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Indian Point 3 Nuclear Power Plant

Systems Interaction Study Report

Volume 16



Indian Point 3 Nuclear Power Plant

Systems Interaction Study Report Volume 16

COPY NUMBER 5



MECHANICAL - 11

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11.0 Diesel Generator System

11.1 Function & Applicability

The Diesel Generator System (DGS) is required to provide a source of backup power to safety related equipment following a loss of normal power supply. DGS is described in System Description 27.3.

11.2 <u>Scope</u>

11.2.1 For the purpose of this study DGS includes:

- Diesel Generator
- Jacket Water System
- Fuel Oil System
- Starting Air System
- Lube Oil System
- D G Building Ventilation
- Piping, Valves, Instrumentation and Electrical components as indicated in the corresponding disciplines Nonconnected and Interconnected Matrices.

The boundaries of this study for DGS are shown on flow diagram FD 5209.11, Sheets 1 and 2.

11.2.2 Support systems relied upon for DGS safety related functions are indicated on Auxiliary Diagray AD-11.

11.2.3 The city water system interfaces with the jacket water system of the Diesel Generator by providing makeup. The makeup is for fluid loss through primarily evaporation and leakage. Makeup is not considered a safety function since it is assumed that the Diesel Generator could operate for an extended period of time with the available water inventory of the jacket and expansion tank.

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





SHEET 1 of 5

SYSTEM M-11

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

P01	TENTIALLY UNACCEPTABLE INTERACTION NUMBER	FMEA (1) (2)	EIC (1) (2)	SPAN EVALUATION (1)(2)(3)
	L-11-1-1	11-M-1-A	NR	NR
	L-11-5-3	11-M-2-P	102A-001-A	NR
*	L-11-5-5	11-M-2-P	102A-002-P	NA
	L-11-6-4	11-M-3-P	102A-003-A	NR
*	L-11-6-5	11-M-3-P	102A-002-P	NA
	L-11-7-1	11-M-4-A	NR	NR
	L-11-9-1	11-M-5-P	102A-005-P	5209-10-039-A
	L-11-10-1	11-M-6-A	NR	NR
	L-11-11-1	11-M-7-A	NR	NR
*	L-11-17-1	11-М-8-Р	102A-002-P	NA
	L-11-18-2	11-M-9-A	NR	NR
*	L-11-19-1	11-M-10-P	102A-002-P	NA
*	L-11-20-1	11-M-11-P	102A-002-P	NA
	L-11-21-1	11-M-12-A	NR	NR
	L-11-24-2	11-M-13-P	102A-005-P	5209-10-039-A
	L-11-27-1	11-M-14-A	NR	NR
*	L-11-32-1	11-M-15-P	101A-002-P	NA

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

SHEET 2 of 5

SYSTEM M-11

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

РО 	TENTIALLY UNACCEPTABLE INTERACTION NUMBER	FMEA (1) (2)	EIC (1) (2)	SPAN EVALUATION (1) (2) (3)
	L-11-32-2	11-M-15-P	101A-001-A	NR
*	L-11-33-1	11-M-16-P	101A-002-P	NA
	L-11-35-4	11-M-17-A	NR	NR
	L-11-37-4	11-M-18-P	101A-005-P	5209-101A-038-A
	L-11-38-4	11-M-19-A	NR	NR
	L-11-39-4	11-M-20-A	NR	NR
	L-11-40-4	11-M-21-A	NR	NR
	L-11-41-4	11-M-22-P	101A-005-P	5209-10-039-A
*	L-11-48-1	11-M-23-P	101A-002-P	NA
	L-11-49-1	11-M-24-A	NR	NR
*	L-11-50-1	11-M-25-P	101A-002-P	NA
*	L-11-51-1	11-M-26-P	101A-002-P	NA
	L-11-52-1	11-M-27-A	NR	NR
	L-11-53-3	11-M-28-P	101A-005-P	5209-10-039-A
	L-11-59-1	11-M-29-A	NR	NR
	L-11-60-3	11-M-30-A	NR	NR
	L-11-63-2	11-M-31-A	NR	NR

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

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- 3) NA Type of evaluation is not applicable to this interaction.
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* Unacceptable by all 3 types of evaluation.

SHEET <u>3</u> of <u>5</u>

SYSTEM M-11

POWER AUTHORITY OF THE STATE OF NEW YORK INDIAN POINT 3 SYSTEMS INTERACTION STUDY - TABULATION OF POTENTIALLY UNACCEPTABLE SPATIAL INTERACTIONS DIESEL GENERATOR SYSTEM MECHANICAL

P01	ENTIALLY UNACCEPTABLE INTERACTION NUMBER	FMEA (1) (2)	EIC (1) (2)	SPAN EVALUATION (1)(2)(3)
	L-11-65-3	11-M-32-A	NR	NR
	L-11-67-3	11-M-33-P	10-005-P	5209-10-037-A
	L-11-68-3	11-M-34-A	NR	NR
	L-11-69-3	11-M-35-A	NR	NR
*	L-11-73-2	11-M-36-P	10-002-P	NA
	L-11-73-3	11-M-36-P	10-005-P	5209 - 10-039-A
	L-11-75-2	11-M-37-A	NR	NR
	L-11-75-3	11-M-37-A	NR	NR
*	L-11-78-1	11-M-38-P	10-002-P	NA
*	L-11-79-1	11-M-39-P	10-002-P	NA
*	L-11-80-1	11-M-40-P	10-002-P	NA
	L-11-81-1	11-M-41-A	NR	NR
	L-11-82-2	11-M-42-P	10-005 - P	5209-10-039-A
	L-11-87-1	11-M-43-A	NR	NR
*	V-11-5-1	11-M-44-P	102A-004-P	NA
*	V-11-5-2	11-M-44-P	102A-002-P	NA
*	V-11-5-3	11-M-44-P	102A-001-P	NA

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

- 2) NR - Evaluation is Not Required since interaction is now acceptable.
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- 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 DIESEL GENERATOR SYSTEM MECHANICAL

POI	ENTIALLY UNACCEPTABLE INTERACTION NUMBER	FMEA (1) (2)	EIC (1) (2)	SPAN EVALUATION (1)(2)(3)
*	V-11-5-4	11-M-44-P	102A-003-P	NA
	V-11-6-2	11-M-45-A	NR	NR
	V-11-7-2	11-M-46-P	102A-002-A	NR
	V-11-10-1	11-M-47-P	102A-005-P	5209-101A-038-A
	V-11-12-1	11-M-48-P	102A-005-P	5209-101A-038-A
	V-11-13-1	11-M-49-A	NR	NR
	V-11-19-1	11-M-50-A	NR	NR
	V-11-23-1	11-M-51-P	102A-002-A	NR
*	V-11-45-1	11-M-52-P	101A-001-P	NA
*	V-11-45-2	11-M-52-P	101A-003-P	NA
*	V-11-45-3	11-M-52-P	101A-002-P	NA
*	V-11-45-4	11 - M-52-P	101A-004-P	NA
	V-11-52-1	11-M-53-P	101A-005-P	5209-101A-038-A
	V-11-53-1	11 - M-54-A	NR	NR
	V-11-58-1	11-M-55-A	NR	NR
*	V-11-84-1	11-M-56-P	10-004-P	NA
*	V-11-84-2	11-M-56-P	10-002-P	NA

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

- 2) NR Evaluation is Not Required since interaction is now acceptable.
- 3) NA Type of evaluation is not applicable to this interaction.
- 4) Disposed of by repair in AFW pump building.
- * Unacceptable by all 3 types of evaluation.

SYSTEM M-11

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

P0	TENTIALLY UNACCEPTABLE INTERACTION NUMBER	FMEA (1) (2)	EIC (1) (2)	SPAN EVALUATION (1)(2)(3)
*	V-11-84-3	11-11-56-P	10-003-P	NA
*	V-11-84-4	11-M-56-P	10-001-P	NA
	V-11-89-1	11-M-57-P	10-005-P	5209-10-037-A
	V-11-91-1	11-M-58-P	10-005-P	5209-10-037-A
	V-11-92-1	11-M-59-A	NR	NR
	V-11-97-1	11-M-60-A	NR	NR
	V-11-101-1	11-M-61-A	NR	NR
	V-11-103-1	11-M-62-P	10-002-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.

SYSTEM NO	11	
SYSTEM NAME	DIESEL GENERATOR SYSTEM	
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MATRIX CATEGORY

NON-CONNECTED Х INTERCONNECTED

9/13/82

PREPARED BY/DATE

APPROVED BY/DATE 9/20/82 Z

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

INTERFACING COMPONENTS

AFETY RELATED OMPONENT (EQUIPMENT)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE
40 GAL JACKET WATER	1"-JW-1042	S	
EXPANSION TANK #33	1"-CHEMICAL INJECTION		
	POINT & FILL CONN.	S	
	¹ ₂ "-LG- (INST CONN.)	S	
	3/4"-JW-1035	S	
	3/4"-JW-1039	S	
	1"-JW-1036	S	
DIESEL ENGINE NO.33	3/4"-JW-1039	S	
	1"-JW-1036	S	
	3/4"-DF-1110	S	
	3/4"-DF-1109	S	
·	3/4"-DF-1108	S	
	$1\frac{1}{2}$ "-DA-1111	S	
	$1\frac{1}{2}$ "-DA-1114	S	
GENERATOR	480V SWGR BUS 5A	S	
	· · · · · · · · · · · · · · · · · · ·		
		·	
40GAL JACKET	1"-JW-1043	S	
WATER EXPANSION	1"-CHEMICAL INJECTION POIN	Г &	n.
TANK #32	FILL CONN.	S	
max #52	¹ ₂ "-LG (INST. CONN.)	. <u>.</u> S	
	3/4"-JW-1034	S	
	3/4"-JW-1040	S	
	1"-JW-1037	S	
	· · ·		
-			
. '	· · · · · ·		
DIESEL ENGINE NO. #32	3/4"-JW-1040	S	
D MIRKOVIC	9/13/82 T	P RUGGIERO	9/20/82
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POWER AUTHORITY OF THE STATE OF NEW YORK INDIAN POINT 3 NUCLEAR POWER PLANT SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

			INTERACTION (IF APPLICABLE)
	3/4"-JW-1037	S	
	3/4"-DF-1107	S	
	3/4"-DF-1106	, S	
	3/4"-DF-1105	S	
	1 ¹ / ₂ "-DA-1112	S	
	$1\frac{1}{2}$ -DA-1112 $1\frac{1}{2}$ "-DA-1115	S	
GENEATOR #32	480V SWGR BUS 6A	S	
GENEATOR # 32	460V SWGR DUS OA	5	
40GAL. JACKET	1"-JW-1044	S	•
WATER EXPANSION	1"-CHEMICAL INJECTION POINT	S	
TANK #31	& FILL CONN.		
	$\frac{1}{2}$ "-LG (INST. CONN.)	S	
	3/4"-JW-1033	S	
	3/4"-JW-1041	S	
	1"-JW-1038	S	
DIESEL ENGINE	3/4'-JW-1041	S	
	3/4"-JW-1038	S	
	3/4"-DF-1104	S	
	3/4"-DF÷1103	S	
	3/4"-DF-1102	S	
	$1\frac{1}{2}$ "-DA-1113	S	•
	1 ¹ / ₂ ''-DA-1116	S	
GENERATOR #31	480V SWGR BUS 2A	S	
	•		
7700 GAL FUEL	3"-DF-1218	S	
OIL STORAGE	LI-1135	S	

OIL STORAGE	LI-1135	S
D MIRKOVIC	9/13/82	T P RUGGIERO 9/20/82
PREPARED	BY/DATE	APPROVED BY/DATE

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

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT EQUIPMENT	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
TANK NO.#33	4"-DIESEL OIL FILL LINE	N	 11-M-1
	4"-DF-1119	S	
	FUEL OIL TRANSFER PUMP NO33	S	
	LC-1206-s	Ś	
	3"-DF-1062	S	
	3''-DF-7	S	
FUEL OIL TRANSFER	1 ¹ / ₂ "-DF-1050	S	
PUMT NO. #33	7700 GAL. FUEL OIL STORAGE	S	
	TANK NO. #33		
MOTOR	480 V MCC 36A	S	
		C	
175 GAL FUEL OIL DAY TANK NO. 33	3"-DF-1068	S	
OIL DAI TARK NO. 55	3/4"-DF-1108	S	
	2"-DF-1079	S	,
	LI-1138	S	
	1"-DF-1063	S	
	1"-DF-1052	S ·	
	3/4"-DF-1109	S	
	LC-1209-S 3/4"-DF-1110	S S	
	374°-DF-1110	5	
7700 GAL FUEL	3"-DF-1217	S	
OIL STORAGE	LI-1134	S	
TANK NO. 32	4"-DIESEL OIL FILL LINE	N	11-M-1
	4"-DF-1118	S	
	FUEL OIL TRANSFER PUMP NO. 3	2 S	
	LC-1205-S	S	
	3"-DF-1065	S	
	3"-DF-1218	S	
	3''-DF-7	S	

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (EQUIPMENT)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE
FUEL OIL TRANSFER PUMP NO. 32	1 ¹ / ₂ "-DF-1053 7700 GAL FUEL OIL STORAGE	S	
	TANK NO. 32	S	
MOTOR	480V MCC 36B	S N	
		0	
175 GAL FUEL	3"-DF-1067	S	
OIL DAY TANK NO32	3/4"-DF-1105	S	
	2"-DF-1078	S	
	LI-1137	S	
	1"-DF-1069	S	
	1"-DF-1054	S	
	3/4"-DF-1106	S	
	LC-1208-S	S	
	3/4"-DF-1107	S	
7700GAL. FUEL	LI-1133	S	
OIL STORAGE	4"DIESEL OIL FILL LINE	N	11-M-1
TANK NO 31	4"-DF-1117	S	
	FUEL OIL TRAMSFER PUMP NO	31 S	
	LC-1204	S	
	3"-DF-1066	S	
	3"-DF-1217	S	
· ·	3''-DF-7	S	
FUEL OIL TRANSFER	1 ¹ 2"-DF-1055	S	
PUMP NO. 31	7700 GAL. FUEL OIL STORAGE		
	TANK NO. 31	S	
MOTOR	480V MCC 36C	S	
			0/00/00
D MIRKOVIC	9/13/82	T P RUGGIERO	9/20/82
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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (EQUIPMENT)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
175 GAL. FUEL	3''-DF-1062	S	
OIL DAY TANK	3/4"-DF-1102	S	
NO. 31	2"-DF-1077	S	
	LI-1136	S	
	1"-DF-1057	S	
	1"-DF-1050	S	
	3/4"-DF-1103	S	
	LC-1207-S	S	
	3/4"-DF-1104	S	



STARTING AIR

TANK NO. 33

I'₂"-ÐA-1111			
$1\frac{1}{2}$ "-DA-1114			
1½"-DA-1048			
3/4"SRV-S-1			
3/4"-DA-1045			
3/4"-DA-3	(PG- ')	
3/4"-DA-4	(PS-)	
3/4"-DA-4	(PC-116	1-S)	
3/4"-DA-4			
3/4"-AUTOMATIC	WATER	TRAP	(AT-1)
3/4"-DA-1211			

D MIRKOVIC

9/13/82

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T P RUGGIERO 9/20/82

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (<u>EQUIPMENT)</u>		SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
STARTING AIR	1 ¹ 2"-DA-1112	S	·
TANK NO. 32	12"-DA-1115	S	
	1 ¹ 2"-DA-1049 3/4"-SRV-S-2	S S	
	3/4"-DA-1046	S ^r	
	3/4"-DA-3 (PG-)	Š	
	3/4"-DA-4 (PS-)	S	
	3/4"-DA-4 (PC-1160-S)	S	
	3/4"-DA-4	S	
~	3/4"-AUTOMATIC WATER TRAP (AT-	-1 <u>)</u> S	
	3/4"-DA-1212	S	

STARTING	AIR	1 ¹ / ₂ "-DA-1113			S
TANK NO.	31	1 ¹ / ₂ "-DA-1116			S
		1 ¹ 2"-DA-1048			S
		3/4"-SRV-S-3			S
		3/4"-DA-1047			Ş
		3/4"-DA-3	(PG-)	S
		3/4"-DA-4	(PS-)	S
		3/4"-DA-4	(PC-1	159 -)	S
		3/4"-DA-4			S
		3/4"-AUTOMATIC	WATER	TRAP (AT-1)	S
		3/4"-DA-1213			S

EXHAUST FAN #318 Motor

480V MCC 36A

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

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (EQUIPMENT)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
EXHAUST FAN # 319 MOTOR	480V MCC 36B	. S	
EXHAUST FAN #316 MOTOR	480V MCC 36A	S	
EXHAUST FAN #317 MOTOR	480V MCC 36A	S	
EXHAUST FAN #314 MOTOR	480V MCC 36A	S	
EXHAUST FAN #315 MOTOR	480V MCC 36B	S	

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

INTERFACING COMPONENTS

-JW-1033 IN "-JW-1035 "-JW-1035 "-JW-1039 "-JW-1039 CHEMICAL INSECTION POINT	S S S S S	
"-JW-1035 "-JW-1039 "-JW-1039 CHEMICAL INSECTION POINT	S	
"-JW-1039 CHEMICAL INSECTION POINT		
ILL CONN. GAL. JACKET WATER EXPANSI K #33	S LON S	١
JW-1036 JW-1036	, S S	
JW-1036 IN	S S	
"-JW-1034 "-JW-1034	S S	
''-JW-1040 ''-JW-1040	S S	
CHEMICAL INSECTION NT & FILL CONN AL. JACKET WATER	S	
	JW-1036 JW-1036 JW-1036 IN '-JW-1034 '-JW-1034 '-JW-1040 '-JW-1040 CHEMICAL INSECTION NT & FILL CONN AL. JACKET WATER ANSION TANK #32	JW-1036 S JW-1036 S JW-1036 S JW-1036 S IN S ''-JW-1034 S ''-JW-1034 S ''-JW-1040 S ''-JW-1040 S CHEMICAL INSECTION S CHEMICAL INSECTION S AL. JACKET WATER

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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
1"-JW-1	1"-JW-1037 1"-JW-1037	S S	
1"-JW-2	1"-JW-1037 DRAIN	S S	
3/4"-JW-14	3/4"-JW-1033 3/4"-JW-1033	S S	
3/4"-JW-3	1"-CHEMICAL INJECTION POINT & FILL CONN.	S	
	40 GAL. JACKET WATER EXPANSIO TANK #31	DN S	
1"-JW-1	1"-JW-1038 1"-JW-1038	· S S	
1"-JW-2	1"-JW-1038 . DRAIN	S S	
3''-DF-7	7700 GAL FUEL OIL STORAGE	S	
د	TANK NO. 33 DRAIN	S	
¹ / ₂ "-DF-5	1 ¹ / ₂ "-DF-1050 PI-1359	S S	
1 ¹ ₂ ''-DF-3	1 ¹ ⁄ ₂ "-DF-1050 1 ¹ ⁄ ₂ "-DF-1050	S. S	
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POWER AUTHORITY OF THE STATE OF NEW YORK INDIAN POINT 3 NUCLEAR POWER PLANT SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
SRV-DE-4 (3/4"X1")	1½"-DF-1050 1"-DF-1051	S S	
3"-DF-6	3"-DF-1062 3"-DF-1062	S S	
1 ¹ 2"-DF-20	1 ¹ 2"-DF-1050 CAP	S S	
1날"-DF-15	1 ¹ ₂ "-DF-1050 1 ¹ ₂ "-DF-1050	S S	•
3/4"-DF_10	1 ¹ / ₂ "-DF-1050 DRAIN	S S	
1 ¹ 2"-DF-8	1 ¹ 2"-DF-1050 1 ¹ 2"-DF-1050	S S	
1 ¹ 2"-DF-9	$1\frac{1}{2}$ "-DF-1050 $1\frac{1}{2}$ "=DF-1057	S S	
1"-LCV-1209B (ELEC. HYDRL MOV) MOTOR	1"-DF-1063 1"-DF-1063 480V SWGR 5A	S S S	
1"-DF-17	1"-DF-1063 1"-DF-1063	S S	· · · ·
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POWER AUTHORITY OF THE STATE OF NEW YORK INDIAN POINT 3 NUCLEAR POWER PLANT SYSTEM INTERACTION STUDY

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1"-DF-17	1"-DF-1052 1"-DF-1052	S S	
1"-LCV-1209A (ELEC. HYDRL MOV) MOTOR	1"-DF-1052 1"-DF-1052 480V SWGR 5A	S S S	
3/4"-DF-18	3/4"-DF-1110 3/4"-DF-1110	S S	·
3/4"-DF-19	3/4"-DF-1110 SRAIN	S S	
3"-df-7	7700 GAL FUEL OIL STORAGE TANK NO. 32 DRAIN	S S	
4"-DF-2	4"-DIESEL OIL FILL LINE 4"-DIESEL OIL FILL LINE	S S	
½"−DF−5	1 ¹ 2"-DF-1053 PI-1358	S S	
1 ¹ ₂ "-DF-3	¹ ¹ ² "=DF-1053 1 ¹ ² "−DF-1053	S	
SRV-DF-4 (3/4"X1")	1½"-DF-1053 1"-DF-1058	S S	

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
3''-DF-6	3"-DF-1065 3"-DF-1065	S S	
1½"-DF-15	1 ¹ ₂ "-DF-1053 1 ¹ ₂ "-DF-1053	S S	
1½"-DF-8	1 ¹ ₂ "-DF-1053 1 ¹ ₂ "-DF-1053	S S	
1½"-DF-9	1 ¹ ₂ "-DF-1053 1 ¹ ₂ "-DF-1060	S S	
3/4"-DF-10	1 ¹ 2"-DF-1053 DRAIN	S S	
1"-LCV-1208B (ELEC. HYDRL MOV) MOTOR .	1"-DF-1069 1"-DF-1069 480v SWGR 6A	S S S	
3/4"-DF-18	3/4"-DF-1107 3/4"-DF-1107	S S	
3/4"-DF-19	3/4'-DF-1107 DRAIN	S S	
3"-DF-7	7700GAL FUEL OIL STORAGE TANK NO. 31	S	
	DRAIN	S	

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1"-DF-17	1"-DF-1069 1"-DF-1069	S	
1"-DF-17	1"-DF-1054 1"-DF-1054	S S	
1"-LCV-1208A (ELEC. HYDRL. MOV) MOTOR	1"-DF-1054 1"-DF-1054 480 SWGR 6A	S S S	



INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
½''−DF−5	1 ¹ / ₂ "-DF-1055 PI-1357	S S	
1 ¹ / ₂ "-DF-3	1½"-DF-1055 1½"-DF-1055	S	· · ·
SRV-DF-4	1 ¹ / ₂ "-DF-1055 1"-DF-1059	S S	
3''-DF-6	3''-DF-1066 3''-DF-1066	S S	
1 ¹ 2"-DF-15	1 ¹ 2"-DF-1055 1 ¹ 2"-DF-1055	S S	
3/4"-DF-10	1 ¹ 2"-DF-1055 DRAIN	S S	
1 ¹ 2"-DF-12	1 ¹ / ₂ "-DF-1055 1 ¹ / ₂ "-DF-1055	S S	
1 ¹ 2"-DF-11	$1\frac{1}{2}$ "-DF-1055 $1\frac{1}{2}$ "-DF-1061	S S	
SRV-DF-13	1 ¹ ₂ "-DF-1057 1"-DF-1064	S S	

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
SRV-DF-14	1 ¹ / ₂ "-DF-1050 1"-DF-1056	S S	
1"-LCV-1207B (ELEC. HYDRL MOV) MOTOR	1"-DF-1057 1"-DF-1057 480V SWGR 2A	S S S	
1"-DF-17	1"-DF-1057 1"-DF-1057	S S	
1"-DF-17	1"-DF-1050 1"-DF-1050	S S	
1"-LCV-1207A (ELEC HYDRL MOV) MOTOR	1"-DF-1050 1"-DF-1050 480V SWGR 2A	S S S	
3/4'-DF-18	3/4"-DF-1104 3/4"-DF-1104	S S	
3/4"-DF-19	3/4"-DF-1104 DRAIN	Ş S	
SRV-DA-5	3/4"-DF-1045 VENT	S S	
3/4"-DA-1	3/4'-DA-1045 3/4 ¹ z-DA-1045	S S	

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
3/4"-DA-3	STARTING AIR TANK NO. 33	S	
	PG-	S	
3/4"-DA-4	STARTING AIR TANK NO. 33	S	
	PS-	S	
3/4"-DA-4	STARTING AIR TANK NO. 33	S	
	PC-1161-S	S	
3/4"-DA-4	STARTING AIR TANK NO. 33	S	
	TO RECEIVER	S	
3/4"-AT-1	3/4"-DA-1211	S	
(AUT. WATER TRAP)	DRAIN	S	
3/4"-DA-6	3/4"-DA-1211	S	
	3/4"-DA-1211	S	
3/4"-DA-8	3/4"-DA-1211	S	
	DRAIN	S	
SRV-S-1	STARTING AIR TANK NO. 33	S	
	VENT	S	
1 ¹ / ₂ "-DA-2	$1\frac{1}{2}$ "-DA-1048	S	
	1 ¹ / ₂ "-DA-1048	S	

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONEN	TS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1½"-DA-11	1년"-DA-1114 1년"-DA-1114		S S	
1 ¹ ₂ "-DA-11	1 ¹ 2"-DA-1111 1 ¹ 2"-DA-1111		S S	
SRV-DA-5	3/4"-DA-1046 VENT		S S	
3/4"-DA-1	3/4'-DA-1046 3/4"-DA-1046		S S	
3/4"-DA-3	STARTING AIR TANK N PG-	10.32	S S	
3/4"-DA-4	STARTING AIR TANK N PS-	10.32	S S	
3/4"-DA-4	SRARTING AIR TANK N PC-1160-S	0.32	S S	
3/4"-DA-4	STARTING AIR TANK N TO RECEIVER	0.32	S S	
3/4"-AT-1 (AUT: WATER TRAP)	3/4"-DA-1212 DRAIN		S S	
3/4"-DA-6	3/4"-DA-1212 3/4"-DA-1212		S S	
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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
3/4"-DA-8	3/4"-DA-1212 DRAIN	S S	
SRV-S-2	STARTING AIR TANK NO. 32 VENT	S S	
1 ¹ ₂ ''-DA-2	1 ¹ ₂ ''-DA-1049 1 ¹ ₂ ''-DA-1049	S S	
1 ¹ ₂ "-DA-10	1 ¹ ₂ "-DA-1115 1 ¹ ₂ "-DA-1115	S S	
1 ¹ ₂ "-DA-10	1 ¹ ₂ "-DA-1112 1 ¹ ₂ "-DA-1112	S S	
SRV-DA-5	3/4"-DA-1047 VENT	S	
3/4"-DA-1	3/4"-DA-1047 3/4"-DA-1047	S S	
3/4"-DA-3	STARTING AIR TANK NO. 31 PG-	S S	
3/4"-DA-4	STARTING AIR TANK NO. 31 PS-	S S	
3/4"-DA-4	STARTING AIR TANK NO. 31 PC-1159-S	S S	

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (VALVES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
3/4"-DA-4	STARTING AIR TANK NO. 31 TO RECEIVER	S S	
3/4"-AT-1	3/4"-DA-1213 DRAIN	S S	
3/4"-DA-6	3/4"-DA-1213 3/4"-DA-1213	S S	
3/4"-DA-8	3/4"-DA-1213 DRAIN	S S	
SRV-S-3	STARTING AIR TANK NO. 31 VENT	S S	
1 ¹ ₂ ''-DA-2	1 ¹ ₂ "-DA-1048 1 ¹ ₂ "-DA-1048	S S	
1 ¹ 2"-DA-9	1 ¹ 2"-DA-1116 1 ¹ 2"-DA-1116	S S	
1½''-DA-9	1 ¹ / ₂ "-DA-1113 1 ¹ / ₂ "-DA-1113	S S	•
3/4"-JW-4	3/4"-JW-1041 3/4"-JW-1041	S S	

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (LINES)		SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1"-CHEMICAL INJECTION	1''-JW-3	S	-
POINT & FILL CONN.	40" GAL JACKET WATER EXPANSIO TANK #33		
1½"-JW-1033	3/4"-MW-1	S	
	3/4"-JW-1033	S	
3/4"-JW-1035	3/4"-MW-14	S	
	40GAL JACKET WATER EXPANSION TANK #33	S	
	3/4"-JW-1033	S	
1"-JW-1042	40 GAL JACKET WATER EXPANSION TANK #33	S	
	VENT	S	
3/4"-JW-1039	3/4"-JW-4	S	
	40GAL JACKET WATER EXPANSION TANK #33	S	
	DIESEL ENGINE NO. 33	S	
1"-JW-1036	1"-JW-1	S	
	1"-JW-2	S	
	40GAL JACKET WATER EXPANSION TANK #33	S	
	DIESEL ENGINE NO. 33	S	
1"-CHEMICAL INJECTION	1"-JW-3	S	
POINT & FILL CONN.	40 GAL JACKET WATER EXPANSION		1
TOTAL & THE COM.	TANK NO. 32	U	
1"-JW-1043	40GAL JACKET WATER EXPANSION TANK #32	- S	
	VENT	S	

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
	3/4"-MW-14	S	
•	40 GAL JACKET WATER EXPANSION TANK NO. 32		
	3/4"-JW-1033	S	
3/4"-JW-1040	3/4"-JW-4	S	
	40 GAL JACKET WATER EXPANSION TANK NO. 32 DIESEL ENGINE NO. 32	n S	
1"_JW-1037	40 GAL JACKET WATER EXPANSION TANK NO. 32	n S	
· · ·	1"-JW-1	S	
	1"-JW-2 DIESEL ENGINE NO. 32	S	
1"-CHEMICAL INJECTION	1"-JW-3	S	
POINT & FILL CONN.	40 GAL JACKET WATER EXPANSION TANK NO. 31	n S	
1"-JW-1044	40 GAL JACKET WATER EXPANSION TANK NO. 31		
	VENT	S	
3/4"-JW-1033	3/4"-MW-14	S	
	40 GAL JACKET WATER EXPANSION TANK NO. 31	N S	
3/4"-JW-1041	3/4"-JW-4	S	
	40 GAL JACKET WATER EXPANSIO TANK NO. 31	N S	
	DIESEL ENGINE NO. 31	S	-

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1"-JW-1038	40 GAL JACKET WATER EXPANSIO	N S	
	TANK NO. 31 1"-JW-1	S	
		,	
	1"-JW-2 DIESEL ENGINE NO. 31	S S	
3"-DF-1218	7700 FUEL OIL STORAGE TANK #	33 S	
	7700 GAL FUEL OIL STORAGE TA	NK #32 S	
4"-DE-1119	7700 GAL FUEL OIL STORAGE TA	.NK#33 S	
	VENT	S	
1 ¹ / ₂ "-DF-1050	FUEL OIL TRANSFER PUMP #33	S	
	$\frac{1}{2}$ "-DF-5	S	
	$1\frac{1}{2}$ "-DF-3	S	
	SRV-DF-4	S .	
	$1\frac{1}{2}$ "-DF-20	S	
	3/4''-DF-10	S	
	$1^{\frac{1}{2}}$ "-DF-8	S	
	$1\frac{1}{5}$ "-DF-1057	S	
	1"-DF-1050	S	
	SRV-DF-14	S	
1"-DF-1050	1"-LCV-1207A	S	<u>-</u>
	$1\frac{1}{2}$ "-DF-1050	S	
	1''-DF-17	S	
	175 GAL FUEL OIL DAY TANK NO	.31 S	
3"-DF-1062	7700 GAL FUEL OIL STORAGE TA NO. 33	NK S	
	3"-DF-6	S	
• •	175 GAL FUEL OIL DAY TANK NO	0#! S	

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

INTERFACING COMPONENTS

$\begin{array}{cccccccc} 3"-DF-1062 \ (CONT.) & 1-DF-1051 & S \\ & 3-DF-1068 & S \\ & 3-DF-1067 & S \\ & 3-DF-1066 & S \\ & 1-DF-1056 & S \\ & 1-DF-1064 & S \\ & 3-DF-1062 & S \end{array}$	
$\begin{array}{ccccccc} 3-DF-1068 & S \\ 3-DF-1067 & S \\ 3-DF-1066 & S \\ 1-DF-1056 & S \\ 1-DF-1064 & S \end{array}$	
3-DF-1066 S 1-DF-1056 S 1-DF-1064 S	
1-DF-1056 S 1-DF-1064 S	
1-DF-1064 S	
3-DF-1062 S	
1 ¹ ₂ "-DF-1057 DF-9 S	
DF-13 S	
$1\frac{1}{2}$ "-DF-1050 S	
1 ¹ ₂ "-DF-1063 S	
$1\frac{1}{2}$ "-DF-1060 S	
$1\frac{1}{2}$ "-DF-1061 S	
1"-DF-1057 S	
1"-DF-1057 DF-17 S	
LCV-1207B S	
175 GAL FUEL OIL STORAGE TANK#31 S	
3"-DF-1217 7700 GAL. FUEL OIL STORAGE TANK S #32	
7700 GAL. FUEL OIL STORAGE TANK S #31	
4"-DF-1118 7700 GAL. FUEL OIL STORAGE TANK S #32	
VENT S	
1 ¹ ¹ ¹ -DF-1053 FUEL OIL TRANSFER PUMP NO. 32 S	
¹ ₂ "-DA-5 S	
$1\frac{1}{2}$ "-DF-3 S	

