APPENDIX C AREA WALK-BY CHECKLISTS (AWCs)

Pau ENGIN	I C. Rizzo Associ		Sheet 1 of 123					
					Status(Y)N U		
Area Walk-By C	Checklist (AWC)							
Room	105	Floor El.	545	Bldg.	AUXB		_	
This checklist ma space below each	of the following	ment the results of questions may be	e used to record the	By near one or more S e results of judgments ng other comments.				
					Y	N	- U	N/A
	ge of equipment ir				X			
opening cabin	ets)? Anchorage fo Concern has	or cover plate of I been judged not i	without necessarily E31-4 does not hav to represent an adv smic performance.	e nuts, see Photo 2. verse coniditon				
	regarating in	e component s set	smic perjormance.		Y	N	U	N/A
2. Does anchorag degraded conc		n the area appear t	to be free of signif	icant	X			
					Y	N	U	N/A
raceways and l seismic condit	sual inspection fro HVAC ducting ap ions (e.g., condition able trays appear	pear to be free of on of supports is a	potentially adversed advers	e	X	I N	U	1 N/A
			adverse seismic sp , ceiling tiles and	atial	Y X			
Related equipme	ent on SWEL for t	his area:						
1) P42-1								
2) P58-1								
3) C31-4								

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Paul C. Rizzo Associates, Inc. ENGINEERS & CONSULTANTS

Area Walk-By Checklist (AWC)

Status(Y) N U

Room	105	Floor El.	545	Bldg.	A	UXB	_		
Interaction	Effects					Y	N	U	N/A
	ppear that the area is find that could cause flow				L	<u>X</u>			
					-	Y	N	U	N/A
	ppear that the area is fins that could cause a find		dverse seismic		L	X			
					-	Y	N	U	N/A
interaction		usekeeping practic Illations (e.g., scaf	ces, storage of p folding, lead		L.	<u>X</u>			I
	Temporary s	scaffolding in area	appears to be	adequately restrained.	See Ph	oto 3.			
9 Hava vo	looked for and found	no other seismia	onditions that	sould	Г	<u>Y</u> X	N	U	1
-	a looked for and found y affect the safety fund				L			I	J
C	((acom 1)						

Comments (Additional pages may be added as necessary) Fire Sources: NO No fire sources identified in area.

Pump E198-1, Tanks T198-1, T199-1, Piping: Aux steam, comp cooling, cont spray, decay heat, demin water, fire Flooding Sources: protection, high press inject, prim water, makeup water, service water, reactor coolant

Evaluated by:

the Mhmatt Date:

7/25/2012

Eddie M. Guerra

Date: Brian A. Lucarelli

7/25/2012



Status (Y) N U

Area Walk-By Checklist (AWC)

Room

Floor El.

545

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):



Photo 1 General View of Room 105 Area



Status (Y) N U

Area Walk-By Checklist (AWC)

Room

105

Floor El. 545

Bldg.

AUXB

Supporting Photos (continued):



Photo 2 Missing Nuts on Cover of E31-4



Photo 3 Temporary Scaffolding Restrained

DCR	Show Paul C. Rizzo Associates, Inc.								
						Status(Y)	NU		
Area Walk-B	By Checklist (AWC)								
Room	113	Floor El.	545	Bldg.	AUXB				
This checklist space below e	each of the following	ument the results of questions may be	used to record	k-By near one or mor the results of judgme nting other comments	nts and findings.	ne	-		
					<u>Y</u>	N	U	N/A	
	orage of equipment in adverse seismic cond binets)?			rily	X		L	[]	
					Y	N	U	N/A	
2. Does anche degraded c	orage of equipment in onditions?	n the area appear to	o be free of sign	nificant	X				
3 Based on a	visual inspection from	om the floor, do the	e cable/conduit		Y X	<u>N</u>	U	N/A	
raceways ar seismic con	nd HVAC ducting ap ditions (e.g., condition of cable trays appear	pear to be free of point of supports is a	potentially adve dequate and fill			<u> </u>			
4. Does it app	bear that the area is fi	ree of potentially a	dverse seismic	spatial	Y X	N	U	N/A	
interaction lighting)?	s with other equipme	ent in the area (e.g.	, ceiling tiles ar	nd					
Related equip	oment on SWEL for t	his area:							
1) E27-1									
2) E27-2									
3) CC1469									

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Paul C. Rizzo Associates, Inc. ENCINEIRS & CONSULTANTS

Area Walk-By Checklist (AWC)

Status (Y) N U

-

Room	113	Floor El.	545	Bld	g.	AUXB			
Interaction Effects 5. Does it appear tha interactions that c	at the area is fre			Y X	N	U	N/A		
6. Does it appear that interactions that co				Y X	N	<u>U</u>	N/A		
 Does it appear the interactions asso equipment, and te shielding)? 	ciated with hous	sekeeping practic	es, storage of p			Y X	N	U	N/A
8. Have you looked adversely affect						Y X	N	U]
Comments (Addition <i>Fire Sources:</i>	NO	be added as nece							
Flooding Sources:	NO No flood sour	ces identified in a	area.						
Evaluated by:	Eddie M. Gue	the My	1 At	Da	te:	7/25/2012			
	Brian A. Luca	anelli	Û.	Da	te:	7/25/2012			



Status (Y) N U

Area Walk-By Checklist (AWC)

Room

113

Floor El. 545

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):



Photo 1 General View of Room 113

DCR	She Paul C. Rizzo Associates, Inc.							
						Status	NU	
Area Walk-B	By Checklist (AWG	C)						
Room	122	Floor El.	570'3.0625"	Bldg.	AUXB	_	_	
This checklist space below e	ach of the followin	ocument the results on g questions may be	of the Area Walk-By used to record the r list for documenting	esults of judgme	nts and findings.	he		
					Y	N	- U	N/A
	adverse seismic co	in the area appear t nditions (if visible v			X		<u> </u>	<u> </u>
					Y	N	U	N/A
2. Does ancho degraded c		in the area appear t	o be free of signific	ant	X			
					Y	N	U	N/A
raceways an seismic con	nd HVAC ducting a ditions (e.g., condi	from the floor, do th appear to be free of tion of supports is a	potentially adverse dequate and fill		X		1]
conditions	of cable trays appea	ar to be inside accep	dable mints)?		Y	N	U	N/A
		free of potentially a nent in the area (e.g	dverse seismic spat ., ceiling tiles and	ial	X			
	Walls iden Walls 1152	valls identified in ar tified as 1157, 1167 7 and 1167 have bee 201-010 Rev 8) We		zed per NRC IE I	Bulletin 80-11 (Re ated equipment is	f. VBW03-B in the vicini	3001-009, 1 ity of the w	Rev 5 and all.

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Related equipment on SWEL for this area:

1) SF1616A

Paul C. Rizzo Associates, Inc. ENGINEERS & CONSULTANTS

Area Walk-By Checklist (AWC)

Status (Y) N U

Room	122	Floor El.	570'3.0625"	Bldg.	AUXB		_	
Interaction Effects 5. Does it appear tha interactions that c					Y X	N	U	N/A
6. Does it appear the interactions that co	at the area is fro	ee of potentially a			Y X	N	U	N/A
 Does it appear the interactions asso equipment, and to shielding)? 	ciated with hou emporary instal	sekeeping practic lations (e.g., scaft	es, storage of portal folding, lead		YX	N	U	N/A
8. Have you looked adversely affect	for and found				interaction. Y X	N	U]
Comments (Addition <i>Fire Sources:</i>	NO	be added as nece es identified in ar						
Flooding Sources:	NO No flood sou	rces identified in	area.					
Evaluated by:	Eddie M. Gu	attic Mg erra	natt	Date:	7/25/2012		_	
	Brian A. Luc	En A	ll	Date:	7/25/2012		_	



Status (Y) N U

Area Walk-By Checklist (AWC)

Room

Floor El. 570'3.0625"

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):



Photo 1 General View of Room 122

		Sheet 11 of 123						
						Status:Y	N U	
Area Walk-By	Checklist (AWC)						
Room	208	Floor El.	565	Bldg.	AUXB			
This checklist is pace below ea	ch of the following	cument the results of g questions may be	e used to record t	c-By near one or mor- he results of judgmer nting other comments	nts and findings.			
					Y	N	U	N/A
	age of equipment i dverse seismic cor inets)?			ily	X			
2. Does anchor degraded co	rage of equipment and itions?	Y X	<u>N</u>	U	N/A			
					Y	N	U	N/A
raceways and seismic cond	visual inspection fr d HVAC ducting a litions (e.g., condit f cable trays appear	rse	X					
4. Does it appe	ear that the area is t	free of potentially	adverse seismic	spatial	Y X	<u>N</u>	U	N/A
	with other equipm							
ngnung):	acceleratio	uisher is mounted on at this location is with nearby equip	s less than 1g, it	s not laterally suppor is unlikely for the ext	rted. It is judged the inguisher to fall or	at since th cause sign	e vertical ificant	
Related equip	ment on SWEL for	this area:						
1) FTHP3C								
2) IA-636								
3) hp2c								
4) hp3c								

Paul C. Rizzo Associates, Inc. ENGINEERS & CONSULTANTS

Status: (Y) N U

Area Walk-By Checklist (AWC)

Room	208	Floor El.	565	Bldg.	AUXB			
	E ffects bear that the area is fr s that could cause flo	Y	N	U	N/A			
6. Does it apj	pear that the area is fr that could cause a fi	ree of potentially a			Y X	N	U	N/A
interaction	pear that the area is fr ns associated with ho , and temporary insta	usekeeping practic	es, storage of		Y X	N	<u>U</u>	N/A
	on it, it was will be retur	judged that it is te ned to its storage ound in the vicinity no other seismic o	mporarily loca location and the of this dolly. conditions that		d in the room and	N	U]

Comments (Additional pages may be added as necessary) Fire Sources: NO

No fire sources identified in area.

Flooding Sources: No concerns identified regarding flood sources. The potential flood sources in the area are Coolers E26-1,E26-2, Tank T139-1, Piping: Aux system, borated water, component cooling, cont spray, decay heat, demin water, fire

Evaluated by:

the Us Eddie M. Guerra

Date:

7/25/2012

Date:

7/25/2012

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Brian A. Lucarelli



Status: (Y) N U

Area Walk-By Checklist (AWC)

Room

208

Floor El. 565

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):



Photo 1 General View of Room 208

Photo 2 Unrestrained Dolly in Area

DC2	Paul C. Rizzo Assoc	iates, Inc.		Sheet 14 of 123					
	ENGINEERS & CONSULTANTS					Status:Y)n u		
Area Walk-B	By Checklist (AWC))							
Room	209	Floor El.	565	Bldg.	AUXB	_			
This checklist space below e	for Completing Cho t may be used to doc each of the following pace is provided at the	ument the results of questions may be	e used to record the	he results of judgme	nts and findings.	he	_		
	orage of equipment i adverse seismic con binets)?			ily	Y X	N	U	N/A	
2. Does anche degraded c	orage of equipment i conditions?	n the area appear	to be free of sign	ificant	Y X	N	U	N/A	
	visual inspection frond			rse	Y X	N	U	N/A	
conditions	nditions (e.g., conditi of cable trays appear	to be inside accept	otable limits)?		Y	N	U	N/A	
	pear that the area is f is with other equipme	ent in the area (e.g	., ceiling tiles an	d	X	<u>_</u>	_l	1	
,	acceleration	isher is mounted on at this location is with nearby equip	s less than 1g, it i	s not laterally suppo is unlikely for the exi	rted. It is judged i tinguisher to fall o	that since the or cause sign	e vertical uficant		

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Related equipment on SWEL for this area:

1) BW10



Area Walk-By Checklist (AWC)

Status: (Y) N U

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Room	209	Floor El.	565	Bldg.	AUXB			
Interaction Effects					Y	N	U	N/A
5. Does it appear that interactions that c		X		I				
		6 			Y X	N	U	N/A
6. Does it appear the interactions that co			averse seismic				L	J
					Y	<u>N</u>	U	N/A
 Does it appear the interactions asso equipment, and to shielding)? 	ciated with hous	ekeeping practic	ces, storage of port	table	X		I	<u> </u>
	There are no s	ensitive equipme		components. Influence of this ca to be temporarily				
8. Have you looked adversely affect			conditions that cou ment in the area?	ıld	Y X	N	U]
Comments (Addition <i>Fire Sources:</i>	Hydrogen Pip	ing to Make Up dentified regard	Tank	l'he potential ignit	ion sources in the ar	ea are Hy	trogen Fi	ving'to
Flooding Sources:	Piping: Aux st	team, borated w	ater, comp cooling	The potential floo g, domestic water, y water, spent fuel	od sources in the are Duratek, demin wate clean waste	ea are BWI er, fire pro	ST Heater stection, h	E34, igh
Evaluated by:	Eddie M. Gue	the My	mett	Date:	7/25/2012		-	
	Brian A. Luca	En Ap	<u>ll</u>	Date:	7/25/2012		_	



Status: (Y) N U

Area Walk-By Checklist (AWC)

Room

Floor El.

