M-2-(A) Failure of motor or cable would result in loss of air for hot

E-1-(A) penetration cooling. However this would not lead to loss of E-2-(A) structural strength at Penetration (Reference TP #3 FSAR Section (Reference TP T

E-2-(A) structural strength at Penetration (Reference IP #3 FSAR Section 5.1.4.2 Rev 0 of 7/82). Therefore failure of motor would not effect containment integrity.

X Acceptable / 1 () 2 () 3 () 4 ()

Potentially Unacceptable/Safety Function Affected

R Sahu 5/17/83

EVALUATING ENGINEER/DATE

D Mirkovic 5/17/83

FMEA NUMBER: 13-E-6

Interaction Number(s): E-13-185-1

E-13-186-1

Fire Zone: 88A

Target Component(s)

Number, Description & Function:

Motor driving Penetration Air Blower #34 and 1" Conduit 7LA routing cable to motor.

Postulated Failure Mode(s) and Evaluation:

M-2-(A) Failure of motor or cable would result in loss of air for hot

E-1-(A) penetration cooling. However this would not lead to loss of E-2-(A) structural strength at Penetration (Reference IP #3 FSAR Section 5.1.4.2 Rev 0 of 7/82). Therefore failure of motor would not effect containment integrity.

Acceptable

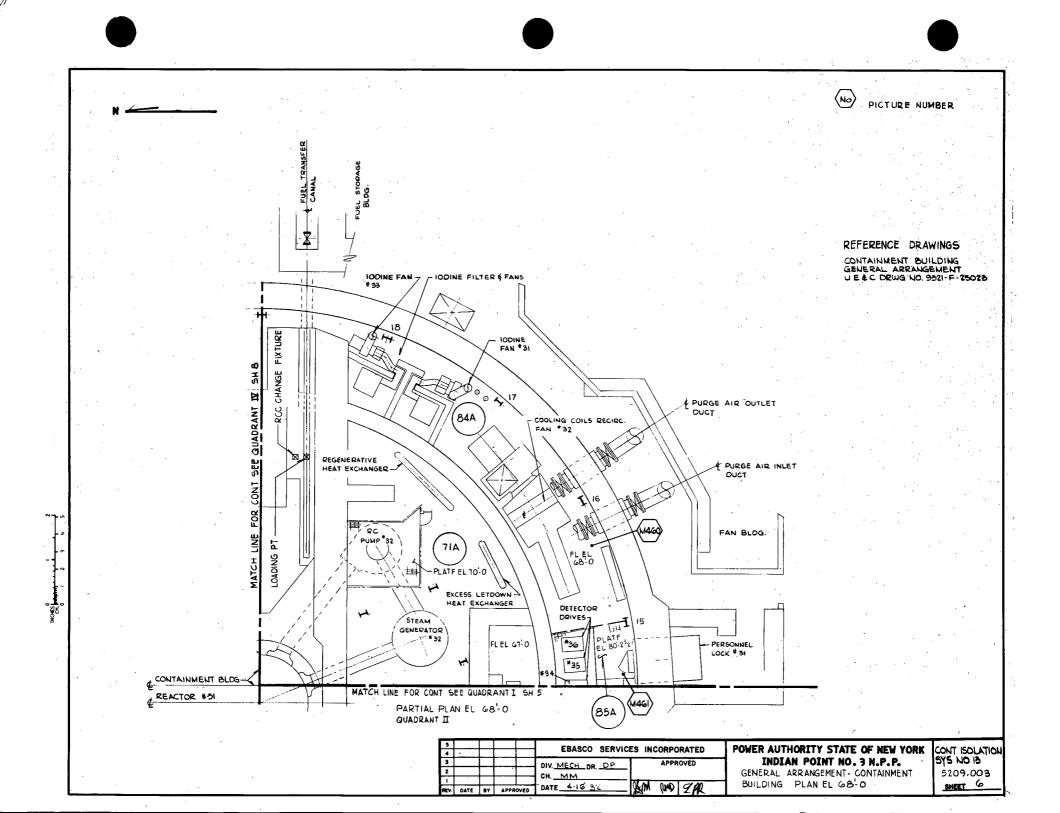
/1()2()3()4()