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
	SRV-DF-4 1 ¹ ₂ "-DF-15 1 ¹ ₂ "-DF-8 3/4"-DF-10 1 ¹ ₂ "-DF-1060 1 ¹ ₂ "-DF-1053	S S S S S S	,
3"-DF-1065	3"-DF-6 7700 GAL FUEL OIL STORAGE 1"-DF-1058 3"-DF-1062	S TANK#32 S S S	
1 ¹ ₂ "-DF-1060	1½"-DF-9 1½"-DF-1053 1½"-DF-1057	S S S	
4"-DF-1117	7700 GAL FUEL OIL STORAGE VENT	TANK#31 S S	
1 ¹ 2"-DF-1055	FUEL OIL TRANSFER PUMP NO. $\frac{1}{2}$ "-DF-5 $1\frac{1}{2}$ "-DF-3 SRV-DF-4 $1\frac{1}{2}$ "-DF-15 $1\frac{1}{2}$ "-DF-12 3/4"-DF-10 $1\frac{1}{2}$ "-DF-1050 $1\frac{1}{2}$ "-DF-1061	31 S S S S S S S S S S	. · · ·
1 ¹ ₂ "-DF-1061	1 ¹ 2"-DF-11 1 ¹ 2"-DF-1057 1 ¹ 2"-DF-1055	S S s	

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

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
	3"-DF-6	S	
	7700 GAL FUEL OIL STORAGE TANO. 31	ANK S	
	3"-DF-1062 1"-DF-1059	S S	
1"-DF-52	1"-DF-17 1"-LCV-1209A	S S	
	175 GAL FUEL OIL DAY TANK No $1\frac{1}{2}$ "-DF-1052	0.33 S S	
1"-DF-1063	1"-DF-17 1"-LCV-1209B 175 GAL FUEL OIL DAY TANK NG	S S 0.33 S	
	1½"-DF-1063	S	
2"-DF-1079	175 GAL FUEL OIL DAY TANK N VENT	0.33 S S	
3/4"-DF-1109	175 GAL FUEL OIL DAY TANK N DIESEL ENGINE NO. 33	0.33 S S	
3"-DF-1068	175 GAL FUELOIL DAY TANK NO 3-DF-1062	.33 S S	
3/4"-DF-1108	175 GAL FUEL OIL DAY TANK N DIESEL ENGINE #33	0.33 S S	
1"-DF-1054	1"-DF-17 1"-LCV-1208A 175 GAL FUEL OIL DAY TANK N 1½"-DF-1054	S S 0.32 S S	、

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1"-DF_1069	1"-DF-17	S	
	1"-LCV-1208B	S	
	175 GAL FUEL OIL DAY TANK N 1날"-DF-1069	NO.32 S S	
2"-DF-1078	175 GAL FUEL OIL DAY TANK M	NO.32 S	
2 DI 1070	VENT	S S	
3"-DF-1067	175 GAL FUEL OIL DAY TANK M	NO.32 S	
5 22 2007	3"-DF-1062	S	
1 ¹ / ₂ "-DF-1052	1"-DF-1052	S	
-2 - 200-	1 ¹ ₂ "-DF-1050	S	
1 ¹ / ₂ "-DF-1063	1"-DF-1063	S	
-	1 ¹ / ₂ "-DF-1057	- S	
1 ¹ ₂ ''-DF-1054	1"-DF-1054	S	
	1 ¹ ₂ "-DF-1050	S	
1 ¹ / ₂ "-DF-1069	1"-DF-1069	S	
- 2	1 ¹ / ₂ "-DF-1057	S	
3/4"-DF-1106	175 GAL FUEL OIL DAY TANK		
	DIELSEL ENGINE NO.32	S	
3/4"-DF-1105	175 GAL FUEL OIL DAY TANK	NO.32 S	
	DIESEL ENGINE NO. 32	S	
2"-DF-1077	175 GAL FUEL OIL DAY TANK	NO. 31 S	
	VENT	S	

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INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	
3/4"-DF-1103	175 GAL FUEL OIL DAY TANK NO	0.31 S	
5,4 21 1205	DIESEL ENGINE NO. 31	S	
3/4"-DF-1102	175 GAL FUEL OIL DAY TANK NO		
ι,	DIESEL ENGINE NO. 31	S .	
3/4"-DF-1110	3/4"-DF-18	S	
	3/4"-DF-19	S	
•	175 GAL FUEL OIL DAY TANK NO		
	DIESEL ENGINE NO. 33	S	
3/4"-DF-1107	3/4"-DF-18	S	
e , · e e e e e e e e e e	3/4" - DF - 19	S	
	175 GAL FUEL OIL DAY TANK NO).32 S	
	DIESEL ENGINE NO. 32	S	
3/4"-DF-1104	3/4"-DF-18	S	
- •	3/4"-DF-19	S	
	175 GAL FUEL OIL DAY TANK NO	D.31 S	
	DIESEL ENGINE NO. 31	S	
3/4"-DF-1045	AIR COMPRESSOR #33	S	
	SRV-DA-5	S	
	3/4"-DA-1		
	STARTING AIR TANK #33	S	•
3/4"-DA-1211	3/4"DA-8	S	
	3/4"-DA-6	S	
	3/4"-AT-1	S	

D MIRKOVIC 9/13/82 PREPARED BY/DATE T P RUGGIERO 9/20/82 APPROVED BY/DATE

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

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
1 ¹ ₂ ''-DA-1048	STARTING AIR TANK #33	S	
-	1 ¹ /2"-DA-2	S	
	$1\frac{1}{2}$ "-DA-2	· S	
	STARTING AIR TANK #31	S	
	1 ¹ ₂ "-DA-1049	S	
1 ¹ / ₂ ''-DA-1114	STARTING AIR TANK #33	S	
• • • • • •	$1\frac{1}{2}$ "-DA-11	S	,
	DIESEL ENGINE NO. 33	S	
3/4"-DA-1046	· AIR COMPRESSOR #32	S	
	SRV-DA-5	S	
	3/4"-DA-1	S	
	STARTING AIR TANK #32	S	
3/4"-DA-1212	3/4"-DA-8	S	
	3/4"-DA-6	· S	
	3/4"-AT-1	S	
	STARTING AIR TANK #32	S	
1 ¹ ₂ ''-DA-1049	$1\frac{1}{2}$ "-DA-2	S	
	STARTING AIR TANK NO.32	S	
	1½"-DA-1048	S	
1 ¹ / ₂ "-DA-1115	1 ¹ / ₂ "-DA-10	S	
	STARTING AIR TANK NO. 32	S	
	DIESEL ENGINE NO. 32	S	
1 ¹ ₂ "-DA-1112	STARTING AIR TANK NO. 32	S	
	$1\frac{1}{2}$ "-DA-10	S	
	DIESEL ENGINE NO. 32	S ·	
1 ¹ / ₂ "-DA-111	STARTING AIR TANK NO.33	S	
	$1\frac{1}{2}$ "-DA-11	S	
	DIESEL ENGINE NO.33	S	
D MIRKOVIC	9/13/82	T P RUGGIERO 9	/20/82
PREPARED BY/D	A TT T	APPROVED BY/DA	ጥፑ

PREPARED BY/DATE

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APPROVED BY/DATE



Ebasco Services Incorporated

SYSTEM NO. 11

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

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT (LINES)	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
3/4"-DA-1047	AIR COMPRESSOR #31	S	• • • • • • • • • • • • • • • • • • •
5/4 DI 104/	SRV-DA-5	S	
	3/4"-DA-1	· S	
	STARTING AIR TANK NO.31	S	
1 ¹ ₂ "-DA-1213	STARTING AIR TANK NO. 31	S	
	3/4"-DA-8	S	
	3/4"-DA-6	S	
	3/4"-AT-1	S	
1 ¹ ₂ "-DA-1116	STARTING AIR TANK NO. 31	S	
- •	$1\frac{1}{2}$ "-DA-9	S	
·	DIESEL ENGINE NO. 31	S	
1 ¹ ₂ "-DA-1113	STARTING AIR TANK #31	S	
	$1\frac{1}{2}$ "-DA-9	S	
	DIESEL ENGINE NO. 31	S	

D MARKOVIC

9/13/82

PREPARED BY/DATE

T P RUGGIERO 9/20/82 APPROVED BY/DATE

Ebasco Services Incorporated

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

Interconnected System Interaction Evaluation Notes

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

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

SYSTEM NO. 11

SYSTEM NAME

DIESEL GENERATOR SYSTEM

EVALUATION CATEGORY

NON-CONNECTED ____

INTERCONNECTED

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Sheet 1 of 1

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

POTENTIAL INTERACTION NUMBER:

CONNECTED COMPONENT: Diesel Oil Fill Lines

BOUNDARY SAFETY RELATED 7700 Gal Fuel Oil Storage Tanks 31 thru 33. COMPONENT (S):

POSTULATED FAILURE (SEE NOTES): METHOD OF DETECTION: None other than visual.

EVALUATION OF INTERACTION:

Line rupture will not drain storage tanks since elevation is higher than top of tank,

> X ACCEPTABLE

POTENTIALLY - UNACCEPTABLE

T P Ruggiero/9-28-82 INTERACTION ENGINEER / DATE W A Griswold/9-29-82

VERIFIED/DATE

Ebasco Services Incorporated

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

SYSTEM NO	11	
SYSTEM NAME	DIESEL GENERATOR SYSTEM	

MATRIX CATEGORY

NON-CONNECTED

INTERCONNECTED

Mint 9/7/82 PREPARED BY/DATE

9/13/82

Ebasco Services Incorporated

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]	L-11	LINES	NO INTERACTION	4"-DIESEL OIL FILL LINE	LOUDSPEAKER	SPACE HEATER	EMERGENCY LIGHT	LIGHT FIXTURE						
ſ	1	3/4"-JW-1033		M395										Ī
	2	3/4"-JW-1035	X											ŀ
ſ	3	1"-JW-1042	X ·		7									Γ
	4	1" CHEMICAL INJEC. POINT & FILL CONN	Х					•						T
	5	3/4"-JW-1039				M388)		м388						
	6	1"-JW-1036			M386		1386	M388						
	7	3"-DF-1218		M395)							
Ц Ц	8	4"-DF-1119	X	\bigcirc		1-								
TARGETS	9	1½"-DF-1050		1395 ™ 39 2										
₽ŀ	LO	1"-DF-1051		1392										
	1	3"-DF-1062		M395 M392										
þ	.2	1냧''-DF-1057	X									<u> </u>		
h	.3	1½"-DF-1052	X									<u> </u>	<u> </u>	
h	.4	1"-DF-1052	X									<u> </u>	<u> </u>	
·	.5	1½"-DF-1063	X						 				<u> </u>	
h	.6	1"-DF-1063	x											

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									S	DUR	CES	5				
5					1	2										
		L-11	LINES	NO INTERACTION		4" DIESEL OIL FILL LINE										
		17	2"-DF-1079		M388											
		18	3''-DF-1068		M388	M395										
		19	3/4"-DF-1108		M388											
		20	3/4"-DF-1110		1388											
		21	3/4"-DF-1109		1388											
		22	3/4"-DA-1045	X												
		23	3/4"-DF-1211	X												
	TARGETS	24	1½"-DA-1048			1395										
~~~~	<b>\RG</b>	25	1½"-DA-1114	x		$\mathbf{)}$				·						
	41	26	1½"-DA-1111	x												
- ~		27	D. G. ROOM AIR INTAKE DUCT		M389											
		,					•									
4 4 4													-			
INCHES INNIAN														 		
INCHE																
		FIRE LOC	DING: <u>DIESEL GENE</u> ZONE: <u>102A</u> ATION: <u>DIESEL E</u> HIN FIRE ZONE						D	DIESE	L GEN	IERAT	OR			
	EB	ASCO	SERVICES INCORP			POW							W YO	5 <b>209</b> -11	.00	3
	DIV. DATI SCA	MECH	L DR. DM APPR CH. T. P. RU ONE	COVED	0		SYS'	<b>TEMS</b>	POI 5 INT ACTI	ERA	стю	N ST	UDY	<b>H</b> ₂	OF ₆	
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-	L-11	LINES	NO INTERACTION	LIGHT FIXTURE	SPACE HEATER	LOUDSPEAKER	4" DIESEL OIL FILL LINE								
	28	3/4"-JW-1033	x						-						
	29	3/4"-JW-1034	x												
	30	1"-JW-1043	х												
	31	CHEMICAL INJECT. POINT & FILL CONN	X												
	32	3/4"-JW-1040		1382	из82	M384									
	33	1"-JW-1037		1382											
(0)	34	3"-DF-1218	x										F		
ETS	35	3"-DF-1217					м394								
<b>TARGE 1</b>	36	4"-DF-1118	x												
Ц	37	1 <b>½"-DF-105</b> 3					(1391								
	38	L"-DF-1058	•				M391								
	, 39	3"-DF-1065					M39]		- -						
	40	3"-DF-1062					1394								
	41	1 ¹ /2"-DF-1050					1394								
	42	1½"-DF-1057		·											
	43,	1 ¹ 2"-DF-1060	x												
	FIRE	DING: DIESEL GENE ZONE: 101A ATION: DIESEL EN HIN FIRE ZONE				G.			DI	ESEL	GENE	RATO	R		
EB, DIV.	ASCO MECH	SERVICES INCORF	ROVED	)	POW	IN SYS		PO 5 IN	INT TERA	No. 3 CTIO	3 DN ST		I	5209 J-11 SH 3	

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6					1 .	2	3									
		L-11	LINES .	NO INTERACTION	LIGHT FIXTURE	COUDSPEAKER	4" DIESEL OIL FILL LINE									
		44	1½"-DF-1054	X			4									
		45	1"-DF-1054	x												
		46	1½"-DF-1069	x												
		47	1"-DF-1069	x		·`										
		48	2"-DF-1078		M382											
		49	3"-DF-1067		M382											
		50	3/4"-DF-1105		1382											
	ΞTS	51	3/4"-DF-1107		1382				•							
∾┲∽	TARGE 1	52	3/4"-DF-1106		M382											
	TA	53	1½"-DA-1048				1394									
		54	1 ¹ / ₂ "-DA-1049	x			$\bigcirc$									
		__ 55	3/4"-DA-1046	x					T							
		56	3/4"-DA-1212	x												
0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		57	1½"-DA-1115	x												
INCHES <b>(Indumin -</b> CM, <b>(Indumin -</b> 0 I		58	1 ¹ / ₂ "-DA-1112	x												
		59	D.G. ROOM AIR INTAKE DUCT		M385											
		FIRE LOC	DING: DIESEL GENE ZONE: 101A ATION: DIESEL EN HIN FIRE ZONE				G ·		D	IESEI	, GEN	ERATC	DR			
	·		SERVICES INCORP			POV			ORIT PO				EW YC		5 <b>209</b> 11	. 003
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		L-11	LINES	IO INTERACTION	LOUDSPEAKER	LIGHT FIXTURE	4" DIESEL OIL FILL LINE					1				
<u>.</u>		60	3/4"-JW-1033				N M393									
		61	1"-JW-1044	Х												
		62	1"-CHEMICAL INJECT POINT & FILL CONN													
		63	3/4"-JW-1041			M378										
		64	1"-JW-1038		M377				·							
		65	3"-DF-1217				1393									
	S S	66	4"-DF-1117	x												
	TARGETS	67	1½"-DF-1055				1390									
· ~ "	ARG	68	1"-DF-1059			ļ	1390		<del></del>			<u> </u>				
	,   F	69	3"-DF-1066				1390									
	<b>.</b>	70	1½"-DF-1061	X												
		71	1 ¹ ₂ ''-DF-1057	х												
	-	72	1"-DF-1064	x											ļ	
INCHES INMANY	-	73	1날''-DF-1050	 		M378	M393					ļ			<b> </b>	
INCHE		74	1"-DF-1056	X	ļ						 	<b> </b>			<u> </u>	
	ł	75	3"-DF-1062				M393							<u> </u>		
	1	FIRE	DING: DIESEL GENE ZONE: 10 ATION: DIESEL EN HIN FIRE ZONE							DII	ESEL	GENEF	RATOR			
	-		D SERVICES INCORP			POW		•					EW YO	ORK	5209 L-11	. 003
	DAT	re	DR. DM APPR	ROVED			SYS	DIAN TEMS NTER	5 -IN"	TERA		N ST	TUDY			<b>OF</b> ⁶
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	L-11	LINES .	NO INTERACTION	LIGHT FIXTURE	4" DIESEL OIL FILL LINE											
	76	1"-DF-1050	x													
	77	1"-DF-1057	X													
	78	2"-DF-1077		M378		·										
	79	3/4"-DF-1102		M378												
	80	3/4"-DF-1104		M378												
	81	3/4"-DF-1103		M378												
~~	82	1½"-DA-1048			- M393											
တု	83	3/4"-DA-1047	x													
TARGE1	84	3/4"-DA-1213	x										1			
A	85	1½"-DA-1116	x			_		1			·					
	86	1½"-DA-1113	x													
	<u>,</u> 87	D.G. ROOM AIR INTAKE DUCT		1379												
·																
	FIRE	DING: <u>DIESEL GE</u> ZONE: <u>10</u> ATION : <u>DIESEL</u> HIN FIRE ZONE	ENGINE			;				DIES	EL GE	ENERA	TOR			
DIV. DAT	MEC	D SERVICES INCO H DR.DM API CH T.P. ONE	PROVED	,		IN SYS	DIAN TEM	PO 5 IN1	INΤ ΓERA	No. 3		UDY	1	L-11	0.00 0F	

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	<u>v-11</u>	VALVES	NO INTERACTION	LOUDSPEAKER	LIGHT FIXTURE	SPACE HEATER	EMERGENCY LIGHT								
1		3/4"-JW-1035													
	1	3/4"-MW-14	X												
	2	JACKET WATER EXPANSION TANK #33	x												
,													:		
		1"-CHEMICAL INJECT & FILL CONN.													
	3	1"-JW-3	x											ļ	
လ				•											· ·
TARGETS		3/4"-JW-1039										·		ļ	
ARG	4	3/4"-JW-4	x												
F	5	DIESEL ENGINE NO. 33 & EXHAUST SY	:	м386	M388 M389	M387 M389	M387								
		1''-JW-1036						<u> </u>		-					
ļ	6	1"-JW-1			1388										
	7	1"-JW-2 (1" DRN)	·	(	1388							1			
	8	COMBUSTION AIR AFTER COOLER	x												
	9	JACKET WATER PUMP	x												
	FIRE LOC	DING: <u>DIESEL GENE</u> ZONE: <u>102A</u> ATION : <u>DIESEL EN</u> HIN FIRE ZONE	GINE							DIES	SEL G	GENER	ATOR		
EB	ASCO	SERVICES INCORF	ORAT		POW									5209 V-11	. 0(
DIV	<u>MECH</u>	DR. DM APPR	OVED			INI SYST				No. 3				v-11	

				1												
	<u>v-11</u>	VALVES	NO INTERACTION													
		1 ¹ ₂ "-DF-1050														
	10	FUEL OIL TRANSFER PUMP NO. 33		M392												
	11	FUEL OIL STORAGE FANK NO. 33	x													
	12	'₂"-DF-5 (INST CONN.)		M392												l
	13	1"-DF-3		M392												
	14	SRV-DF-4 (3/4" x 1")	x													
0	15	1½"-DF-20	x													
TARGETS	16	1 ¹ ₂ "-DF-15	x													
<b>NRG</b>	17	3/4"-DF-10 (3/4" ^{DRN} )	х													
14	18	1 ¹ ₂ ''-DF-8	x													
		·····	ļ													
		3''-DF-1062														
	19	3''-DF-6		M392												
	<b> </b>			 				• .								
÷,	·	1½"-DF-1057												ļ		
		1 ¹ ₂ "-DF-9	x													
	FIRE LOC	DING: DIESEL GENER ZONE: 102A ATION: DIESEL ENG HIN FIRE ZONE								DI	ESEL	GENE	RATO	R		
		SERVICES INCORF			POW							W YC				3
DIV. DAT SCA		DR. DM APPF	ROVED	0		SYS	<b>TEM</b> S	S INT	TERA	No. 3 Ctio Mati	N ST	UDY		v-11 SH2	OF 1	.9

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	V-11	VALVES .	NO INTERACTION	LIGHT FIXTURE											
		1"-DF-1052						ļ							
	21	1"-DF-LCV-1209A	x					ļ	 		 				
	22	1"-DF-17	x												
	23	FUEL OIL DAY TANK NO. 33		м388											
		1"-DF-1063									 				<b> </b>
	- 24	1"-DF-LCV-1209B	x												Γ
<b>SETS</b>	25	1"-DF-17	X												
TARGET		3/4"-DF-1110													
	26	3/4"-DF-18	x												Γ
	<u>,</u> 27	3/4"-DF-19 (3/4"DRN)	x												
EB	FIRE LOC WIT	DING: <u>DIESEL GE</u> ZONE: <u>102A</u> ATION : <u>DIESEL E</u> HIN FIRE ZONE SERVICES INCOP	NGINE 1	<u>vo.</u> 3	3	/ER A					OF NE			5209	. c
		Chi	PROVED		-	SYS	ТЕМ	I PO S IN ⁻ RACTI	TERA	CTIC	N ST	UDY		-11 5H3	0

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		<u>v-11</u>	VALVES .	NO INTERACTION												
			3/4"-DA-1045	A	-						•					
		28	AIR COMPRESSOR NO. 33	x			•		1							
		29	3/4"-SRV-DA-5	x					×							
		30	3/4"-DA-1	x												
		1														
			STARTING AIR TANK NO. 33													
	S	31	3/4"-DA-3 (INST. CONN.)	x												
		32	3/4"-DA-4 (INST. CONN.AMT.3	3) X												
~~~~	TARGET	33	3/4"-SRV-S-1	x											i	
	17															
~ ~			3/4"-DA-1211						,							
		_, 34	3/4"-DA-8 (3/4" DRN)	X .										,		
4 4 4 -		35	3/4"-DA-6	x												
INCHES 0 CH: 0										•						
INCHE			1½"-DA-1048					-								
		36	1 ¹ / ₂ ''-DA-2	x												
			DING: DIESEL GEN	IERATOR	BUI	LDING	;									
		LOC	ATION : DIESEL E	INGINE	NO.	3,3					DĮESE	L GE	NERAI	OR		
	· · ·		HIN FIRE ZONE		ED	POW	ER A	UTH							209	.003
	DIV.	MECI	DR. DM APP	ROVED			- INI	DIAN	PO	INT	No. 3			v	-11	•
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	V-1	VALVES 1	NO INTERACTION												
		1 ¹ ₂ "-DA-1114													
	37	1 ¹ 2"-DA-11	x											-	
		1½"-DA-1111											-		
	38	1½"-DA-11	x												
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TARGETS	ļ														
ARG							,				 				
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		_DING: <u>diesel gen</u>	JERATOR			[?		<u> </u>	<u>i</u>	<u> </u>	<u> </u>				
	FIRE	ZONE: 102A CATION : DIESEL I HIN FIRE ZONE	<u></u>					1	DIESE	L GEI	NERAT	ÖR			
		D SERVICES INCOM										W YC	DRK	5209	. 00
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L ENGINE NE IORPORA	NO. 3	OWER			Y ST	ATE C	OF NE			5209 V-11
	DE ENGINE	SENGINE NO. 33 NE ORPORATED P PPROVED	ORPORATED_ POWER	DE 33 NE 33 ORPORATED POWER AUTI PPROVED INDIA SYSTEM	<u>PPROVED</u>	DI DI ORPORATED_ POWER AUTHORITY ST INDIAN POINT SYSTEMS INTERA	DIESEL ORPORATED_ POWER AUTHORITY STATE (PPROVED INDIAN POINT No. 3 SYSTEMS INTERACTIC	DIESEL GENE ORPORATED_ POWER AUTHORITY STATE OF NE INDIAN POINT No. 3 SYSTEMS INTERACTION ST	DIESEL GENERATO ORPORATED_ POWER AUTHORITY STATE OF NEW YO INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY	DIESEL GENERATOR ORPORATED POWER AUTHORITY STATE OF NEW YORK INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY

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			VALVES	INTERACTION		EMERGENCY LIGHT	LIGHT FIXTURE	LOUDSPEAKER								
	1	<u>.</u> V-11		ON	SP/	EMI	LI(LOI					 	<u> </u>		
			3/4"-JW-1034										ļ			
		41	3/4"-MW-14	X									<u> </u>			
		42	JACKET WATER EXPAN SION TANK NO. 32	x								 				
			1"-CHEMICAL INJECT POINT & FILL CONN.	-												
		43	1"-JW-3	x					•							
	TARGETS		3/4"-JW-1040													
	RGE	44	3/4''-JW-4	x									1			
	TA	45	DIESEL ENGINE NO. 32&EXHAUST SYS		M382 M383		M382 M382	M384								
₽ ₽ ₽ ₽ ₽ ₽		,	1"-JW-1037													
		46	1"-JW-1	x												
INCHES JEANAAA CH. JEANAAA		47	1"-JW-2 (1" DRN) COMBUSTION AIR	x												
INCE		10	AFTER COOLER JACKET WATER	X												
		BUIL FIRE	DING: <u>DIESEL GENE</u> ZONE: ^{101A} ATION: <u>DIESEL ENG</u> HIN FIRE ZONE				G]	DIESE	L GEI	I	L COR		
L D	EB, DIV, DATI	ASCC MECH	SERVICES INCORP	OVED			SYS	TEMS	90 5 IN 7		NO. 3	N ST			5209 -11 H 7	

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	<u>V-11</u>	VALVES	NO INTERACTION	4" DIESEL OIL FILL LINE										
		1½"-DF-1053 FUEL OIL TRANSFER PUMP NO. 32	x						 		<u> </u>			
	50 51	FUEL OIL STORAGE TANK NO. 32	x				<u> </u> 							
	52	¹ 2 ^{''} -DF-5 (INST. CONN.)		M391										Ī
	53	1"-DF-3		M397										
	54	SRV-DF-4 (3/4"x 1")	x											
S	55	1 ¹ ₂ "-DF-15	x			<u> </u>		<u> </u>			ļ		ļ	ļ
ЙТ	56	3/4"-DF-10 (3/4" DRN)	x			<u> </u>	 		ļ		<u> </u>			
TARGETS	57	1 ¹ / ₂ "-DF-8	x											
		3"-DF-1065												
	, 58	3''-DF- 6		M391)							 			
		1½"-DF-1060												
	59	1½"-DF-9	x											
		·												
EB. DIV.	FIRE LOC WITI ASCO MECH		NGINE PORAT	<u>NO</u> 32 TED P	OWER	IDIAN	I PO	INT	ATE (No. 3	OF NE		DRK :	5 209 7–11	
DAT		CHT.P.R	JGGIER	0		NTER					ועט		H 8	_

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	_V-11	VALVES	NO INTERACTION												
		1"-DF-1054													
	60	1"-DF-LCV-1208A	x												
	61	1"-DF-17	x	•											
·	62	FUEL OIL DAY TANK NO. 32	X												
		1"-DF-1069													
S	63	1"-DF-LCV-1208B	x												
ET	64	1"-DF-17	x								-				
TARGET						<u> </u>							,		
16		3/4"-DF-1107			·			<u> </u>							
	65	3/4"-DF-18	X		ļ	<u> </u>		<u> </u>	<u> </u>						
	, 66	3/4"-DF-19 (3/4" DRN)	X		-	<u> </u>			<u> </u>						
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						<u> </u>									-
EB DIV.	FIRE LOC WIT ASCC	DING: DIESEL GENE ZONE: 101A ATION: DIESEL EN HIN FIRE ZONE SERVICES INCORI L DR. DM APPE CH. T. P. RU ONE	PORAT	NO.	32	/ER A IN SYS	DIAN TEM	ORIT I PO S IN RACT	Y ST INT TERA	No. 3 CTIO	OF NE	EW YO	ORK !	5209 V-11 SH 9	

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		VALVES .		INTERACTION						-						
	V-1	1		I ON												
		1 ¹ / ₂ "-DF-1049														
	67	1 ¹ 2"-DA-2		X												
		3/4"-DA-1046														
	68	AIR COMPRESS NO. 32		x												
	69	3/4"-SRV-DA-	5	X	•											
S	70	3/4"-DA-1		X												
TARGET		STARTING AIR TANK NO. 32														
4	71	3/4"-DA-3 (INST. CONN.)	X												
	72	3/4"-DA-4 (INST. CONN.	AMT 3	x			ļ			ļ						
	<i>,</i> 73	3/4"-SRV-S-2		x												
	74	3/4"-DA-1212 3/4"-DA-8		X			<u> </u>									
		(3/4" DRN) 3/4"-DA-6		X							 ,					
	BUIL FIRE LOC	DING: DIESE ZONE: 10 ATION: DIE HIN FIRE Z	L GENER 1A SEL ENG	ATOR		-	I ;	Ļ		L D:	I IESEL	GENI	ERATO	R	Į	
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	V-1	VALVES	NO INTERACTION												
		1½"-DA-1115					-								
	76	1½"-DA-10	X												
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		1½"-DA-1112						1							Ī
	77	1 ¹ ₂ -DA-10	x												
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TARGETS															
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	FIRE LOC WIT	DING: DIESEL GEN ZONE: 101A ATION: DIESEL EN HIN FIRE ZONE	IGINE N	<u>10.</u> 3	32			I		ESEL					Į
		SERVICES INCOR	PORAT		POW				Y STA INT			W YC	DRK	5 209 v-11	. C
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		VALVES) INTERACTION												
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	79	EXHAUST FAN #317	X												
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	-0C <u>VITI</u>	ATION : DIESEL E	ENGINE N E	<u>10.3</u>	32 _,				I	IESEI	L GEN	ERAT	OR		
EBA DIV.	SCO MECH	SERVICES INCO		TED_		113	DIAN		IIN I	ATE (No. 3					
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	-	V-11	VALVES	NO INTERACTION	LOUDSPEAKER	LIGHT FIXTURE	EMERGENCY LIGHT	SPACE HEATER								
			3/4"-JW-1033							-						
		80	3/4"-MW-14	x												
		81	JACKET WATER EXPAN SION TANK NO. 31	- X_												
			1"-CHEMICAL INJECT POINT & FILL CONN.													
		82	1"-JW-3	x		-				,						
-	S															
	TARGETS		3/4"-JW-1041												ς	
ירי	ARG	83	3/4"-JW-4	x												
	12	84	DIESEL ENGINE NO. 31 & EXHAUST SYS	•	M37)	M378 M379	м380	M381 M380								
4-~ -		,	1"-JW-1038													
		85	1"-JW-1 1"-JW-2	X						•						
INCHES I MIMMA		86	(1" DRN) COMBUSTION AIR	X												
INC			AFTER COOLER JACKET WATER	x x	-											
			PUMP DING: DIESEL GENH		R BUI	LDIN	G	<u> </u>					I]	
		FIRE LOC	TONE: 10 ATION : DIESEL ENC HIN FIRE ZONE								DIES	EL GI	ENERA	TOR		• •
			SERVICES INCORP			POW									5 209 '-11	003
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	·	VALVES	INTERACTION	DIESEL OIL FILL LINE									
	V-1	1	ON	4"									
ſ		1½"-DF-1055											
Ī	89	FUEL OIL TRANSFER PUMP NO. 31	•	M390					1				
	90	FUEL OIL STORAGE TANK NO. 31	x										
	91	½"-DF-5 (INST. CONN.)		M390									
	92	1"-DF-3		M390									
	93	SRV-DF-4 (3/4" x 1")	X										
	94	1½"-DF-15	X										
Ш	95	3/4"-DF-10 (3/4" DRN)	X										
TARGE TS	96	1 ¹ 2"-DF-12	x										
		3"-DF-1066											
	<u>· 97</u>	3''-DF-6		M390	 		· ·	 		<u> </u>	 	ļ	
		1 ¹ 2"-DF-1061											
	98	1½-DF-11	x										
	FIRE LOC WIT	DING: DIESEL GENE ZONE: 10 ATION: DIESEL EN HIN FIRE ZONE	GINE	<u>NO.</u> 31			<u> </u>	<u></u>		IESEL			
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	V-11	VALVES	NO INTERACTION	LIGHT FIXTURE											
		1½"-DF-1057													
	99	SRV-DF-13 (3/4" X 1")	X												
		1 ¹ 2"-DF-1050													
	100	SRV-DF-14 (3/4" X 1")	X												
S		1"-DF-1050													
TARGETS		1"-DF-LCV-1207A		м378								`			- 1.
r RG	102	1"-DF-17	x												
, P	103	FUEL OIL DAY TANK NO. 31		M378											
2 3		1"-DF-1057													
-	104	1"-DF-LCV-1207B	X.												
-	105	1"-DF-17	x												
F	FIRE	DING: <u>DIESEL GENE</u> ZONE: 10 ATION: <u>DIESEL EN</u> HIN FIRE ZONE				5	ŗ		DI	ESEL	GENE	RATOF	R		
EBA	SCO	SERVICES INCORP	ORAT	ED.	POW							W YO			. 00
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v-1	VALVES 1	NO INTERACTION										
	3/4"-DF-1104											
10		X										
10	3/4"-DF-19 7 (3/4" DRN)	X										
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		VALVES	NO INTERACTION								· ,				
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		1 ¹ ₂ "-DA-1048									<u> </u>				
	108	1 ¹ ₂ "-DA-2	X		<u> </u>			· ·						<u> </u>	
		3/4"-DA-1047													
	109	AIR COMPRESSOR NO. 31	X												
	110	3/4"-SRV-DA-5	x												
	111	3/4"-DA-1	x												
10													· ·		
TARGETS		STARTING AIR TANK NO. 31													
4 T	112'	3/4"-DA-3 (INST. CONN.)	X												
	113	3/4"-DA-4 (INST. CONN. AMT.3)	x												
	-114	3/4-SRV-S-3	Х												
		3/4"-DA-1213													
	115	3/4"-DA-8 (3/4" DRN)	x												
		3/4"-DA-6	x												
	FIRE LOC	DING: DIESEL GENER ZONE: 10 ATION: DIESEL ENG HIN FIRE ZONE			•	;		* <u>, .</u>		DII	ESEL	GENE	RATOF		•
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	v-11	VALVES	NO INTERACTION	-									
		1 ¹ ₂ "-DA-1116		 									
	117	1 ¹ ₂ ''-DA-9	X.										
		1 ¹ ₂ "-DA-1113											
	118	1 ¹ ₂ ''-DA-9	X										
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TARGETS						-							
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POWER AUTHORITY OF THE STATE OF NEW YORK INDIAN POINT 3 NUCLEAR POWER PLANT SYSTEM INTERACTION STUDY

NON-CONNECTED INTERACTIONS EVALUATION

	1.	No Interaction	-	Source is Class II and is therefore supported adequately. (See response to IP-3 FSAR question 5.24).
	2.	Acceptable	-	Source pipe/conduit is equal size or smaller in diameter and/or the same thickness or thinner wall than the target pipe/conduit/ tubing. Paragraph 6.2.2.1a Volume I.
	3.	Acceptable	-	Source has insufficient mass to damage the target component.
	4.	Acceptable	-	Basis is engineering judgement. Specific justification is on the evaluation form.
	5.	Potentially Unacceptable	-	Discussion of specific is on the evaluation form.
	6.	Potentially Unacceptable	.	Source pipe/conduit is large enough to damage .target conduit/pipe/tubing.
·	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.