565

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):



Photo 1 General View of Room 209

Photo 2 Nuclear Filter Cask Cart Not Restrained

	Paul C. Rizzo Associates, Inc. ENGINEERS & CONSULTANTS						Sheet 17 of 123			
						Status: Y	NU			
Area Walk-B	by Checklist (AWC	C)								
Room	225	Floor El.	565	Bldg.	AUXB	_				
This checklist space below e	ach of the followin	cument the results of questions may be	of the Area Walk-B e used to record the klist for documentin	results of judgmer	nts and findings.	ne				
					Y	N	U	N/A		
			to be free of without necessarily		X					
2. Does ancho degraded co		in the area appear	to be free of signific	cant	Y	N	U	N/A		
degraded et	onations?				Y	N	U	N/A		
raceways an seismic con	visual inspection f ad HVAC ducting a ditions (e.g., condit of cable trays appea	ppear to be free of tion of supports is a	potentially adverse adequate and fill							
					Y	N	U	N/A		
	s with other equipm Block wall Walls ident All walls h	nent in the area (e.g close to P372B. tified as 2047, 2427 ave been seismicali	-	TIE Bulletin 80-11	X I (Ref. VBW06-B0	001-028, Rev	, <i>4</i> ,			
Related equip	oment on SWEL for	this area:								
1) P372B										
2) DH9B										

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Area Walk-By Checklist (AWC)

Status: (Y) N U

Room	225	Floor El.	565	Bldg.	AUXB	-	_	
Interaction Effec					Y	N	U	N/A
		free of potentially ac looding or spray in the		IC		I		L ==
					Y	N	U	N/A
• •		free of potentially ac	lverse seism	ic	X			
interactions that	could cause a t	fire in the area?			Y	N	U	N/A
7. Does it appear t	hat the area is	free of potentially ac	lverse seism	ic	X			
		ousekeeping practice tallations (e.g., scaff	-	f portable				
		d dolly not restrained						
		uent visit to his area as properly restraine		day, it was observed that				
		is property restraine			Y	N	U	_
		d no other seismic co			X]
adversely affec	t the safety fur	nctions of the equipn	nent in the a	rea?				

Comments (Additional pages may be added as necessary)

Fire Sources: Lighting Transformer No concerns identified regarding fire sources. The potential ignition sources in the area are Lighting Transformer

No concerns identified regarding flood sources. The potential flood sources in the area are Lube oil coolers E188-Flooding Sources: 1, E188-2, E212-1, E212-2, cooler E36, Accumulators T6406 &T 6407, Piping: Comp Cooling, Core flood, makeup, reactor coolant

Evaluated by:

Date:

7/25/2012

Eddie M. Guerra

Date: Brian A. Lucarelli

7/25/2012



Status: (Y) N U

Area Walk-By Checklist (AWC)

Room

1.1

Floor El. 565

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):



Photo 1 Dolly Not Restrained Photo 2 RP Cart Not Restrained

PCQ	Paul C. Rizzo Associ	ates, Inc.				Sh	neet 20 c	of 123
						Status:(Y)n u	
Area Walk-l	Yalk - Conservation Status: No 236 Floor El. 565 Bldg. AUXB ections for Completing Checklist teecklist may be used to document the results of the Area Walk-By near one or more SWEL items. The below each of the following questions may be used to record the results of judgments and findings. onal space is provided at the end of this checklist for documenting other comments. s anchorage of equipment in the area appear to be free of ntially adverse seismic conditions (if visible without necessarily ing cabinets)? Y N s anchorage of equipment in the area appear to be free of significant aded conditions? Y N ed on a visual inspection from the floor, do the cable/conduit ways and HVAC ducting appear to be free of potentially adverse nic conditions (e.g., condition of supports is adequate and fill littons of cable trays appear to be inside acceptable limits? Y N s it appear that the area is free of potentially adverse seismic spatial ractions with other equipment in the area (e.g., ceiling tiles and ting)? Y N Fire extinguisher is mounted on the wall and is not laterally supported. It is judged that since the acceleration at this location is less than 1g, it is unlikely for the extinguisher to fall or cause significant is descention at this location is less than 1g, it is unlikely for the extinguisher to fall or cause significant is descention at this location is less than 1g, it is unlikely for the extinguisher to fall or cause significant is descentis advection is less than 1g, it is unlikely fo							
Room	236	Floor El.	565	Bldg.	AUXB		_	
This checklis space below	t may be used to docu each of the following	ment the results of questions may be	used to record the	results of judgmen	nts and findings.	ie	_	
						N	U	N/A
potentially	adverse seismic cond				X		I	
						N	<u> </u>	N/A
		the area appear t	to be free of signifi	cant	X			
						N	U	N/A
	•				X			
seismic con	nditions (e.g., conditio	on of supports is a	dequate and fill	2				
•••••••	er enere anje appen					N	U	N/A
				atial	X		I	<u> </u>
	acceleration		s less than 1g, it is a					
	Masonry wai Walls identif per NRC IE J	ll in room, see Ph ìed as 2317, 2327 Bulletin 80-11 (Ra		49, Rev 8, VBW09-				

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Related equipment on SWEL for this area:

1) hp2b



Area Walk-By Checklist (AWC)

Status: (Y) N U

Room	236	Floor El.	565	Bldg.	AUX	(B			
••	Effects lear that the area is find that could cause flo					Y X	N	U	N/A
	ear that the area is f that could cause a f		dverse seismic			Y X	N	U	N/A
interaction	bear that the area is f is associated with ho and temporary insta	usekeeping practic	ces, storage of port	able		Y X	N	U	N/A
-	ooked for and found affect the safety fund			ıld		Y X	N	U]

 Comments (Additional pages may be added as necessary)
 Fire Sources:
 NO

 No fire sources identified in area.
 NO

Flooding Sources: No concerns identified regarding flood sources. The potential flood sources in the area are Tank T139-2, Piping: Aux feedwater, component cooling, containment spray, decay heat, fire protection, high pressure injection, main steam, makeup, prim water, reactor coolant spent fuel, service water

Evaluated by:

Atter Mahmall Date:

te:

7/25/2012

Eddie M. Guerra

Date: Brian A. Lucarelli

7/25/2012

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Status: (Y) N U

Area Walk-By Checklist (AWC)

Room

236

565

Floor El.

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):

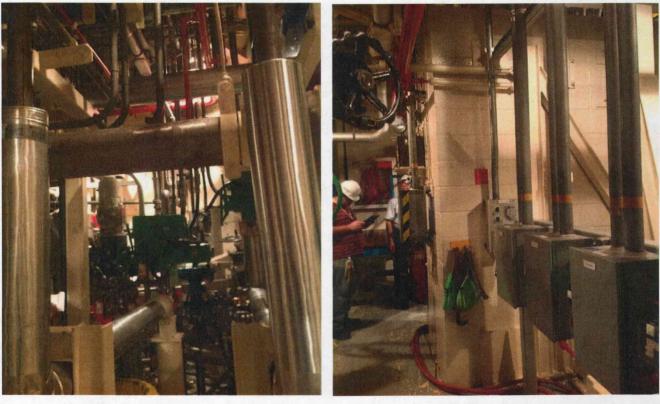


Photo 1 General View of Room 236 Photo 2 Masonry Wall

	Paul C. Rizzo Asso	ciates, Inc.				She	et 23 of	f 123
						Status:Y)N U	
Area Walk-B	By Checklist (AWC	C)						
Room	237	Floor El.	565	Bldg.	AUXB	_		
This checklist space below e	each of the followin	cument the results of g questions may be	used to record t	c-By near one or more the results of judgme ting other comments	nts and findings.	he	_	
					Y	N	U	N/A
	adverse seismic co	in the area appear t nditions (if visible v		ily	<u> </u>		<u> </u>	<u> </u>
2. Does ancho degraded c		in the area appear t	to be free of sigr	ificant	Y X	N	U	N/A
					<u> </u>	N	U	N/A
raceways ar seismic con conditions o 4. Does it app	nd HVAC ducting a iditions (e.g., condi of cable trays appea bear that the area is	from the floor, do the appear to be free of tion of supports is a ar to be inside accept free of potentially a ment in the area (e.g	potentially adve adequate and fill btable limits)? adverse seismic	spatial	Y X	N	U	N/A
	oment on SWEL for	r this area:						
1) AF19								
2) PSL 106C								
3) PSL4928A 4) FV6452	1							
5) P14-1								
6) MS5889A								
7) C73-1								

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Paul C. Rizzo Associates, Inc. ENCINEERS & CONSULTANTS

Area Walk-By Checklist (AWC)

Status: (Y) N U

Room	237	Floor El.	565		Bldg.	AUXB	_		
11	that the area is free	1 2		c		Y X	N	U	N/A
	it could cause flood					Y X	N	U	N/A
	that the area is free t could cause a fire	• •	dverse seismi	с					
7 Does it appear	that the area is free	of potentially a	dverse seismi	c		Y	N	U	N/A
interactions as	sociated with hous temporary installa	ekeeping practic	es, storage of			A			
						Y	N	U	1
•	ed for and found ne ct the safety function					<u> </u>	<u> </u>	L]

 Comments (Additional pages may be added as necessary)
 Fire Sources:
 NO

 No fire sources identified in area.
 NO

Flooding Sources: No concerns identified regarding flood sources. The potential flood sources in the area are Oil cooler E194-1, condensate tank T217, Piping: Aux. feedwater, condensate, turbine plant cooling water, domestic water, main steam, Service water.

Evaluated by:

Date:

ate:

7/25/2012

Eddie M. Guerra

Date: Brian A. Lucarelli

7/25/2012

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hv:



Status: (Y) N U

Area Walk-By Checklist (AWC)

Room

Section Section

Floor El. 565

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):

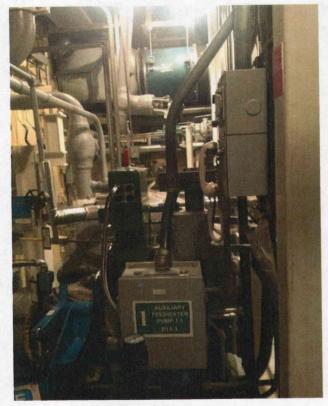


Photo 1 General View of Room 237

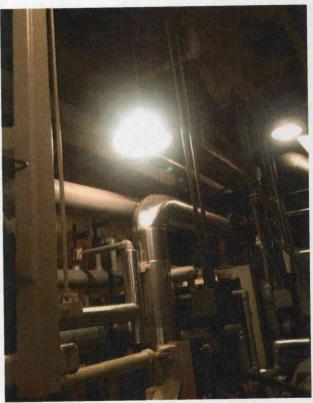


Photo 2 General View of Room 237

DCZ	Paul C. Rizzo Asso	ciates, Inc.				Sheet 26 of 1				
						Status: (Y)n u			
Area Walk-E	By Checklist (AWC	C)								
Room	238	Floor El.	565	Bldg.	AUXB					
This checklist space below e	for Completing Ch t may be used to do each of the following pace is provided at th	cument the results of questions may be	used to record the	e results of judgme	ents and findings.	ne				
	orage of equipment adverse seismic con			у	Y X	N	U	N/A		
	orage of equipment	in the area appear	to be free of signif	īcant	Y X	N	U	N/A		
-	a visual inspection fr	rom the floor, do th	e cable/conduit		Y	N	U	N/A		
raceways an seismic con	nd HVAC ducting a nditions (e.g., condit of cable trays appea	ppear to be free of ion of supports is a	potentially advers dequate and fill	e	Y	N	U	N/A		
	pear that the area is a single with other equipm		-		X		Ι			
88)	acceleratio		e less than 1g, it is		rted. It is judged to tinguisher to fall of					

^

Related equipment on SWEL for this area:

1) P14-2

2) FV6451

Paul C. Rizzo Associates, Inc. ENCINEERS & CONSULTANTS

Status: (Y) N U

Room	238	Floor El.	565	Bldg.	AUX	B	-		
Interaction Eff	ects				<u> </u>	7	N	U	N/A
		ree of potentially a			<u> </u>	<u> </u>			
interactions t	hat could cause flo	ooding or spray in t	the area?						
					<u> </u>	,	N	U	N/A
		ree of potentially a	dverse seismic		<u> </u>	2			
interactions th	at could cause a f	ire in the area?							
					Ŋ	7	N	U	N/A
		ree of potentially a			2	Κ			
		ousekeeping practic allations (e.g., scaff		table					
	Scaffolding	in area appears to	be adequately re	strained.					
-		l no other seismic c ctions of the equip		uld			N	U]

Comments (Additional pages may be added as necessary) Fire Sources: NO

No fire sources identified in area.