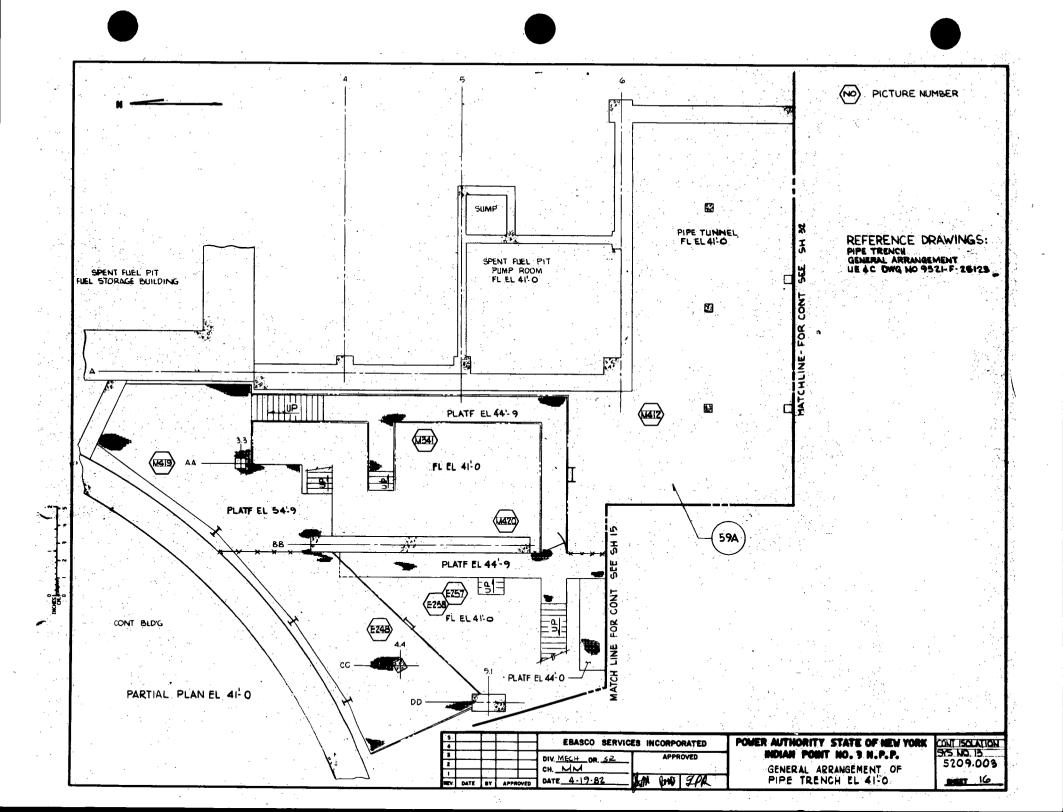
Potentially Unacceptable/Safety Function Affected

R Sahu 5/17/83

EVALUATING ENGINEER/DATE

D Mirkovic 5/17/83





PICTURE NUMBER MATCH LINE-FOR CONT SEE SHEET IS PIPE TRENCH FL EL 41-0 SEE BHT IG WOODEN ENCLOSURE REFERENCE DRAWINGS FAN ROOM GENERAL ARRANGEMENT UE 4C DWG NO 9321-F-25183 PRIMARY AUXILIARY BUILDING HATCH WCOVER 000000 STORAGE SHED FL EL 55-0 FL EL SILO (VI340) (E249) PLATE EL 55-0 TUNNEL ACCESS FLEL 62-0, HATCH W/PLUG CONTAINMENT BLDG PARTIAL PLAN EL 54'-0 EBASCO SERVICES INCORPORATED CONT EGUAT INDIAN POINT NO. 3 N.P.P. SYS NO. PS DIV.MECH DR.K.JENSE 5209.000 CH. MM GENERAL ARRANGEMENT OF FAN ROOM-PLAN AT EL 54'-0 DATE 4-19-82 WD 24