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

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

SYSTEM NO. 11

SYSTEM NAME

DIESEL GENERATOR SYSTEM

EVALUATION CATEGORY

NON-CONNECTED X

INTERCONNECTED

8/11/82

30.82

INTERACTION ENGINEER/DATE

Ebasco Services Incorporated

System No. 11

Sheet 1 of 80

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

BUILDING: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: L11-1-1

PHOTOGRAPH NO.: M-395

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4" - JW - 1033 (Bottom right)

SOURCE: 4" Diesel Oil Fill Line

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

D Mirkovic 8/17/82 INTERACTION ENGINEER/DATE W Griswold 9/7/02 VERIFIED/DATE

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POTENTIALLY

-UNACCEPTABLE

Ebasco Services Incorporated

System No. 11

Sheet 2 of 80

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

BUILDING: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: L11-5-3

PHOTOGRAPH NO.: M-388

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4" - JW - 1039 (Not shown)

SOURCE: Space Heater

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

POTENTIALLY _____X____UNACCEPTABLE

D'Mirkovic 8/17/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82 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: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: L-11-5-5

PHOTOGRAPH NO.: M-388

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4" - JW - 1039 (Not Shown)

SOURCE: Light Fixture (Arrow top of photo)

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

 ACCEPTABLE
 X
 POTENTIALLY UNACCEPTABLE

 D Mirkovic
 8/17/82
 W Griswold
 9/7/82

 INTERACTION ENGINEER/DATE
 VERIFIED/DATE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: L11-6-2

PHOTOGRAPH NO.: M-386

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1" - JW - 1036 (at center of photo)

SOURCE: Loudspeaker

DESCRIPTION OF POSTULATED INTERACTION:

Source fall on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

D Mirkovic 8/17/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82

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: Diesel Generator Building

FIRE ZONE: 102A

Diesel Engine No. 33 LOCATION WITHIN FIRE ZONE:

L-11-6-4 POTENTIAL INTERACTION NO .:

PHOTOGRAPH NO .: M-386

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

1"-JW-1036 TARGET:

SOURCE:

Emergency Light

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

8/17/82

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		UNACCEPTABLE
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W Grisw	-14	9/7/82
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POTENTIALLY

D Mirkovic INTERACTION ENGINEER / DATE

VERIFIED/DATE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: L11-6-5

PHOTOGRAPH NO.: M-388

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1'' - JW - 1036 (Not shown)

SOURCE: Light Fixture (Arrow top of photo)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

D Mirkovic 8/17/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82

VERIFIED/DATE

Sheet 7 of 80

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

BUILDING: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: L11-7-1

PHOTOGRAPH NO.: M-395

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3" - DF - 1218 (Beneath source)

SOURCE: 4" - Diesel Oil Fill Line

DESCRIPTION OF POSTULATED INTERACTION: Source fall on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

UNACCEPTABLE

POTENTIALLY

D Mirkovic 8/17/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82 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: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: L11-9-1

PHOTOGRAPH NO.: M-392, M-395

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:1-1/2"-DF - 1050(M-395 Middle pipe on right side,
M-392 pipe on right side)

SOURCE: 4" Diesel Oil Fill Line

DESCRIPTION OF POSTULATED INTERACTION:

Source fall on target

5.1

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

D Mirkovic 8/17/82 INTERACTION ENGINEER/DATE W Griswold 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: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: L11-10-1

PHOTOGRAPH NO.: M-392

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1'' - DF - 1051 (Lower left)

.

SOURCE: 4" Diesel Oil Fill Line

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

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-UNACCEPTABLE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: L11-11-1

PHOTOGRAPH NO.: M-392, M-395

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3" - DF - 1062 (M-395: Lowest pipe on left side) (M-392: Not shown)

SOURCE: 4" Diesel Oill Fill Line

DESCRIPTION OF POSTULATED INTERACTION:

Source fall on target

EVALUATION OF INTERACTION: 6

EVALUATION NOTE NO:

ACCEPTABLE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: L11-17-1

PHOTOGRAPH NO.: M-388

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 2'' - DF - 1079 (Not shown)

SOURCE: Light Fixture (Arrow top of photo)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

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 X
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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: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: L11-18-1

PHOTOGRAPH NO.: M-388

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3" - DF - 1068 (Not shown)

SOURCE: Light Fixture

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

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

BUILDING: Diesel Generator Building

FIRE ZONE: - 102A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: L11-18-2

PHOTOGRAPH NO.: M-395

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3'' - DF - 1068 (Not shown)

SOURCE: 4" Diesel Oil Fill Line

DESCRIPTION OF POSTULATED INTERACTION:

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: L11-19-1

PHOTOGRAPH NO.: M-388

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4" - DF - 1108 (Not shown)

SOURCE: Light Fixture (Arrow top off photo)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

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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: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: L11-20-1

PHOTOGRAPH NO.: M-388

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4" - DF - 1110 (Not shown)

SOURCE: Light Fixture

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: L11-21-1

PHOTOGRAPH NO.: M-388

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4" - DF - 1109 (Not shown)

SOURCE: Light Fixture

DESCRIPTION OF POSTULATED INTERACTION:

Source fall on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

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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: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: L11-24-2

PHOTOGRAPH NO.: M-395

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1-1/2" - DA - 1048 (lowest pipe on right side)

SOURCE: 4" Diesel Oil Fill Line

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: L-11-27-1

PHOTOGRAPH NO.: M-389

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: D.G. Room Air Intake Duct (Against the back wall, shown by bottom arrow)

SOURCE: Light Fixture (Top white arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: L11-32-1

PHOTOGRAPH NO.: M-382

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4'' - JW - 1040 (Not shown)

SOURCE: Light Fixture (top arrow)

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: L11-32-2

PHOTOGRAPH NO.: M-382

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4'' - JW - 1040 (Not shown)

SOURCE: Space Heater

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

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EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

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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: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: L11-32-3

PHOTOGRAPH NO.: M-384

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4'' - JW - 1040 (Not Shown)

SOURCE: Loudspeaker

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: Diesel Generator Building

POTENTIAL INTERACTION NO.: L11-33-1

PHOTOGRAPH NO.: M-382

BACKGROUND NO.: 11-76

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IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1'' - JW - 1037 (Not shown)

SOURCE: Light Fixture (Top arrow)

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

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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: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: L11-35-4

PHOTOGRAPH NO.: M-394

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3" - DF -1217 (Beneath source)

SOURCE: 4" Diesel Oil Fill Line

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION: 6

EVALUATION NOTE NO:

ACCEPTABLE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: L11-37-4

PHOTOGRAPH NO.: M-391,

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1-1/2'' - DF - 1053 (lower right side of photo)

SOURCE: 4" Diesel Oil Fill Line

DESCRIPTION OF POSTULATED INTERACTION: Source fall on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: L11-38-4

PHOTOGRAPH NO.: M-391

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1-1/2" DF - 1058 (lower left corner of photo)

SOURCE: 4" Diesel Oil Fill Line

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION: 6

EVALUATION NOTE NO:

ACCEPTABLE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: L11-39-4

PHOTOGRAPH NO.: M-391

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3'' - DF - 1065 (Not shown)

SOURCE: 4" Diesel Oil Fill Line

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: L11-40-4

PHOTOGRAPH NO.: M-394

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: _ 3" - DF - 1062 (2nd pipe below source, does not appear in photo)

SOURCE: 4" Diesel Oil Fill Line

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: L11-41-4

PHOTOGRAPH NO.: M-394

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1-1/2" - DF - 1050 (2nd pipe down on the left side of photo)

SOURCE: 4" Diesel Oil Fill Line

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

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

BUILDING: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: L11-48-1

PHOTOGRAPH NO.: M-382

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 2" - DF - 1078 (Not shown)

SOURCE: Light Fixture (Top arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

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System No. ____11

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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: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: L11-49-1

PHOTOGRAPH NO.: M-382

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3'' - DF - 1067 (Not shown)

SOURCE: Light Fixture (Top arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

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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: Diesel Gnerator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: L11-50-1

PHOTOGRAPH NO.: M-382

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4" - DF - 1105 (Not shown)

SOURCE: Light Fixture (Top arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

 ACCEPTABLE
 X
 POTENTIALLY UNACCEPTABLE

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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: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: L11-51-1

PHOTOGRAPH NO.: M-382

BACKGROUND NO.: 11076

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4" - DF-1107 (Not shown)

SOURCE: Light Fixture (Top arrow)

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

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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: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: L11-52-1

PHOTOGRAPH NO.: M-382

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4" DF - 1106 (Not shown)

SOURCE: Light Fixture (Top Arrow)

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

 ACCEPTABLE
 X
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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: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: L11-53-3

PHOTOGRAPH NO.: M-394

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1-1/2" - DA - 1048 (Lowest line on the left side of photo)

SOURCE: 4" Diesel Oil Fill Line (white arrow)

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

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

BUILDING: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: Diesel Engine NO. 32

POTENTIAL INTERACTION NO.: L-11-59-1

PHOTOGRAPH NO.: M385

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: D. G. Room Air Intake Duct (Bottom Arrow)

SOURCE: Light Fixture (Top Arrow)

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DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

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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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: L11-60-3

PHOTOGRAPH NO.: M-393

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4'' - JW - 1033 (Not shown)

SOURCE: 4" Diesel Oil Fill Line (White arrow)

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

D Mirkovic 8/17/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: L11-63-2

PHOTOGRAPH NO.: M-378

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4'' - JW - 1041 (Not shown)

SOURCE: Light Fixture (Top Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: L11-64-1

PHOTOGRAPH NO.: M-377

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1" - JW - 1038

SOURCE: Loudspeaker

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

D Mirkovic 8/17/82 INTERACTION ENGINEER/DATE

W Griswold 9/7/82

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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: L11-65-3

PHOTOGRAPH NO.: M-393

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3" - DF - 1217 (Pipe directly beneath source)

SOURCE: 4" Diesel Oil Fill Line (White arrow)

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

D Mirkovic 8/17/82 INTERACTION ENGINEER/DATE

X	POTENTIALLY 	
W Griswold	9/7/82	
VERIFI	ED/DATE	

System No. ____11

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: L11-67-3

PHOTOGRAPH NO.: M-390

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1-1/2" DF - 1055 (center right of photo)

SOURCE: 4" Diesel Oil Fill Line (white arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

W Griswold 9/7/82 VERIFIED/DATE

POTENTIALLY

-UNACCEPTABLE

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D Mirkovic ' 8/18/82 INTERACTION ENGINEER/DATE

System No.____ 11

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: L11-68-3

PHOTOGRAPH NO.: M-390

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1" - DF - 1059 (left side of picture)

SOURCE: 4" Diesel Oil Fill Line (white arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

ACCEPTABLE		X	POTENTIALLY 	
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	8/18/82		W Griswold	9/7/82
IEE	R/DATE		VERIFI	ED/DATE

D Mirkovic 8/18/82 INTERACTION ENGINEER/DATE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.; L11-69-3

PHOTOGRAPH NO.: M-390

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3'' - DF - 1066 (Not Shown)

SOURCE: 4" Diesel Oil Fill Line (white arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION: 6

EVALUATION NOTE NO:

ACCEPTABLE

D Mirkovic 8/18/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82

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VERIFIED/DATE

POTENTIALLY

-UNACCEPTABLE

Sheet 4.3 of 80

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: L11-73-2

PHOTOGRAPH NO.: M-378

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1-1/2"-DF - 1050 (Not Shown)

SOURCE: Light Fixture (Top arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Ssource falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

D Mirkovic 8/18/82 INTERACTION ENGINEER/DATE

W Griswold	9/7/82		
VERIFIED/DATE			

POTENTIALLY

-UNACCEPTABLE

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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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: L11-73-3

PHOTOGRAPH NO.: M-393

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1-1/2" - DF - 1050 (Right side of photo, 2nd pipe down)

SOURCE: 4" Diesel Oil Fill Line (white arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

D Mirkovic 8/18/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82 VERIFIED/DATE

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POTENTIALLY

-UNACCEPTABLE

Sheet 45 of 80

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

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BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: L11-75-2

PHOTOGRAPH NO.: M-378

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3'' - DF - 1062 (Not shown)

SOURCE: Light Fixture (Top arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source fall on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

D Mirkovic 8/18/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82 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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: L11-75-3

PHOTOGRAPH NO.: M-393

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3'' - DF - 1062 (Not shown)

SOURCE: 4" Diesel Oil Fill Line (White arrow)

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DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

D Mirkovic 8/18/82 INTERACTION ENGINEER/DATE

W Griswold 9/7/82 VERIFIED/DATE

POTENTIALLY

-UNACCEPTABLE

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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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: L11-78-1

PHOTOGRAPH NO.: M-378

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 2" - DF - 1077 (Not shown)

SOURCE: Light Fixture (Top arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

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EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

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 8/18/82
 W Griswold 9/7/82

 INTERACTION ENGINEER/DATE
 VERIFIED/DATE

System	No.	11
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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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: L11-79-1

PHOTOGRAPH NO.: M-378

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4" - DF - 1102 (Not shown)

SOURCE: Light Fixture (Top arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

D Mirkovic 8/18/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82

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POTENTIALLY

-UNACCEPTABLE

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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: L11-80-1

PHOTOGRAPH NO.: M-378

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4" - DF - 1104 (Not shown)

SOURCE: Light Fixture (Top arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or fall sufficient distance such that damage to the target may result.

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D Mirkovic 8/1	8/82	W Griswold	9/7/82
INTERACTION ENGINEER / DATE		VERIFIED/DATE	

Sheet $50 \cdot of 80$

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: L11-81-1

PHOTOGRAPH NO.: M-378

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3/4'' - DF - 1103 (Not shown)

SOURCE: Light Fixture (Top arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION: 5

EVALUATION NOTE NO:

INTERACTION ENGINEER / DATE

D Mirkovic

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

8/23/82

W Griswold 9/7/82

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POTENTIALLY

-UNACCEPTABLE

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: Diesel Generator Building

FIRE ZONE: 10

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LOCATION WITHIN FIRE ZONE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: L11-82-2

PHOTOGRAPH NO.: M-393

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1-1/2'' - DA - 1048 (Not shown)

SOURCE: 4" Diesel Oil Fill Line (White arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

D Mirkovic 8/23/82 INTERACTION ENGINEER/DATE

W Griswold 9/7/82 VERIFIED/DATE

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POTENTIALLY

-UNACCEPTABLE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: Diesel Engine NO. 31

POTENTIAL INTERACTION NO.: L11-87-1

PHOTOGRAPH NO.: M-379

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Diesel Room Air Intake Duct.

SOURCE: Light Fixture

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE X POTENTIALLY UNACCEPTABLE <u>D Mirkovic 8/17/82</u> INTERACTION ENGINEER/DATE W Griswold 9/7/82 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: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: V11-5-1

PHOTOGRAPH NO.: M-386

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Diesel Engine No. 33 & Exhaust System

SOURCE: Loudspeaker

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

D Mirkovic 8/23/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82 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: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: V11-5-2

PHOTOGRAPH NO.: M-388

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Diesel Engine No. 33 & Exhaust System

SOURCE: Light Fixture (Arrow off photo)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

D Mirkovic 8/23/82

ACCEPTABLE

INTERACTION ENGINEER / DATE

W Griswold 9/7/82 VERIFIED/DATE

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POTENTIALLY

-UNACCEPTABLE

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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: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: V11-5-3

PHOTOGRAPH NO.: M-387, M-388

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Diesel Engine No. 33 & Exhaust System

SOURCE: Space Heater

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

UNACCEPTABLE

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POTENTIALLY

D Mirkovic 8/23/82 INTERACTION ENGINEER/DATE

W Griswold 9/7/82 VERIFIED/DATE

Sheet <u>56</u> of <u>80</u>

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

BUILDING: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: V11-5-4

PHOTOGRAPH NO.: M-387

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Diesel Engine No. 33 & Exhaust System

SOURCE: Emergency Light

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

D Mirkovic 8/23/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82 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: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: V-11-6-2

PHOTOGRAPH NO.: M-388

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1'' - JW - 1 (Not Shown)

SOURCE: Light Fixture (Top arrow off photo)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result,

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

<u>D Mirkovic</u> 8/23/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82 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: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: V11-7-2

PHOTOGRAPH NO.: M-388

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1'' - JW - 2 (1" DRN) (Not Shown)

SOURCE: Light Fixture (Top Arrow)

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

D_Mirkovic 8/23/82 INTERACTION ENGINEER/DATE

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result,

ACCEPTABLE

W Griswold 9/7/82

POTENTIALLY

-UNACCEPTABLE

VERIFIED/DATE

Sheet 59 of 80

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

BUILDING: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: V11-10-1

PHOTOGRAPH NO.: M-392

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Fuel Oil Transfer Pump No. 33 (Shown at center)

SOURCE: 4" Diesel Oil Fill Line (white arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

D Mirkovic 8/23/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82 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: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: V11-12-1

PHOTOGRAPH NO.: M-392

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1/2'' - DF - 5 (Inst. Conn.)

(Not Shown)

SOURCE: 4" Diesel Oil Fill Line

(white arrow)

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DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION: 5

EVALUATION NOTE NO:

Source has sufficient mass or will fall sufficient distance such that damage to the target may result,

ACCEPTABLE

D Mirkovic 8/23/82 INTERACTION ENGINEER/DATE

<u>W Griswold</u> 9/7/82

POTENTIALLY

-UNACCEPTABLE

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: Diesel Generator Building

FIRE ZONE: 102A

Diesel Engine No. 33 LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: V11-13-1

PHOTOGRAPH NO.: M-392

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1'' - DF - 3(Not Shown)

SOURCE: 4" Diesel Oil Fill Line

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

D Mirkovic 8/23/ INTERACTION ENGINEER/DATE

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

8/23/82

UNACCEPTABLE W Griswold 9/7/82

POTENTIALLY

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VERIFIED/DATE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 102A

Diesel Engine No. 33 LOCATION WITHIN FIRE ZONE:

V11-19-1 POTENTIAL INTERACTION NO .:

PHOTOGRAPH NO.: M-392

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

3'' - DF - 6TARGET: (Not shown)

SOURCE: 4" Diesel Oil Fill Line (white arrow)

DESCRIPTION OF POSTULATED INTERACTION:

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

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ACCEPTABLE

POTENTIALLY Х UNACCEPTABLE

8/23/82 <u>D Mirkovic</u> INTERACTION ENGINEER / DATE

W Griswold 9/7/82

VERIFIED/DATE

Source falls on target

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

BUILDING: Diesel Generator Building

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 33

POTENTIAL INTERACTION NO.: V11-23-1

PHOTOGRAPH NO.: M-388

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Fuel Oil Day Tank No. 33 (Not shown)

SOURCE: Light Fixture (Top arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

D Mirkovic 8/23/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82 VERIFIED/DATE

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POTENTIALLY

-UNACCEPTABLE

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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: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: V-11-45-1

PHOTOGRAPH NO.: M-382, M-383

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Diesel Engine No. 32 & Exhaust System

SOURCE: Space Heater

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

D Mirkovic 8/23/82 INTERACTION ENGINEER/DATE

W Griswold 9/7/82 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: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: V-11-45-2

PHOTOGRAPH NO.: M-383

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Diesel Engine No. 32 & Exhaust System

SOURCE: Emergency Light

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

D Mirkovic 8/23/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82

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: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: V-11-45-3

PHOTOGRAPH NO.: M-385

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Diesel Engine No. 32 & Exhaust System

SOURCE: Light Fixture (Top arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

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D Mirkovic 8/23/82 INTERACTION ENGINEER/DATE W Griswold- 9/7/82 VERIFIED/DATE

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POTENTIALLY

-UNACCEPTABLE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: Diesel Generator Building

POTENTIAL INTERACTION NO.: V-11-45-4

PHOTOGRAPH NO.: M-384

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Diesel Engine No. 32 & Exhaust System

SOURCE: Loudspeaker

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

D_Mirkovic 8/23/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82 VERIFIED/DATE

POTENTIALLY

-UNACCEPTABLE

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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: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: V-11-52-1

PHOTOGRAPH NO.: M-391

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1/2" - DF -5 (Inst. Conn.) (Not Shown)

SOURCE: 4" Diesel Oil Fill Line (white arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

D Mirkovic 8/23/82 INTERACTION ÉNGINEER/DATE W Griswold 9/7/82 VERIFIED/DATE

POTENTIALLY

-UNACCEPTABLE

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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: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: V-11-53-1

PHOTOGRAPH NO.: M-391

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1'' - DF - 3 (Not Shown)

SOURCE: 4" Diesel Oil Fill Line (white arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE	X	POTENTIALLY
		UNACCEPTABLE
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NTERACTION ENGINEER / DATE	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: Diesel Generator Building

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 32

POTENTIAL INTERACTION NO.: V-11-58-1

PHOTOGRAPH NO.: M-391

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3" - DF - 6 (Not Shown)

SOURCE: 4" Diesel Oil Fill Line (white arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

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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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: V-11-84-1

PHOTOGRAPH NO.: M-377

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Diesel Engine No. 31 & Exhaust System

SOURCE: Loudspeaker

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

_________UNACCEPTABLE

POTENTIALLY

D Mirkovic 8/23/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82 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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: V-11-84-2

PHOTOGRAPH NO.: M-378, M-379

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Diesel Engine No. 31 & Exhaust System

SOURCE: Light Fixture (Top Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

D Mirkovic 8/23/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82 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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: V-11-84-3

PHOTOGRAPH NO.: M-380

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Diesel Engine No. 31 & Exhaust System

SOURCE: Emergency Light

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

D Mirkovic 8/23/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82 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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: V-11-84-4

PHOTOGRAPH NO.: M-380, M-381

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Diesel Engine No. 31 & Exhaust System

SOURCE: Space Heater

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

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INTERACTION ENGINEER / DATE

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

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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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: V-11-89-1

PHOTOGRAPH NO.: M-390

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Fuel Oil Transfer Pump No. 31 (Center of photo)

SOURCE: 4" Diesel Oil Fill Line (white arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

D Mirkovic 8/23/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82 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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: V-11-91-1

PHOTOGRAPH NO.: M-390

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1/2'' - DF - 5 (Inst. Conn.) (Not Shown)

SOURCE: 4" Diesel Oil Fill Line

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

(white arrow)

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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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: V-11-92-1

PHOTOGRAPH NO .: M-390

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1'' - DF - 3 (Not Shown)

SOURCE: 4" Diesel Oil Fill Line (white arrow)

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DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

D Mirkovic 8/23/82 INTERACTION ENGINEER / DATE

W Griswold 9/7/82 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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: V11-97-1

PHOTOGRAPH NO.: M-390

BACKGROUND NO.: 11-78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3" - DF - 6 (Handwheel on lower left corner of photo)

SOURCE: 4" Diesel Oil Fill Line (white arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

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ACCEPTABLE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZCNE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: V11-101-1

PHOTOGRAPH NO.: M-378

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1'' - DF - LCV - 1207A (Not Shown)

SOURCE: Light Fixture (Top Arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source fall on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

D Mirkovic 8/23/82

INTERACTION ENGINEER / DATE

Source has sufficient mass or will fall sufficient distance such that damage to the target way result.

ACCEPTABLE

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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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: Diesel Engine No. 31

POTENTIAL INTERACTION NO.: V11-103-1

PHOTOGRAPH NO.: M-378

BACKGROUND NO.: 11-76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Fuel Oil Day Tank No. 31 (Not Shown)

SOURCE: Light Fixture (Top arrow)

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 5

Source has sufficient mass or will fall sufficient distance such that damage to the target may result.

ACCEPTABLE

D Mirkovic 8/23/82 INTERACTION ENGINEER/DATE W Griswold 9/7/82

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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 Circui	£ -	- 1	Open	Circ	uit
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7

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

INSTRUMENTATION & CONTROL FAILURES

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

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

11 SYSTEM NO

SYSTEM NAME Diesel Generators

FMEA CATEGORY

NON-CONNECTED X INTERCONNECTED

PARED BY/DATE

CHERKED BY/DATE

·11·83 WAAT FIED 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: 11-M-1

Interaction Number(s): L-11-1-1

Fire Zone: 102A

Target Component(s) Number, Description & Function:

3/4"-JW-1033 3/4" City Water line to Jacket Water expansion tanks. For make-up of jacket water to the expansion tank.

Postulated Failure Modes(s) and Evaluation:

M-1-(A) The line is for water make-up to compensate for normal fluid loss due to evaporation. The expansion tank will provide sufficient water

M-2-(A) for D-G cooling. Makeup is not normally required, hence, loss of the city water line will not degrade the safety functioning of the D-G.

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

T P Ruggiero 4/11/83 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: 11-M-2

Interaction Number(s): L-11-5-3 L-11-5-5

Fire Zone: 102A

Target Component(s) Number, Description & Function:

3/4"-JW-1039 Jacket water discharge conn from Diesel Engine #33 to J W Expansion Tank #32. Returns J W to the tank (closed loop).

Postulated Failure Modes(s) and Evaluation:

M-1-(P)

D G Cooling function affected. Cooling is a required safety function.

M-2-(P)

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

Acceptable

T P Ruggiero 4/11/83 CHECKED/DATE

Sheet <u>3</u> of <u>62</u>

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

FMEA NUMBER: 11-M-3

Interaction Number(s): L-11-6-4 L-11-6-5

Fire Zone: 102A

Target Component(s) Number, Description & Function:

1"-JW-1036 Jacket water inlet line from J W expansion tank to Diesel Gen #33. For jacket water inlet to D G.

Postulated Failure Modes(s) and Evaluation:

M-1-(P)

See FMEA #11-M-2 ' M-2-(P)

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

R G Chopra 3/11/83

Acceptable

EVALUATING ENGINEER/DATE

T P Ruggiero 4/11/83 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: 11-M-4

Interaction Number(s): L-11-7-1

Fire Zone: 102A

Target Component(s) Number, Description & Function:

3"-DF-1218 Line connecting Fuel Oil Storage Tanks #'s 32 & 33. Tank Overflow Line.

Postulated Failure Modes(s) and Evaluation:

M - 1 - (A)

Rupture of line could cause spillage of any overflow from either tank. Crimping of line would not cause any spillage. No safety function is effected since the tank inventory will not be depleted. M-2-(A)

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

T P Ruggiero 4/11/83 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: 11-M-5

Interaction Number(s): L-11-9-1

Fire Zone: 102A

Target Component(s) Number, Description & Function:

1-1/2"-DF-1050 Normal fill line for Fuel Oil Day tanks. The line accepts discharge from each of F O Transfer Pumps #31, 32, & 33.

Postulated Failure Modes(s) and Evaluation:

M-1-(P)

Rupture or crimping of line affects fuel oil fill system, which is a safety related system.

M - 2 - (P)

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

Acceptable

T P Ruggiero 4/11/83 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: 11-M-6

Interaction Number(s): L-11-10-1

Fire Zone: 102A

Target Component(s) Number, Description & Function:

1"-DF-1051 1" line, off Fuel Oil Transfer Pump #33. Discharge header #1050 to overflow header 3" #1062 & to F O Storage Tank #33. To direct fuel oil overflow.

Postulated Failure Modes(s) and Evaluation:

M - 1 - (A)

Rupture of line could cause spillage of fuel oil overflow. Safety function maintained. Crimping of line would also have no effect on safety function.

M-2-(A)

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

X Acceptable

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE T P Ruggiero 4/11/83 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: 11-M-7

Interaction Number(s): L-ll-ll-l

Fire Zone: 102A

Target Component(s) Number, Description & Function:

3"-DF-1062 Overflow header for F O Storage Tanks and F O Day Tanks #31, 32 & 33.

Postulated Failure Modes(s) and Evaluation:

M-1-(A)

See FMEA #11-M-6 M-2-(A)

> X Acceptable

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE T P Ruggiero 4/11/83 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: 11-M-8

Interaction Number(s): L-11-17-1

Fire Zone: 102A

Target Component(s) Number, Description & Function:

2"-DF-1079 Vent to atmosphere for F O Day Tank #33.

Postulated Failure Modes(s) and Evaluation:

M-1-(A) Venting function is maintained following rupture of the line.

M-2-(P) Crimping of the line could prevent tank venting; vacuum caused by fuel discharge could distort (& damage) the tank or deprive the pump of suction.

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

Acceptable

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE T P Ruggiero 4/11/83 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: 11-M-9

Interaction Number(s): L-11-18-2

Fire Zone: 102A

Target Component(s) Number, Description & Function:

3"-DF-1068 Line from Fuel Oil Day Tank #33 to 3" overflow header #1062. For directing overflow.

Postulated Failure Modes(s) and Evaluation:

M-1-(A)

See FMEA #11-M-4 M-2-(A)

> X Acceptable

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE T P Ruggiero 4/11/83 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: 11-M-10

Interaction Number(s): L-11-19-1

Fire Zone: 102A

Target Component(s) Number, Description & Function:

3/4"-DF-1108 Fuel Return Line from D G #33 to Fuel Oil Day Tank #33. For Venting D G System during starting. For system priming.

Postulated Failure Modes(s) and Evaluation:

M-1-(A)

Rupture of line does not prevent proper system priming. Crimping of line may prevent essential priming function. M-2-(P)

Acceptable

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE T P Ruggiero 4/11/83 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: 11-M-11

Interaction Number(s): L-11-20-1

Fire Zone: 102A

Target Component(s) Number, Description & Function:

3/4"-DF-1110 Fuel Oil Supply line from Day Tank #33 to D G #33. To supply oil to D G.

Postulated Failure Modes(s) and Evaluation:

M-1-(P)

Rupture or crimping of line would disrupt essential fuel oil supply to D G.

M-2-(P)

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

Acceptable

T P Ruggiero 4/11/83 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: 11-M-12

Interaction Number(s): L-11-21-1

Fire Zone: 102A

Target Component(s) Number, Description & Function:

3/4"-DF-1109 Connection from D G #33 Fuel Oil drip Tank to Day Tank #33. For recovery of fuel oil drip.

Postulated Failure Modes(s) and Evaluation:

M-1-(A)

Collection of oil drip is not a safety function. Rupture or crimping of line will not degrade safety functioning of the DG. M-2-(A)

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE T P Ruggiero 4/11/83 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: 11-M-13

Interaction Number(s): L-11-24-2

Fire Zone: 102A

Target Component(s) Number, Description & Function:

1-1/2"-DA-1048 Line connecting Starting Air Tanks #31, 32 & 33. Equalizing line.

Postulated Failure Modes(s) and Evaluation:

M-1-(P) Rupture of line results in loss of air from the Tanks.

M-2-(A) Crimping of line does not effect safety function. The line merely serves as a pressure equalizer.

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

Acceptable

T P Ruggiero 4/11/83 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: 11-M-14

Interaction Number(s): L-11-27-1

Fire Zone: 102A

Target Component(s) Number, Description & Function:

D G Room Air Intake Duct.

Postulated Failure Modes(s) and Evaluation:

M-3-(A) Room Air Intake Duct performs no safety function. DG intake is from outside the building.

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE T P Ruggiero 4/11/83 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: 11-M-15

Interaction Number(s): L-11-32-1 L-11-32-2

Fire Zone: 101A (Diesel Engine #32)

Target Component(s) Number, Description & Function:

3/4"-JW-1040 Jacket Water Discharge Conn from Diesel Engine #32 to J W Expansion Tank #32. Returns J W to the tank (closed loop).

Postulated Failure Modes(s) and Evaluation:

M-1-(P) See FMEA #11-M-2. M-2-(P)

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

Acceptable

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE T P Ruggiero 4/11/83 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: 11-M-16

Interaction Number(s): L-11-33-1

Fire Zone: 101A

Target Component(s) Number, Description & Function:

1"-JW-1037 Jacket Water Inlet line from J W Expansion Tank to Diesel Generator #32. For Jacket Water inlet to D G.

Postulated Failure Modes(s) and Evaluation:

M-1-(P) See FMEA #11-M-2. M-2-(P)

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

Acceptable

T P Ruggiero 4/11/83

EVALUATING ENGINEER/DATE

R G Chopra 3/11/83

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

FMEA NUMBER: 11-M-17

Interaction Number(s): L-11-35-4

Fire Zone: 101A

Target Component(s) Number, Description & Function:

3"-DF-1217 Line connecting Fuel Oil Storage Tanks #31 & 32. Tank overflow line.

Postulated Failure Modes(s) and Evaluation:

M-1-(A) See FMEA #11-M-4. M-2-(A)

> X Acceptable

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

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T P Ruggiero 4/11/83 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: 11-M-18

1

Interaction Number(s): L-11-37-4

Fire Zone: 101A

Target Component(s) Number, Description & Function:

1-1/2"-DF-1053 Fuel oil transfer line from Fuel Oil Transfer Pump #32 discharge to Fuel Oil Day Tanks fill line. For transfer of fuel oil.