Flooding Sources: No concerns identified regarding flood sources. The potential flood sources in the area are Oil codters E194-2, E30, seal water cooler T218, condensate tank T218, Piping: Aux. feedwater, condensate, turbine plant cooling water, domestic water, main steam, service water

Evaluated by:

Eddie M. Guerra

Date:

7/25/2012

Brian A. Lucarelli

Date:

7/25/2012

Area Walk-By Checklist (AWC)



Status: (Y) N U

Area Walk-By Checklist (AWC)

Room

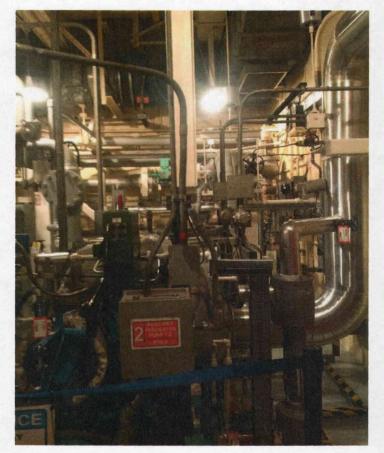
Floor El.

565

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):



General View of Room 238

ENGINEERS & CONSU	D Associates, Inc.				Sr	neet 29 o	of 123
					Status:(Y)N U	
Area Walk-By Checklist	(AWC)						
Room <u>PT</u>	Floor El.	565	Bldg.	AUXB			
Instructions for Complet This checklist may be used space below each of the fo Additional space is provid	to document the results llowing questions may b	e used to record the re	sults of judgme	nts and findings.	ne		
 Does anchorage of equi potentially adverse seise opening cabinets)? 	pment in the area appear nic conditions (if visible			Y X	N	U	N/A
 Does anchorage of equi degraded conditions? 	pment in the area appear	to be free of significa	nt	Y X	N	U	N/A
3. Based on a visual insper				Y X	N	U	N/A
	cting appear to be free of condition of supports is appear to be inside acce	adequate and fill		Y	N	<u> </u>	N/A
	area is free of potentially	adverse seismic spati g., ceiling tiles and	al	X			

^

Related equipment on SWEL for this area:

1) T10

Paul C. Rizzo Associates, Inc.

Area Walk-By Checklist (AWC)

Status: (Y) N U

Room	PT	Floor El.	565	Bldg.	AUXB	-		
Interaction Effec		free of potentially a	dverse seismic		Y	N	U	N/A
		looding or spray in t						LJ
					Y	N	U	N/A
••		free of potentially a fire in the area?	dverse seismic		<u> </u>		<u> </u>	I
					Y	N	U	N/A
interactions as	sociated with h	free of potentially a nousekeeping practic stallations (e.g., scaft	es, storage of p	oortable	X			
	Constructi	on debris in area. N	Not likely to cau	se adverse interaction.				
2		nd no other seismic on nctions of the equips			Y X	N	U]
Comments (Add	itional pages m	ay be added as nece	essary)					
Fire Sources:				. The potential ignition.	sources in the c	area are Hy	vdrogen Pi	iping to
					• .1	D		

Flooding Sources: No concerns identified regarding flood sources. The potential flood sources in the area are Borated water storage tank T10, Piping: Borated water, Decay Heat, High Pressuer Injection

Evaluated by:

ditte,

Date:

7/25/2012

~

Eddie M. Guerra

Date:

Brian A. Lucarelli

7/25/2012



РТ

Status: (Y) N U

Area Walk-By Checklist (AWC)

Room

Floor El. 565

Bldg.

1.4

AUXB

Other supporting or relevant documents and photos (if any):

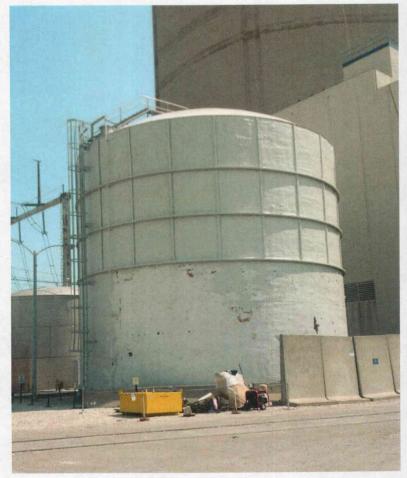


Photo 1 General View of PT

	11 C. Rizzo Associ	iates, Inc.				Sh	Sheet 32 of 123			
					:	Status: Y	NU			
Area Walk-By	Checklist (AWC))								
Room	303	Floor El.	585	Bldg.	AUXB		_			
This checklist m space below eac	h of the following	ument the results of questions may be	used to record	k-By near one or mor the results of judgmer nting other comments	nts and findings.	e	-			
					Y	N	U	N/A		
	verse seismic con	n the area appear t ditions (if visible v		rily	X					
	Small gap (~	-1/4") between gro	out and anchor j	plate. Judged to be ac	ceptable, see Phot	o 2.				
	thread engag		threads do not	at appears to be less to extend beyond the nut DB-MM-09266.						
			-		Y	N	U	N/A		
2. Does anchora degraded con		n the area appear t	to be free of sig	nificant	X]			
					Y	N	U	N/A		
raceways and seismic condi	HVAC ducting ap tions (e.g., conditi	om the floor, do th opear to be free of on of supports is a	potentially adv dequate and fill	erse	X					
conditions of	cable trays appear	to be inside accept	otable limits)?		Y	N	U	N/A		
		ree of potentially a ent in the area (e.g			X		Ι			
Related equipm	ent on SWEL for	this area:								
1) AF608										
2) CS1530										

_ ·

Paul C. Rizzo Associates, Inc. ENGINEERS & CONSULTANTS

Area Walk-By Checklist (AWC)

Status Y) N U

Room	303	Floor El.	585	Bldg.	AUXB	-		
Interaction E	ffects				Y	N	U	N/A
	ear that the area is fr that could cause flo	• •			X			
					Y	N	U	N/A
	ear that the area is fi that could cause a fi		dverse seismic		X			
					V	N	U	N1/A
7 Does it ann	ear that the area is fi	ree of notentially a	dverse seismic		Y	<u>N</u>		N/A
interaction	s associated with ho and temporary insta	usekeeping practic	ces, storage of port	able			1	····
•	boked for and found affect the safety fund			ld	Y X	N	U]
Comments (A	Additional pages may e in the area is well. NO	y be added as nece						

Flooding Sources: No concerns identified regarding flood sources. The potential flood sources in the area are Moisture Accumulation tank T216, Piping: Aux. feedwater, Containment Spray, Fire Protection, Feedwater

Evaluated by:

Date:

7/25/2012

Eddie M. Guerra

No fire sources identified in area.

Date: Brian A. Lucarelli

7/25/2012



Status: Y) N U

Area Walk-By Checklist (AWC)

-			
R	~	 2	

303

Floor El. 585

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):



Photo 1 General View of Room 303



Photo 2 Gap Between Grout and Anchor Plate

DCS	Paul C. Rizzo Assoc	ciates, Inc.			Status: Y AUXB re SWEL items. The nts and findings.	neet 35 c	of 123	
						Status: Y	NU	
Area Walk-H	By Checklist (AWC)						
Room	304	Floor El.	585	Bldg.	AUXB		_	
This checklis space below o	for Completing Ch t may be used to doc each of the following pace is provided at th	cument the results of questions may be	used to record the	e results of judgmen	nts and findings.	ne	_	
					Y	N	U	N/A
	orage of equipment i adverse seismic con binets)?			ý	X		<u> </u>	
						N	<u> </u>	N/A
2. Does anche degraded c	orage of equipment i conditions?	in the area appear t	to be free of signif	icant	X			L
2 Deced on a	viewal increasion fr	om the floor, do th	a aabla/aanduit			N	U	N/A
raceways an seismic con	a visual inspection fr nd HVAC ducting ap aditions (e.g., conditi of cable trays appear	ppear to be free of ion of supports is a	potentially adverse dequate and fill	e	L	N	U	N/A
	pear that the area is f is with other equipm			atial				
Related equip	pment on SWEL for	this area:						
1) E11B								
2) YE2B								
3) BW21								
4) SF11								



Area Walk-By Checklist (AWC)

Status: (Y) N U

Room	304	Floor El.	585	Bldg.	AUXB		_	
Interaction	Effects	/			Y	N	U	N/A
	pear that the area is a structure that could cause fl	• •			X			<u> </u>
					Y	N	U	N/A
	pear that the area is a sthat could cause a t	1 ,	adverse seismic		<u> </u>	1	<u> </u>	
					<u> </u>	<u>N</u>	U	N/A
interaction	pear that the area is ns associated with he and temporary inst ?	ousekeeping practi	ces, storage of porta	ble	X		<u> </u>	
	looked for and foun affect the safety fur			d	Y X	N	U]

Degraded insulation observed on domestic water line. Judged not to be a concern.

Comments (Additional pages may be added as necessary)

Transformer above L3701, Transformer above L4801 No concerns identified regarding fire sources. The potential ignition sources in the area are Transformer above L3701, Transformer above L4801

Flooding Sources: No concerns identified regarding flood sources. The potential flood sources in the area are Abandoned tank E72, Piping: Aux. Feedwater, Aux. Steam, Borated Water, Domestic water, Duratek, Demin water, fire protection, main feedwater, makeup, primary water, SPF pool cooling,

Evaluated by:

Fire Sources:

- detro Manaft

Date:

7/25/2012

Eddie M. Guerra

Date: Brian A. Lucarell

7/25/2012



304

Status: (Y) N U

Area Walk-By Checklist (AWC)

Room

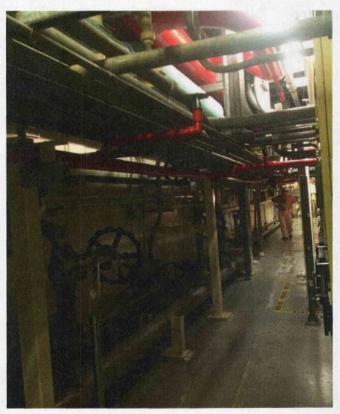
585

Floor El.

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):



General View of Room 304

	Paul C. Rizzo Asso	ciates, Inc.				Sł	neet 38 c	of 123
						Status: Y)N U	
Area Walk-B	By Checklist (AWC	C)						
Room	312	Floor El.	590'6"	Bldg.	AUXB	-	_	
This checklist space below e	for Completing Ch t may be used to do each of the followin ace is provided at th	cument the results of questions may be	e used to record the	e results of judgme	nts and findings.	he	-	
					Y	N	U	N/A
1. Does ancho	brage of equipment	in the area appear t	to be free of		X		1	
potentially opening cal	adverse seismic con binets)?	nditions (if visible	without necessaril	у				
	An addition welded to th	r bolts missing from al inspection was p he angle in the floo a significant seismic	performed and it w r for the floor plug	vas noted that the b	base support is inding is judged no		U	N/A
2. Does ancho degraded co	orage of equipment onditions?	in the area appear	to be free of signif	icant	X			L
		osion noted in ancl t a significant degr		sensor panel, see I	Photo 3. Y	N	U	N/A
3. Based on a	visual inspection fi	rom the floor, do th	e cable/conduit		X			
raceways ar seismic con	nd HVAC ducting a ditions (e.g., condit	ppear to be free of ion of supports is a	potentially advers adequate and fill	e				
conditions of	of cable trays appea	r to be inside accept	otable limits)?		Y	N	U	N/A
interaction	bear that the area is s with other equipm		-	atial	X			<u> </u>
lighting)?	Walls ident	all in area, see Pho ified as 3227, 3247 is exempt. All othe	7, 3257, 3267, 327	7, 3297, 3357, 336				
Related equip	oment on SWEL for	this area:						
1) FIS 1612								
2) SF47								
3) DH101								

-

Paul C. Rizzo Associates, Inc.

Area Walk-By Checklist (AWC)

Status Y) N U

Room	312	Floor El.	590'6"	Bldg.	AUXB			
	nat the area is	free of potentially a looding or spray in t			Y X	N	U	N/A
6. Does it appear th interactions that o		free of potentially a fire in the area?	dverse seismic		Y X	<u>N</u>	U	N/A
interactions asso	ociated with h temporary ins <i>Cart with g</i> Judged not	free of potentially a ousekeeping practic tallations (e.g., scaff gas cannisters loosel t a concern since stru- in place thus no dire	es, storage of po folding, lead by restrained to aps and chains	wall, see Photo 4.	Y X	<u>N</u>	U	N/A
•		d no other seismic c nctions of the equipr			Y X	N	U]
Comments (Additi <i>Fire Sources:</i>	NO	ay be added as nece urces identified in ar						

No concerns identified regarding flood sources. The potential flood sources in the area are HX E23-1, E23-2, Flooding Sources: Pumps P247, P248, P249 & P250, Piping: Component cooling, Decay heat, domestic water, demin water, spent fuel

Evaluated by:

12 tetis USh Eddie M. Guerra

Date:

7/25/2012

Brian A. Lucarelli

Date:

7/25/2012



Status YN U

Area Walk-By Checklist (AWC)

Room

312

Floor El. 590'6"

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):

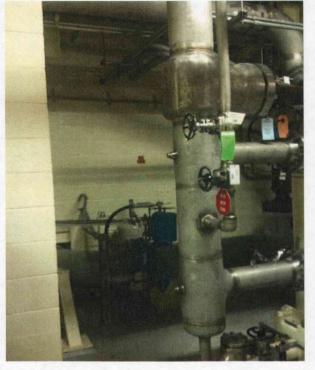


Photo 1 General View of Room 312 Showing Masonry Walls

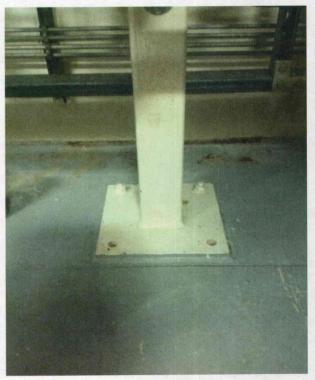


Photo 2 Missing Anchor Bolts



Sheet 41 of 123

Status (Y) N U

Area Walk-By Checklist (AWC)

Supporting Photos (continued):



Photo 3 Minor Corrosion on Anchor Plate



Photo 4 Cart Containing Gas Canisters Loosely Restrained

PCR	Paul C. Rizzo Associa	ites, Inc.				Sh	neet 42 c	of 123
						Status: Y	NU	
Area Walk-B	y Checklist (AWC)							
Room	314	Floor El.	585	Bldg.	AUXB	-	_	
This checklist space below e	for Completing Chec may be used to docur ach of the following of ace is provided at the	ment the results of questions may be	used to record the r	esults of judgments		he	_	
					Y	N	U	N/A
	rage of equipment in adverse seismic condi binets)?				1	<u> </u>		<u>[]</u>
	-	n conduit, see Ph						
	Condition rep	ort issued : CR-2	2012-10920		Y	N	U	N/A
2. Does ancho degraded co	rage of equipment in onditions?	the area appear to	o be free of signific	ant	X			
					Y	N	U	N/A
	visual inspection from				X			
seismic con	d HVAC ducting app ditions (e.g., condition of cable trays appear to	n of supports is a	dequate and fill					
1 Does it ann	ear that the area is fre	a of notantially a	dvarse seismic spat	ial	Y X	N I		N/A
	with other equipmen	• •	-	141		I	I	J
Related equip	ment on SWEL for th	iis area:						
1) RC3701								

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Paul C. Rizzo Associates, Inc. ENGINEERS & CONSULTANTS

Area Walk-By Checklist (AWC)

Status: Y NU

Room	314	Floor El.	585	Bldg.	AUXB	-		
Interaction Effect 5. Does it appear the interactions that	-	•			Y X	N	U	N/A
6. Does it appear the interactions that	nat the area is free could cause a fire i		lverse seismic		Y X	N	U	N/A
	hat the area is free ociated with house temporary installat	keeping practice	es, storage of p	ortable	Y X	N	U	N/A
8. Have you looke adversely affect	d for and found no t the safety functio				Y X	N	U]

 Comments (Additional pages may be added as necessary)

 Hydrogen line in this area is well supported.

 Fire Sources: NO

 No fire sources identified in area.

Flooding Sources: No concerns identified regarding flood sources. The potential flood sources in the area are Piping: Aux feedwater, Aux. steam, Component Cooling, Core Flood, Containment Spray, Decay Heat Removal, Fire Protection, High

Evaluated by:

the

Date:

7/25/2012

Eddie M. Guerra

Date: Brian A. Lucarelli

7/25/2012

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314

Status: Y NU

Area Walk-By Checklist (AWC)

Room

585

Floor El.

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):



Photo 1 Nut Missing on Conduit

ENGINEER	C. Rizzo Associa					
					Status	YN U
rea Walk-By Ch	ecklist (AWC)					
loom	318	Floor El.	585	Bldg.	AUXB	
nstructions for Co his checklist may pace below each o Additional space is	be used to docun f the following q	nent the results c uestions may be	used to record the	results of judgme		
. Does anchorage potentially adver opening cabinets	se seismic condi		o be free of without necessarily		Y N X	U N/A
2. Does anchorage degraded conditi	of equipment in t	the area appear t	o be free of signifi	cant	Y N X	U N/A
 Based on a visua raceways and HV seismic condition conditions of cab 	AC ducting appoints (e.g., condition	ear to be free of p of supports is a	potentially adverse dequate and fill		Y N X	
			dverse seismic spa , ceiling tiles and	itial	Y N X	U N/A
	-	her is mounted o	n the wall and is n	ot laterally suppo	rted. It is judged that sind	ce the vertical
	acceleration a interaction wit Masonry walls All walls have	th nearby equipn s identified as 30 been seismically	nent. 18D, 309D, 310D, 1 y analyzed per NR	311D, and 338D. C IE Bulletin 80-1	tinguisher to fall or cause 1 (Ref. VBW12-B001-068 -071, Rev 8 and VBW19-1	significant 8, Rev 3,
	acceleration a interaction with Masonry wall: All walls have VBW13-B001-	th nearby equipn s identified as 30 been seismically -069, Rev 3, VBV	nent. 18D, 309D, 310D, 1 y analyzed per NR	311D, and 338D. C IE Bulletin 80-1	1 (Ref. VBW12-B001-068	significant 8, Rev 3,
Related equipment	acceleration a interaction with Masonry wall: All walls have VBW13-B001-	th nearby equipn s identified as 30 been seismically -069, Rev 3, VBV	nent. 18D, 309D, 310D, 1 y analyzed per NR	311D, and 338D. C IE Bulletin 80-1	1 (Ref. VBW12-B001-068	significant 8, Rev 3,
Related equipment) F108-1	acceleration a interaction with Masonry wall: All walls have VBW13-B001-	th nearby equipn s identified as 30 been seismically -069, Rev 3, VBV	nent. 18D, 309D, 310D, 1 y analyzed per NR	311D, and 338D. C IE Bulletin 80-1	1 (Ref. VBW12-B001-068	significant 8, Rev 3,
Related equipment) F108-1 2) E12B	acceleration a interaction wit Masonry wall: All walls have VBW13-B001-	th nearby equipn s identified as 30 been seismically -069, Rev 3, VBV	nent. 18D, 309D, 310D, 1 y analyzed per NR	311D, and 338D. C IE Bulletin 80-1	1 (Ref. VBW12-B001-068	significant 8, Rev 3,
Related equipment) F108-1 2) E12B 3) C11-1	acceleration a interaction wit Masonry wall: All walls have VBW13-B001-	th nearby equipn s identified as 30 been seismically -069, Rev 3, VBV	nent. 18D, 309D, 310D, 1 y analyzed per NR	311D, and 338D. C IE Bulletin 80-1	1 (Ref. VBW12-B001-068	significant 8, Rev 3,
Related equipment 1) F108-1 2) E12B 3) C11-1 4) K5-1	acceleration a interaction wit Masonry wall: All walls have VBW13-B001-	th nearby equipn s identified as 30 been seismically -069, Rev 3, VBV	nent. 18D, 309D, 310D, 1 y analyzed per NR	311D, and 338D. C IE Bulletin 80-1	1 (Ref. VBW12-B001-068	significant 8, Rev 3,
Related equipment 1) F108-1 2) E12B 3) C11-1 4) K5-1 5) TE-5329 6) C3615	acceleration a interaction wit Masonry wall: All walls have VBW13-B001-	th nearby equipn s identified as 30 been seismically -069, Rev 3, VBV	nent. 18D, 309D, 310D, 1 y analyzed per NR	311D, and 338D. C IE Bulletin 80-1	1 (Ref. VBW12-B001-068	significant 8, Rev 3,

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Paul C. Rizzo Associates, Inc.

Area Walk-By Checklist (AWC)

Status (Y) N U

Room	318	Floor El.	585	Bldg.	AUX	ζB	-		
• •	fects ar that the area is fro hat could cause floo					Y X	N	U	N/A
••	ar that the area is fro nat could cause a fir		dverse seismic		······	Y X	N	U	N/A
interactions	ar that the area is fro associated with hou nd temporary instal	sekeeping practic	es, storage of por	table		Y X	N	U	N/A
•	oked for and found i fect the safety funct			uld		Y X	N	U]

Comments (Additional pages may be added as necessary) Fire Sources: NO No fire sources identified in area.

No concerns identified regarding flood sources. The potential flood sources in the area are EDG Jacket Codter Flooding Sources: E10-1, DG Oil Cooler E94-1, DG Jacket Water T121-1, Piping: Component Cooling, Domestic water, Diesel Fuel Oil, Demin Water, Fire Protection

Evaluated by:

đđiệ Eddie M. Guerra

Date:

7/25/2012

Date:

7/25/2012

Brian A. Lucarelli

	Paul C. Rizzo Asso	ociates, Inc.			Sheet 47 o	f 123
					Status YN U	
Area Walk-B	y Checklist (AWG	C)				
Room	318	Floor El.	585	Bldg.	AUXB	

Other supporting or relevant documents and photos (if any):



Photo 1 Masonry Wall

PCQ	Paul C. Rizzo Assoc	ciates, Inc.				Sl	heet 48	of 123
					S	tatus(Y)n u	
Area Walk-l	By Checklist (AWC)						
Room	319	Floor El.	585	Bldg.	AUXB		_	
This checklis space below	each of the following	cument the results g questions may be	e used to record	k-By near one or mor the results of judgme nting other comments	nts and findings.	2	_	
	orage of equipment adverse seismic cor abinets)?			rily	Y X	N	U	N/A
	orage of equipment conditions?	in the area appear	to be free of sig	nificant	Y X	<u>N</u>	U	N/A
raceways a seismic con	a visual inspection fr nd HVAC ducting a nditions (e.g., condit	ppear to be free of ion of supports is a	potentially adve adequate and fill	erse	Y X	N	U	N/A
4. Does it ap	of cable trays appear pear that the area is the source of	free of potentially	adverse seismic		Y X	N	U	N/A
lighting)?	Fire extingu acceleration interaction Block walls All walls ho	uisher is mounted n at this location i with nearby equip 304D and 307D i	on the wall and i s less than 1g, it ment. dentified in roor ly analyzed per 1	is not laterally support is unlikely for the ext	inguisher to fall or	cause siį	gnificant	I
Related equi	pment on SWEL for	this area:						
1) YF1								
2) K5-2								

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3) C25-3

Paul C. Rizzo Associates, Inc.