Postulated Failure Modes(s) and Evaluation:

M-1-(P) See FMEA #11-M-5 M-2-(P)

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

Ac ceptable

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

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

FMEA NUMBER: 11-M-19

Interaction Number(s): L-11-38-4

Fire Zone: 101A

Target Component(s) Number, Description & Function:

Postulated Failure Modes(s) and Evaluation:

M-1-(A)

See FMEA #11-M-6. M-2-(A)

> X Acceptable

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

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

FMEA NUMBER: 11-M-20

Interaction Number(s): L-11-39-4

Fire Zone: 101A

Target Component(s) Number, Description & Function:

3"-DF-1065 Overflow return line from Fuel Oil Transfer Pump #32 discharge header #1053 to F O Storage Tank #32. To direct overflow.

Postulated Failure Modes(s) and Evaluation:

M-1-(A)

See FMEA #11-M-6 M-2-(A)

> X Acceptable

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

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

FMEA NUMBER: 11-M-21

Interaction Number(s): L-11-40-4

Fire Zone: 101A

Target Component(s) Number, Description & Function:

3"-DF-1062 Overflow header for Fuel Oil Storage Tanks and Day Tanks.

Postulated Failure Modes(s) and Evaluation:

See FMEA #11-M-6

. 1)

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE T P Ruggiero 4/11/83 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

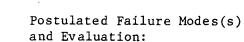
FMEA NUMBER: 11-M-22

Interaction Number(s): L-l1-41-4

Fire Zone: 101A

Target Component(s) Number, Description & Function:

1-1/2"-DF-1050 See FMEA #11-M-5.



M-1-(P)

See FMEA #11-M-5. M-2-(P)

· · · · · · · · · · · · · · · · · · ·		X / 1 (X) 2 (X) 3 (X) 4 (X)
Acceptable	Potentially	Unacceptable/Safety Function Affected
		N N
R G Chopra 3/11/83		T P Ruggiero 4/11/83
EVALUATING ENGINEER/DATE		CHECKED/DATE

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

FMEA NUMBER: 11-M-23

Interaction Number(s): L-11-48-1

Fire Zone: 101A

Target Component(s) Number, Description & Function:

2"-DF-1078 Vent to atmosphere for Fuel Oil Day Tank #32.

Postulated Failure Modes(s) and Evaluation:

M - 1 - (A)

See FMEA #11-M-8. M-2-(P)

Acceptable

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

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T P Ruggiero 4/11/83 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: 11-M-24

Interaction Number(s): L-11-49-1

Fire Zone: 101A

Target Component(s) Number, Description & Function:

3"-DF-1067 Line from Fuel Oil Day Tank #32 to 3" overflow header #1062. For directing overflow. (Also see FMEA #11-M-9).

Postulated Failure Modes(s) and Evaluation:

M-1-(A)

See FMEA #11-M-4. M-2-(A)

> X Acceptable

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Potentially	Unacceptable	/Sa	ıfe	ty	r Fi	inc	ti	on	LA I	fe	ct	ed

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

T P Ruggiero 4/11/83 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: 11-M-25

Interaction Number(s): L-11-50-1

- 7

Fire Zone: 101A

Target Component(s) Number, Description & Function:

3/4"-DF-1105 Fuel return line from D G #32 to Fuel Oil Day Tank #32. For Venting D G System during starting, for System priming.

Postulated Failure Modes(s) and Evaluation:

M-1-(A)

See FMEA #11-M-10 M-2-(P)

Acceptable

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

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FMEA NUMBER: 11-M-26

Interaction Number(s): L-11-51-1

Fire Zone: 101A

Target Component(s) Number, Description & Function:

3/4"-DF-1107 Fuel oil supply line from Day Tank #32 to D G #32. To supply fuel oil to D G.

Postulated Failure Modes(s) and Evaluation:

M-l-(P) See FMEA #11-M-11 M-2-(P)

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

Acceptable

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

FMEA NUMBER: 11-M-27

Interaction Number(s): L-11-52-1

Fire Zone: 101A

Target Component(s) Number, Description & Function:

3/4"-DF-1106 Conn from D G #32 Fuel Oil Drip Tank to Day Tank #32. For recovery of fuel oil drip.

Postulated Failure Modes(s) and Evaluation:

M-1-(A)

See FMEA #11-M-12. M-2-(A)

Acceptable

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

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

FMEA NUMBER: 11-M-28

Interaction Number(s): L-11-53-3

Fire Zone: 101A

Target Component(s) Number, Description & Function:

1-1/2"-DA-1048 Line Connecting Starting Air Tanks #31, 32 & 33. Equalizing line.

Postulated Failure Modes(s) and Evaluation:

M-1-(P)

See FMEA #11-M-13. M-2-(A)

Acceptable

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

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

FMEA NUMBER: 11-M-29

Interaction Number(s): L-11-59-1

Fire Zone: 101A

Target Component(s) Number, Description & Function:

D G Room Air Intake Duct

Postulated Failure Modes(s) and Evaluation:

M-3-(A) Room air intake duct performs no safety function. DG intake is from outside the building.

X Acceptable

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

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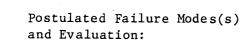
FMEA NUMBER: 11-M-30

Interaction Number(s): L-11-60-3

Fire Zone: 10 (Diesel Engine #31)

Target Component(s) Number, Description & Function:

3/4"-JW-1033 See FMEA #11-M-1



M-1-(A) See FMEA #11-M-1 M-2-(A)

> X Acceptable

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

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

FMEA NUMBER: 11-M-31

Interaction Number(s): L-11-63-2

Fire Zone: 10

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Target Component(s) Number, Description & Function:

3/4"-JW-1041 Jacket Water discharge connection from Diesel Engine #31 to J W Expansion Tank #31. Returns jacket water to Tank (closed loop).

Postulated Failure Modes(s) and Evaluation:

M-1-(P)

See FMEA #11-M-2 M-2-(P)

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

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

FMEA NUMBER: 11-M-32

Interaction Number(s): L-11-65-3

Fire Zone: 10

Target Component(s) Number, Description & Function:

3"-DF-1217 Line Connecting Fuel Oil Storage Tanks #31 & 32. Tank overflow line.

Postulated Failure Modes(s) and Evaluation:

M-1-(A) See FMEA #11-M-4 M-2-(A)

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE T P Ruggiero 4/11/83 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: 11-M-33

Interaction Number(s): L-11-67-3

Fire Zone: 10

Target Component(s) Number, Description & Function:

1-1/2"-DF-1055 Fuel Oil transfer line from Fuel Oil Transfer Pump #31
discharge to Fuel Oil Day Tanks fill line for transfer of fuel
oil.

Postulated Failure Modes(s) and Evaluation:

M-1-(P) See FMEA #11-M-5.

M-2-(P)

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

Acceptable

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T P Ruggiero 4/11/83

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

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

FMEA NUMBER: 11-M-34

Interaction Number(s): L-11-68-3

Fire Zone: 10

Target Component(s) Number, Description & Function:

1"-DF-1059 1" line, off Fuel Oil Transfer Pump #31 discharge header #1055 to overflow header #1062 & to F O Storage Tank #31. To direct fuel oil flow.

Postulated Failure Modes(s) and Evaluation:

M-1-(A)

See FMEA #11-M-6 M-2-(A)

> X Acceptable

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE T P Ruggiero 4/11/83 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: 11-M-35

Interaction Number(s): L-11-69-3

Fire Zone: 10

Target Component(s) Number, Description & Function:

3"-DF-1066 Overflow return line from Fuel Oil Transfer Pump #31 discharge header #1053 to F O Storage Tank #31. To direct fuel oil overflow.

Postulated Failure Modes(s) and Evaluation:

M-1-(A) See FMEA #11-M-6. M-2-(A)

> X Acceptable

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

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FMEA NUMBER: 11-M-36

Interaction Number(s): L-11-73-2 L-11-73-3

Fire Zone: 10

Target Component(s) Number, Description & Function:

1-1/2"-DF-1050 Normal fill line for fuel oil Day Tanks. The line accepts discharge from each of F O Transfer Pumps #31, 32, & 33.

Postulated Failure Modes(s) and Evaluation:

M-1-(P)

See FMEA #11-M-5. M-2-(P)

Acceptable

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

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FMEA NUMBER: 11-M-37

Interaction Number(s): L-11-75-2 L-11-75-3

Fire Zone: 10

Target Component(s) Number, Description & Function:

3"-DF-1062 Overflow header for Fuel Oil Storage Tanks and for Fuel Oil Day Tanks #31, 32, & 33.

Postulated Failure Modes(s) and Evaluation:

M-1-(A)

See FMEA #11-M-6. M-2-(A)

> X Acceptable

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

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

FMEA NUMBER: 11-M-38

Interaction Number(s): L-11-78-1

Fire Zone: 10

Target Component(s) Number, Description & Function:

2"-DF-1077 Vent to atmosphere for Fuel Oil Day Tank #31.

Postulated Failure Modes(s) and Evaluation:

M-1-(A) See FMEA #11-M-8. M-2-(P)

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

R G Chopra 3/11/83

Acceptable

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

FMEA NUMBER: 11-M-39

Interaction Number(s): L-11-79-1

Fire Zone: 10

Target Component(s) Number, Description & Function:

3/4"-DF-1102 Fuel return line from D G #31 to Fuel Oil Day Tank #31. For venting D G system during starting, for system priming.

Postulated Failure Modes(s) and Evaluation:

M-1-(A) See FMEA #11-M-10. M-2-(P)

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

Acceptable

T P Ruggiero 4/11/83 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: 11-M-40

Interaction Number(s): L-11-80-1

Fire Zone: 10

Target Component(s) Number, Description & Function:

3/4"-DF-1104 Fuel Oil supply line from Day Tank #31 to D G #31. To supply fuel oil to D G.

Postulated Failure Modes(s) and Evaluation:

M-1-(P)

See FMEA #11-M-11. M-2-(P)

X/ 1 (X) 2 (X) 3 (X) 4 (X)AcceptablePotentially Unacceptable/Safety Function AffectedR G Chopra 3/11/83T P Ruggiero 4/11/83

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FMEA NUMBER: 11-M-41

Interaction Number(s): L-11-81-1

Fire Zone: 10

Target Component(s) Number, Description & Function:

3/4"-DF-1103 Connection from D G #31 Fuel Oil Drip Tank to Day Tank #31. For recovery of fuel oil drip.

Postulated Failure Modes(s) and Evaluation:

M-1-(A) See FMEA #11-M-12.

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Acceptable

M-2-(A)

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

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FMEA NUMBER: 11-M-42

Interaction Number(s): L-11-82-2

Fire Zone: 10

Target Component(s) Number, Description & Function:

1-1/2"-DA-1048 Line connecting Starting Air Tanks #31, 32, & 33. Equalizing line.

Postulated Failure Modes(s) and Evaluation:

M-1-(P)

See FMEA #11-M-13. M-2-(A)

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

Acceptable

T P Ruggiero 4/11/83 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: 11-M-43

Interaction Number(s): L-11-87-1

Fire Zone: 10

Target Component(s) Number, Description & Function:

D G Room Air Intake Duct

Postulated Failure Modes(s) and Evaluation:

M-3-(A) Room Air Intake Duct performs no safety function. DG intake is from outside of the building.

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE T P Ruggiero 4/11/83 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: 11-M-44

Interaction Number(s): V-11-5-1 V-11-5-2 V-11-5-3 V-11-5-4

Fire Zone: 102A

Target Component(s) Number, Description & Function:

Diesel Engine #33 & Exhaust System

Postulated Failure Modes(s) and Evaluation:

M-3-(P) Interaction could result in loss of Diesel Generator System #33.

Acceptable

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

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FMEA NUMBER: 11-M-45

Interaction Number(s): V-11-6-2

`

Fire Zone: 102A

Target Component(s) Number, Description & Function:

1"-JW-1 Normally open valve on jacket water line #1036 (from J W expansion tank to D G #33. See FMEA 11-M-3).

Postulated Failure Modes(s) and Evaluation:

M-5-(A) Damage to normally open valve will not prevent safety function since jacket water could still be circulated since the valve will be stuck open.

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

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

FMEA NUMBER: 11-M-46

Interaction Number(s): V-11-7-2

Fire Zone: 102A

Target Component(s) Number, Description & Function:

1"-JW-2 1", manually operated, normally closed drain valve, on conn off line #1036 (see FMEA #11-M-3). Rupture of drain conn is also considered. (Drain)

Postulated Failure Modes(s) and Evaluation:

M - 5 - (A)

Safety function maintained.

M-2-(A)

M-1-(P) Essential Jacket Water System for D G #33 would fail.

Acceptable

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

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FMEA NUMBER: 11-M-47

Interaction Number(s): V-11-10-1

Fire Zone: 102A

Target Component(s) Number, Description & Function:

Fuel Oil Transfer Pump #33.

Postulated Failure Modes(s) and Evaluation:

.

M-3-(P) Interaction result in loss of essential component. (F O Transfer Pump #33).

Acceptable

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE T P Ruggiero 4/11/83 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: 11-M-48

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

Fire Zone: 102A

Target Component(s) Number, Description & Function:

1/2"-DF-5 Valve on Inst (PI) Conn line off F O Transfer Pump #33. Discharge line (1-1/2" #1050). Rupture of 1/2" line also considered.

Postulated Failure Modes(s) and Evaluation:

M-5-(A)

Line & Valve have no safety function & there is no loss of oil from line.

M-2-(A)

M-1-(P) Rupture of line result in partial loss of D G fuel oil.

Acceptable

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE T P Ruggiero 4/11/83 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: 11-M-49

Interaction Number(s): V-11-13-1

Fire Zone: 102A

Target Component(s) Number, Description & Function:

DF-3 Check valve on Fuel Oil Transfer Pump #33 Discharge Line #1050.

Postulated Failure Modes(s) and Evaluation:

M-6-(A) Internal mechanism of the Check Valve will remain functional. Safety function is maintained.

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

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

FMEA NUMBER: 11-M-50

Interaction Number(s): V-11-19-1

Fire Zone: 102A

Target Component(s) Number, Description & Function:

3"-DF-6 Locked open valve on Storage Tank #33 overflow header 3" #1062 (subject of FMEA (11-M-7)).

Postulated Failure Modes(s) and Evaluation:

M-5-(A) Locked open valve, upon interaction will stay open and remain functional.

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE T P Ruggiero 4/11/83 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: 11-M-51

Interaction Number(s): V-11-23-1

Fire Zone: 102A

Target Component(s) Number, Description & Function:

Fuel Oil Day Tank #33.

Postulated Failure Modes(s) and Evaluation:

M-3-(P) Loss of day tank will affect Diesel Generator's performance.

Acceptable

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

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

FMEA NUMBER: 11-M-52

Interaction Number(s): V-11-45-1 V-11-45-2 V-11-45-3 V-11-45-4

Fire Zone: 101A

Target Component(s) Number, Description & Function:

Diesel Engine #32 & Exhaust System.

Postulated Failure Modes(s) and Evaluation:

M-3-(P) Interaction could result in loss of Diesel Generator System #32.

Acceptable

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE T P Ruggiero 4/11/83 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: 11-M-53

Interaction Number(s): V-11-52-1

Fire Zone: 101A

Target Component(s) Number, Description & Function:

1/2"-DF-5 For Pump #32; valve similar to that of FMEA #11-M-48.

Postulated Failure Modes(s) and Evaluation:

M-5-(A) M-2-(A) See FMEA #11-M-48. M-1-(P)

Ac ceptable

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE T P Ruggiero 4/11/83 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: 11-M-54

Interaction Number(s): V-11-53-1

Fire Zone: 101A

Target Component(s) Number, Description & Function:

DF-3 Valve for Pump #32, similar to that of FMEA #11-M-49.

Postulated Failure Modes(s) and Evaluation:

M-6-(A) See FMEA #11-M-49.

X Acceptable

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE T P Ruggiero 4/11/83 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: 11-M-55

Interaction Number(s): V-11-58-1

Fire Zone: 101A

Target Component(s) Number, Description & Function:

3"-DF-6 Valve for Storage Tank #32 similar to that for FMEA #11-M-50.

Postulated Failure Modes(s) and Evaluation:

M-5-(A) See FMEA #11-M-50.

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

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

FMEA NUMBER: 11-M-56

Interaction Number(s): V-11-84-1 V-11-84-2 V-11-84-3 V-11-84-4

Fire Zone: 10

Target Component(s) Number, Description & Function:

Diesel Engine #31 & Exhaust System.

Postulated Failure Modes(s) and Evaluation:

M-3-(P) Interaction could result in loss of Diesel Generator System #31.

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

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

FMEA NUMBER: 11-M-57

Interaction Number(s): V-11-89-1

Fire Zone: 10

Target Component(s) Number, Description & Function:

Fuel Oil Transfer Pump #31

Postulated Failure Modes(s) and Evaluation:

M-3-(P) Interaction result in loss of essential component (F O Transfer Pump #31).

Acceptable

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

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

FMEA NUMBER: 11-M-58

Interaction Number(s): V-11-91-1

Fire Zone: 10

Target Component(s) Number, Description & Function:

1/2"-DF-5 For Pump #31; value similar to that of FMEA #11-M-48.

Postulated Failure Modes(s) and Evaluation:

M-5-(A) M-2-(A) See FMEA #11-M-48 M-1-(P)

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

Acceptable

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

FMEA NUMBER: ,11-M-59

Interaction Number(s): V-11-92-1

Fire Zone: 10

Target Component(s) Number, Description & Function:

1"-DF-3 Valve for Pump #31, similar to that of FMEA #11-M-49.

Postulated Failure Modes(s) and Evaluation:

M-6-(A) See FMEA #11-M-49.

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

T P Ruggiero 4/11/83 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: 11-M-60

Interaction Number(s): V-11-97-1

Fire Zone: 10

Target Component(s) Number, Description & Function:

3"-DF-6 Valve for Storage Tank #31, similar to that for FMEA #11-M-50.

Postulated Failure Modes(s) and Evaluation:

M-5-(A) See FMEA #11-M-50.

X Acceptable

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

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE

T P Ruggiero 4/11/83 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: 11-M-61

Interaction Number(s): V-11-101-1

Fire Zone:

Target Component(s) Number, Description & Function:

1"-DF-LCV-1207A Level control valve on line #1050 (normal fill line leading to fuel oil Day Tank #31). For transfer of fuel oil to the Day Tank.

Postulated Failure Modes(s) and Evaluation:

M-5-(A) If valve fails open, its function is maintained. If the valve fails closed, sufficient time would be available following sounding of Low Level Alarm for the bypass valve DF-17 to be opened and system maintained.

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

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Ebasco Services Incorporated

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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: 11-M-62

Interaction Number(s): V-11-103-1

Fire Zone: 10

Target Component(s) Number, Description & Function:

Fuel Oil Day Tank #31.

Postulated Failure Modes(s) and Evaluation:

M-3-(P) Interaction could result in loss of Diesel Generator System.

Acceptable

 $\frac{X}{Po`tentially Unacceptable/Safety Function Affected} X = \frac{X}{Po`tentially Unacceptable} + \frac{X}{V} = \frac{X}{V} + \frac{X}{V} +$

R G Chopra 3/11/83 EVALUATING ENGINEER/DATE T P Ruggiero 4/11/83 CHECKED/DATE

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SHEET 1 of 2

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

DIESEL GENERATOR SYSTEM

I & C

POT	TENTIALLY UNACCEPTABLE INTERACTION NUMBER	FMEA (1) (2)	EIC (1) (2)	SPAN EVALUATION (1) (2) (3)
*	I-11-12-1	11-I-I-P	10-002-P	NA
	1-11-17-3	11-I-2-A	NR ,	NR
	I-11-18-1	11-I-3-A	NR	NR
	I-11-23-2	11-I-4-A	NR	NR
	1-11-24-2	11-I-5-A	NR	NR
	I-11-25-2	11-I-6-A	NR	NR
	1-11-35-1	11-I-7-A	NR	NR
*	1-11-47-1	11-I-8-P	101A-002-P	NA
	I-11-53-1	11-I-9-A	NR	NR
	I-11-58-2	11-I-10-A	NR	NR
	I-11-59-2	11-I-11-A	NR	NR
	1-11-60-2	11-I-12-A	NR	NR
	I-11-61-2	11-I-13-A	NR	NR
*	I-11-82-1	11-I-14-P	102A-002-P	NA
	1-11-88-1	11-I-18-A	NR	NR
	I-11-93-2	11-I-19-A	NR	NR
	I-11-94-2	11-I-20-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

DIESEL GENERATOR SYSTEM

I & C

POTENTIALLY UNACCEPTABLE INTERACTION NUMBER	FMEA (1) (2)	EIC (1) (2)	SPAN EVALUATION (1) (2) (3)
	(1) (2)	(1) (2)	
I-11-95-2	11-I-21-A	NR	NR
I-11-96-2	11-I-22-A	NR	NR
1-11-107-1	11-I-26-A	NR	N R
I-11-108-1	11-I-27-P	10-005-P	5209-10-037-A
I-11-110-1	11-I-28-A	NR	NR
I-11-111-1	11-I-29-P	101A-005-P	5209-101A-038-A
I-11-113-1	11-1-30-A	NR	NR
I-11-114-1	11-I-31-P	102A-005-P	5209-101A-038-A

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

2) NR - Evaluation is Not Required since interaction is now acceptable.

3) NA - Type of evaluation is not applicable to this interaction.

4) Disposed of by repair in AFW pump building.

* Unacceptable by all 3 types of evaluation.

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

SYSTEM NO	11			
SYSTEM NAME	DIESEL	GENERATORS	 	

MATRIX CATEGORY

NON-CONNECTED

INTERCONNECTED

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23/82

23/82

APPROVED BY/DATE

SYSTEM NO. I-11

SHEET 1 OF 2

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

INTERFACING COMPONENTS

SAFETY RELATED COMPONENT	INTERFACING COMPONENTS	SAFETY (NONSAFE	POTENTIAL INTERACTION (IF APPLICABLE	E)
LI 1135	7700 Gal Fuel Oil Storage Tank No. 33	S		
LC 1206-S	7700 Gal Fuel Oil Storage Tank No. 33	S		
PI 1359	¹ ₂ " Valve DF5	S		
LI 1138	175 Gal Fuel Oil Day Tank No	o 33 S		
LC 1209S	175 Gal Fuel Oil Day Tank No	o 33 S		
LI 1134	7700 Gal Fuel Oil Storage Ta No 32	ank S		
LC 1205-S	7700 Gal Fuel Oil Storage Ta No 32	ank S		
PI 1358	½" Valve DF-5	· S		
LI 1137	175 Gal Fuel Oil Day Tank No	5 32 S	•	
LC 1208-S	175 Gal Fuel Oil Day Tank No	5 32 S		
LI 1133	7700 Gal Fuel Oil Storage Ta No 31	ank S		
LC 1204S	7700 Gal Fuel Oil Storage Ta No 31	ank S		
PI 1357	¹ ₂ " Valve DF-5	S		
LI 1136	175 Gal Fuel Oil Day Tank No	31 S		

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

SYSTEM NO. I-11

SHEET 2 OF 2

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

INTERFACING COMPONENTS

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SAFETY RELATED COMPONENT	INTERFACING COMPONENTS	SAFETY(S) NONSAFETY(N)	POTENTIAL INTERACTION (IF APPLICABLE)
LC 1207-S	175 Gal Fuel Oil Day Tank No	31 S	
PG-	3/4" -V-DA-3 (Starting Air T No. 33)	°ank S	
PS-	3/4"-V-DA-4 (Starting Air Ta No. 33)	nk S	•
PC-1161-S	3/4"-V-DA-4 (Starting Air Ta No. 33)	nk S	
PG-1161-S	3/4"-V-DA-3 (Starting Air Ta No. 32)	nk S	
PS-	3/4"-V-DA-4 (Starting Air Ta No. 32)	nk S	
PC-1160-S	3/4"-V-DA-4 (Starting Air Ta No. 32)	nk S	
PG-	3/4"-V-DA-3 (Starting Air Ta No. 31)	nk S	
PS-	3/4"-V-DA-4 (Starting Air Ta No. 31)	nk · S	
PC 1159-S	3/4"-V-DA-4 (Starting Air Ta No. 31)	nk S	