Area Walk-By Checklist (AWC)

Status (Y) N U

 5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area? 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? 	Room	319	Floor El.	585	Bldg.	AUXB		_	
 a boot reprint har could cause flooding or spray in the area? b. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? c. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Comments (Additional pages may be added as necessary) Fire Sources: NO 	Interaction Eff	fects					N	U	N/A
 6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area? 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Comments (Additional pages may be added as necessary) <i>Fire Sources:</i> NO 						X			
 A both height has the area in the originality adverse seismic interactions that could cause a fire in the area? 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Comments (Additional pages may be added as necessary) Fire Sources: NO 							N	U	N/A
 7. Does it appear that the area is free of potentially adverse seismic interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Comments (Additional pages may be added as necessary) <i>Fire Sources:</i> NO 				adverse seismic		<u> </u>			
interactions associated with housekeeping practices, storage of portable equipment, and temporary installations (e.g., scaffolding, lead shielding)? 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Comments (Additional pages may be added as necessary) Fire Sources: NO							N	<u>U</u>	N/A
 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area? Comments (Additional pages may be added as necessary) Fire Sources: NO 	interactions equipment, a	associated with ho	usekeeping practic	ces, storage of po	rtable	<u> </u>		<u> </u>	_
Fire Sources: NO	•						N	U]
		NO		-					

No concerns identified regarding flood sources. The potential flood sources in the area are EDG backet Codter Flooding Sources: E10-2, DG Lube oil HX E94-2, DG Jacket water T121-2, Piping: Component cooling, Domestic water, Diesel Fuel oil, demin water, fire protection

Evaluated by:

dille Eddie M. Guerra

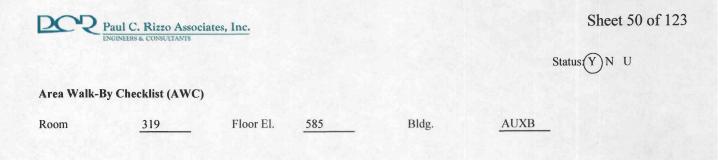
Date:

7/25/2012

Date:

7/25/2012

Brian A. Lucarelli



Other supporting or relevant documents and photos (if any):



Photo 1 General View of Room 319

PCR	Paul C. Rizzo Assoc			Sl	heet 51	of 123		
·	ENDINEERS & CONSULTANTS					Status (Y)n u	
Area Walk-B	By Checklist (AWC)						
Room	321A	Floor El.	585	Bldg.	AUXB		_	
This checklist space below e	each of the following	cument the results of questions may be	e used to record	k-By near one or mor the results of judgme nting other comments	nts and findings.	he	_	
					Y	N	U	N/A
	brage of equipment adverse seismic cor binets)?			rily	X	I		I
					Y	N	U	N/A
2. Does ancho degraded c	orage of equipment a onditions?	in the area appear t	to be free of sign	nificant	X			
					Y	Ν	U	N/A
	visual inspection fr				X			
seismic con	nd HVAC ducting an iditions (e.g., condit of cable trays appear	ion of supports is a	dequate and fill					
		-			Y	N	U	N/A
	bear that the area is t s with other equipm				X	<u> </u>	<u> </u>	L
0 0,		all, see Photo 1.						
	All walls ha		y analyzed per l	e been seismically ar NRC IE Bulletin 80-1		001-065, R	Rev 5,	

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Related equipment on SWEL for this area:

1) LT-2787

2) T46-1

Paul C. Rizzo Associates, Inc. CONSULTANTS

Area Walk-By Checklist (AWC)

Status(Y)N U

Room	<u>321A</u>	Floor El.	585	Bldg.	AUXB	-	_	
Interaction Eff 5. Does it appea		ree of potentially a	dverse seismic		Y	N	U	N/A
interactions t	hat could cause flo	ooding or spray in	the area?					
					Y	N	<u> </u>	N/A
	ar that the area is f hat could cause a f	ree of potentially a ire in the area?	dverse seismic		X		I	
					Y	<u>N</u>	U	N/A
interactions	associated with ho	ree of potentially a busekeeping practic allations (e.g., scaf	ces, storage of po	ortable	X	<u>l</u>	I	
-		l no other seismic o ctions of the equip			Y X	N	U	
Comments (Ad	lditional pages ma	y be added as nece	ssary)					
Fire Sources:		CY DIESEL GENE	•	INK 1-1				

No concerns identified regarding fire sources. The potential ignition sources in the area are EMERGENCY DIESEL GENERATOR DAY TANK 1-1

No concerns identified regarding flood sources. The potential flood sources in the area are EDG Day Tark T46-Flooding Sources: 1, Piping: Diesel Fuel Oil, Fire Protection

Evaluated by:

ditte Eddie M. Guerra

Date:

7/25/2012

Date:

7/25/2012

~

Brian A. Lucarelli



Status (Y) N U

Area Walk-By Checklist (AWC)

Room

321A

Floor El. 585

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):

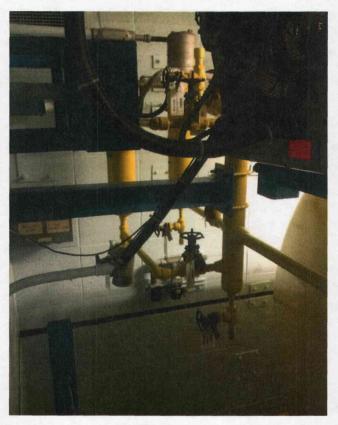


Photo 1 Masonry Wall

DCQ	Paul C. Rizzo Assoc	ciates, Inc.				SI	heet 54	of 123
						Status)n u	
Area Walk-	By Checklist (AWC							
Room	323	Floor El.	585	Bldg.	AUXB	-		
This checklis space below	for Completing Ch st may be used to doo each of the following bace is provided at th	cument the results of questions may be	used to record the	results of judgme	nts and findings.	`he		
	orage of equipment				Y X	<u>N</u>	- U	N/A
potentially opening ca	adverse seismic cor abinets)?	nditions (if visible	without necessarily					
					Y	N	U	N/A
	orage of equipment conditions?	in the area appear t	to be free of signifi	cant	X			
					Y	N	U	N/A
3. Based on a	a visual inspection fr	om the floor, do th	e cable/conduit		X			
seismic con	nd HVAC ducting a nditions (e.g., condit of cable trays appear	ion of supports is a	dequate and fill	:				
	5 11		,		Y	N	U	N/A
	pear that the area is the second s			ıtial	X			
			on the wall and is n					ıl
			less than 1g, it is t					

 $\widehat{}$

Related equipment on SWEL for this area:

interaction with nearby equipment.

1) D1

Paul C. Rizzo Associates, Inc. ENGINEERS & CONSULTANTS

Area Walk-By Checklist (AWC)

Status (Y) N U

Room	323	Floor El.	585	Bldg.	AUXB		_	
Interaction Effects 5. Does it appear tha interactions that c	at the area is free				Y X	<u>N</u>	U	N/A
6. Does it appear that interactions that co			dverse seismic		Y X	<u>N</u>	U	N/A
7. Does it appear tha interactions asso equipment, and te shielding)?	ciated with house emporary installat Supply cabinet	keeping practic ions (e.g., scaff <i>left open, see Pl</i>	es, storage of p folding, lead <i>hoto 2</i> .	ortable not to cause any interc	Y X action with nearb	N v equipme	U	N/A
8. Have you looked adversely affect	for and found no the safety functio				Y X	<u>N</u>	U]
Comments (Addition Fire Sources:	onal pages may be NO No fire sources							
Flooding Sources:	NO No flood source	es identified in d	area.					

Evaluated by:

The My Eddie M. Guerra

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Brian A. Lucarelli

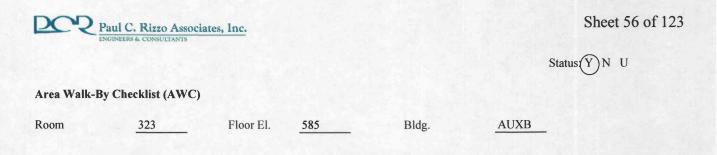
Date:

Date:

7/25/2012

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7/25/2012



Other supporting or relevant documents and photos (if any):



Photo 1 General View of Room 323 Photo 2 Supply Cabinet Left Open

DCR	Paul C. Rizzo Associ	ates, Inc.					Sheet 57 of 123				
							Status)n u			
Area Walk-E	By Checklist (AWC)										
Room	325	Floor El.	585	Bldg.	'	AUXB	•	_			
This checklis space below e	for Completing Che t may be used to docu each of the following pace is provided at the	ment the results of questions may be	used to record	the results of judg	gments and		ne				
						Y	N	U	N/A		
	orage of equipment in adverse seismic cond binets)?			rily		X		<u> </u>			
2. Does anche degraded c	orage of equipment in conditions?	the area appear t	o be free of sig	nificant		Y X	N	U	N/A		
3 Based on a	visual inspection fro	m the floor, do th	e cable/conduit			Y	N	U	N/A		
raceways an seismic cor	nd HVAC ducting ap aditions (e.g., conditions of cable trays appear	pear to be free of on of supports is a	potentially adv dequate and fil	erse		L	L				
						Y	N	<u> </u>	N/A		
	pear that the area is fr s with other equipmen <i>Fire extingui</i>	nt in the area (e.g. sher is mounted o	, ceiling tiles a <i>m the wall and</i>	nd is not laterally su	pported. It	X is judged t	hat since the	he vertical	LJ		
		at this location is with nearby equips		is unlikely for the	e extinguish	er to fall o	r cause sig	nificant			
	Flourescent i	lights ovserved ab	ove sensitive e								
Palatad activ	<i>Flourescent</i> if pment on SWEL for the form		OK based on te	sting of lights per	formed for	IPEEE.					
Related equip	pinent on 5 w EL 10F t	ins area.									

 $\widehat{}$

1) C3645

2) C1

Paul C. Rizzo Associates, Inc.

Status (Y) N U

Area Walk-B	y Checklist (AWC))							
Room	325	Floor El.	585	Bldg.	AU	UXB			
Interaction E	ffects ear that the area is fi	ree of notentially a	dverse seismic		L_	Y X	N	U	N/A
	that could cause flo				L				L
					F	<u>Y</u> X	N	U	N/A
	ear that the area is fi that could cause a fi		dverse seismic		L_	<u> </u>	<u> </u>		<u> </u>
					_	Y	<u>N</u>	U	N/A
interaction	ear that the area is fi s associated with ho and temporary insta	usekeeping practic	ces, storage of p		L	X	<u>I</u>		
-	ooked for and found affect the safety fund					Y X	N	U]

Comments (Additional pages may be added as necessary)

Fire Sources: Screens per FAQ 07-0031; 30 kVA No concerns identified regarding fire sources. The potential ignition sources in the area are Screens per FAQ 07-0031; 30 kVA

Flooding Sources: NO

No flood sources identified in area.

Evaluated by:

CH H Eddie M. Guerra

Date:

7/25/2012

Brian A. Lucarelli

Date:

7/25/2012



Status (Y)N U

Area Walk-By Checklist (AWC)

Room

325

Floor El. 585

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):



General View of Room 325

	Paul C. Rizzo Asso	ciates, Inc.				Sł	neet 60 o	f 123
						Status (Y)n u	
rea Walk-By	y Checklist (AWC	C)						
loom	328	Floor El.	585	Bldg.	AUXB	-	_	
This checklist pace below ea	ach of the followin	cument the results of g questions may be	used to record t	-By near one or more he results of judgments ting other comments.		`he	_	
					Y	N	U	N/A
	dverse seismic co	in the area appear t nditions (if visible v		ily	X			
		ify anchorage of E confirmed to be con		ian documentation	Y	N	U	N/A
2. Does anchor degraded co	rage of equipment	in the area appear t						
					Y	N	U	N/A
raceways and seismic cond	d HVAC ducting a litions (e.g., conditions)	rom the floor, do th appear to be free of tion of supports is a ar to be inside accep	potentially adver dequate and fill	rse	X			
					Y	N	U	N/A
		free of potentially a nent in the area (e.g			X		Ι	
	acceleratio interaction Masonry w Walls ident per NRC II	n at this location is with nearby equipn all adjacent to E22 tified as 3307, 3347	less than 1g, it i nent. -1, see Photo 1. ', 3397, and 3407 ef. VBW17-B001-	not laterally supporte s unlikely for the exting 7. All walls have been -088, Rev 6, VBW18-B 95, Rev 10).	guisher to fall o seismically and	or cause sig alyzed.		
Related equip	ment on SWEL for	r this area:						
1) E22-1								
2) E22-2								
3) P43-2								



Area Walk-By Checklist (AWC)

Status (Y) N U

Room	328	Floor El.	585	Bldg.	AUXB		_	
Interaction 5. Does it ap	Effects pear that the area is f	ree of potentially a	dverse seismic		Y	N	U	N/A
interaction	ns that could cause flo	boding or spray in t	he area?					
					Y	N	U	N/A
-	ppear that the area is f is that could cause a f	• •	dverse seismic		<u> </u>		<u> </u>	
					Y	N	U	N/A
interactio	pear that the area is f ons associated with he t, and temporary instance ?	ousekeeping practic	es, storage of p	ortable	X		J	
	Scaffolding	and stepladders in	area appear to	be properly restrained	Y	N	U	
-	looked for and found affect the safety fund				X]
	(Additional pages ma	y be added as nece	ssary)					
Fire Source.	s: NO							

No fire sources identified in area.

Flooding Sources: No concerns identified regarding flood sources. The potential flood sources in the area are CCW HX E22-1, E22-2, E23-3, Chem pot feeder T13, Piping: Fire Protection, Component Cooling, Demin water, service water.

Evaluated by:

the My Date:

ite:

7/25/2012

Eddie M. Guerra

Date: Brian A. Lucarelli

7/25/2012



Other supporting or relevant documents and photos (if any):

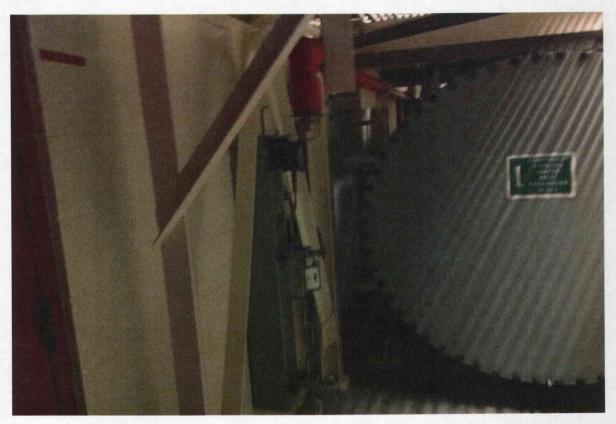


Photo 1 General View of Room 328 Masonry Wall Adjacent to Heat Exchange E22-1

DCR	Paul C. Rizzo Assoc	ciates, Inc.				Sł	neet 63	of 123
	ENGINEERS & CONSULTANTS					Status:(Y)n u	
Area Walk-E	By Checklist (AWC)						
Room	427	Floor El.	603	Bldg.	AUXB		_	
This checklist space below o	for Completing Ch t may be used to doc each of the following pace is provided at th	cument the results of questions may be	e used to record the	e results of judgme	ents and findings.	he		
	orage of equipment adverse seismic con binets)?			у	Y X	N	U	N/A
	orage of equipment conditions?	in the area appear	to be free of signif	ficant	Y X	N	U	N/A
raceways a seismic cor	a visual inspection fr nd HVAC ducting a nditions (e.g., condit of cable trays appea	ppear to be free of ion of supports is a	potentially adversed adequate and fill	se	Y X	N	U	N/A
	pear that the area is s with other equipm	ent in the area (e.g	., ceiling tiles and		Y X orted. It is judged	N that since	U the vertice	
	acceleratio	n at this location i. with nearby equip	s less than 1g, it is	unlikely for the ex	tinguisher to fall of	or cause si	gnificant	

^

Related equipment on SWEL for this area:

1) F11A

Paul C. Rizzo Associates, Inc. ENCINEERS & CONSULTANTS

Area Walk-By Checklist (AWC)

Status: (Y) N U

Room	427	Floor El.	603	Bldg.	AUXB		_	
Interaction Effe		ree of potentially a	dverse seismi	ic	Y X	N	U	N/A
		ooding or spray in t			<u> </u>			
					Y	N	U	N/A
**	r that the area is fi at could cause a fi	ree of potentially a ire in the area?	dverse seism	ic	X			[]
					Y	N	U	N/A
interactions a	associated with ho	ree of potentially a pusekeeping practic allations (e.g., scaf	es, storage of		X			
		v		ed loosely, see Photo 2. a significant adverse condit	ion.			
					Y	N	U	7
~		l no other seismic o ctions of the equip			X	<u> </u>	I	J

Comments (Additional pages may be added as necessary)

Fire Sources: Transformer Feed to DP4502, 480V Transformer for MCC YF2 No concerns identified regarding fire sources. The potential ignition sources in the area are Transformer Feed to DP4502, 480V Transformer for MCC YF2

Flooding Sources: No concerns identified regarding flood sources. The potential flood sources in the area are Piping: Main Steam, Fire Protection

Evaluated by:

ditio

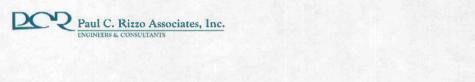
Date:

7/25/2012

Eddie M. Guerra

Date: Brian A. Lucarell

7/25/2012



Sheet 65 of 123

Status: (Y) N U

Area Walk-By Checklist (AWC)

427

Room

Floor El. 603

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):

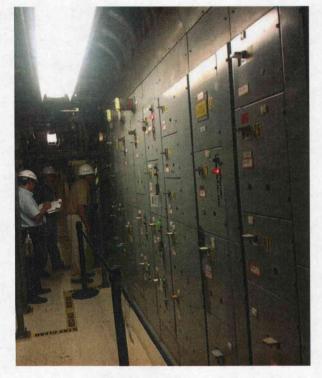


Photo 1 General View of Room 427



Photo 2 Ladder Loosely Tied Adjacent to MCC F11A

DCR Pau	l C. Rizzo Associat	es, Inc.				Sl	heet 66	of 123
ENGIP	CONSULIANTS				S	Status: (Y)n u	
Area Walk-By (Checklist (AWC)							
Room	428	Floor El.	603	Bldg.	AUXB		_	
This checklist ma space below each	n of the following qu	ent the results a lestions may be	e used to record t	c-By near one or mo he results of judgme nting other comment	ents and findings.	e	_	
1 Dags an shores	a of aquinment in t	ha area annoar i	to he free of		Y X	N	U	N/A
	ge of equipment in t verse seismic condit ets)?			ily				LJ
					Y	N	U	N/A
2. Does anchorag degraded cond	ge of equipment in t litions?	he area appear	to be free of sign	ificant				
					Y	N	U	N/A
raceways and I seismic conditi	sual inspection from HVAC ducting appe ions (e.g., condition able trays appear to	ear to be free of of supports is a	potentially adve adequate and fill	rse	X			
4 Does it annear	that the area is free	of potentially	adverse seismic (snatial	Y X	<u>N</u>	<u> </u>	N/A
	ith other equipment				L			d
	acceleration a interaction wit Masonry walls Block walls ide All walls have VBW21-B001-	t this location is h nearby equip adjacent to co entified as wall been seismical 102, Rev 13, VI	s less than 1g, it ment. mponents, see Pl s 4016, 4026, 40. ly analyzed per N BW25-B001-125,	s not laterally suppo is unlikely for the ex hoto 2. 36, 4046, 4786, 4790 VRC IE Bulletin 80-1 Rev 9, VBW25-B00 Rev 3 and VBW28-	tinguisher to fall or 6, 4886, 4896, and 11 (Ref. VBW20-B0 11-126, Rev 6,	• cause siz 4906.	gnificant	al
Related equipme	ent on SWEL for thi	s area:						
1) C4606	9) DBC2P	17) DC1						
2) F12A	10) F1	18) Y1						
3) FD1062	11) D233							
4) D2_ED	12) XDF1-2							
5) D2P	13) C4605							
6) Y2	14) D233							
7) YV2	15) DBC1PN							

^

8) YV4 16) DBC2PN

Paul C. Rizzo Associates, Inc.

Status: (Y) N U

Area Walk-By Ch	ecklist (AWC)						
Room	428	Floor El.	603	Bldg.	AUXB		
Interaction Effect 5. Does it appear th interactions that	nat the area is fre	ee of potentially a oding or spray in			Y N X	U	N/A
6. Does it appear th interactions that of			dverse seismic		Y N X	U	N/A
equipment, and	ociated with hou	ee of potentially a sekeeping practic lations (e.g., scaf	es, storage of po	ortable	Y N X	U	N/A
shielding)? 8. Have you looked adversely affect	These equipm were being se d for and found		b be temporary a	ns the equipment	Y N X	U]
		net DCB-2P obse as the equipment	•				
Comments (Addit <i>Fire Sources:</i>	No concerns Substation F2	identified regardi	ng fire sources. her for H3602 an	The potential ignition d H4602, Lighting Sta	sources in the area are l tion Transformer,Const	Power Trans ant Voltage	sformer for
Flooding Sources:		rces identified in	area.				
Evaluated by:	Eddie M. Gu	ditter Mh erra	nett	Date:	7/25/2012		

Brian A. Lucarelli Date:

7/25/2012

-

No concerns identified regarding fire sources. The potential ignition sources in the area are Power Transformer for



428

Status: (Y) N U

Area Walk-By Checklist (AWC)

Room

Floor El.

603

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):



Photo 1 General View of Room 428

Photo 2 Masonry Wall Adjacent to Components



Status: (Y) N U

Area Walk-By Checklist (AWC)

Room	428	Floor El.	603	Bldg.	AUXB

Supporting Photos (continued):



Photo 3 Unrestrained Work Cart Photo 4 Cabinet DCB-2P Door Left Open

PCQ	Paul C. Rizzo Associates, Inc. Alk-By Checklist (AWC) 428A Floor El. 603 Bldg. ions for Completing Checklist cklist may be used to document the results of the Area Walk-By near one or morelow each of the following questions may be used to record the results of judgmer al space is provided at the end of this checklist for documenting other comments anchorage of equipment in the area appear to be free of ially adverse seismic conditions (if visible without necessarily ag cabinets)? anchorage of equipment in the area appear to be free of significant ded conditions? on a visual inspection from the floor, do the cable/conduit sys and HVAC ducting appear to be free of potentially adverse conditions (e.g., condition of supports is adequate and fill ons of cable trays appear to be inside acceptable limits)? it appear that the area is free of potentially adverse seismic spatial tions with other equipment in the area (e.g., ceiling tiles and					S	of 123	
						Status:(Y)n u	
Area Walk-l	By Checklist (AWC)							
Room	428A	Floor El.	603	Bldg.	AUXB	_	_	
This checklis space below	st may be used to docun each of the following q	nent the results on the neutrino the neutrin	e used to record th	e results of judgmo	ents and findings.	ſ'ne		
			<u>,</u>	<u> </u>	Y	N	- U	N/A
				 ,	Х			
			without necessarii	y .				
					Y	Ν	U	N/A
		he area appear t	to be free of signif	ficant	X			<u> </u>
					Y	N	U	N/A
					X			
seismic con	nditions (e.g., condition	of supports is a	dequate and fill	se				
conditions	of cable trays appear to	be inside accep	stable mmts)?		Y	N	U	N/A
4. Does it ap	pear that the area is free	e of potentially a	adverse seismic sp	oatial	X			
interaction lighting)?	ns with other equipment	in the area (e.g	., ceiling tiles and					
	•	adjacent to batt	•					
			1026, both seismic 1001-100, Rev 14).	ally analyzed per l	NRC IE			
	<i>Duneun</i> 60-11	(Rej. 1 Dir 20-D	001-100, Nev 14).					
Related equi	pment on SWEL for thi	s area:						

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1) 2P

2) 2N

3) C78-2

Paul C. Rizzo Associates, Inc. NGINEERS& CONSULTANT

Area Walk-By Checklist (AWC)

U

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Status: (Y) N U

Room	428A	Floor El.	603	Bldg.	AUXB	AUXB		
Interaction Effects					Y	N	U	N/A
5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?					X			
					Y	N	U	N/A
6. Does it appear that the area is free of potentially adverse seismic interactions that could cause a fire in the area?					X			
					Y	N	U	N/A
interaction		ousekeeping practionality of the second s	ces, storage of p folding, lead	ortable ack which could represent	X	dverse cor	dition.	
				ary and complies with wo				

8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?