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

SYSTEM NO. _____I-11

SYSTEM NAME

DIESEL GENERATOR

EVALUATION CATEGORY

NON-CONNECTED

INTERCONNECTED

X

No evaluations regun

INTERACTION ENGINEER/DATE

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

SYSTEM NO 11

SYSTEM NAME

DIESEL GENERATORS

MATRIX CATEGORY

NON-CONNECTED X
INTERCONNECTED

9/15/82 BY / DATE

R Davenie 9/15/83-APPROVED BY/DATE

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		I-1		NO INTERACTION	LIGHTS											
		1	LG-1166	Х												
		2	PI 1375	x												
		3	DPI 1134	X												
		4	DPC 1119S	X												
		5	DPI 1137	X												
		6	DPC 1122S	Х												
	6	7	LC 1207S	x												
SK	TARGE TS	8	LI 1136	X												
~~~~	<b>NRG</b>	9	(LAPS-1) #31	X												
	17	10	PG #31	X												
- ~		11	PS (LAPS-2) #31	X												
		12	GENERATOR PANEL #31		11)											
• • •		13	PG #31	X												
INCHES DAMAN - CM. DAMAN - 0 I		14	PC 1159S	X							ļ					
INCHES		15	PG (AIR TANK) #31	Х								 				
			PS (AIR TANK) #31													
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17 ENGINE PANEL #31	2			1126							
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PS-2				,							
PS-3											
PS-4											
PS-5											
PG											
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19 TI	x										
₽ 20 TS	x									-	
21 TS	x										
22 LG (EXP TANK)	x										
23 VENTILATION PANEL #31					•					 	
23 VENTILATION PANEL #31 24 INTAKE LOUVER TUBING 25 EXHAUST DAMPER TUBING											
25 EXHAUST DAMPER TUBING		:	111)						•		
26 PCV - BUILDING: DIESEL GENH	Х										

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	I-1:	1	NO INTERACTION	LIGHTS & CONDULT										
	27	CHECK VALVE	Χ.								ļ	<u> </u>		
	28	PI	x						 		<u> </u>			
•	29	SRV	x							ļ	ļ			
	30	30 GAL TANK	X					<u> </u>			 		 	ļ
	31	DRYER	x					<u> </u>		<u> </u>				
	32	PRV	X					<u>  .</u>						
S	33	SPV	x					 						ļ
	34	PI	X					<u> </u>					<u> </u>	
TARGET	35	AIR SUPPLY TO VENT PANEL		114							 	<u> </u>		
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I-1	1	NO INTERACTION	LIGHTS											
36	LG 1167	x												
37	PI 1376	x												
38	DPI 1135	x												
39	DPC 1120S	x											-	
40	DPI 1138	x												
41	DPC 1123S	x												
42	LC 12085	x												
43	LI 1137	x												
44	PS (LAPS-1) #32	x											:	
45	PG #32	x												
46	PS (LAPS-2) #32	x												
47	GENERATOR PANEL #32		1119											
48	PG #32	x	)											
49	PC 1160S	x												
50	PG (AIR TANK #32)	x												
					,									
BUIL FIRE LOC WIT	DING: DIESEL GI ZONE: 101A ATION : HIN FIRE ZONE SERVICES INCORP	ORA OVED	TED_	POW	IN	DIAN	PO	INT	ATE ( No. 3	DF NE	EW YC	DRK	5209	
	36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 <b>BUIL</b> <b>FIRE</b> LOC WIT ASCO	37       PI 1376         38       DPI 1135         39       DPC 1120S         40       DPI 1138         41       DPC 1123S         42       LC 1208S         43       LI 1137         44       PS (LAPS-1) #32         45       PG #32         46       PS (LAPS-2) #32         47       GENERATOR PANEL #32         48       PG #32         49       PC 1160S         50       PG (AIR TANK #32)         51       PS (AIR TANK #32)         BUILDING:       DIESEL GE         FIRE ZONE:       101A         LOCATION:	I-11       Q         36       LG 1167       X         37       PI 1376       X         38       DPI 1135       X         39       DPC 1120S       X         40       DPI 1138       X         41       DPC 1123S       X         42       LC 1208S       X         43       LI 1137       X         44       PS (LAPS-1) #32       X         45       PG #32       X         46       PS (LAPS-2) #32       X         47       GENERATOR PANEL #32       #32         48       PG #32       X         49       PC 1160S       X         50       PG (AIR TANK #32)       X         51       PS (EXPONE :	I-11       NOTE       SEPT         36       LG 1167       X         37       PI 1376       X         38       DPI 1135       X         39       DPC 1120S       X         40       DPI 1138       X         41       DPC 1123S       X         42       LC 1208S       X         43       LI 1137       X         44       PS (LAPS-1) #32       X         45       PG #32       X         46       PS (LAPS-2) #32       X         47       GENERATOR PANEL #32       1119         48       PG #32       X         49       PC 1160S       X         50       PG (AIR TANK #32)       X         51       PS (AIR TANK #32) <td>I-11       NO       SEE         36       LG 1167       X      </td> <td>I-11       Image: Second state s</td> <td>I-11       NO       SEE         36       LG 1167       X       Image: Constraint of the second s</td> <td>I       I       I         I       I       I       I         Image: Second Stress Str</td> <td>I       I       I       I         Image: Second Sec</td> <td>I       I       I       I         Image: Second Sec</td> <td>I-11     Notes       36     LG     1167       37     PI     1376       38     DPI     1135       39     DPC     1120S       40     DPI     1138       41     DPC     1123S       42     LC     1208S       43     LI     1137       44     PS     (LAPS-1) #32       45     PG #32     X       46     PS     (LAPS-2) #32       47     GENERATOR PANEL #32     X       48     PG #32     X       49     PC     1160S       50     PG (AIR TANK #32)       51     PS (CATE TANK #32)       51     PS (AIR TANK #32)       51     PS (AIR TANK #32)       51     PS (AIR TANK #32)       52     PONER AUTHORITY STATE OF NE       MUTHIN FIRE ZONE     DIESEL CEN</td> <td>I       I       I       I       I       I       I       I       I       I       I       I       I       I       I       I       I   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	54	TI	x												
Ĭ	55	TS	x												
	56	TS	x												
	57	LG (EXP TANK #32)	x			-									
	58	VENT PANEL #32		l l	12										
	59	INTAKE LOUVERS TUBING			1121 1122										
	60	EXHAUST DAMPERS TUBING		•	12										
	61	AIR SUPPLY TO VENT PANEL			(12)										
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		I-1	1	NO INTERACTION													
		62	PCV	x									 				
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·		64	PI	x													
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	I-1	1	NO INTERACTION	LIGHTS										
	71	LG 1168	X											
	72	PI 1377	Х											
	73	DPI 1136	X											
	74	DPC 1121S	Х											
	75	DPI 1139	х											
	76	DPC 1124S	X							ļ				
S	77	LC 1209S	X			 							<u> </u>	
TARGE TS	78	LI 1138	X									<u> </u>		
ARG	79	PS (LAPS-1) #33	X			<u> </u>								ļ
4	80	PG #33	X											
	81	PS (LAPS-2) #	X			ļ	 					ļ		
	82	GENERATOR PANEL #33	<i></i>	1123										
	83	PG #33	X											
	84	PC 11615	Х											
	85	PG (AIR TANK #33)	X											
	86	PS (AIR TANK #33)	X											
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	I-1	1	NO INTERACTION	SPEAKER	LIGHTS & CONDUIT											-
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		PS-1										<b> </b>		<u> </u>	<u> </u>	
		PS-2										ļ		ļ	ļ	ļ
		PS-3									<u> </u>				<u> </u>	
		PS-4		<u> </u>					ļ					<b>_</b>	<u> </u>	
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လ		PG						ļ						<u> </u>	ļ	
<b>TARGE TS</b>	88	TI (JWP SUCTION)		1124					<u> </u>					<u>_</u>	<b>_</b>	
ARG	89	TI	X			•								<u> </u>	<b> </b>	
-	90	TS	x											<u> </u>	<b></b>	
	91	TS	X												<b></b>	
	92	LG (EXP TANK #33)	X						<u> </u>					<u> </u>		
	93				1125		<u> </u>		<u> </u>		<u> </u>	ļ	 	<u> </u>	<u> </u>	
	94				1125					ļ	<u> </u>		 	<u> </u>	<u> </u>	
	95	EXHAUST DAMPERS TUBING			1125											
	96	AIR SUPPLY TO VENT PANEL			1123	•										
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	97	PCV	x												
	98	CHECK VALVE	x									-			
	99	PI	x												
	100	SRV	x									<u> </u>			
	101	30 GAL TANK	x												
	102	DRYER	X								 		ļ		
Ś	103	PRV	x								<u> </u>	ļ			
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		DING: <u>DIESEL GE</u> ZONE: <u>10</u>		<u>R BLI</u>	)G										
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	I-11			NO INTERACTION	DIESEL OIL TANK 4" FILL LINE											
	106	LI 1133		x												
	107	DT 1257	ENSING LINE		Ţ116							<u> </u>				
	108	LC 1204S			<u>(116</u>											
	109	LI 1134		<b>X</b> .												
	110		INSING		(11)											
	111	LC 1205S			111)							ļ	<u> </u>	 		
ပ	112	LI 1135		x								ļ	ļ	ļ		
TARGE T S	113		INSING		1118						ļ					
ARG	114	LC 1206S	·····	   	1118											
F	115	PI 1357		x									ļ		.   .	
	116	PI 1358		x	,											
	117	PI 1359		X											<u> </u>	
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## POWER AUTHORITY OF THE STATE OF NEW YORK INDIAN POINT 3 NUCLEAR POWER PLANT SYSTEM INTERACTION STUDY

## NON-CONNECTED INTERACTIONS EVALUATION

- 1. No Interaction Source is Class II and is therefore supported adequately. (See response to IP-3 FSAR question 5.24).
- 2. Acceptable Source pipe/conduit is equal size or smaller in diameter and/or the same thickness or thinner wall than the target pipe/conduit/ tubing. Paragraph 6.2.2.1a Volume I.
- 3. Acceptable Source has insufficient mass to damage the target component.
- 4. Acceptable Basis is engineering judgement. Specific justification is on the evaluation form.
- 5. Potentially Unacceptable - Discussion of specific is on the evaluation form.
- 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
RO	6/26/82

SYSTEM NO. 11

SYSTEM NAME

DIESEL GENERATORS

EVALUATION CATEGORY

NON-CONNECTED X

2/1 27 INTERACTION ENGINEER/DATE

DATE 9.20.82

#### Sheet 1 of 31

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

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

PHOTOGRAPH NO.: I-112

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Generator Panel #31

SOURCE: Lights

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

R M Daverio 8/2/82

INTERACTION ENGINEER / DATE

EVALUATION NOTE NO: 7

ACCEPTABLE

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X POTENTIALLY UNACCEPTABLE

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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-11-17-3

PHOTOGRAPH NO.: I-126

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Engine Panel #31

SOURCE: Heater

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

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ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

R M Daverio 8/2/82 INTERACTION ENGINEER/DATE W Griswold 8/30/82 VERIFIED/DATE

Sheet 3 of 31

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-11-18-1

PHOTOGRAPH NO.: I-113

BACKGROUND NO.: Sheet 76

## IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: TI (JWP Suction)

SOURCE: Speaker

# DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

## EVALUATION OF INTERACTION:

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EVALUATION NOTE NO: 7

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ACCEPTABLE

W Griswold 8/30/82

POTENTIALLY

R M Daverio 8/2/82 INTERACTION ENGINEER/DATE

VERIFIED/DATE

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Sheet 4 of 31

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-11-23-2

PHOTOGRAPH NO.: I-114

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Ventilation Panel #31

SOURCE: Lights & Conduit

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

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X POTENTIALLY UNACCEPTABLE W Griswold 8/30/82 VERIFIED/DATE

R M Daverio 8/2/82 INTERACTION ENGINEER/DATE

System	No.	I <b>-1</b> 1

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-11-24-2

PHOTOGRAPH NO.: I-114, I-115

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Intake Louver Tubing

SOURCE: Lights & Conduit

DESCRIPTION OF POSTULATED INTERACTION:

Tubing is run over non-seismic conduit. Light falls on tubing.

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

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R M Daverio 8/2/82 INTERACTION ENGINEER/DATE W Griswold 8/30/82 VERIFIED/DATE

System	No.	I-11

#### Sheet 6 of 31

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-11-25-2

PHOTOGRAPH NO.: I-114

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Exhaust Damper Tubing

SOURCE: Lights & Conduit

DESCRIPTION OF POSTULATED INTERACTION: Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

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ACCEPTABLE

X POTENTIALLY UNACCEPTABLE W Griswold 8/30/82 VERIFIED/DATE

R M Daverio 8/2/82 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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-11-35-1

PHOTOGRAPH NO.: I-114

BACKGROUND NO .: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Air Supply to Vent Panel

SOURCE: Lights & Conduit

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

R M Daverio 8/2/82 INTERACTION ENGINEER/DATE W Griswold 8/30/82 VERIFIED/DATE

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#### Sheet<u>8</u> of 31

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-11-47-1

PHOTOGRAPH NO.: I-119

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Generator Panel #32

SOURCE: Lights

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

R M Daverio 8/2/83 INTERACTION ENGINEER/DATE W Griswold 8/30/82 VERIFIED/DATE

Sheet 9 of 31

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: 1-11-53-1

PHOTOGRAPH NO.: I-120

BACKGROUND NO.: Sheet 76

# IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: TI (JWP Suction)

SOURCE: Speaker

#### DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

#### EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

8/30/82

:

R M Daverio 8/2/82 INTERACTION ENGINEER/DATE

VERIFIED/DATE

W Griswold

System	No.	I-11
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# Sheet ¹⁰ of ³¹

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: 1-11-58-2

PHOTOGRAPH NO.: I-121

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Vent Panel #32

SOURCE: Lights & Conduits

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE W Griswold 8/30/82 VERIFIED/DATE

<u>R M Daverio 8/2/82</u> 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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: 1-11-59-2

PHOTOGRAPH NO.: 1121, 1122

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Intake Louvers Tubing

SOURCE: Lights & Conduits

DESCRIPTION OF POSTULATED INTERACTION:

Tubing runs over non-seismic conduit. Lights falls on target.

#### EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

R M Daverio 8/2/82 INTERACTION ENGINEER/DATE

W Griswold 8/30/82 VERIFIED/DATE

Sheet 12 of 31

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: 1-11-60-2

PHOTOGRAPH NO.: I-121

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Exhaust Dampers Tubing

SOURCE: Lights & Conduits

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

R M Daverio 8/2/82 INTERACTION ENGINEER/DATE

W Griswold 8/30/82 VERIFIED/DATE

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: 1-11-61-2

PHOTOGRAPH NO.: I-121

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Air Supply to Vent Panel

SOURCE: Lights & Conduits

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

1

X POTENTÍALLY UNACCEPTABLE

R M Daverio 8/2/82 INTERACTION ENGINEER/DATE

W Griswold 8/30/82 VERIFIED/DATE

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-11-82-1

PHOTOGRAPH NO.: I-123

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Generator Panel #33

SOURCE: Lights

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

X POTENTIALLI UNACCEPTABLE

POTENTIALLY

R M Daverio 8/2/82 INTERACTION ENGINEER/DATE W Griswold 8/30/82 VERIFIED/DATE

BUILDING:

FIRE ZONE:

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO .:

PHOTOGRAPH NO.:

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BACKGROUND NO .:

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

SOURCE:

DESCRIPTION OF POSTULATED INTERACTION:

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

ACCEPTABLE

POTENTIALLY ------UNACCEPTABLE

INTERACTION ENGINEER / DATE

VERIFIED/DATE

BUILDING:

FIRE ZONE:

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO .:

PHOTOGRAPH NO.:

BACKGROUND NO .:

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IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

SOURCE:

5. -

DESCRIPTION OF POSTULATED INTERACTION:

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

ACCEPTABLE

POTENTIALLY UNACCEPTABLE

INTERACTION ENGINEER/DATE

VERIFIED/DATE

BUILDING:

FIRE ZONE:

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO .:

PHOTOGRAPH NO.:

BACKGROUND NO.:

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

SOURCE:

DESCRIPTION OF POSTULATED INTERACTION:

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

ACCEPTABLE

INTERACTION ENGINEER / DATE

VERIFIED/DATE

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System No. <u>I-11</u>

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-11-88-1

PHOTOGRAPH NO.: I-124

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: TI (JWP Suction)

SOURCE: Speaker

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

t

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

R M Daverio 8/2/82 INTERACTION ENGINEER/DATE

W Griswold 8/30/82 VERIFIED/DATE

System No. <u>I-11</u>

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-11-93-2

PHOTOGRAPH NO.: I-125

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Vent Panel #33

SOURCE: Lights & Conduit

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

R M Daverio 8/2/82 INTERACTION ENGINEER/DATE W Griswold 8/30/82 VERIFIED/DATE

System	No.	I-11

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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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: 1-11-94-2

PHOTOGRAPH NO.: 1-125

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Intake Louvers Tubing

SOURCE: Lights & Conduit

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

R M Daverio 8/2/82 INTERACTION ENGINEER/DATE W Griswold 8/30/82 VERIFIED/DATE

Svstem	No.	I-11
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Sheet 21 of 31

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

I**-11-95-**2 POTENTIAL INTERACTION NO.:

PHOTOGRAPH NO.: I-125

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

Exhaust Dampers Tubing TARGET:

Lights & Conduit SOURCE:

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

t

ACCEPTABLE

Х POTENTIALLY -UNACCEPTABLE

R M Daverio 8/2/82 INTERACTION ENGINEER / DATE

8/30/82 <u>W Griswold</u> 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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: 1-11-96-2

PHOTOGRAPH NO.: 1-125

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Air Supply to Vent Panel

SOURCE: Lights & Conduit

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

1

X POTENTIALLY UNACCEPTABLE

R M Daverio 8/2/82 INTERACTION ENGINEER/DATE W Griswold 8/30/82 VERIFIED/DATE

BUILDING:

FIRE ZONE:

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO .:

PHOTOGRAPH NO.:

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BACKGROUND NO.:

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

SOURCE:

8. -

DESCRIPTION OF POSTULATED INTERACTION:

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

ACCEPTABLE

POTENTIALLY '

INTERACTION ENGINEER/DATE

VERIFIED/DATE

BUILDING:

FIRE ZONE:

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO .:

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PHOTOGRAPH NO.:

BACKGROUND NO .:

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:



SOURCE:

DESCRIPTION OF POSTULATED INTERACTION:

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

ACCEPTABLE

INTERACTION ENGINEER / DATE

VERIFIED/DATE

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BUILDING:

FIRE ZONE:

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO .:

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PHOTOGRAPH NO .:

BACKGROUND NO .:

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

SOURCE:

8- <u>-</u>

DESCRIPTION OF POSTULATED INTERACTION:

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

ACCEPTABLE

INTERACTION ENGINEER / DATE

VERIFIED/DATE

Sheet <u>26</u> of <u>31</u>

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-11-107-1

PHOTOGRAPH NO.: I-116

BACKGROUND NO.: Sheet 78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: PI 1357

SOURCE: Diesel Oil Tank 4" Fill Line

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE W Griswold 8/30/82 VERIFIED/DATE

R M Daverio 8/2/82 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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: 1-11-108-1

PHOTOGRAPH NO.: I-116

BACKGROUND NO.: Sheet 78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LC 1204S

SOURCE: Diesel Oil Tank 4" Fill Line

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

1

X POTENTIALLY UNACCEPTABLE

R M Daverio 8/2/82 INTERACTION ENGINEER/DATE W Griswold 8/30/82 VERIFIED/DATE

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

BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-11-110-1

PHOTOGRAPH NO.: I-117

BACKGROUND NO.: Sheet 78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: PI 1358

SOURCE: Diesel Oil Tank 4" Fill Line

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

1

R M Daverio 8/2/82 INTERACTION ENGINEER/DATE W Griswold 8/30/82 VERIFIED/DATE



BUILDING: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZCNE:

POTENTIAL INTERACTION NO.: I-11-111-1

I-117 PHOTOGRAPH NO.:

BACKGROUND NO.: Sheet 78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LC 1205S

SOURCE: Diesel Oil Tank 4" Fill Line

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

POTENTIALLY Х -UNACCEPTABLE 8/30/82 W Griswold

8/2/82 R M Daverio INTERACTION ENGINEER / DATE

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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: I-11-113-1

PHOTOGRAPH NO.: I-118

BACKGROUND NO.: Sheet 78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: PI 1359

SOURCE: Diesel Oil Tank 4" Fill Line

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

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ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

R M Daverio 8/2/82 INTERACTION ENGINEER/DATE W Griswold 8/30/82 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: Diesel Generator Building

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: 1-11-114-1

PHOTOGRAPH NO.: I-118

BACKGROUND NO.: Sheet 78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: LC 1207S

SOURCE: Diesel Oil Tank 4" Fill Line

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

R M Daverio 8/2/82 INTERACTION ENGINEER/DATE W Griswold 8/30/82 VERIFIED/DATE

## Postulated Failure Modes

## MECHANICAL FAILURES

1

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

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SYSTEM NO	<u>I+11</u>	
SYSTEM NAME	Diesel Generators	

FMEA CATEGORY

NON-CONNECTED X

INTERCONNECTED

Nath 3/18/83 N RED BY/DATE

18/83 CHECKED BY/DATE

VERIFIED BY/DATE

Sheet 1 of 28

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: 11-I-1

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

Fire Zone: 10

Target Component(s) Number, Description & Function: Generator Panel #31

Starting and controlling of diesel generator #31.



Postulated Failure Mode(s) and Evaluation:

C-6-(P) (Damage of control components mounted in generator panel #31)

This failure may degrade the operation of the diesel generator.

Acceptable

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

Sheet 2 of 28

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: 11-I-2

Interaction Number(s): I-11-17-3

Fire Zone: 10

Target Component(s) Number, Description & Function: Engine Panel #31 (PS-1, PS-2, PS-3, PS-4, PS-5, PG)

Locally indicates lube oil, water, and air pressure as well as individual cylinder exhaust temperature.

Postulated Failure Mode(s) and Evaluation:

C-6-(A) (Damaging one or more components on the panel)

Failure of any of the local gages, indicating light or pyrometer will not affect any safety function.

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

Sheet 3 of 28

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: 11-I-3

Interaction Number(s): I-11-18-1

Fire Zone: 10

Target Component(s) Number, Description & Function: TI (JWP Suction)

Locally indicates the jacket water pump suction temperature for diesel generator #31.

Postulated Failure Mode(s) and Evaluation:

C-1-(A)/C-2-(A)

This local indication does not affect any safety function.

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

Sheet 4 of 28

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: 11-I-4

Interaction Number(s): I-11-23-2

Fire Zone: 10

Target Component(s) Number, Description & Function: Ventilation Panel #31

Operates the exhaust fans, dampers and louvers for diesel generator #31 compartment.

Postulated Failure Mode(s) and Evaluation:

C-6-(A) (Damage to the ventilation panel)

Ventilation is not required in the diesel generator compartments.

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

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

FMEA NUMBER: 11-I-5

Interaction Number(s): I-11-24-2

Fire Zone: 10

Target Component(s) Number, Description & Function: Intake Louver Tubing

Operates the intake louvers in the diesel generator compartment.

Postulated Failure Mode(s) and Evaluation:

C-6-(A) (Crimp/Break) See FMEA 11-I-4

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

Sheet <u>6</u> of <u>28</u>

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

FMEA NUMBER: 11-I-6

Interaction Number(s): I-11-25-2

Fire Zone: 10

Target Component(s) Number, Description & Function: Exhaust Damper Tubing

Operates the exhaust dampers in the diesel generator compartment.

Postulated Failure Mode(s) and Evaluation:

C-6-(A) (Crimp/Break) See FMEA 11-I-4

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

Sheet <u>7</u> of <u>28</u>

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

FMEA NUMBER: 11-I-7

Interaction Number(s): I-11-35-1

Fire Zone: 10

Target Component(s) Number, Description & Function: Air Supply to Vent Panel

Operates exhaust fans, dampers and louvers for the diesel generator compartment

Postulated Failure Mode(s) and Evaluation:

C-6-(A) (Crimp/Break) See FMEA 11-I-4

X Acceptable

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

System No. 11

Sheet 8 of 28

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: 11-I-8

Interaction Number(s): I-11-47-1

Fire Zone: 101A

Target Component(s)
Number, Description & Function: Generator Panel #32

Starting and controlling of the diesel generator #32.



Postulated Failure Mode(s) Evaluation:

C-6-(P) (Damage of control components mounted in generator panel #32)

This failure may degrade the operation of the diesel generator.

Acceptable

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

Sheet 9 of 28

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: 11-I-9

Interaction Number(s): I-11-53-1

Fire Zone: 101A

Target Component(s) Number, Description & Function: TI (JWP Suction)

Locally indicates the jacket water pump suction temperature for diesel generator #32

Postulated Failure Mode(s) and Evaluation:

C-1-(A)/C-2-(A) See FMEA 11-I-3

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE _____J R Price 4/8/83 CHECKED/DATE

Sheet 10 of 28

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: 11-I-10

Interaction Number(s): I-11-58-2

Fire Zone: 101A

Target Component(s) Number, Description & Function: Vent Panel #32

Operates the exhaust fans, dampers and louvers for diesel generator #32 compartment.

Postulated Failure Mode(s) and Evaluation:

C-6-(A) (Damage to the ventilation panel) See FMEA 11-I-4

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE

J R Price 4/8/83 CHECKED/DATE

Sheet 11 of 28

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: 11-I-11

Interaction Number(s): I-11-59-2

Fire Zone: 101A

Target Component(s) Number, Description & Function: Intake Louvers Tubing

Operates the intake louvers in the diesel generator compartment.

Postulated Failure Mode(s) and Evaluation:

C-6-(A) (Crimp/Break) See FMEA 11-I-5

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

Sheet 12 of 28

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: 11-I-12

Interaction Number(s): I-11-60-2

Fire Zone: 101A

Target Component(s) Number, Description & Function: Exhaust Dampers Tubing

Operates the exhaust dampers in the diesel generator compartment.

Postulated Failure Mode(s) and Evaluation:

C-6-(A) (Crimp/Break) See FMEA 11-I-5

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE

J R Price 4/8/83 CHECKED/DATE

Sheet <u>13</u> of <u>28</u>

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

FMEA NUMBER: 11-I-13

Interaction Number(s): I-11-61-2

Fire Zone: 101A

Target Component(s) Number, Description & Function: Air Supply to Vent Panel

Operates the exhaust fans, dampers, and louvers for the diesel generator compartment.

Postulated Failure Mode(s) and Evaluation:

C-6-(A) (Crimp/Break) See FMEA 11-I-4

Acceptable

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

Sheet <u>14</u> of 28

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: 11-I-14

Interaction Number(s): I-11-82-1

Fire Zone: 102A

Target Component(s) Number, Description & Function: Generator Panel #33

Starting and controlling of diesel generator #33.

Postulated Failure Mode(s) and Evaluation:

C-6-(P) (Damage of control components mounted in generator panel #33)

This failure may degrade the operation of the diesel generator.

Acceptable

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

Sheet 15 of 28

#### 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:

Interaction Number(s):

Fire Zone:

Target Component(s) Number, Description & Function:

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Postulated Failure Mode(s) and Evaluation:

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

Acceptable

EVALUATING ENGINEER/DATE

CHECKED/DATE

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

FMEA NUMBER:

Interaction Number(s):

Fire Zone:

Target Component(s) Number, Description & Function:

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Postulated Failure Mode(s) and Evaluation:

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

Acceptable

EVALUATING ENGINEER/DATE

CHECKED/DATE

Sheet 17 of 28

## 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:

Interaction Number(s):

Fire Zone:

Target Component(s) Number, Description & Function:

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Postulated Failure Mode(s) and Evaluation:

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

Acceptable

EVALUATING ENGINEER/DATE

CHECKED/DATE

Sheet <u>18</u> of <u>28</u>

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

FMEA NUMBER: 11-1-18

Interaction Number(s): I-11-88-1

Fire Zone: 102A

Target Component(s) Number, Description & Function: TI (JWP Suction)

Locally indicates the jacket water pump suction temperature for diesel generator #33.

Postulated Failure Mode(s) and Evaluation:

C-1-(A)/C-2-(A) See FMEA 11-I-3

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

Sheet 19 of 28

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: 11-I-19

Interaction Number(s): I-11-93-2

Fire Zone: 102A

Target Component(s) Number, Description & Function: Vent Panel #33

Operates the exhaust fans, dampers and louvers for diesel generator #33 compartment.

Postulated Failure Mode(s) and Evaluation:

C-6-(A) (Damage to the ventilation panel) See FMEA 11-I-4

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

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

FMEA NUMBER: 11-1-20

Interaction Number(s): I-11-94-2

Fire Zone: 102A

Target Component(s) Number, Description & Function: Intake Louver Tubing

Operates the intake louvers in the diesel generator compartment.



Postulated Failure Mode(s) and Evaluation:

C-6-(A) (Crimp/Break) See FMEA 11-I-4

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

Sheet 21 of 28

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: 11-1-21

Interaction Number(s): I-11-95-2

Fire Zone: 102A

Target Component(s) Number, Description & Function: Exhaust Dampers Tubing

Operates the exhaust dampers in the diesel generator compartment.

Postulated Failure Mode(s) and Evaluation:

C-6-(A) (Crimp/Break) See FMEA 11-I-4

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE

J R Price 4/8/83 · CHECKED/DATE ·

Sheet 22 of 28

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: 11-I-22

Interaction Number(s): I-11-96-2

Fire Zone: 102A

Target Component(s) Number, Description & Function: Air Supply to Vent Panel

Operates the fans, dampers, and louvers for the diesel generator compartment.

Postulated Failure Mode(s) and Evaluation:

C-6-(A) (Crimp/Break) See FMEA 11-I-4

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

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

FMEA NUMBER: 11-1-26

Interaction Number(s): I-11-107-1

Fire Zone: N/A

Target Component(s) Number, Description & Function: PI-1357 Sensing Line (Oil storage tank #31)

Locally indicates fuel oil transfer pump discharge pressure.

Postulated Failure Mode(s) and Evaluation:

C-6-(A) (Crimp/Break) See FMEA 11-I-30

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

Sheet <u>24</u> of <u>28</u>

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

FMEA NUMBER: 11-1-27

Interaction Number(s): I-11-108-1

Fire Zone: N/A

Target Component(s) Number, Description & Function: LC-1204S (Oil storage tank #31)

Level controller generates an alarm for fuel refill.



Postulated Failure Mode(s) and Evaluation:

C-1-(P) See FMEA 11-I-31

				2 (X) 3 ( ) 4 ( )
Acceptable	Potentially	Unacceptable	/Safety	Function Affected
S Nath 3/18/83		JR	Price	4/8/83
EVALUATING ENGINEER/DATE			CHECKEI	D/DATE
Ebasc	co Services	Incorporated		

Sheet 25 of 28

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: 11-1-28

Interaction Number(s): I-11-110-1

Fire Zone: N/A

Target Component(s) Number, Description & Function: PI-1358 Sensing Line (Oil storage tank #32)

Locally indicates fuel oil transfer pump discharge pressure.

Postulated Failure Mode(s) and Evaluation:

C-6-(A) (Crimp/Break) See FMEA 11-I-30

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE <u>J R Price 4/8/83</u> 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: 11-1-29

Interaction Number(s): I-11-111-1

Fire Zone: N/A

Target Component(s) Number, Description & Function: LC-1205S (Oil storage tank #32)

Level controller generates an alarm for fuel refill.

Postulated Failure Mode(s) and Evaluation:

C-1-(P) See FMEA 11-I-31

Acceptable

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

Sheet 27 of 28

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: 11-I-30

Interaction Number(s): I-11-113-1

Fire Zone: N/A

Target Component(s) Number, Description & Function: PI-1359 Sensing Line (Oil storage tank #33)

Locally indicates fuel oil transfer pump discharge pressure.



Postulated Failure Mode(s) and Evaluation:

C-6-(A) (Crimp/Break)

The pressure reading may be high or low due to this failure. This failure will not degrade the process of transferring fuel to the day tanks.

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

<u>S Nath 3/18/83</u> EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

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

FMEA NUMBER: 11-I-31

Interaction Number(s): I-11-114-1

Fire Zone: N/A

Target Component(s) Number, Description & Function: LC-1206S (Oil storage tank #33)

Level controller generates an alarm for fuel refill.



Postulated Failure Mode(s) and Evaluation:

C-1-(P) Unindicated low fuel level may reduce the operating capability of the diesel generators.

Acceptable

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

S Nath 3/18/83 EVALUATING ENGINEER/DATE J R Price 4/8/83 CHECKED/DATE

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ELECTRICAL – 11

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SHEET 1 of 2

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

### DIESEL GENERATOR SYSTEM

### ELECTRICAL

	ENTIALLY UNACCEPTABLE INTERACTION NUMBER	FMEA (1) (2)	EIC (1) (2)	SPAN EVALUATION (1) (2) (3)
*	E-11-33-2	11-E-1-P	10-001-P	NA
	E-11-35-5	11-E-2-A	10-001-P	NA
	E-11-36-5 .	11-E-2-A	10-001-P	NA
	E-11-37-5	11-E-2-A	10-001-P	NA
	E-11-41-1	11-E-3-A	10-001-P	NR
*	E-11-59-1	11-E-4-P	10-002-P	NA
*	E-11-71-1	11-E-5-P	10-001-P	NA
*	E-11-73-1	11-E-5-P	10-001-P	NA
*	E-11-78-1	11-E-6-P	10-001-P	NA
* .	E-11-80-1	11-E-6-P	10-001-P	NA
*	E-11-148-1	11-E-7-P	101A-002-P	NA
*	E-11-253A-1	11-E-8-P	102A-002-P	NA
	E-11-378-2	, 11-Е-9-Р	36A-006-A	NR
	E-11-380-2	11-E-10-P	36à-006-a	NR
	E-11-382-2	11-E-11-P	36A-006-A	NR
	E-11-386-1	11-E-12-P	10-005-P	5209-10-037-A
	E-11-387-1	11-E-12-P	10-005-P	5209-10-037-A
	E-11-391-1	11-E-13-P	101A-005-P	5209-101A-038-A

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

- 2) NR Evaluation is Not Required since interaction is now acceptable.
- 3) NA Type of evaluation is not applicable to this interaction.

4) Disposed of by repair in AFW pump building.

* Unacceptable by all 3 types of evaluation.

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

#### DIESEL GENERATOR SYSTEM

#### ELECTRICAL

POTENTIALLY UNACCEPTABLE INTERACTION NUMBER	FMEA (1) (2)	EIC (1) (2)	SPAN EVALUATION (1) (2) (3)
E-11-394-1	11-E-14-P	101A-005-P	5209-101A-038-A
E-11-395-1	11-E-14-P	101A-005-P	5209-101A-038-A
E-11-399-1	11-E-15-P	102A-005-P	5209-101A-038-A
E-11-402-1	11-E-16-P	102A-005-P	5209-101A-038-A
E-11-403-1	11-E-16-P	102A-005-P	5209-101A-038-A

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

- 2) NR Evaluation is Not Required since interaction is now acceptable.
- 3) NA Type of evaluation is not applicable to this interaction.

4) Disposed of by repair in AFW pump building.

* Unacceptable by all 3 types of evaluation.

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

SYSTEM NO	E-11	
SYSTEM NAME	DIESEL GENERATOR	
	,	

## MATRIX CATEGORY

NON-CONNECTED

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# INTERCONNECTED

30/82 BY

8-30-82

Ebasco Services Incorporated

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	E-11		NO INTERACTION	374" CITY WATER LINE 1035											
	$\langle \rangle \rangle$	EXHAUST FAN 314													
	1	BOX MU9	x							•					
	2	1"CND 6NQ	x												
•	3	PANEL KF2	x												Γ
•	$\square$	EXHAUST FAN 315									r				Γ
	4	BOX MV1	x												ſ
	5	1" CND 6NR		E227							1				Γ
<b>TARGETS</b>	6	PANEL KF1 EXHAUST HOOD VENT FAN 31	X					· · · ·							
F	7	MOTOR & FLEX CND		E226											
	8	BOX MA3		E226											
	9	1" CND GMI	•	E226											
	10	PB W68	x											-	
	11	1" CND 6MH	x												
•	12	BOX KA7	x												
	13	1攴'' CND 6WT			E229										
	FIRE	DING: DIESEL GENI ZONE: 10 ATION: EL 43' AI HIN FIRE ZONE							Ď	IESEI	. GEN	ERATC	OR SY	S <u>T</u> EM	
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·	E-11		NO INTERACTION	3/4" CITY WATER LINE 1035										
	$\square$	LCV 1207A												
	14	FLEX CNDS	x										<u> </u>	
	15	BOX KQ8	x											
	16	'2" CND	x											
		LCV 1207B												
	17	FLEX CNDS	X										 	
S	18	вох коя	x	<u> </u>										
ЕЧ	19	¹ ₂ " CND	x											
<b>TARGE T</b>	$\square$	LC 1207S								 				
Ľ,	20	FLEX CNDS	x											
	21	вох ко7	x						 					
	22	1¼" CND 6VP	x											
	23	TB XH7	x											
	24	2 ¹ / ₂ " CND 6SM	x											
	25	PB W94	x											
		1년" CND 6SL		E227										
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	E-11		NO INTERACTION	3/4" CITY WATER LINE 1035	ELECTRICIUNIT HEATER	1 ₂ " LIGHTING CND	LIGHT FIXTURE	ELECTRIC: UNIT HEATER							
		FUEL OIL PUMP 31 (CONT'd)			,										
	27	TB ZY4	X	<u> </u>								ļ			
	28	1년'' CND 6PG		E227		ļ							 		
	$\square$	LC 1204S (CONT'd)				 							 		
	29	TB ZY7	X						:	ļ					
	30	1"CND 6PI		E227						ļ	ļ	1			
S	31	1" CND 6WM1		E227											
<b>TARGE TS</b>	32	1½" CND 6WM		E227						ļ			ļ		
ARG	33	PANEL KF3			E229					ļ					
F	34	1노" CND 6GJ	X											ļ	
		MISC RELAY				 					ļ	<u> </u>		<u> </u>	<b></b>
	35	RELAY BOX TR31				 		E259		. 					
	36	3/4" CND DB 54	-			ļ		E259		ļ		ļ			
	37	1 ¹ ₂ " CND <u>D</u> B53			1	E182	E23(	E259				·			<b></b>
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			DIESEL GENERATOR 31											 	<u> </u>		
		38	GENERATOR GB1	X											<u> </u>		
		39	CURRENT TRANSFORMER BF4	<u> </u>													
		40	3000A BUS DUCT	X	ļ										<b></b>		
		$\square$	ENGINE GUAGE PANEL 31											 			
		41	BOX PQ7		E229						 				+		
and the second	S	42	1" CND 5DL	X	<u> </u>			 						 			
			HEATER CONTACTOR PANEL														
~7 v	TARGE	43	BOX KA4	X													
		44	1½" CND 6MR		E229						۱			ļ			
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	,	48	3" CND 6MY	x					ļ	ļ							
		49	3" CND 6MZ	x						ļ							
		50	1 ¹ 2" CND 6NB1	x					ļ								
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	TARGE TS	65	1" CND 6WG1	x												
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	μ	66	BOX ME5	x												
- ~		67	1" CND 6NK	x					,							
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INCHE		71	PANEL KF4		E229											
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		86	4" CND 6VZ2S	x													
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	S	88	4" CND 6VZ4S	x										 			
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- ~		92	4" CND 6WC3	x													
		93	4" CND 6WC4S	x												· ·	
, <b>1</b> <b>1</b>		$\langle n \rangle$	PB W93				<b> </b>						<b> </b>			 	
INCHES DAMANA		94	PB W93	x							 	-					
INCHE		95	1년" CND 6SB	X			 			<b> </b>	 		ļ				
			1 ¹ ₂ " CND 6RS	Х					<u> </u>								
			DING: <u>DIESEL GEN</u> ZONE: ¹⁰	ERATO	<u>0R</u>												
	l		ATION :EL 1 HIN_FIRE_ZONE	5%		,	,			<b></b>							
		a service station of the	SERVICES INCORF	PORA	TED_	POW	/ER A	UTH	ORIT	L Y ST/		A 14.1		and the second second	sys 5209		3
		ELEC 7/8	DR. EL APPR	ROVED	)	-	IN SYS	DIAN TEM	PO S INT RACTI	INT TERA	No. 3 CTIO	5 N ST			F-11	OF ₃	ĺ
	SCA	LE NO	DNE J F MON	TALBA	NO									-	0		-

,	are be at \$ 1.9	و معنى دوم ال				1		citi anta facto			St. 11.78	- it success	14.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.			
								S	DUR	CE	S					
		E-11		NO LNTERACTION												
			PB XX7													
		97	PB XX7	X	<u> </u>											
		98	4'' 6QRS	X		ļ										
		:99	4" 6QR1	x												
		100	4" 6QR2S	X												
		101	4" 6QR3	x									 			
	S	102	4'' 6QR4S	x												
k	H		PB W9 2													
· 5	TARGE	103	1 ¹ ₂ " CND 6RK	X		. 										
	F	104	1년'' CND 6SC	x		ļ							 			
. ~																
2		<u></u>														
-	-							 								
- 0			· · · · · · · · · · · · · · · · · · ·									 				
							1									
			DING: DIESEL GENE	TOR	<u> </u>		<u> </u>							<b></b>		
		FIRE	ZONE:													
		LOC WITI	ATION : EL 15 HIN FIRE ZONE	, <b>t</b>	······ .				DI	ESEL	GENE	RATO	R SYS	STEM		
	EB	ASCO	SERVICES INCORP		POM				Y STA	ATE (	OF NE	W YC	RK	5209	. 003	3
	DAT	E	DR. EL APPR	OVED TALBANO		SYS	TEM	PO S IN ⁻ RACTI	TERA	CTIO	N ST			E-11 SH 9	OF 3	6

INCHES **LALANA** 

and the second second	* * * * *				12.00 (ST									- 14		
								S	OUF	CE	S					
				1												
	E-1	1	NO LUTERACTION	3/4" CITY WATER LINE <u>1035</u>												
		EXHAUST FAN 316										<u> </u>				
	105	BOX MV2	X								<u> </u>					
	106	1" CND 6NS	x													
	107	BOX KE4	x													
	$\square$	EXHAUST FAN 317														
	108	BOX MV3	х													
	109	1" CND 6NT		E231												
E TS	110	BOX KE3	x													
TARGE TS	$\square$	EXHAUST HOOD VENT FAN 32														
, 17	111	MOTOR & FLEX CNDS		E231												
~	112	BOX MA7		E231												
~	113	1" CND 6 MK		E231												
	114	PB W69	x													
,	115	1" CND 6MJ	x													
 D	116	BOX KA8	Х													
		1½" CND 6WU	x													J
		DING: DIESEL GENI	ERATC	R						-						
	LOC	ZONE: 101A ATION : EL 4 HIN FIRE ZONE	3'ANE	) 15'	•				D	I ES EL	GEN	ERATC	OR SY	STEM		
	1.00	SERVICES INCORF	PORA	TED_	POW			IORIT				EW Y	ORK	5209	. 00	3
DAT	E_7/8	DR. EL APPF				SYS	TEN	N PO IS IN RACT	TER/		DN S	TUDY		E-11 SH 10	OF	36
SCA		DNE ·								11177	11171		J	14-1-4-1-1-		

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									S	OUR	CES	5					
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	-	E-11		NO INTERACTION										e			
		$\square$	LCV 1208A														
		118	FLEX CNDS	X	ļ					ļ					ļ		
		119	BOX KR2	X													
		120	¹ ₂ " CND	x													
		$\square$	LCV 1208B														
		121	FLEX CNDS	x	ļ					ļ					 		
	S	122	BOX KR3	x		<u> </u>				ļ		· · · · ·					
	TARGETS	123	¹ ₂ " CND	x												<u> </u>	
~7 ~	ARG	$\square$	LC 1208S			<u> </u>						 					
	14	124	FLEX CNDS	x													
· – •		125	BOX KR1	x								<u> </u>					
		126	¹ 2" CND	x		<u> </u>							ļ				
4 4 4 	-	127	TB ZX1	x						_				<u> </u>			
o CM. <b>איזאיזא</b> CM. איזאיזא	,	128	2 ¹ / ₂ " CND 6SP	X			 		ļ		ļ	 		ļ		ļ	
INCHES		129	PB W96	X	L												
		130	$1\frac{1}{4}$ " CND 6SS	x			x										
		FIRE	DING: <u>DIESEL GEN</u> ZONE: <u>1017</u> ATION : EL 2 HIN FIRE ZONE	4 27 '	DR	•					DIESE	L GEI	NERAT	OR S	YSTE		
	EB	ASCO	SERVICES INCOR	PORA		POV									5209 E-11		3
	DIV. DAT SCA	$E_{\rm LEC}^{\rm ELEC}$	DR.EL APP				SYS	тем	S IN	INT TERA ION	CTIC	N ST				1 OF3	6

	ente - Carrier		and a substitution of the state state of the state	and and and fai	1.1 m ²		A										
									S	DUR	CE	S					
	×			<b>LNTERACTION</b>													
ţ ,		E-11		NT ON													:
-		$\langle \rangle$	FUEL OIL PUMP 32 (CONT'D)														
2		131	TB ZY3	X									ļ				
2 1 2 2 3		132	1¼" CND 6PF	X													
			LC 1205S (CONT'D)														
• • • •		133	TB ZY6	X				· · · ·									
		134	1" CND 6PI	Х										<u> </u>			
1	S	135	1" CND 6PH	X	ļ							·		ļ			
	Ш	136	1攴" CND 6WN	X			ļ					ļ		 			
∼┲∽	TARGETS	137	1" CND 6WN1	х													
	14	138	BOX KE5	X													
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ואראיזאיש כאיז איזאיאיז - ס																	
INCHI									<u> </u>								
														<u> </u>			
			DING: DIESEL GENE ZONE: 101A	SRATO	R												
		LOC	ATION :EL 27	'AND	15'	,					דכדו	GENI	72470	D CV	STEM		
		Participation of the second second	HIN FIRE ZONE SERVICES INCORP	ORA.	TED	POW	/FR A				N.A. 5.8.84	L STATE PROP	a waita . 🔹			00	3
	DIV. DAT	$\frac{\text{ELEC}}{7/3}$	DR.EL APPR	OVED	)		IN SYS	DIAN TEM:	PO S INT RACTI	INT FERA	No. 3 .CT10	3 IN ST			E-11 SH 12		į

		an ann ann 10 ann an 11 ann a' bhann 12 an	1111-11-11-11-11-11-11-11-11-11-11-11-1		an a bart	ſ		i esta substituit in a la prime		an a	-				1 B/A B
								S	OÙF	RCE	S				
			NOLTO												
			INTERACTION												
1	E-11	DIESEL GENERATOR	ON	ļ	<u> </u>			<u> </u>	<u> </u>	ļ	<b> </b>	ļ	ļ		
	$\square$	NO. 32										<u> </u>	ļ		
	139	GENERATOR GB2	x	ļ		<u> </u>									ļ
	140	CURRENT TRANSFORMER BF5	X												
	141	3000A BUS DUCT	х												
		ENGINE GAUGE PANEL													
	142	BOX PQ8	X												
ŝ	143 [`]	1" CND 6SZ	X												
н	144	BOX HF8	Х												
<b>TARGE TS</b>		HEATER CONTACTOR PANEL													
F	145	BOX KA 5	х												
	146	1년" CND 6MS	X												
		STARTING AIR PRESSURE SWITCH													
	147	1" CND 6NMI	X												
							<u> </u>	<u> </u>	<u> </u>						<b> </b>
						<u> </u>		<u> </u>			<u> </u>	<u> </u>	<u> </u>		<u> </u>
	FIRE	DING: DIESEL GENE ZONE: 101A ATION: EL 15 HIN FIRE ZONE		PR	• •	,			D	IESEL	GEN	ERATO	DR SY	STEM	
1	21	SERVICES INCORP	ORA	TED.	POV	VER /	UTH	IORIT	Y ST	ATE (	OF NE	EW Y(	ORK	5209	). O
DIV. DAT	ELEC E 7/82	DR.EL APPR	OVED	)		IN SYS		N PC	INT TÈR/	No. 3 ACTIC	3 NN ST		E	-11 SH ₁₃	

	وروار وروار وروار	t gazetius del monto	and the second secon				<u></u>									
									S	OUR	CES	5				
					1											
	,	E-11	DG #32 CONTROL PANEL	NO INTERACTION	LIGHT FIXTURE											
		148	PANEL PQ1		E232											
		148a	3" CND 6WP	x												
	,	149	3" CND 6WP1	x								`				
		150	4" CND 6TT	X												
		151	4" CND 6TT 1	x												
		152	4" CND 6TT2S	x						ļ						
	٢S	153	3" CND 6WQ .	x					 					`		
	ET	154	3" CND 6WQ1	x						ļ				 		
~~~~	TARGET	155	2" CND 6YJ	x												
	1	156	3" CND 6PN	x												
		157	3" CND 6PN1	x	ļ								 			
		158	2" CND 6MV	x			 									
4 4 4 4		159	3" CND 6NC	x			 									
INCHES נואאייאי כא. נואיאייאי ס		160	3" CND 6NC1	x			 			<u> </u>						
INCHE		161	2" CND 6NG	x					ļ							
		162	1" CND 6PL1	х												
		FIRE	DING: <u>DIESEL GEN</u> ZONE: <u>101A</u> ATION: <u>EL 1</u> HN FIRE ZONE	5'		Ņ		. •		DI	ESEL	GENE	ERATO	R SY:	STEM	
	6,398 G	····	SERVICES INCOR		TED.	POW	/ER A	UTH	ORIT	Y STA	ATE ()F NE	W YC			. 003
	DIV. Dat	ELEC 7/82		ROVED)		IN SYS	DIAN TEM	PO SIN	INT TERA ION	No. 3 CTIO	5 N ST		1	E-11	OF 36
	SCA							<u>.</u>					1.7241 (5-14 d)	ļ	devisit, which	