Comments (Additional pages may be added as necessary) Fire Sources: NO No fire sources identified in area.

Flooding Sources: NO

No flood sources identified in area.

Evaluated by:

Eddie M. Guerra

Date:

7/25/2012

Date:

Brian A. Lucarelli

7/25/2012

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Status: (Y) N U

Area Walk-By Checklist (AWC)

Room

428A

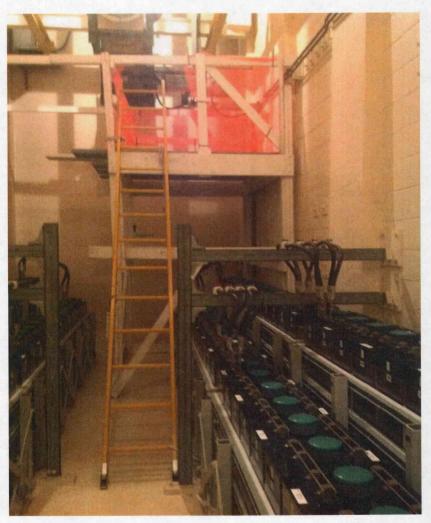
603

Floor El.

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):



General View of Room 428A

DC2	Paul C. Rizzo Assoc	iates, Inc.				heet 73	of 123	
	ENGINEERS & CONSULTANTS				Y N Y N Y N Y N Y N Y N Y N Y N Y N Y N Y N)n u		
Area Walk-I	By Checklist (AWC))						
Room	428B	Floor El.	603	Bldg.	AUXB			
This checklis space below (each of the following		ed to record the	results of judgme	nts and findings.	ĥe		
	adverse seismic con	n the area appear to b ditions (if visible with				N	U	N/A
	orage of equipment i	n the area appear to b	e free of signific	cant		N	U	N/A
raceways a	nd HVAC ducting ap	om the floor, do the coppear to be free of pot	entially adverse			N	U	N/A
conditions	of cable trays appear	on of supports is adec to be inside acceptab ree of potentially adv	le limits)?	tial		N	U	N/A
		ent in the area (e.g., c	-			L	- I	
	Walls in the	area identified as 40	16 and 4026, bo	th seismically and	lyzed per NRC II	E		

Bulletin 80-11 (Ref. VBW20-B001-100, Rev 14).

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Related equipment on SWEL for this area:

1) D2N

Paul C. Rizzo Associates, Inc.

Area Walk-By Checklist (AWC)

Status: (Y) N U

Room	428B	Floor El.	603	Bldg.	AU	XB			
	Effects pear that the area is fr is that could cause flo					Y X	N	U	N/A
	pear that the area is fr s that could cause a fi		adverse seismic			Y X	N	U	N/A
interaction	pear that the area is fr ns associated with ho t, and temporary insta ?	usekeeping practi	ices, storage of por	table		Y X	N	U	N/A
•	looked for and found affect the safety func			uld		Y X	N	U]

Comments (Additional pages may be added as necessary) Fire Sources: NO No fire sources identified in area.

Flooding Sources: NO No flood sources identified in area.

Evaluated by:

ditte Eddie M. Guerra

Date: Brian A. Lucarelli

7/25/2012

Date:

7/25/2012

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	Paul C. Rizzo Assoc	ciates, Inc.			Sheet 75 of 12.	3
					Status: YN U	
Area Walk-B	y Checklist (AWC)				
Room	<u>428B</u>	Floor El.	603	Bldg.	AUXB	

Other supporting or relevant documents and photos (if any):



General View of Room 428B

DCZ	Paul C. Rizzo Assoc	ciates, Inc.				S	heet 76	of 123
						Status: Y)n u	
Area Walk-E	By Checklist (AWC)						
Room	429	Floor El.	603	Bldg.	AUXB	-	_	
This checklist space below e	for Completing Ch t may be used to doc each of the following ace is provided at th	cument the results of questions may be	e used to record the	he results of judgme	nts and findings.	ſhe	_	
					Y	N	U	N/A
	orage of equipment i adverse seismic cor binets)?			ily	X	1		
					Y	N	U	N/A
2. Does anche degraded c	orage of equipment i onditions?	in the area appear 1	to be free of sign	ificant	X	<u> </u>		
					Y	N	U	N/A
raceways an seismic con	visual inspection fr nd HVAC ducting ap iditions (e.g., conditions conductions) of cable trays appear	ppear to be free of ion of supports is a	potentially adver dequate and fill	se	X	I	I	L
4. Does it app	bear that the area is f	free of potentially a	adverse seismic s	patial	Y X	N	U	N/A
	s with other equipm							
Related equit	oment on SWEL for	this area.						
		uns area.						
1) Y105								
2) D1_ED								
3) YRF1								
4) E1								
5) XCE1-1								

~

Paul C. Rizzo Associates, Inc. ENGINEERS & CONSULTANTS

Status: (Y) N U

Room	429	Floor El.	603	Bldg.	AUXB	-		
Interaction	Effects				Y	N	U	N/A
-	ppear that the area is fr				X			
Interaction	ns that could cause flo	oding or spray in i	ine area?					
					Y	N	U	N/A
•	ppear that the area is fr		dverse seismic		X			
interactior	is that could cause a fin	re in the area?						
					Y	N	U	N/A
7. Does it ap	opear that the area is fr	ee of potentially a	dverse seismic		X			
	ons associated with house t, and temporary insta- ?			ortable				
					Y	N	U	
-	looked for and found				X]
adversely	affect the safety func	tions of the equip	ment in the area	?				

Comments (Additional pages may be added as necessary)

Fire Sources:Power Transformer For Substation E2 & E1, Constant Voltage Transformer, Static Voltage Regulator
No concerns identified regarding fire sources. The potential ignition sources in the area are Power Transformer
For Substation E2 & E1, Constant Voltage Transformer, Static Voltage Regulator

Flooding Sources: NO

No flood sources identified in area.

Evaluated by:

Eddie M. Guerra

Date:

7/25/2012

Brian A. Lucarell

Date:

7/25/2012

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Area Walk-By Checklist (AWC)



429

Status: (Y) N U

Area Walk-By Checklist (AWC)

Room

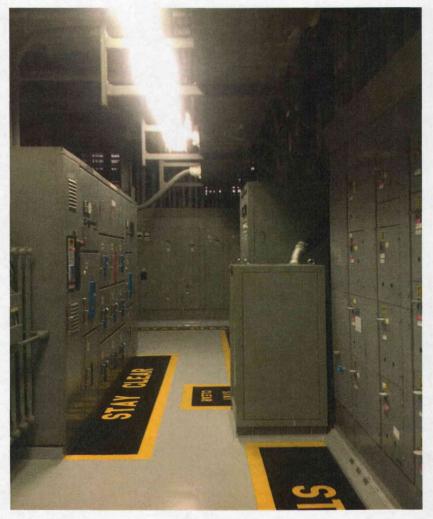
1.1.1

Floor El. 603

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):



General View of Room 429

	aul C. Rizzo Assoc	ciates, Inc.					Sh	eet 79 c	of 123
							Status: Y)n u	
Area Walk-By	Checklist (AWC)							
Room	429A	Floor El.	603	Bldg.		AUXB	•		
This checklist r space below ea	ch of the following	cument the results of questions may be	used to record	lk-By near one or m I the results of judgn enting other commen	nents and		he		
						Y	N	U	N/A
	dverse seismic con	in the area appear t aditions (if visible v		arily		X		<u> </u>	
						Y	N	U	N/A
2. Does anchor degraded co	• • •	in the area appear t	o be free of sig	gnificant		X	I	I	LJ
						Y X	N	U	N/A
raceways and seismic cond	HVAC ducting a titions (e.g., conditions)	om the floor, do the ppear to be free of ion of supports is a r to be inside accep	potentially adv dequate and fi	/erse				<u> </u>	I
		free of potentially a		- cratial		Y X	<u>N</u>	<u> </u>	N/A
		ent in the area (e.g.		-					L
Related equipm	nent on SWEL for	this area:							
1) D1N									

Paul C. Rizzo Associates, Inc.

Area Walk-By Checklist (AWC)

Status: (Y) N U

Room	<u>429A</u>	Floor El.	603	Bldg.	AUXB	_	_	
Interaction Ef	ffects ear that the area is fi	ree of potentially a	dverse seismic		Y	<u>N</u>	<u>U</u>	N/A
	that could cause flo							NI/A
	ear that the area is fi that could cause a fi		dverse seismic		Y X	N	U 	N/A
					Y	N	U	N/A
	ear that the area is fi							
	associated with ho and temporary insta			able				
					Y	<u>N</u>	U	7
-	oked for and found ffect the safety fund			ld	X		<u> </u>]

Comments (Additional pages may be added as necessary) Similar configuration as for D2N (Drawing E-20-4-7).

Fire Sources: Constant Voltage Transformer No concerns identified regarding fire sources. The potential ignition sources in the area are Constant Voltage Transformer

NO Flooding Sources:

No flood sources identified in area.

Evaluated by:

Date:

7/25/2012

Eddie M. Guerra

Date:

Brian A. Lucarelli

7/25/2012

	Paul C. Rizzo Assoc	ciates, Inc.				She	et 81	of 123
					Sta	tusY	N U	
Area Walk-B	y Checklist (AWC)						
Room	501	Floor El.	623	Bldg.	AUXB			
This checklist pace below e	ach of the following	cument the results of g questions may be	used to record t	c-By near one or more the results of judgmen nting other comments.				
					Y	N	U	N/A
	rage of equipment i adverse seismic con binets)?			ily	X			
					Y	N	U	N/A
2. Does ancho degraded co	rage of equipment i onditions?	in the area appear t	o be free of sign	ificant	X			
	Judged not will provide	adequate strength	se condition sind to support.	to 1. ce remaining anchors	Y	N	U	N/A
raceways an seismic cond	visual inspection fr d HVAC ducting ap ditions (e.g., conditions (e.g.) conditions f cable trays appear	ppear to be free of ion of supports is a	potentially adve dequate and fill	rse	X			I
4. Does it app	ear that the area is f	free of potentially a	dverse seismic :	spatial	Y X	<u>N</u>	U	N/A
	with other equipm							
Related equip	ment on SWEL for	this area:						
I) LT-1402								
2) PS3689D								
3) T12								

Paul C. Rizzo Associates, Inc.

Area Walk-By Checklist (AWC)

Status(Y)N U

Room	501	Floor El.	623	Bldg.	AUXB			
Interaction Effects 5. Does it appear the interactions that d	at the area is fre	e of potentially ac oding or spray in the			Y X	N	U	N/A
6. Does it appear the interactions that c	at the area is fro	ee of potentially ac			Y X	N	U	N/A
	ciated with hou	ee of potentially ac sekeeping practic lations (e.g., scaff	es, storage of port	able	Y X	N	U	N/A
8. Have you looked adversely affect		no other seismic co ions of the equipn		ld	Y X	N	U	ļ
Comments (Addition Fire Sources:	Lighting Tran No concerns Transformer	ısformer identified regardiı	ng fire sources. T		n sources in the are			Fording
Flooding Sources:					<mark>d sources in 1n</mark> e area vater, Main Steam, S			

Evaluated by:

Itie ! Eddie M. Guerra

Protection

Date:

7/25/2012

Date:

7/25/2012

Brian A. Lucarelli



501

Status (Y) N U

Area Walk-By Checklist (AWC)

Room

Floor El.