E-11 PC 1160S 163 BOX LY8 X NOLLOVYEL PC 1160S X X X X X X X X X X X X X	、 	
E-11 2 PC 1160S		
163 BOX LY8 X		
164 1" CND 6US X .		I
PNEUMATIC CONTROL PANEL		
165 1" CND 6WJ X		
166 1" CND 6WJ1 X		
∧ 167 1" CND 6WI X		
Image: Non-state Image: Non-state<		
170 1" CND 6NM X		
172 1" CND 6NL X		
173 1" CND 6NL1 X		
Image: Note of the second se		-
175 1½" CND 6TF X		
BUILDING: DIESEL GENERATOR FIRE ZONE: 101A LOCATION : EL 15' WITHIN FIRE ZONE DIESEL GENERA	ATOR SYS1] EM
EBASCO SERVICES INCORPORATED POWER AUTHORITY STATE OF NEW YO		
DIV. ELEC DR. EL APPROVED INDIAN POINT No. 3 DATE 7782 CH. J F MONTALBANO SCALE NONE INTERACTION MATRIX	E-11 SH 15	5 OF 36

				-27 B. B.		64 6	299 <u>1</u> 9				1 mining the state	A sa ba sa ta ta ta ta		- 1 - 00	
								S	OUF	CE	S		.	•	
		•													
	E-11		NO INTERACTION												
	\square	DG 32 AIR COMPRESSOR (CONTD	þ												
	176	PB W86	x												
	177	1¼" CND 6NF	X												
	178	PB XX2	x												
	179	4" CND 6TV	x												
		VALVES 1208 (CONT'd)			<u> </u>			<u> </u>						 	
S	180	2" CND 6SQ	x												
TARGE TS	181	BOX RG7	x					<u> </u>							
ARG	182	2" CND 6RU	X		ļ			ļ					ļ		
1	183	PB WZ3	х												
	184	1¼" CND 6WD	X		ļ		ļ 	ļ	1			 	ļ		
	185		x			 	ļ			ļ					
	\square	VALVES 1207 (CONT"D)			 	<u> </u>	 								
	186	1노" CND 6WF	x									<u> </u>	ļ		
-							 								
		DINC. DIESEI GEN	ERATO	R \	<u> </u>	<u> </u>	<u> </u>		<u> </u>	1		1	<u> </u>		<u> </u>
1	FIRE	DING: DIESEL GEN ZONE: 101A ATION: EL 1		N	•				r						
ant in the stations	WITI	HIN FIRE ZONE	18 81 <i>0</i> - 18 19 19	ar being cenn					ي جمع في مركز	۲ - تيار ترخص و در آريس		S . To 9 Sec.	OR SY	erent was s	2 ;= *-
	FIFC	SERVICES INCORF)	POV	IN	DIAN	I PC	Y STA NNT TERA	No. 3	3			5209 _{E-11} SH ₁₆	

	and the second states		nessa sanan na ta anala a a	undersk and the state				Ŷ							a taata			
									•	S	OUR	CES	5					
		E-11			NO INTERACTION													
1			PB XM1	•							ļ							
		187	PB XM1		x						ļ							
		188	4" CND 60	VB	x													
		189	4" CND 6W	VB 1	x						\. 							
		190	4" CND 64	IB 2S	x													
T M M		191	4" CND 6W	IB 3S	x													
<i></i>	S	192	4" CND 6W	/B ₄ S	x		 											
Ę	TARGE TS	193	4" CND 6V	YS	x										· ·			
~~~~	ARC	194	4" CND 6V		X													
	-	195	4" CND 6V	Y 2S	X		·											
		196	4" CND 6V	Y 3S	x									 			×	
~~~		197	4" CND 6V	Y4S	x													
4 – 4-4-4-	-		PB W90															
INCHES Unit -		198 199	PB W90 1노" CND 6	D7	X X													
INCH																		
		l	1½" CND 6		X	p					I							J
		FIRF	ZONE ·	101A														
		LOC. WITI	ATION : HIN FIRE	EL 1	5'	<u>_</u>	,					DIES	SEL G	ENER	ATOR	SYST	EM	
	EB	ASCO	SERVICES	2	PORAT	red_	POW										. 00	3
	DIV. DAT SCA	$\frac{\text{ELEC}}{\text{E}}$	DR. EL 782 CH. DNE	APPF JFMON	NOVED			SYS	TEM	s in	INT TERA ION	CTIO	N ST			E-11 SH 17	OF	36

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2 2								1				ļ			
	E-11	· · ·	LUTERACTION						-		``				
		PB XX8	ON									<u> </u>			
	201	PB XX8	x												
	202	4" CND 6QT	x								1				
	203	4" CND 6QT1	x												
	204	4" CND 6QT2S	X												
	205	4" CND 6QT3S	X												
	206	4" CND 6QT4S	x												
ETS		PB W 89													
TARGE	207	PB W89	x												
4	208	$1\frac{1}{2}$ " CND 6SA	X												
	209	1" CND 6YM	x										ļ		
	210	1 ¹	X			 									
-	211	1 ¹ ₂ " CND 6RU	X												
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	FIRE	DING: DIESEL GE	A	R								···	1		
		ATION :EL HIN FIRE ZONE		2					W TARA CARA	22.00.00.2000	2 4 X 3 2 A 4	the magnetic target	a en Renadera	YSTEM	sex e tra
DIV. DAT	ELEC		ROVED)	POW	IN SYS	DIAN TEM	N PO Is IN	INT TERA	No. 3	3 DN ST			5209 E-11 SH ₁₈	

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		E-11		NO INTERACTION	1 ¹ , CITY WATER LINE 1033	LIGHTING CND				-							
		\square	EXHAUST FAN 318														
		212	BOX MV4	X													
		213	1" CND 6NU	X												<u> </u>	
		214	BOX KD6	X													
			EXHAUST FAN 319														
		215	BOX MW1	X													
	S	216	1" CND 6NV		E233 E234												
	E	217	BOX KD5	X									 				
᠃᠇᠃	TARGETS	\square	EXHAUST HOOD VENT FAN 33										 				
	14	218	MOTOR & FLEX CNDS		E233												
- ~		219	BOX MA8		E233												
		220	1" CND 6MM		E233	E234											
4 4 4 -		221	BOX W70		E234												
0		222	1" CND 6ML		E234	 											
INCHES <mark>היהיא -</mark> כאו <mark>היהיא -</mark> 0 ו		223	BOX KA9	X													
			1攴'' CND 6WV	Х													
		FIRE	DING: DIESEL GENE ZONE: 102A ATION : EL43 HIN FIRE ZONE			,			·		IESE	L GEN	VERAT	OR S	YSTEM	 1	
-			SERVICES INCORP	ORA	TED.	POW	/ER A	UTH	ORIT	Y ST/	ATE (OF NE	W YC	ORK	5209	. 003	3
	DIV.E	$E_{\rm E}$	DR. <u>EL</u> APPR	OVED	>	-	IN SYS	DIAN TEM	PO S IN	INT FERA	No. 3 CTIO MAT	5 N ST			E-11	OF 3	

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								S	DUR	CES	5					
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				LNTERACTION												
		E-11		I ON												
		\overline{n}	LCV 1209A													
		225	FLEX CNDS	x												
		226	BOX KR5	X												
		227	¹ 2" CND	x												
		\square	LCV 1209B	 								、				
		228	FLEX CNDS	x	 											
	S	229	BOX KR6	X												
		230	¹ ₂ " CND	x	 											
~~~~	ARGET	$\square$	LC 1209S	ļ	ļ											
	F	231	FLEX CNDS	X												
		232	BOX KR4	x												
		233	¹ ₂ " CND	X										 		
] 		234	TB ZX3	X	 											
o CM. <mark>היאיאיאי -</mark> DD - I		235	2 ¹ / ₂ " CND 6ST	X												
INCHI		236	PB W98	X								 				
5			14" CND 6SW	X					ļ							-
	l	FIRE	DING: DIESEL GEN ZONE: 102A ATION: EL 2 HN FIRE ZONE						<b></b> 1	DIESE	L GEI	NERAT	OR S	YSTEN		
	1 46 41 2 1 4 1 M	Jay 14 . #15.	SERVICES INCORE		 POW							W YC			. 0,03	3
	DAT	7/8	DRFI_ APPF CHJF_MO DNE			SYS	TEM	PO S INT ACTI	TERA	стю	N ST	UDY		E-11 SH ₂₀	OF	<u>36</u>

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			S	OUR	CE	S			
E-11 ON					Ð				
FUEL OIL PUMP #33 (CONT'd)									
238 TB ZY2 X									
239 1 ¹ / ₄ " CND 6PD X									
LC 1206S (CONT'd)									
240 TB ZY5 X									
241 1" CND 6PH X									
∽ 242 1½" CND 6WR X									
243         1" CND 6WR1         X           244         BOX K07         X	 								
P									 
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				1										·	
	E-11	/	NO INTERACTION	LIGHT FIXTURE											
		DIESEL GENERATOR NO. 33			 							ļ	<u> </u>	ļ	ļ
	245	GENERATOR GB3	X								ļ				
	246	CT BF6	x										ļ		 
	247	3000A BUS DUCT	x										<u> </u>		ļ
		ENGINE GUAGE													ļ
	248	BOX PQ9	X					 							
် လ	249	1" CND 6TA	x												
1	250	BOX HF7	x			ļ						ļ			
TARGET		HEATER CONTACTOR PANEL										 			
Ĥ	251	BOX KA6	x												
	252	1년" CND 6MT	x						L		ļ		ļ		
		PRESSURE SWITCH						ļ							ļ
	253	1" CND 6NP	x					 	ļ		ļ	 			ļ
		DG 33 CONTROL PANEL				ļ	· .	ļ		<u> </u>			<u> </u>	· · ·	ļ.
	25 3A	DG 33 CONTROL PANEL - PQ2		E37Ż				ļ			<u> </u>			<u> </u>	 
	FIRE	DING: <u>DIESEL GEN</u> ZONE: <u>102A</u> ATION : EL 1 HIN FIRE ZONE		DR						DIESP	L GE	NERA	TOR S	SYSTE	M
עזם		SERVICES INCORF	OVED		POV	1 IN	DIAN	ORIT I PO S IN	INT	No. 3	3			5209 E-11 SH 2	

1 1 J 2 4 4 4 1 3 1		nan siya a sata nan siya tasaha a sa sataya ta'a a			8	<u>^</u>					2-5-17-17- J.Tova	a. 15 % 14 13 8	Trace 1 19 (24)	an a		an si
								S	OUF	RCE	S					
				Τ								T				
	E-11	• •	NO INTERACTION												·	
		DG #33 CONTROL PANEL														
ŕ	254	3" CND 6WQ	x													
	255	3" CND 6WQ1	x													1 w 1
	256	2" CND 6NI	x													
	257	1" CND 6PJ	X													
	258	3" CND 6ND	x													10 10 10 10 10 10 10 10 10 10 10 10 10 1
S	259	1 ¹ ₂ " CND 6ND1	x													
	260	2" CND 6YI	x										<u> </u>			
TARGE	261	3" CND 6PP1	x		ļ					ļ	 		 			
	262	3" CND 6PP	X								 		ļ			
- ~ ~	263	2" CND MW	x			ļ				ļ			ļ			
<b>-</b> ~	264	2" CND 6ZC1	x					ļ						<u> </u>		
	265	1攴'' CND 6ZC2	x									<u> </u>	<u> </u>	ļ		
INCHES FIRMMAR		4" CND 6UB	x	<u> </u>						ļ	 	. 				
	267	4" CND 6UB1	X	<u> ′</u>												
		4" CND 6UB2	X	<u>]</u>	<u> </u>											
	FIRE	DING: DIESEL GEN ZONE: 102A ATION: EL 15' HIN FIRE ZONE		DR	. ,					DIESE	L GE	NERA	FOR S	SYSTE	1	
		SERVICES INCOR	POV							EW Y			. 00	3		
DAT	E_7/	DR.EL APP		INDIAN POINT No. 3 SYSTEMS INTERACTION STUDY INTERACTION MATRIX										<u>6</u>		

	1. (1.) <i>2. at 14</i> 5.4					1							•• ••• • • • • •			
								S	DUR	CES	5					
				1												
	E-11		NO LUTERACTION	1 ¹ ₂ " CITY WATER LINE 1033			1		-							
		PC 1161S														
	269	BOX LY9	Х													
	270	1" CND 6UT		E234												
		PNEUMATIC CONTROL PANEL														
	271	1" CND 6WL	X													
	272	1" CND 6WL1	X													
	273	1" CND 6WK	Х													
	274	1" CND 6WK1	Х													
TARGE TS	$\square$	DG #33 AIR COMPRESSOR														
17 ¹	275	BOX ME1	x													
~	276	1" CND 6NP	X													
2	277	PB XV7	Х													
	278	1" CND 6NN	X						•							
0	279	1" CND 6NN1	Х													
	280	BOX KD8	Х							,						
	281	1년" CND 6TH	X													
	FIRE	DING: DIESEL GEN ZONE: 102A ATION: EL 1 HIN FIRE ZONE		DR						DIESE	L GE	NERAI	, for s	SYSTE	M	
Contraction of the local division of the loc	and Property of Section 2.	SERVICES INCORP	TED_	POV										.00	3	
DAT	E <u>7/8</u>	DR.EL APPR		1		SYS	TEM	I PO S IN RACTI	TERA	CTIC	N ST			E-11 SH ₂ ,	4 OF	36

6127							Ŷ										
									S	DUR	CE	S					
		E-11		) INTERACTION													
	1		DG #33 AIR	ON N									   .   .				
		282	COMPRESSOR (CONTI PB W85	x													
		283	1년'' CND 6NH	X	 	,											
	•	284	PB XX3	x													
		285	4" CND 6UA	x										1			
			VALVES 1209 (cont'd)							·							
	S	286	2" CND 6SU	x													
H	<b>TARGE TS</b>	287	BOX RG6	x										 			9
5	ARG	288	2" CND 6RT	x								 		ļ			
h	1	289	PB WZ5	x							 						
6		290	1" CND 6MG	x							 						
5		291	1노" CND 6VV	x							 						
-		$\square$	VALVES 1208 (cont'd)									 		 		ļ	
.0		292	1 ¹ / ₄ " CND 6WD	X												·	
			VALVES 1207 (cont'd)	·									ļ	<u> </u>		<b>_</b>	
			1七" CND 6WF	X								[					
		FIRE	DING: <u>DIESEL GEN</u> ZONE: <u>102A</u> ATION: <u>EL 15'</u>	ERATO	R					<b></b>	!.						
	tant to se	WIII	IN FIRE ZONE												YSTE		
	DIV. DATI	ELEC	SERVICES INCORF	· · · · ·	POW	IN SYS	DIAN TEM	PO 5 IN1	INT FERA	No. 3 .CT10	5 N ST			E-11	5 OF		
	SCA	LE NC	DNE -				11	NTER	ACTI	ON _.	MAT	RIX					

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			<u>.</u>						S	DUR	CES	5				
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		E-11		NO LNTERACTION												
			PB XM3													
		294	PB XM3	x												
1		295	4" CND 6VW	x												
		296	4" CND 6VW1	X												
		297	4" CND 6VW2S	x	 					1						
		298	4" CND 6VW3S	X												
	S	299	4" CND 6VW4S	X								 		<u> </u>		
	TARGETS	300	4" CND 6WAS	x												
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	ARG	301	4" CND 6WA1	X					· · · · ·							
	Т	302	4" CND 6WA2S	X												
		303	4" CND 6WA3S	X						<u> </u>						:
- ∼		304	4" CND 6WA4S	X												
4 4 - 4			PB W83						 						-	
INCHES U CM. Inturnet		305	PB W83	X					•							
INC		306	1½" CND 6RY	X												
			1 ¹ 2" CND 6RC DING:DIESEL GEN	X VERATO)R					I			<u> </u>	<u> </u>		
		FIRF	ZONE:	7											- <u></u>	
	-	WIII	TIN FIRE ZUNE				an san sener		tan a cat a f		V - MARINE INTO	1. 4 ¹ .0.4	al and the age	ward an inge	STEM	a an a tha tha a sa
	EB. DIV. ¹	ASCO ELEC	SERVICES INCOR	ROVED)	POW	IN	DIAN	PO	Y ST/ INT TERA	No. 3	3			E-11	.003 0F 36
	SCA			NIALDF	ΔIIO			NTEF	RACTI	ION	MAT	RIX		ľ	a a M - 711 - 114 - 1	

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								S	DUR	CE	5					
	E-11		NO INTERACTION	-												
		PB XX9							<u> </u>							
	308	PB XX9	x											ļ		
	309	4" CND 6QVS	x													
	310	4" CND 6QV1	x													
	311	4" CND 6QV2S	x													
	312	4" CND 6QV3S	·X													
S	313	4" CND 6QV4S	x		<u> </u>											
		PB W84	 		ļ											
TARGE	314	PB W84	X						ļ					ļ		
, 1 1	315	1" CND 6YL	x		ļ											
, m	316	1 ¹ ₂ " CND 6RF	x													
5	317	1攴'' CND 6RW	x					 			 					
-	318	1攴" CND 6TG	x				 							<u> </u>		
- 0																
			LERATO										<u> </u>			J
	BUILD FIRF	DING:			•											
	LOCA	TION :	5'						Γ.							
Same of the Same of the	41 42 4247464 A 424 124 1 5	N FIRE ZONE	PORA	TED	POW	/ER /	ΨTΗ	ORIT	1.11 Fair water - 44	addition to take of the	NUTLY WARE OF	A8214	CALCULATION OF THE OWNER	YSTE 5209	· · · · · · X14+3	3
			ROVED) .		IN SYS	DIAN TEM	PO SIN RACT	INT TERA	No. 3 CTIC	3 IN ST		1	E-1 SH 2	1	

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		1	2				 			<u> </u>			<u> </u>
E-11	NO INTERACTION	MISC BOX	SPACE HEATER										
PB XY1													
319 PB XY1		E239	E240										
320 4" CND 6QR4S	X												
321 4" CND 6QRS	X												
322 4" CND 6QR1	x												
323 4" CND 6QR2S	x									ļ			
∽ 324 4" CND 6QR3	x					ļ							
4" CND 1SP 325 TO DD @ 0147		E239											
SL 325 TO DD @ 0147 325 TO DD @ 0147 326 1" CND 6PK TO DC @ 0054 1" CND 1SP1S 0.00 1SP1S	X										ļ		<u> </u>
H 1" CND 1SP1S 327 TO JD @ 0147	x												
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								<u> </u>	<u> </u>				
									<u> </u>				
BUILDING: <u>CONTROL</u> FIRE ZONE: <u>11</u>													
LOCATION :EL WITHIN FIRE ZONE	33'				1	and the second section with the		DIES	EL GE	NERA	TOR	SYSTE	M
EBASCO SERVICES INCOR	PORA			ER A	UTH		Y ST				ORK	5209 E-11	

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								S	DUR	CES	5					
				1	2											
	E-11		NO LUTERACTION	1샷" CND	LIGHT FIXTURE											
	PB XY2															
	328 PB XY2				E242											
	329 4" CND (6QT	Х						, ,							
1444 AV	330 4" CND (6QT1	Х								÷					
	331 4" CND (6QT2S	х													
6	332 4" CND (6QT3S	Х													
	333 4" CND (6QT4S	х													
TARGETS	$\begin{array}{c} 334 \\ TO FA \end{array} \begin{array}{c} 1^{\frac{1}{2}} \\ TO FA \end{array}$				E242											
RGI	4" CND 335 TO DA @	15Q 0080		E241	E242	,										
T T	2" CND 336 TO JA @	152 Q/S 0080			E242											
~																
L.	· · ·															
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]
	BUILDING: FIRE ZONE: LOCATION : WITHIN FIR	11	3.' -							DIESI	EL GE	NERA	TOR	SYSTE	:M	
EB	ASCO SERVICE	ES INCORF	ORA	TED.	POW				Y ST	ATE (DF NE	and a short the second	ORK	5209	19.5 (JAN20) J. T.	3
DAT	LEC DR. EL E 7782CH	- APPR				SYS	TEM	S IN	TERA	No. 3 CTIC MAT	N ST	UDY		E-11 SH ₂₉	OF	3

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				11							5 T		1	1	1
				1	2									<u> </u>	-
	E-11		NO INTERACTION	LIGHT FIXTURE	3/4" CND										
	\square	PB XY3													
	337	PB XY3		E243											
	338	4" CND 6QVS	X												
	339	4" CND 6QV1	x												
	340	4" CND 6QV2S	X												
	341	4" CND 6QV3S	X												
S	342	4" CND 6QV4S	X								,				
	343	4" CND EXITING PULL BOX XY3		E243	E244					· ·			`	ļ	
TARGE T	344	1" CND EXITING PULL BOX XY3		E243	E244						ļ				
1	345	1날" CND EXITING PULL BOX XY3		E243	E244										
	346	2" CND EXITING PULL BOX XY3		E243	<u>E244</u>	,						<u> </u>			
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										<u> </u>	<u> </u>]		<u> </u>	
	FIRE	DING: <u>CONTROL</u> ZONE: 11													
	LOC	ATION :EL 3 IN FIRE ZONE	33'		ı				DI	ESEL	GENE	RATO	R SYS	STEM	
2 - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 1	2 Stable 42 - St	SERVICES INCOF	ANTER AND ANTER AND	TED.	POW	'ER A	UTH	ORIT	Y ST	ATE (DF NE	EW Y	ORK	5209	9.
DIV. DAT	ELEC	DR.EL APP	PROVED)		IN SYS	DIAN TEM	I PO S IN ⁻ RACTI	INT TERA	No. 3	3 N ST			Е—11 SH 3	

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									S	OUF	ÇE	S					
				1	1	2											
		E-1	1	NO INTERACTION	LIGHT FIXTURE	2-3/4" CNDS								,			
			PB XL9		ļ											<u> </u>	
		347	PB XL9	X	ļ												
		348	4" CND 6VZ	X	ļ								ļ	 		<u> </u>	
		349	4" CND 6VZ1	x	ļ										 	<u> </u>	
		350	4" CND 6VZ2S	X								ļ		<u> </u>	 	 	
		351	4" CND 6VZ3	X	ļ				<u> </u>							<u> </u>	
	S	352	4" CND 6VZ4S	x	ļ							ļ	ļ	ļ		ļ	
	TARGETS	353	1攴'' CND 6GK	X								 				ļ	
~~~~~	ARG	354	1攴'' CND ITM1	X						<u> </u>	ļ		<b>_</b>			ļ	
_+ →	ľ	355	2" CND ITMS	X						ļ						ļ	
- ~		356	3" CND III	X		<u> </u>						ļ		ļ	ļ	<b></b>	
		357		X					ļ				 			<u> </u>	
4 4 4 4			DG #31 (CONT'D)	ļ									ļ				
INCHES כאי <b>ן היהיאי ^</b> ס. ו		358	3000A BUS DUCT		E235	E236						ļ				ļ	
INCHE									ļ		· ·	ļ	ļ			ļ	-
																	]
		FIRE	DING: <u>CONTROL</u> ZONE: <u>14</u> ATION: <u>EL 15</u>	; <b>'</b>							·····		- <u></u>				
		WITH	HIN FIRE ZONE SERVICES INCOR	STATE AND A SHOW	TED	POW				attice of the start of	IESEL Atf (	97 N.T. 199 N. 2	NUC PENSE CON	a a naise marais	с. жана — 14 т		3
	DIV. DAT	ELE		ROVED	)		IN SYS	DIAN TEM	N PC IS IN	INT TERA	No. 3 CTIC	3 N ST			E-11	1 OF	

									S	DUR	CES	5				
					1	2	3	4		•						
		E-11		NO INTERACTION	3/4" CND	3/4" CND	2" CND	I" CND								
		$\square$	PB XM2	_		,										
		359	PB XM2 ·	Χ.												
		360	4" CND 6VYS	x												
		361	4" CND 6VY1	x												
		362	4" CND 6VY2S	x												
		363	4" CND 6VY3S	x												
	S	364	4" CND 6VY4S	x												
) (二	TARGE TS	365	3½" CND 114 TO DA @ 0353	x												
۲۰	ARG	$\square$	DG #32 (CONT'D)													
- =	1	366	3000A BUS DUCT		E237	E237	E237	E237								
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		FIRE	41 IUN :	15'		<b>-</b>				r						
	and a second second	WITH	IN FIRE ZONE					╷╷┱⊔╷		200721-4,6:0	ESEL	5 TO 10 10 10 10	1. ( NS 167	a a a a a a a a a a a a a a a a a a a	in a start of the	007
	DIV.	ELEC	SERVICES INCORF	ROVED	)	PUW	IN SYS	DIAN TEM	PO FO S INT ACTI	INT FERA	No. 3 CT10	S N ST			E-11	2 OF ₃₆

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								S	OUF	RCE	S				
				1,	2	3									
	E-11		NO INTERACTION	I" CND	1" CND	· 1" CND									
		PB XM4						 	 						
a superior and the	367	PB XM4	x	 							<u> </u>	 		ļ	
	368	4" CND 6VW	x											ļ	
	369	4" CND 6VW1	X											·	
	370	4" CND 6VW2S	x												
	371	4" CND 6VW3S	x												
	372	4" CND 6VW4S	X											  .	
TARGETS	373	1½" CND ITN TO FB @ 0348 3" CND ITH	x												
TAR	374	TO DB @ 0366 DG#33 (CONT'D)	X												
5 5 1	375	3000A BUS DUCT		E238	E238	E238				Í					
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	FIRE LOC/ WITH	DING:					Sires dance		8378 v . Ave of v	a hannen an andere Br	L GEN	19 A & C & C &	14.24 12 14 24 24 24	on prairies o	
DIV.		² (H I F M)	ROVED	>	POW	IN SYS	DIAN TEM	I PO S IN	INT TER/			rudy		5209 E-11 SH ₃₃	

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								S	OUF	RCE	S				
				1	2										
	E-11		NO INTERACTION	1" DRAIN LINE	4" DRAIN LINE										
		VALVES 1208 (CONT'D)													
	376	1노" CND 6WD	X											ļ	
	377	PB XA5	Х												
	378	1" CND 6YY2		E228	E228										
		VALVES 1207 (CONT'd)													
	379	1년" CND 6WF	x								 				
လ	380	1" CND 6YY1	_	E228	E228								<u> </u>		
-		VALVES 1209 (CONT'd)												<u> </u>	
TARGE	381	1년" CND 6VV	Х												
4	382	1" CND 6YY3		E228	E228										
				<u> </u>							ļ				
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		v					l,								
	FIRE	DING:	VE ROOI		,				<b>—</b> ——						
10 3 Super Succession	WIIF	IN FIRE ZONE		with a server					and a supplication	IESEL			-	n•i# 1, [−] + ¥,11 = 1	
DIV. DAT	ELEC F	2	RPORA PROVEI MONTALI	>	ΡOM	IN SYS	DIAN TEM	N PO S IN RACT	INT TERA	No. 3 Notio	3 NN ST			E-1 EH 3.	1

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								S	DUR	CE	S ·					
		, · · · · ·		1	-											
	E-11		NO INTERACTION	4" FUEL OIL FTLL LINE	j											
		FUEL OIL PUMP 31										ļ	ļ			
	383	FLEX CNDS	х								ļ	ļ	<u> </u>	ļ		
	384	BOX MX4	x								ļ	ļ				
	385	1" CND 6NY	x									ļ				
		LC 1204S														
	386	FLEX CNDS		E245								 			<u> </u>	
S	387	¹ ₂ " CNDS		E245		-										
	388	BOX WO1	x	ļ												
TARGETS	389	1" CND 6NW	x	ļ												
1	390	1" CND 6NW1	x							)						
		FUEL OIL PUMP 32									<u> </u>		ļ		 	
	391	FLEX CNDS		E246									<u> </u>			
	392	BOX MX5	x													
	393	1" CND 6NZ	X											<u> </u>	ļ	
											ļ			ļ		
		;														
	FIRE	DING: <u>YARD</u> ZONE: <u>NONE</u> ATION : <u>FUEL OIL</u> IN FIRE ZONE	TAN	KS					DI	ESEL	GEN	IERAT	OR S	YSTEM		
		SERVICES INCORP			POW							EW YO	DRK			
DAT		DR.EL APPR 82CH JF MON			-	SYS	DIAN TEM: NTER	s IN	TERA	CTIC	N ST	TUDY		E-11 SH 35		3

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				1										
	E-11	, 	NO INTERACTION	4" FUEL OIL FILL LINE								,		
		LC 1205S						 			 			<b></b>
	394	FLEX CNDS		E246	<b> </b>			ļ						
	395	¹ ₂ " CNDS		E246		_								
	396	BOX W02	X			_								
	397	1" CND 6PA	X			_	ļ							
	398	1" CND 6PA1.	X	ļ			ļ							
S	$\square$	FUEL OIL PUMP 33					ļ					<u> </u>		
TARGETS	399	FLEX CNDS		E247	<b></b>		ļ					 		
ARG	400	BOX MX6	X				ļ	ļ						
	401	1" CND 6PC	Х											
- ~		LC 1206S							 					
- ~	402	FLEX CNDS		E247				ļ						
	403	¹ ₂ " CNDS		E247									 	
	404	BOX W03	X					ļ						
CM. [Imminut 0 +	405	1" CND 6PB	X								ļ			
	406	1" CND 6PB1	х											
	LOC	DING: <u>YARD</u> ZONE: <u>NONE</u> ATION : <u>FUEL</u> HIN FIRE ZONE	OIL	<u>FANKS</u>	, 		<u>2162503978</u>	storetype in si	DIESI	EL GE	NERAT	IOR S	YSTE	M
. F		SERVICES INCORP			8	AUTH							5209 E-11	003
DAT		DR. EL. APPR			SY	STEM	S IN	TERA	CTIO	N ST				OF ₃

# POWER AUTHORITY OF THE STATE OF NEW YORK INDIAN POINT 5 NUCLEAR POWER PLANT SYSTEM INTERACTION STUDY

# NON-CONNECTED INTERACTIONS EVALUATION

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

C

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

1

SYSTEM NO. E-11

SYSTEM NAME

DIESEL GENERATOR

EVALUATION CATEGORY

NON-CONNECTED

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7/30/82 ENGINEER/DATE

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_		E-11
System	No.	

Sheet 1 of 79

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

BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: EL 43' and EL 15'

POTENTIAL INTERACTION NO.: E-11-5-1

PHOTOGRAPH NO.: E227

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1" Cnd 6NR (not shown)

SOURCE: 3/4" City Water Line 1035

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 8

X ACCEPTABLE

POTENTIALLY ---UNACCEPTABLE

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

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

System No. E-11

# Sheet 2 of 79

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

BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: EL 43' and EL 15'

POTENTIAL INTERACTION NO.: E-11-7-1

PHOTOGRAPH NO.: E226

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Motor & Flex Cnd

SOURCE: 3/4" City Water Line 1035

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 8

X ACCEPTABLE

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

System	No.	E-11
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BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZCNE: EL 43' and EL 15'

POTENTIAL INTERACTION NO.: E-11-8-1

PHOTOGRAPH NO.: E226

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Box MA3

SOURCE: 3/4" City Water Line 1035

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 8

X ACCEPTABLE

POTENTIALLY ------UNACCEPTABLE

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

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

BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZCNE: EL 43' and EL 15'

POTENTIAL INTERACTION NO.: E-11-9-1

PHOTOGRAPH NO.: E226

BACKGROUND NO.: Sheet 76

#### IDENTIFICATION OF INTERACTION COMPONENTS:

SOURCE: 3/4" City Water Line 1035

## DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

#### EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 8

X ACCEPTABLE

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

W A Griswold/ 8-31-82

VERIFIED/DATE

BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: EL 43' and EL 15'

POTENTIAL INTERACTION NO.: E-11-13-2

PHOTOGRAPH NO.: E229

TARGET:

BACKGROUND NO.: Sheet 76

#### IDENTIFICATION OF INTERACTION COMPONENTS:

 $l_{z}^{2}$ " Cnd 6WT (within group of boxes)

SOURCE: Electric Unit Heater

#### DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

#### EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 4

Cnd is vertical and mounted against the wall

X ____ACCEPTABLE

POTENTIALLY --UNACCEPTABLE

E Licari/ 7-30-82

W A Griswold/ 8-31-82

INTERACTION ENGINEER/DATE

VERIFIED/DATE

Ebasco Services Incorporated

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BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZCNE: EL 27'

POTENTIAL INTERACTION NO.: E-11-26-1

PHOTOGRAPH NO.: E227

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:1½" Cnd 6SL(right vertical cnds)

SOURCE: 3/4" City Water Line 1035

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 8

ACCEPTABLE

POTENTIALLY --UNACCEPTABLE

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

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W A Griswold/ 8-31-82

VERIFIED/DATE

System No. E-11

# Sheet 7 of 79

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

BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZCNE: EL 27' and EL 15'

POTENTIAL INTERACTION NO.: E-11-28-1

PHOTOGRAPH NO.: E227

BACKGROUND NO.: Sheet 76

#### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:1½" Cnd 6PG(right vertical cnds)

SOURCE: 3/4" City Water Line 1035

#### DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

#### EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 8

. X ACCEPTABLE

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

VERIFIED/DATE

System No. E-11

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

BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: EL 27' and EL 15'

POTENTIAL INTERACTION NO.: E-11-30-1

PHOTOGRAPH NO.: E227

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1" Cnd 6PI (right vertical ends)

SOURCE: 3/4" City Water Line 1035

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 8

X ACCEPTABLE

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

VERIFIED/DATE

BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: EL 27' and EL 15'

POTENTIAL INTERACTION NO.: E-11-31-1

PHOTOGRAPH NO.: E227

BACKGROUND NO.: Sheet 76

# IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:l" Cnd 6WMl(right vertical cnds)

SOURCE: 3/4" City Water Line 1035

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 8

X ACCEPTABLE

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

VERIFIED/DATE

Diesel Generator BUILDING:

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: EL 27' and EL 15'

POTENTIAL INTERACTION NO.: E-11-32-1

E227 PHOTOGRAPH NO.:

BACKGROUND NO .: Sheet 76

## IDENTIFICATION OF INTERACTION COMPONENTS:

1¹/₄" Cnd 6WM (right vertical cnds) TARGET:

SOURCE: 3/4" City Water Line 1035

#### DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

## EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 8

X ACCEPTABLE

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POTENTIALLY -UNACCEPTABLE

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

W A Griswold/ 8-31-82

VERIFIED/DATE

BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: EL 27' and EL 15"

POTENTIAL INTERACTION NO.: E-11-33-2

PHOTOGRAPH NO.: E229

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

		•	
TARGET:	Panel KF3	(group of	boxes)

.

SOURCE: Electric Unit Heater

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

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POTENTIALLY -UNACCEPTABLE

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

## System No: E-11

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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: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZCNE: EL 27' and EL 15'

POTENTIAL INTERACTION NO.: E-11-35-5

PHOTOGRAPH NO.: E259

BACKGROUND NO.: Sheet 76

# IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Relay Box TR31 (bottom right box)

SOURCE: Electric Unit Heater

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

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VERIFIED/DATE

BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: EL 27' and EL 15'

POTENTIAL INTERACTION NO.: E-11-36-5

PHOTOGRAPH NO.: E259

BACKGROUND NO.: Sheet 76

#### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET :	3/4."	Cnd D	B 54	(not shown)
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SOURCE: Electric Unit Heater

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

#### EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

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

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VERIFIED/DATE



BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: EL 27' and EL 15'

POTENTIAL INTERACTION NO.: E-11-37-3

PHOTOGRAPH NO.: E 182

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:  $1\frac{1}{2}$ " Cnd DB 53 (first cnd below source)

SOURCE: ½" Lighting Cnd

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

POTENTIALLY --UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER/DATE

W A Griswold/ 8-31-82

VERIFIED/DATE

BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZCNE: EL 27' and EL 15'

POTENTIAL INTERACTION NO.: E-11-37-4

PHOTOGRAPH NO.: E230

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:  $1\frac{1}{2}$ " Cnd DB 53 (shown on E228)

SOURCE: Light Fixture

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: . 3

X ACCEPTABLE

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

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VERIFIED/DATE

System No. E-11

# Sheet ¹⁶ of 79

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

BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: EL 27' and EL 15'

POTENTIAL INTERACTION NO.: E-11-37-5

PHOTOGRAPH NO.: E259

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

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TARGET: 1¹/₂" Cnd DB 53 (exiting top of lower right box)

SOURCE: Electric Unit Heater

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 VERIFIED/DATE

# Sheet 17 of 79

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

BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: EL 15'

POTENTIAL INTERACTION NO.: E-11-41-1

PHOTOGRAPH NO.: E229

BACKGROUND NO.: Sheet 76

#### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Box PQ7 (to the left of heater)

SOURCE: Electric Unit Heater

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 VERIFIED/DATE

Ebasco Services Incorporated

# Sheet<u>18</u> of ⁷⁹

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

BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: EL 15'

POTENTIAL INTERACTION NO.: E-11-44-1

PHOTOGRAPH NO.: E229

BACKGROUND NO.: Sheet 76

#### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 12" Cnd 6MR (within group of cnds)

SOURCE: Electric Unit Heater

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

#### EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 4

Cnd is vertical and mounted against wall

X ACCEPTABLE

POTENTIALLY ---UNACCEPTABLE

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

W A Griswold/ 8-31-82

VERIFIED/DATE

BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: EL 15'

POTENTIAL INTERACTION NO.: E-11-59-1

PHOTOGRAPH NO.: E230

BACKGROUND NO.: Sheet 76

#### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Panel PP9

SOURCE: Light Fixture

# 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

VERIFIED/DATE

Diesel Generator BUILDING:

FIRE ZONE: 10

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LOCATION WITHIN FIRE ZONE: EL 15'

E-11-71-1 POTENTIAL INTERACTION NO .:

E229 PHOTOGRAPH NO .:

BACKGROUND NO.: Sheet 76

#### IDENTIFICATION OF INTERACTION COMPONENTS:

Panel KF4 (first panel in front of green enclosure) TARGET:

SOURCE: Electric Unit Heater

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

POTENTIALLY Х -UNACCEPTABLE

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

VERIFIED/DATE



System No. E-11

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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: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZCNE: EL 15'

POTENTIAL INTERACTION NO.: E-11-72-1

PHOTOGRAPH NO.: E229

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:  $1\frac{1}{4}$ " Cnd 6TC (within group of ends)

SOURCE: Electric Unit Heater

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 4

Cnd is vertical and mounted against the wall

X ACCEPTABLE

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

W A Griswold/ 8-31-82

VERIFIED/DATE

System No. E-11

BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: EL 15'

POTENTIAL INTERACTION NO.: E-11-73-1

PHOTOGRAPH NO.: E229

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BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

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(	

TARGET:PB W87(within group of boxes)

SOURCE: Electric Unit Heater

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

X

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

VERIFIED/DATE

BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: EL 15'

POTENTIAL INTERACTION NO.: E-11-74-1

PHOTOGRAPH NO.: E229

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:1½" Cnd 6NA(within group of boxes)

SOURCE: Electric Unit Heater

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 4

Cnd is vertical and mounted against wall

· X ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

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

W A Griswold/ 8-31-82

VERIFIED/DATE

System	No.	E-11	

# Sheet <u>24</u> of ⁷⁹

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

BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: EL 15'

POTENTIAL INTERACTION NO.: E-11-78-1

PHOTOGRAPH NO.: E229

BACKGROUND NO.: Sheet 76

#### IDENTIFICATION OF INTERACTION COMPONENTS:

	TARGET:	Panel RG8	(lower center panels)
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<b>N</b>			

SOURCE: Electric Unit Heater

# DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

E Licari/ 7-30-82

W A Griswold/ 8-31-82

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VERIFIED/DATE

POTENTIALLY

-UNACCEPTABLE

# Sheet 25 of 79

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

BUILDING: Diesel Generator

FIRE ZONE: 10

LOCATION WITHIN FIRE ZONE: EL 15'

POTENTIAL INTERACTION NO.: E-11-80-1

PHOTOGRAPH NO.: E229

BACKGROUND NO.: Sheet 76

#### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: PB W23 c (within group of boxes)

SOURCE: Electric Unit Heater .

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

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ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

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

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

BUILDING: Diesel Generator

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: EL 43' and EL 15'

POTENTIAL INTERACTION NO.: E-11-109-1

PHOTOGRAPH NO.: E231

BACKGROUND NO.: Sheet 76

### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:	l" Cnd 6NT	(not shown)
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SOURCE: 3/4" City Water Line 1035

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

#### EVALUATION OF INTERACTION:

, EVALUATION NOTE NO: 8

X ACCEPTABLE

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: Diesel Generator

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: EL 43' and EL 15'

POTENTIAL INTERACTION NO.: E-11-111-1

PHOTOGRAPH NO.: E231

BACKGROUND NO.: Sheet 76

# IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Motor'& Flex Cnds (below black railing)

SOURCE: 3/4" City Water Line 1035

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 8

X ACCEPTABLE

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

W A Griswold/ 8-31-82

VERIFIED/DATE

System No.______E-11

Sheet  $\frac{28}{0}$  of  $\frac{79}{10}$ 

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

BUILDING: Diesel Generator

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: EL 43 and EL 15'

POTENTIAL INTERACTION NO.: E-11-112-1

PHOTOGRAPH NO.: E231

BACKGROUND NO.: Sheet 76

#### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Box MA7

SOURCE: 3/4" City Water Line 1035

DESCRIPTION OF POSTULATED INTERACTION: .

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 8

X ACCEPTABLE

• POTENTIALLY

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

W A Griswold/ 8-31-82

VERIFIED/DATE

BUILDING: Diesel Generator

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: EL 43' and EL 15'

POTENTIAL INTERACTION NO.: E-11-113-1

PHOTOGRAPH NO.: E231

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BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1" Cnd 6 MK (not shown)

SOURCE: 3/4" City Water Line 1035

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 8

X ACCEPTABLE

POTENTIALLY UNACCEPTABLE

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

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

BUILDING: Diesel Generator

FIRE ZONE: 101A

LOCATION WITHIN FIRE ZONE: EL 15'

POTENTIAL INTERACTION NO.: E-11-148-1

PHOTOGRAPH NO.: E232

BACKGROUND NO.: Sheet 76

## IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Panel PQ1 (not shown)

SOURCE:

Light Fixture

# DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

E Licari/ 7-30-82

W A Griswold/ 8-31-82

VERIFIED/DATE

System No. E-11.

# Sheet<u>31</u> of ⁷⁹

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

BUILDING: Diesel Generator

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: EL 43' and EL 15'

POTENTIAL INTERACTION NO.: E-11-216-1

PHOTOGRAPH NO.: E233, E234

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1" Cnd 6NV (vertical cnd to right of copper source)

SOURCE: 1¹/₂" City Water Line 1033

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 8

X ACCEPTABLE

POTENTIALLY --UNACCEPTABLE

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

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

System No. E-11

# Sheet 32 of 79

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

BUILDING: Diesel Generator

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: EL 43' and EL 15'

POTENTIAL INTERACTION NO.: E-11-216-2

PHOTOGRAPH NO.: E234

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1" Cnd 6NV (to right of copper source)

SOURCE: Lighting Cnd

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER/DATE

W A Griswold/ 8-31-82

VERIFIED/DATE

# Sheet 33 of 79

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

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BUILDING: Diesel Generator

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: EL 43' and EL 15'

POTENTIAL INTERACTION NO.: E-11-218-1

PHOTOGRAPH NO.: E233

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Motor & Flex Cnds (behind railing)

SOURCE: 1¹/₂" City Water Line 1033

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 8

X ACCEPTABLE

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

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

# Sheet 34 of 79

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

BUILDING: Diesel Generator

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: EL 43' and EL 15'

POTENTIAL INTERACTION NO.: E-11-219-1

PHOTOGRAPH NO.: E233

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Box MA8 (behind railing)

SOURCE: 1¹/₂" City Water Line 1033

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 8

X ACCEPTABLE

POTENTIALLY --UNACCEPTABLE

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

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

# Sheet <u>35</u> of 79

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

BUILDING: Diesel Generator

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: EL 43' and EL 15'

POTENTIAL INTERACTION NO.: E-11-220-1

PHOTOGRAPH NO.: E233

BACKGROUND NO.: Sheet 76

# IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1" Cnd 6MM (exiting box MA8 from bottom)

SOURCE: 1¹/₂" City Water Line 1033

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 8

X ACCEPTABLE

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: Diesel Generator

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZCNE: EL 43' and EL 15'

POTENTIAL INTERACTION NO.: E-11-220-2

PHOTOGRAPH NO.: E234

BACKGROUND NO.: Sheet 76

### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1" Cnd 6MM (between arrows)

SOURCE: Lighting Cnd

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

POTENTIALLY -UNACCEPTABLE

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

VERIFIED/DATE

System No.

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

BUILDING: Diesel Generator

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: EL 43' and EL 15'

POTENTIAL INTERACTION NO.: E-11-221-1

PHOTOGRAPH NO.: E234

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Box W70 (lower left, behind valve)

SOURCE: 1¹/₂" City Water Line 1033

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 8

X ACCEPTABLE

E Licari/ 7-30-82

POTENTIALLY ------UNACCEPTABLE

W A Griswold/ 8-31-82

VERIFIED/DATE

### Sheet 38 of 79

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

EL 43' and EL 15'

BUILDING: Diesel Generator

102A

FIRE ZONE:

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: E-11-222-1

PHOTOGRAPH NO.: E234

BACKGROUND NO.: Sheet 76

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:1" Cnd 6ML (exiting box W70 from bottom)

SOURCE: 1¹/₂^M City Water Line 1033

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 8

X ACCEPTABLE

POTENTIALLY --UNACCEPTABLE

E Licari/ 7-30-82

W A Griswold/ 8-31-82

VERIFIED/DATE

System No. Ell

Sheet 39A of 79

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

BUILDING: Diesel Generator

FIRE ZONE: 102A

,

LOCATION WITHIN FIRE ZONE: Elev 15'

POTENTIAL INTERACTION NO.: E-11-253A-1

PHOTOGRAPH NO.: E 377

BACKGROUND NO.: Sheet 76

# IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: DGT 33 Control Panel PQ2

SOURCE: Light Fixture

DESCRIPTION OF POSTULATED INTERACTION:

Source falls on target.

#### EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 7

. ACCEPTABLE

X POTENTIALLY UNACCEPTABLE

R Sahu 4/26/83 INTERACTION ENGINEER/DATE

W A Griswold 5/7/83 VERIFIED/DATE

BUILDING: Diesel Generator

FIRE ZONE: 102A

LOCATION WITHIN FIRE ZONE: EL 15'

POTENTIAL INTERACTION NO.: E-11-270-1

PHOTOGRAPH NO.: E234

BACKGROUND NO.: Sheet 76

### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:	1"	Cnd	6UT	(not shown)
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SOURCE: 1¹/₂" City Water Line 1033

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

ÈVALUATION NOTE NO: 8

X ACCEPTABLE

POTENTIALLY --UNACCEPTABLE

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

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

BUILDING: Control

FIRE ZONE: 11

LOCATION WITHIN FIRE ZONE: EL 33'

POTENTIAL INTERACTION NO.: E-11-319-1

PHOTOGRAPH NO.: E239

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: ' PB XY1 (lower left)

SOURCE: Misc Box

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

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EVALUATION NOTE NO: 3

X ACCEPTABLE

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

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

# Sheet 41 of 79

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

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BUILDING: Control

FIRE ZONE: 11

LOCATION WITHIN FIRE ZONE: EL 33

POTENTIAL INTERACTION NO.: E-11-319-2

PHOTOGRAPH NO.: E240

1

BACKGROUND NO.: Sheet 69

#### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: PB XY1 (left)

SOURCE:

Space Heater

# DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

#### EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

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<u>E Licari/ 7-30-82</u> INTERACTION ENGINEER/DATE W_A_Griswold/ `8-31-82 VERIFIED/DATE

# Sheet <u>42</u> of ⁷⁹

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

BUILDING: Control

FIRE ZONE: 11

LOCATION WITHIN FIRE ZONE: EL 33'

POTENTIAL INTERACTION NO.: E-11-325-1

PHOTOGRAPH NO.: E239

BACKGROUND NO.: Sheet 69

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:4" Cnd 1SP (to left of source)

SOURCE: Misc Box

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

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: 11

LOCATION WITHIN FIRE ZONE: EL 33'

POTENTIAL INTERACTION NO.: E-11-328-2

PHOTOGRAPH NO.: E242

BACKGROUND NO.: Sheet 68

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:PB XY2(lower center)

SCURCE: Light Fixture

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

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

W A Griswold/ 8-31-82

VERIFIED/DATE

BUILDING: Control

FIRE ZONE: 11

LOCATION WITHIN FIRE ZONE: EL 33'

POTENTIAL INTERACTION NO.: E-11-334-2

PHOTOGRAPH NO.: E242

BACKGROUND NO.: Sheet 68

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:  $l_{2}^{l}$  Cnd 5UT1 (vertical, exiting box XYZ)

SOURCE: Light Fixture

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

POTENTIALLY ---UNACCEPTABLE

E Licari/ 7-30-82

W A Griswold/ 8-31-82

VERIFIED/DATE

#### Sheet 45 of 79

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

BUILDING: Control

FIRE ZONE: 11

LOCATION WITHIN FIRE ZONE: EL 33'

POTENTIAL INTERACTION NO.: E-11-335-1

PHOTOGRAPH NO.: E241

BACKGROUND NO.: Sheet 68

#### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:4" Cnd 150(above arrow, left to right)

SOURCE: 1¹/₂" Cnd

#### DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

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

BUILDING: Control

FIRE ZONE: 11

LOCATION WITHIN FIRE ZONE: _ EL 33'

POTENTIAL INTERACTION NO.: E-11-335-2

PHOTOGRAPH NO.: E242

BACKGROUND NO.: Sheet 68

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4" Cnd 15Q

SOURCE: Light Fixture

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

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

W A Griswold/ 8-31-82

VERIFIED/DATE

Sheet ⁴⁷ of ⁷⁹

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

BUILDING: Control

FIRE ZONE: 11

LOCATION WITHIN FIRE ZONE: EL 33'

POTENTIAL INTERACTION NO.: E-11-336-2

PHOTOGRAPH NO.: E242

BACKGROUND NO.: Sheet 68

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 2" Cnd 152 Q/S

SOURCE: Light Fixture

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

E Licari/ 7-30-82 INTERACTION ENGINEER/DATE W_A_Griswold/ 8-31-82 VERIFIED/DATE

System No. E-11

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

BUILDING: Control

FIRE ZONE: 11

LOCATION WITHIN FIRE ZONE: EL 33'

POTENTIAL INTERACTION NO.: E-11-337-1

PHOTOGRAPH NO.: E243

BACKGROUND NO.: Sheet 68

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:PB XY3(lower right)

SOURCE: Light Fixture

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

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

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

System No.	E-11
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# Sheet 49 of 79

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

BUILDING: Control

FIRE ZONE: 11

LOCATION WITHIN FIRE ZONE: EL 33'

POTENTIAL INTERACTION NO.: E-11-343-1

PHOTOGRAPH NO.: E243

BACKGROUND NO.: Sheet 68

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 4" Cnd Exiting Pull Box XY3

SOURCE: Light Fixture

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

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

BUILDING: Control

FIRE ZONE: 11

LOCATION WITHIN FIRE ZONE: EL 33'

POTENTIAL INTERACTION NO.: E-11-343-2

PHOTOGRAPH NO.: E244

BACKGROUND NO.: Sheet 68

#### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:

4" Cnd Exiting Pull Box XY3 (vertical cnds)

SOURCE:

3/4" Cnd

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

Х ACCEPTABLE POTENTIALLY UNACCEPTABLE

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

## Sheet 51 of 79

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

BUILDING: Control

FIRE ZONE: 11

LOCATION WITHIN FIRE ZONE: EL 33'

POTENTIAL INTERACTION NO.: E-11-344-1

PHOTOGRAPH NO.: E243

BACKGROUND NO.: Sheet 68

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1" Cnd Exiting Pull Box XY3

SOURCE: Light Fixture

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER/DATE

W A Griswold/ 8-31-82

VERIFIED/DATE

POTENTIALLY

-UNACCEPTABLE

# Sheet 52 of 79

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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: 11

LOCATION WITHIN FIRE ZONE: EL 33'

POTENTIAL INTERACTION NO.: E-11-344-2

PHOTOGRAPH NO.: E244

BACKGROUND NO.: Sheet 68

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1" Cnd Exiting Pull Box XY3 (vertical cnds)

SOURCE: 3/4" Cnd

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

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

BUILDING: Control

FIRE ZONE: 11

LOCATION WITHIN FIRE ZONE: EL 33'

POTENTIAL INTERACTION NO.: E-11-345-1

PHOTOGRAPH NO.: E243

BACKGROUND NO.: Sheet 68

#### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1¹/₂" Cnd Exiting Pull Box XY3

SOURCE: Light Fixture

## DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

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

System No. E-11

# Sheet 54 of 79

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

BUILDING: Control

FIRE ZONE: 11

LOCATION WITHIN FIRE ZONE: EL 33'

POTENTIAL INTERACTION NO.: E-11-345-2

PHOTOGRAPH NO.: E244

BACKGROUND NO.: Sheet 68

#### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:  $l_{2}^{l_{2}'}$  Cnd Exiting Pull Box XY3 (vertical cnds)

SOURCE: 3/4" Cnd

#### DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

POTENTIALLY ---UNACCEPTABLE

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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:	11	
LOCATION WITHIN FIRE	ZCNE:	EL 33'
POTENTIAL INTERACTION	N NO.:	E-11-346-1
PHOTOGRAPH NO.:	E243	
BACKGROUND NO.:	Sheet 68	

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: , 2" Cnd Exiting Pull Box XY3

SOURCE: Light Fixture

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

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: 11

LOCATION WITHIN FIRE ZONE: EL 33'

POTENTIAL INTERACTION NO.: E-11-346-2

PHOTOGRAPH NO.: E244

BACKGROUND NO.: Sheet 68

## IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 2" Cnd Exiting Pull Box XY3 (vertical cnds)

SOURCE: 3/4" Cnd

# DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

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

W A Grisweld/ 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: 14

LOCATION WITHIN FIRE ZONE: EL 15'

POTENTIAL INTERACTION NO.: E-11-358-1

PHOTOGRAPH NO.: E235

BACKGROUND NO.: Sheet 67

## IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3000A Bus Duct

SOURCE: Light Fixture

## DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER/DATE

W A Griswold/ 8-31-82

VERIFIED/DATE

POTENTIALLY

-UNACCEPTABLE

# Sheet 58 of 79

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: 14

LOCATION WITHIN FIRE ZONE: EL 15'

POTENTIAL INTERACTION NO.: E-11-358-2

PHOTOGRAPH NO.: E236

BACKGROUND NO.: Sheet 67

# IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3000A Bus Duct

SOURCE: 2-3/4" Crids

### DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

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

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

System No._ E-11

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: 14

LOCATION WITHIN FIRE ZONE: EL 15'

POTENTIAL INTERACTION NO.: E-11-366-1

PHOTOGRAPH NO.: E237

BACKGROUND NO.: Sheet 66

### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:	3000A Bus Duct	(lower left)
-		

SOURCE: 3/4" Cnd

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

E Licari/ 7-30-82

W A Griswold/ 8-31-82

VERIFIED/DATE

E-11 System No.

### Sheet 60 of 79

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

EL 15'

BUILDING: Control

FIRE ZONE: 14

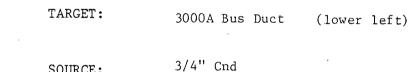
LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO .: E-11-366-2

PHOTOGRAPH NO.: E237

BACKGROUND NO.: Sheet 66

IDENTIFICATION OF INTERACTION COMPONENTS:



SOURCE:

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

VERIFIED/DATE

POTENTIALLY

-UNACCEPTABLE

BUILDING:	Control	
FIRE ZONE: .	14	
LOCATION WITHIN FIRE	ZONE:	EL 15'
POTENTIAL INTERACTION	NO.:	E-11-366-3
PHOTOGRAPH NO.:	E237	
BACKGROUND NO.:	Sheet 66 `	

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:	3000A Bus Duct	(lcwer left)
		:
SOURCE:	2" Cnd	

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 4

Distance source falls is relatively small and target will not be damaged

X ACCEPTABLE

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

)

BUILDING: Control

FIRE ZONE: 14

LOCATION WITHIN FIRE ZONE: EL 15'

POTENTIAL INTERACTION NO.: E-11-366-4

PHOTOGRAPH NO.: E237

BACKGROUND NO.: Sheet 66

#### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3000A Bus Duct (lower left)

SOURCE: 1" Cnd

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

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

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

System No. E-11

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: 14

LOCATION WITHIN FIRE ZONE: EL 15'

POTENTIAL INTERACTION NO.: E-11-375-1

PHOTOGRAPH NO.: E238

BACKGROUND NO.: Sheet 66

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IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3000A Bus Duct (upper right)

SOURCE: 1" Cnd

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

E Licari/ 7-30-82

W A Griswold/ 8-31-82

VERIFIED/DATE

BUILDING: Control

FIRE ZONE: 14

LOCATION WITHIN FIRE ZONE: EL 15'

POTENTIAL INTERACTION NO.: E-11-375-2

PHOTOGRAPH NO.: E238

. BACKGROUND NO.: Sheet 66

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3000A Bus Duct (upper right)

SOURCE: 1" Cnd

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

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

W A Griswold/ 8-31-82

VERIFIED/DATE

BUILDING: Control

FIRE ZONE: 14

LOCATION WITHIN FIRE ZONE: EL 15'

POTENTIAL INTERACTION NO.: E-11-375-3

PHOTOGRAPH NO.: E238

BACKGROUND NO.: Sheet 66

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 3000A Bus Duct (upper right)

SOURCE: 1" Cnd

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 3

X ACCEPTABLE

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

System	No.	E-11
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# Sheet 66 of 79

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

BUILDING: Diesel Generator

FIRE ZONE: 36A

LOCATION WITHIN FIRE ZONE: Valve Room

POTENTIAL INTERACTION NO.: E-11-378-1

PHOTOGRAPH NO.: E228

BACKGROUND NO.: Sheet 82

## IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1" Cnd 6YY2 (exiting bottom of ltg panel)

SOURCE: 1" Drain Line

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

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

W A Griswold/ 8-31-82

VERIFIED/DATE

## Sheet 67 of 79

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

BUILDING: Diesel Generator

FIRE ZONE: 36A

LOCATION WITHIN FIRE ZONE: Valve Room

POTENTIAL INTERACTION NO.: E-11-378-2

PHOTOGRAPH NO.: E228

BACKGROUND NO.: Sheet 82

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1" Cnd 6YY2 (exiting bottom of ltg panel)

SOURCE: 4" Drain Line

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

POTENTIALLY _______________________UNACCEPTABLE

E Licari/ 7-30-82

W A Griswold/ 8-31-82

VERIFIED/DATE

System No. E-11

#### Sheet 68 of 79

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

BUILDING: Diesel Generator

FIRE ZONE: 36A

LOCATION WITHIN FIRE ZONE: Valve Room

POTENTIAL INTERACTION NO.: E-11-380-1

PHOTOGRAPH NO.: E228

BACKGROUND NO.: Sheet 82

# IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1" Cnd 6YY1 (exiting bottom of ltg panel)

.

SOURCE: 1" Drain Line

## DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

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

VERIFIED/DATE

BUILDING: Diesel Generator

FIRE ZONE: 36A

LOCATION WITHIN FIRE ZONE: Valve Room

POTENTIAL INTERACTION NO.: E-11-380-2

PHOTOGRAPH NO.: E228

BACKGROUND NO.: Sheet 82

#### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: 1" Cnd 6YY1 (exiting bottom of ltg panel)

SOURCE: 4" Drain Line

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

_ EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

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

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

BUILDING: Diesel Generator

FIRE ZONE: 36A

LOCATION WITHIN FIRE ZONE: Valve Room

POTENTIAL INTERACTION NO.: E-11-382-1

PHOTOGRAPH NO.: E228

BACKGROUND NO .: Sheet 82

### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET:	1" Cnd 6YY3	(exiting bottom of ltg panel)

SOURCE: l" Drain Line

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 2

X ACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

VERIFIED/DATE

System No. E-11

# Sheet 71 of 79

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

BUILDING: Diesel Generator

FIRE ZONE: 36A

LOCATION WITHIN FIRE ZONE: Valve Room

POTENTIAL INTERACTION NO.: E-11-382-2

PHOTOGRAPH NO.: E228

BACKGROUND NO.: Sheet 82

### IDENTIFICATION OF INTERACTION COMPONENTS:

t.,

TARGET: 1" Cnd 6YY3 (exiting bottom of 1tg panel)

SOURCE: 4" Drain Line

## DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

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

BUILDING: Yard

FIRE ZONE: None

LOCATION WITHIN FIRE ZONE: Fuel Oil Tanks

POTENTIAL INTERACTION NO.: E-11-386-1

PHOTOGRAPH NO.: E245

BACKGROUND NO.: Sheet 78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Flex Cnds

SOURCE: 4" Fuel Oil Fill Line

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 VERIFIED/DATE

System No. E-11

# Sheet 73 of 79

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

BUILDING: Yard

FIRE ZONE: None

LOCATION WITHIN FIRE ZONE: Fuel Oil Tanks.

POTENTIAL INTERACTION NO.: E-11-387-1

PHOTOGRAPH NO.: E245

BACKGROUND NO.: Sheet 78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: ¹/₂" Cnds

SOURCE: 4" Fuel Oil Fill Line

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 VERIFIED/DATE

System No. E-11

# Sheet 74 of 79

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

BUILDING: Yard

FIRE ZONE: None

· LOCATION WITHIN FIRE ZONE: Fuel Oil Tanks

POTENTIAL INTERACTION NO.: E-11-391-1

PHOTOGRAPH NO.: E246

BACKGROUND NO.: Sheet 78

IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Flex Cnds

SOURCE: 4" Fuel Oil Fill Line

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

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

BUILDING: Yard

FIRE ZONE: None

LOCATION WITHIN FIRE ZONE: Fuel Oil Tanks

POTENTIAL INTERACTION NO.: E-11-394-1

PHOTOGRAPH NO.: E246

BACKGROUND NO.: Sheet 78

## IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Flex Cnds

SOURCE: 4" Fuel Oil Fill Line

DESCRIPTION OF POSTULATED INTERACTION:

[\] Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLÉ

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

System No. E-11

## Sheet 76 of 79

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

BUILDING: Yard

FIRE ZONE: None

LOCATION WITHIN FIRE ZONE: Fuel Oil Tanks

POTENTIAL INTERACTION NO.: E-11-395-1

PHOTOGRAPH NO.: E246

BACKGROUND NO.: Sheet 78

### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: ¹₂" Cnds

SOURCE: 4" Fuel Oil Fill Line

#### DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

# EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

_____Y POTENTIALLY ______UNACCEPTABLE

E Licari/ 7-30-82

INTERACTION ENGINEER / DATE

W A Griswold/ 8-31-82

VERIFIED/DATE

System	No.	E-11

# Sheet 77 of 79

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

BUILDING: Yard

FIRE ZONE: None

LOCATION WITHIN FIRE ZONE: Fuel Oil Tanks

POTENTIAL INTERACTION NO.: E-11-399-1

PHOTOGRAPH NO.: E247

BACKGROUND NO.: Sheet 78

### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Flex Cnds

SOURCE: 4" Fuel Oil Fill Line

6

DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO:

ACCEPTABLE

_____X POTENTIALLY ______UNACCEPTABLE

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

W A Griswold/ 8-31-82

VERIFIED/DATE

System No. E-11

Sheet 78 of 79

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

Fuel Oil Tanks

BUILDING: Yard

FIRE ZONE: None

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: E-11-402-1

PHOTOGRAPH NO.: E247

BACKGROUND NO.: Sheet 78

### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: Flex Cnds

SOURCE: 4" Fuel Oil Fill Line

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 VERIFIED/DATE

#### Sheet 79 of 79

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

Fuel Oil Tanks

BUILDING: Yard

FIRE ZONE: None

LOCATION WITHIN FIRE ZONE:

POTENTIAL INTERACTION NO.: E-11-403-1

PHOTOGRAPH NO.: E247

BACKGROUND NO.: Sheet 78

#### IDENTIFICATION OF INTERACTION COMPONENTS:

TARGET: ¹₂" Cnds

SOURCE: 4" Fuel Oil Fill Line

-

#### DESCRIPTION OF POSTULATED INTERACTION:

Source Falls on Target

EVALUATION OF INTERACTION:

EVALUATION NOTE NO: 6

ACCEPTABLE

Х

POTENTIALLY UNACCEPTABLE

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

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

SYSTEM NO E-11

SYSTEM NAME _____ Diesel Generators System

FMEA CATEGORY

NON-CONNECTED X

4/4/83

PREPARED BY/DATE

ECKED BY/DATE أرب 4/21/83

082 ERIFIED BY/DATE

Sheet 1 of 16

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: 11-E-1

Interaction Number(s): E-11-33-2

Fire Zone: 10

Target Component(s) Number, Description & Function:

Starter (KF3) for Fuel Oil Pump # 31 for day tank Diesel Gen #31, Day Tank.



Postulated Failure Mode(s) and Evaluation:

M-2-(P) Damage to Starter may lead to a malfunction of the Fuel Oil Pump and nonavailability of fuel to the Diesel Generator # 31.

Acceptable

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

R Sahu 4/4/83 EVALUATING ENGINEER/DATE L Cerra 4/19/83 CHECKED/DATE

Sheet 2 of 16

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: 11-E-2

Interaction Number(s): E-11-35-5 E-11-36-5 E-11-37-5

Fire Zone: 10

Target Component(s) Number, Description & Function:

Relay Box TR 31, 3/4" Conduit DB54 and 1-1/2" Conduit DB53 associated with the controls of building Ventilation System for Diesel Generator #31.

Postulated Failure Mode(s) and Evaluation:

E-3-(A) Open or short circuit of the cables in conduits DB53 and DB54 or to E-1-(A) equipment in Relay Box TR 31 will not effect any safety function. E-2-(A)

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

R Sahu 4/4/83 EVALUATING ENGINEER/DATE L Cerra 4/19/83 CHECKED/DATE

Sheet 3 of 16

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: 11-E-3

Interaction Number(s): E-11-41-1

Fire Zone: 10

Target Component(s) Number, Description & Function:

Box PQ 7 housing cables connected to engine gauge panel 31.

Postulated Failure Mode(s) and Evaluation:

M-2-(A) Damage to Box PQ 7 may lead to a malfunction of the local indicators on gauge the panel. These gauges are not essential for operation of the Diesel Generator.

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

R Sahu 4/4/83

EVALUATING ENGINEER/DATE

J R Price 4/20/83 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: 11-E-4

Interaction Number(s): E-11-59-1

Fire Zone: 10

Target Component(s) Number, Description & Function:

Control panel PP 9 for Diesel Generator #31.



Postulated Failure Mode(s) and Evaluation:

M-2-(P) (Damage to internal components) Mechanical damage to control panel may degrade the operation of Diesel Generator #31.

Acceptable	X/ 1 (X) 2 (-) 3 () 4 ()Potentially Unacceptable/Safety Function Affected
R Sahu 4/4/83	J R Price 4/20/83
EVALUATING ENGINEER/DATE	CHECKED/DATE

Sheet 5 of 16

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: 11-E-5

Interaction Number(s): E-11-71-1 E-11-73-1

Fire Zone: 10

Target Component(s) Number, Description & Function:

Starter for Air Compressor DG 31 (KF4) and PB W 87.

Postulated Failure Mode(s) and Evaluation:

M-2-(P) Damage to Starter may prevent Air Compressor DG #31 from maintaining the required air pressure to start the Emergency Diesel Generators.

Acceptable

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

R Sahu 4/4/83

EVALUATING ENGINEER/DATE

L Cerra 4/19/83 CHECKED/DATE

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Sheet 6 of 16

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: 11-E-6

Interaction Number(s): E-11-78-1 E-11-80-1

Fire Zone: 10

Target Component(s) Number, Description & Function:

Panel RG 8 and PB WZ3 for Level Control Valve LCV-1207 of Fuel Oil Day Tank DG #31.

Postulated Failure Mode(s) and Evaluation:

E-3-(P) (Damage to internal components) Damage to Panel RG 8 or PB WZ3 may lead to a malfunction of LCV-1207 and nonavailability of fuel oil to Diesel Generator #31.

Acceptable

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

R Sahu 4/4/83 EVALUATING ENGINEER/DATE <u>J R Price 4/20/83</u>

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Sheet <u>7</u> of <u>16</u>

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

FMEA NUMBER: 11-E-7

Interaction Number(s): E-11-148-1

Fire Zone: 101A

Target Component(s) Number, Description & Function:

Control panel PQ 1 for Diesel Generator #32.



Postulated Failure Mode(s) and Evaluation:

E-3-(P) (Damage to internal components) Damage to Panel PQ 1 may lead to the nonavailability of DG #32 for operation.

X	1	1	(X)	2	(	)	3	(	)	4	(	)
Potentially Unacceptable	≥/ 9	Sai	lety	Fu	inc	:ti	lor	ı A	\f:	fea	cte	ed

Acceptable

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R Sahu 4/4/83

EVALUATING ENGINEER/DATE

J R Price 4/20/83 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: 11-E-8

Interaction Number(s): E-11-253A-1

Fire Zone: 102A

Target Component(s) Number, Description & Function:

Control panel PQ 2 for Diesel Generator #33.

Postulated Failure Mode(s) and Evaluation:

E-3-(P) (Damage to internal components) Damage to Panel PQ 2 may lead to the nonavailability of DG #33 for operation.

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

Acceptable

R Sahu 4/4/83

EVALUATING ENGINEER/DATE

J R Price 4/20/83 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: 11-E-9

Interaction Number(s): E-11-378-2

Fire Zone: 36A

Target Component(s) Number, Description & Function:

1" conduit 6YY2 housing cable connected to Valve LCV-1208 for Day Tank DG 32.



Postulated Failure Mode(s) and Evaluation:

E-1-(P) Open or short circuit of the cable connected to Valve LCV-1208 may E-2-(P) lead to its failure and affect the availability of fuel oil to DG 32.

Acceptable

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

R Sahu 4/4/83 EVALUATING ENGINEER/DATE L Cerra 4/19/83 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: 11-E-10

Interaction Number(s): E-11-380-2

Fire Zone: 36A

Target Component(s) Number, Description & Function:

1" conduit 6YY1 housing cable connected to Valve LCV-1207 for Day Tank DG 31.



Postulated Failure Mode(s) and Evaluation:

E-1-(P) Open or short circuit of the cable connected to Valve LCV-1207 may E-2-(P) lead to its failure and affect the availability of fuel oil to DG 31.

Acceptable

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

R Sahu 4/4/83 EVALUATING ENGINEER/DATE L Cerra 4/19/83 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: 11-E-11

Interaction Number(s): E-11-382-2

Fire Zone: 36A

Target Component(s) Number, Description & Function:

1" Conduit 6YY3 housing cable connected to Valve LCV-1209 for Day Tank DG 33.

Postulated Failure Mode(s) and Evaluation:

M-1-(P) Open or short circuit of the cable connected to Valve LCV-1209 may E-1-(P) lead to its failure and affect the availability of fuel oil to DG 33. E-2-(P)

Acceptable

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

R Sahu 4/4/83 EVALUATING ENGINEER/DATE

L Cerra 4/19/83 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: 11-E-12

Interaction Number(s): E-11-386-1 E-11-387-1

Fire Zone: Yard

Target Component(s) Number, Description & Function:

Flexible conduit and 1/2" conduit connected to LC-1204S for Day Tank DG #31.



Postulated Failure Mode(s) and Evaluation:

M-2-(P) Open or short circuit of the cables connected to LC-1204S may lead to E-1-(P) a possible loss of the level control alarm of Diesel Oil Tank #31.

E-2-(P) This may affect the availability of fuel oil to DG #31, DG #32, and DG #33 through the common supply header.

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

Acceptable

R Sahu 4/4/83

EVALUATING ENGINEER/DATE

L Cerra 4/19/83

CHECKED/DATE

Sheet 13 of 16

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: 11-E-13

Interaction Number(s): E-11-391-1

Fire Zone: Yard

Target Component(s) Number, Description & Function:

Flexible conduit housing cable connected to Fuel Oil Pump #32 motor.

Postulated Failure Mode(s) and Evaluation:

E-1-(P) Open or short circuit of the cable connected to Fuel Oil Pump #32
 E-2-(P) motor would result in nonavailability of the pump. This may affect the fuel oil supply to DG #31, DG #32 and DG #33 through the common supply header.

Acceptable

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

R Sahu 4/4/83

EVALUATING ENGINEER/DATE

L Cerra 4/19/83 CHECKED/DATE

Sheet <u>14</u> of <u>16</u>

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

FMEA NUMBER: 11-E-14

Interaction Number(s): E-11-394-1 E-11-395-1

Fire Zone: Yard

Target Component(s) Number, Description & Function:

Flexible conduit and 1/2" conduit connected to LC-1205S for Day Tank DG #32.

Postulated Failure Mode(s) and Evaluation:

E-1-(P) Open or short circuit of the cables connected to LC-1205S may lead to E-2-(P) the possible loss of the level alarm of Diesel Oil Day Tank #32. This may affect the availability of fuel oil to DG #31, DG #32 and DG #33

through the common supply header.

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

Acceptable

Potentially Unacceptable/Safety Function Affected

R Sahu 4/4/83 EVALUATING ENGINEER/DATE J R Price 4/21/83 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: 11-E-15

Interaction Number(s): E-11-399-1

Fire Zone: Yard

Target Component(s) Number, Description & Function:

Flexible conduit housing cable connected to Fuel Oil Pump #33 motor.

Postulated Failure Mode(s) and Evaluation:

E-1-(P) Open or short circuit of the cable connected to Fuel Oil Pump #33
 E-2-(P) would result in the nonavailability of the pump. This may effect the fuel oil supply to DG #31, DG #32 and DG #33 through the common supply header.

Acceptable

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

R Sahu 4/4/83

EVALUATING ENGINEER/DATE

L Cerra 4/19/83 CHECKED/DATE

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Sheet 16 of 16

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: 11-E-16

Interaction Number(s): E-11-402-1 E-11-403-1

Fire Zone: Yard

Target Component(s) Number, Description & Function:

Flex conduit and 1/2" conduit connected to LC-1206S for Day Tank DG #33.

Postulated Failure Mode(s) and Evaluation:

M-2-(P) Open or short circuit of the cables connected to LC-1206S may lead to E-1-(P) the possible loss of the level control of Diesel Oil Day Tank
E-2-(P) #33. This may effect the availability of fuel oil to DG #31, DG #32 and DG #33 through the common supply header.

Acceptable

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

R Sahu 4/4/83

EVALUATING ENGINEER/DATE

L Cerra 4/19/83 CHECKED/DATE

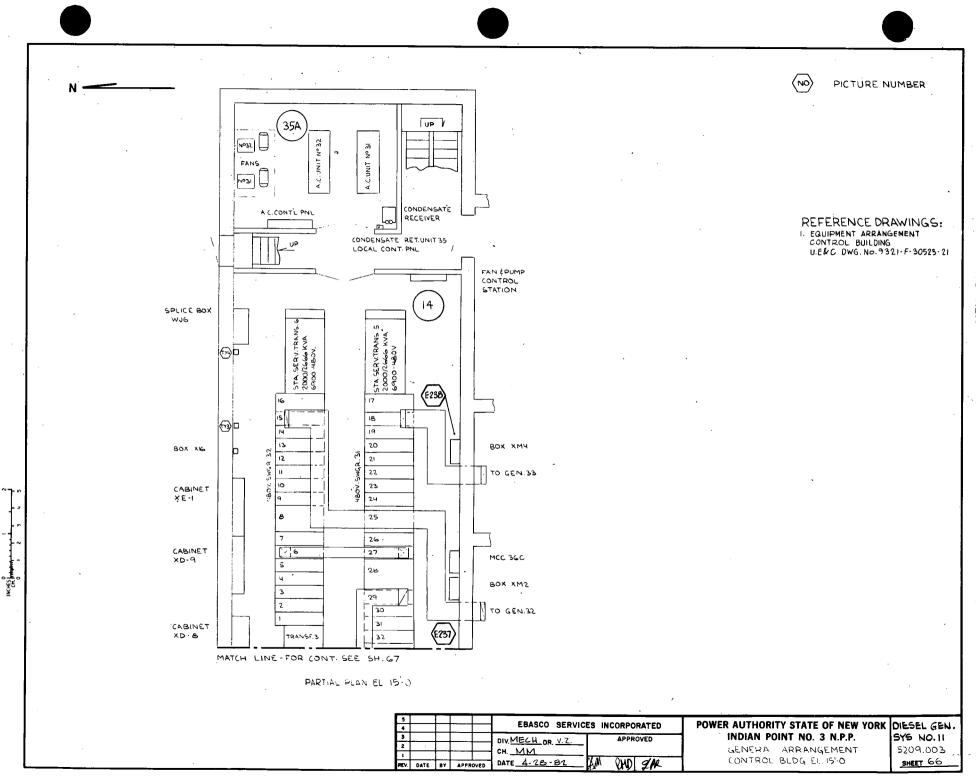
Ebasco Services Incorporated

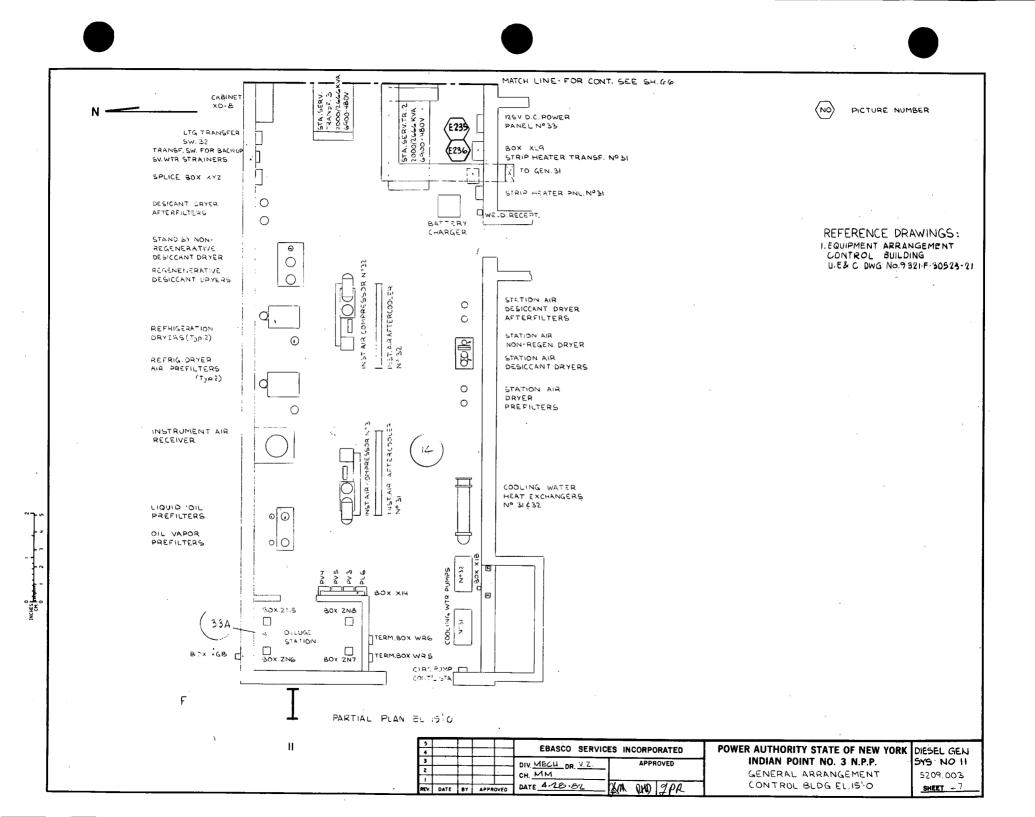
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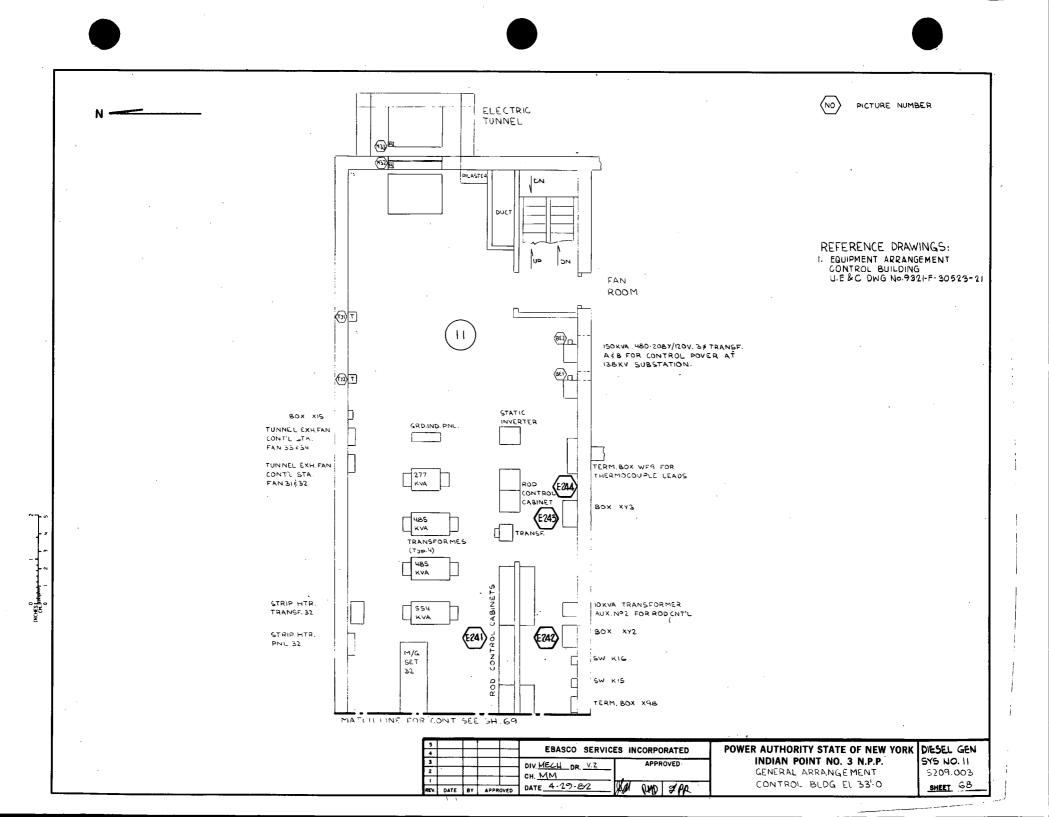
BACKGROUNDS – 11

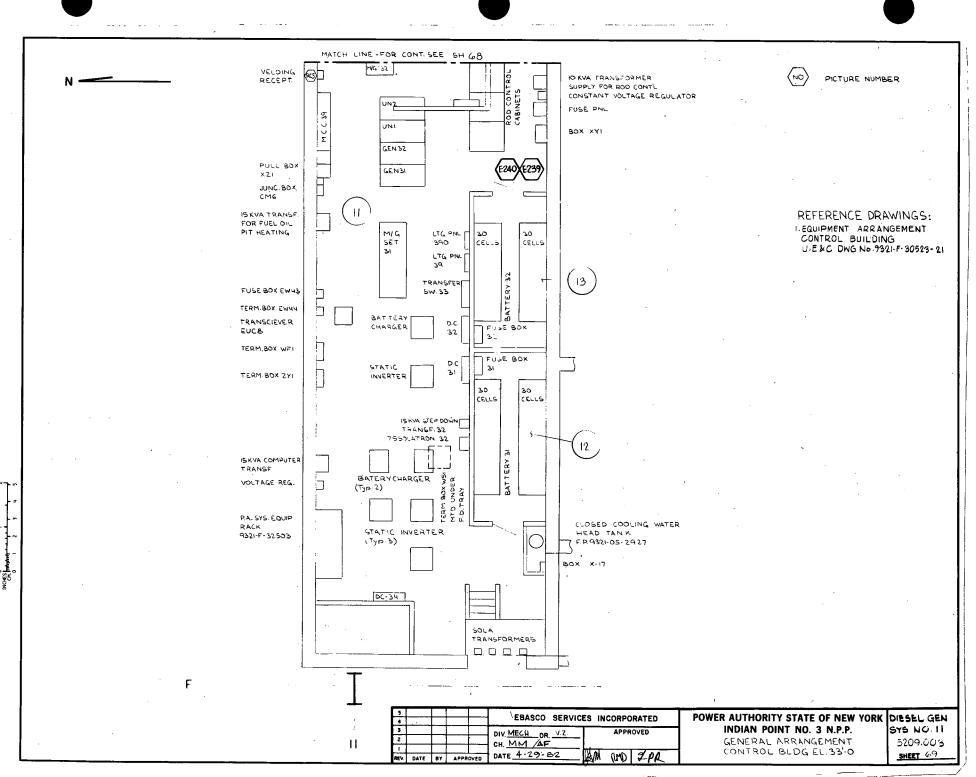
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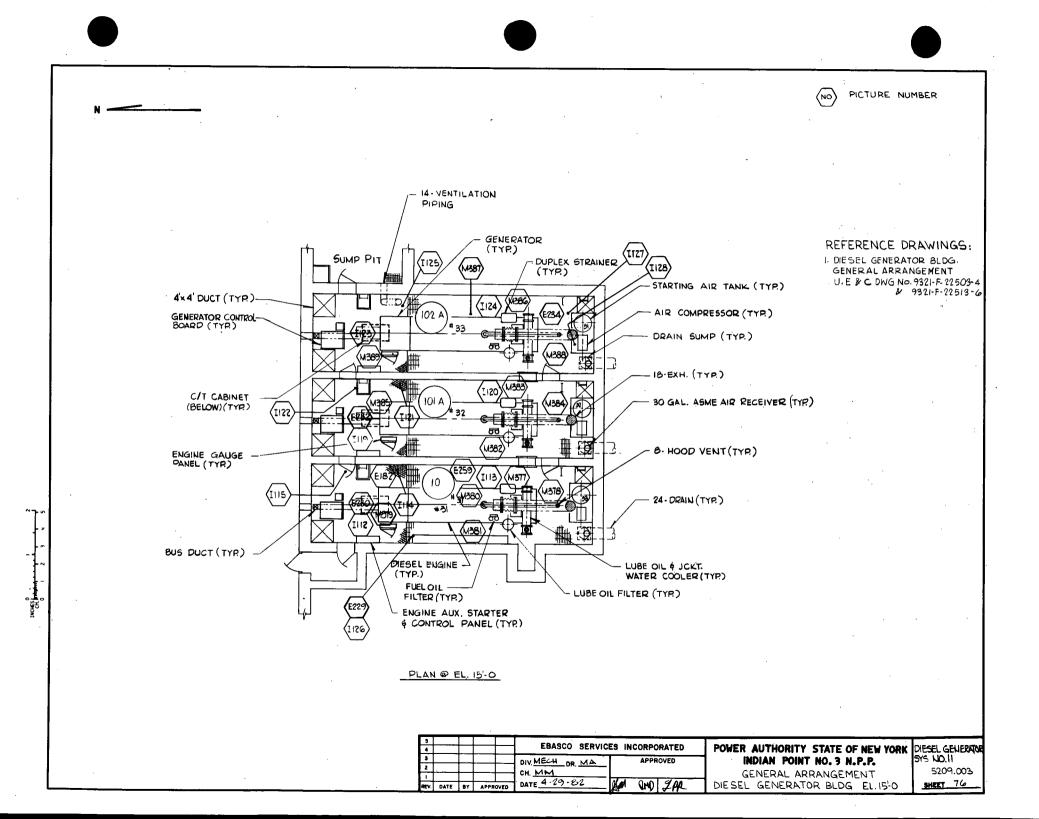


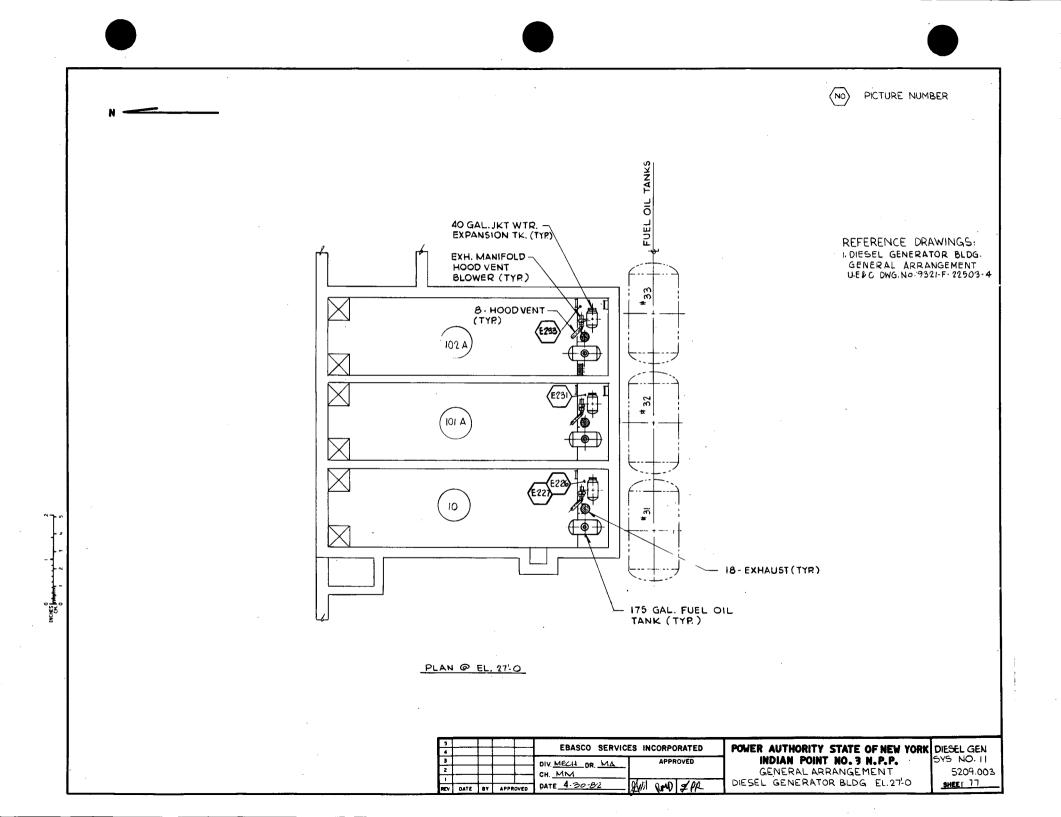


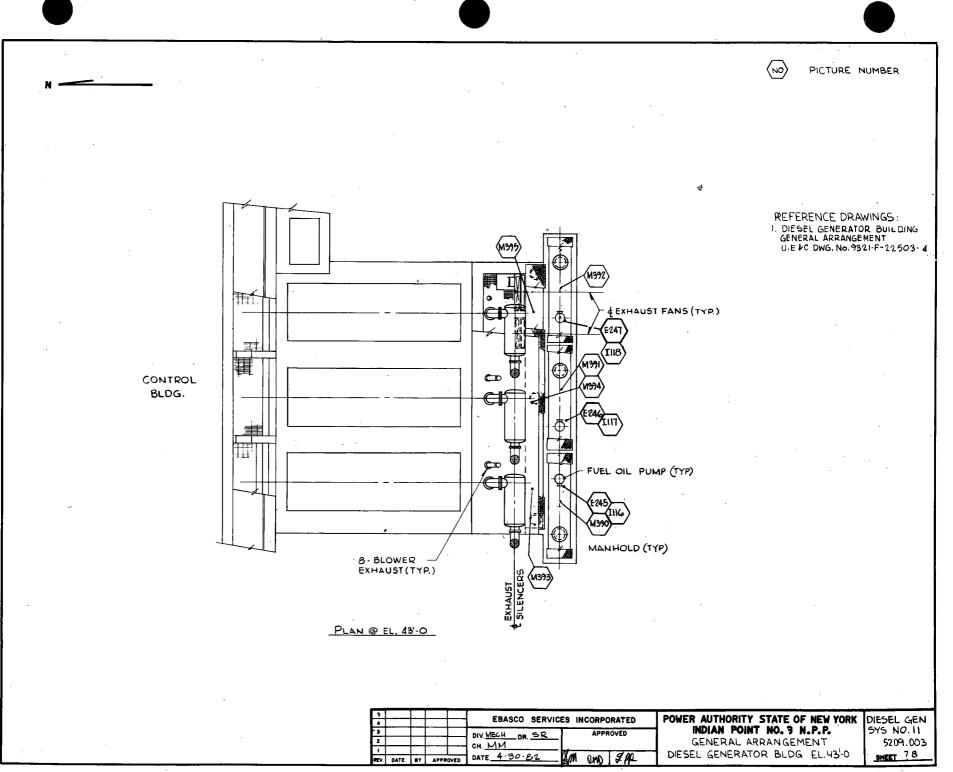




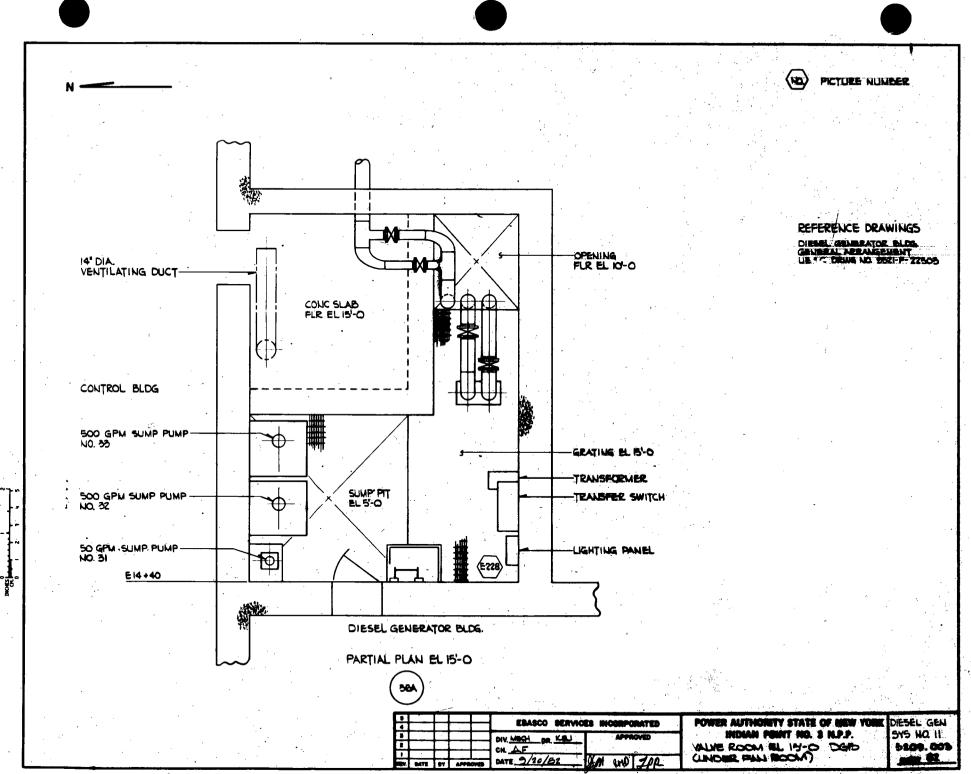
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BACKGROUNDS - 11

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