623

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):



Photo 1 Damaged Grout

ration rates rat	ul C. Rizzo Association Association and the state of the	ciates, Inc.						of 123
						Status: Y	NU	
Area Walk-By	Checklist (AWC)						
Room	502	Floor El.	623	Bldg.	AUXB		_	
This checklist n space below eac	ch of the following	cument the results of questions may be	used to record th	-By near one or mor ne results of judgme ting other comments	nts and findings		-	
					Y	N	U	N/A
	lverse seismic cor	in the area appear t aditions (if visible v		ly	X			
					Y	<u>N</u>	U	N/A
 Does anchora degraded con 		in the area appear t	o be free of signi	ficant	X			I
					Y	N	<u> </u>	N/A
	-	om the floor, do th ppear to be free of		se			I	X
seismic condi	tions (e.g., condit	ion of supports is a r to be inside accep	dequate and fill					
	Unable to s	ee due to ceiling po	anels					
					Y	N	U	N/A
		free of potentially a ent in the area (e.g		-		X	I]
	Condition I Ceiling pan Masonry w All walls ha VBW29-B0	ave been seismicall 01-148, Rev 6, VB	2012-10973 Fire extinguisher)17, 5147, 5157, y analyzed per N W29-B001-149, F	rs are in cabinets 5167, 5177, 5187, 5 RC IE Bulletin 80-1 Rev 5, VBW29-B001 Rev 9, VBW30-B001	1 (Ref. VBW29- -151, Rev 2, VB	B001-143, F W29-B001-1	Rev 10, 52, Rev 5,	
Related equipm	ent on SWEL for	this area:						
1) C5755								
2) LSHHSP9B	6							
2) LSHHSP9B 3) LI-1525A	6							
3) LI-1525A								
3) LI-1525A 4) C5792A LB								
3) LI-1525A 4) C5792A LB 5) L311								
3) LI-1525A 4) C5792A LB 5) L311							6	

Paul C. Rizzo Associates, Inc. ENGINEERS & CONSULTANTS

Status: YN U

Area Walk-By Che	ecklist (AWC)							
Room	502	Floor El.	623	Bldg.	AUXB			
Interaction Effects		an of notontially a	duaraa gaigmia		Y	N	- U	N/A
5. Does it appear that interactions that c					^		I	
6. Does it appear the interactions that co		• •	dverse seismic		Y X	<u>N</u>	U	N/A
			, , , ,		Y	N	<u>U</u>	N/A
	ciated with how emporary insta	usekeeping practic llations (e.g., scaf	ces, storage of po folding, lead		L		1	
		l trash can, light l o cause damaging	-	ainer, and I&C cart. nearby panels.	See Photos 3 and	4.		
8. Have you looked adversely affect		no other seismic o tions of the equip			Y X	<u>N</u>	U	
Comments (Addition <i>Fire Sources:</i>	NO	v be added as nece ces identified in ar						
Flooding Sources:	NO							
	No flood sou	rces identified in	area.					
Evaluated by:	Eddie M. Gu	datio MG herra	halt	Date:	7/25/2012		-	
	Æ	EA	100	Date:	7/25/2012			

Brian A. Lucarelli

_Date:

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502

Status: YN U

Area Walk-By Checklist (AWC)

Room

Floor El.

623

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):

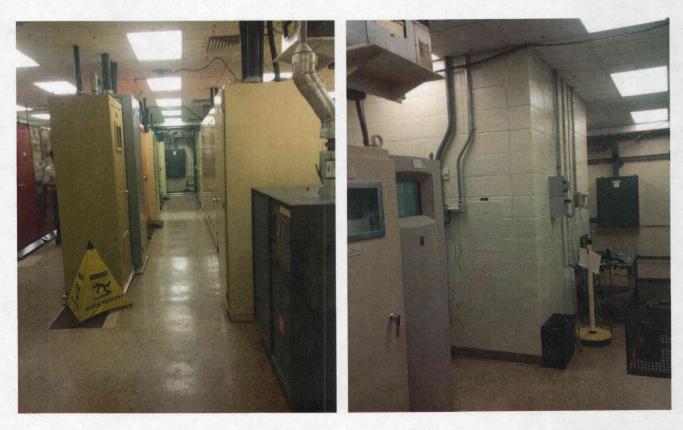


Photo 1 **General View of Room 502**

Photo 2 Crack in Masonry Wall



502

Status: Y(N) U

Area Walk-By Checklist (AWC)

Room

Floor El.

623

Bldg.

AUXB

Supporting Photos (Continued):

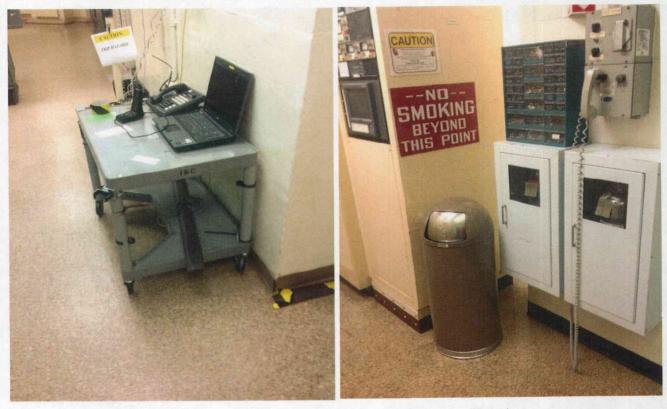


Photo 3 Unrestrained I&C Cart Photo 4 Unrestrained Trash Can and Light Bulb Storage

DCR	Paul C. Rizzo Assoc	ciates, Inc.				S	heet 88	of 123
						Status:(Y) n u	
Area Walk-B	By Checklist (AWC)						
Room	505	Floor El.	623	Bldg.	AUXB			
This checklist space below e	each of the following	cument the results g questions may be	e used to record	k-By near one or mor the results of judgme nting other comments	nts and findings.	1e	_	
					Y	<u>N</u>	U	N/A
	orage of equipment i adverse seismic con binets)?			rily	X			
				· · · ·	Y	N	U	N/A
2. Does ancho degraded co	orage of equipment i onditions?	in the area appear	to be free of sigi	nificant	X			
			•• / • •		Y	N	U	N/A X
raceways ar seismic con	visual inspection fr nd HVAC ducting ap ditions (e.g., condition of cable trays appear	ppear to be free of ion of supports is a	potentially adve dequate and fill	erse				
	Due to press	ence of ceiling , th	ese items could	not be verified.	Y	N	U	N/A
interaction: lighting)?	Masonry wa Walls identi All walls ha VBW29-B00	ent in the area (e.g els anchored, see alls in area. Verify fied as 5107, 5127 ve been seismicall 01-146, Rev 8, VB 01-162, Rev 1, VB	., ceiling tiles an Photo 1. 9 seismic adequa 7, 5287, 5297, 5. 9 analyzed per 1 W31-B001-159,	nd acy of walls 347, 5357, 5367. NRC IE Bulletin 80-1 Rev 9, VBW31-B001-	X 1 (Ref. VBW29-B0	01-145, K	Rev 13,	
1) C5706								
2) C5702								
3) C5712								
4) HIS 5889A	Δ							
5) HIS 7528								
6) CS 5711								
7) CS 5716								
., 20 2110								

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Paul C. Rizzo Associates, Inc.

Area Walk-By Checklist (AWC)

 $Status: \underbrace{V} N \quad U$

Room	505	Floor El.	623	Bldg.	AUXB			
Interaction Effects 5. Does it appear the interactions that c	at the area is free				Y X	N	U	N/A
6. Does it appear the interactions that co			dverse seismic		Y X	N	U	N/A
 Does it appear the interactions asso equipment, and te shielding)? 	ciated with house emporary installa	ekeeping practic tions (e.g., scaff	es, storage of poi folding, lead	table over it is judged that it	Y X	N	U	N/A
8. Have you looked adversely affect	will not pose an	<i>ny unacceptable</i> o other seismic c	<i>adverse conditio</i> onditions that co	on to nearby panels.	Y X	N	U]
Comments (Addition Fire Sources:	NO	e added as neces identified in ar	•					
Flooding Sources:	NO No flood sourc	es identified in a	area.					
Evaluated by:	Eddie M. Guer	Telie UH ra	L	Date:	7/25/2012			
	Brian A. Lucar	E A A	Û.	Date:	7/25/2012	<u> </u>		

Brian A. Lucarelli

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Status:(Y) N U

Area Walk-By Checklist (AWC)

Room

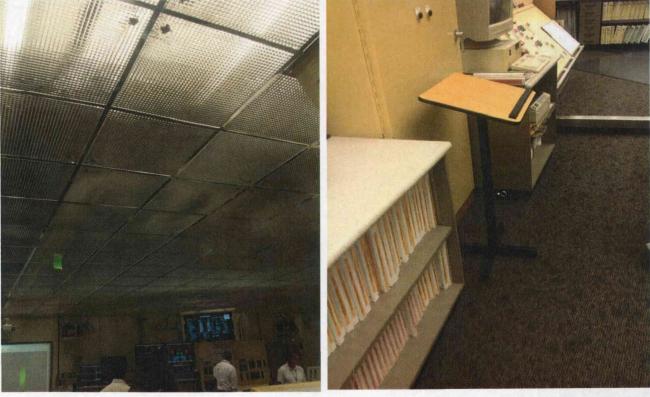
505

Floor El. 623

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):



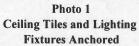


Photo 2 Small Podium Not Anchored

	Paul C. Rizzo Asso	Sheet 91 of 12						
						Status:(Y)n u	
Area Walk-B	y Checklist (AWC	C)						
Room	515	Floor El.	623	Bldg.	AUXB	-		
This checklist space below e	ach of the followin	cument the results o g questions may be	used to record t	k-By near one or mor the results of judgment nting other comments	nts and findings.	`he	_	
					Y	N	<u> </u>	N/A
	adverse seismic con	in the area appear to nditions (if visible w		rily	X	I	1	
					Y	N	U	N/A
2. Does ancho degraded co		in the area appear to	be free of sign	hificant	X			
					Y	N	U	N/A
		rom the floor, do the			X			
seismic cone	ditions (e.g., condit	ppear to be free of p ion of supports is ac r to be inside accept	lequate and fill	rse				
		· · · · · · · · · · · · · · · · · · ·			Y	N	U	N/A
		free of potentially a ent in the area (e.g.,		-	X	1	I	
Related equip	ment on SWEL for	this area:						

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1) HV5314

Paul C. Rizzo Associates, Inc. ENGINEERS & CONSULTANTS

Area Walk-By Checklist (AWC)

Status:($\widehat{\mathbf{N}}$	N	U
Status	ナノ	14	U

Room	515	Floor El.	623	Bldg.	AUXB			
Interaction 1 5. Does it app	Effects bear that the area is f	free of potentially a	dverse seismi	c	Y X	N	U	N/A
interaction	s that could cause fl	ooding or spray in t	the area?		Y	N	U	N/A
	bear that the area is the that could cause a f	• •	dverse seismi	c	X			
7. Does it apr	bear that the area is t	free of potentially a	dverse seismi	c	Y	N	U	N/A
interaction	ns associated with he , and temporary inst	ousekeeping practic	es, storage of		L		I	
	this dolly w	ould have an intera	ction with the	-	<u>Y</u>	N	U	1
2	ooked for and found affect the safety fun				X			
Comments (<i>J</i> <i>Fire Sources</i> ,	Additional pages ma	y be added as nece	ssary)					
	No fire sour	rces identified in ar	ea.					

Flooding Sources: PIPING: Fire Protection

No concerns identified regarding flood sources. The potential flood sources in the area are PIPING: Fire Protection

Evaluated by:

This Eddie M. Guerra

Date:

7/25/2012

Date:

7/25/2012

Brian A. Lucarelli



515

Status: (Y) N U

Area Walk-By Checklist (AWC)

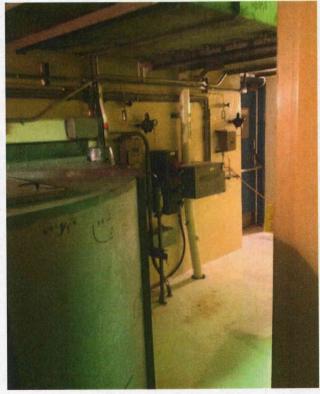
Room

Floor El. 623

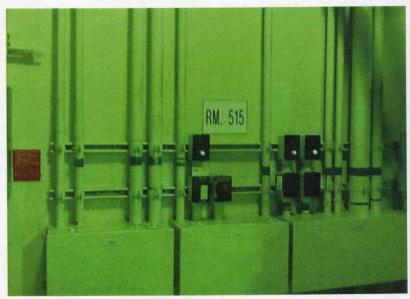
Bldg.

AUXB

Other supporting or relevant documents and photos (if any):



General View of Room 515



General View of Room 515



Status: (Y) N U

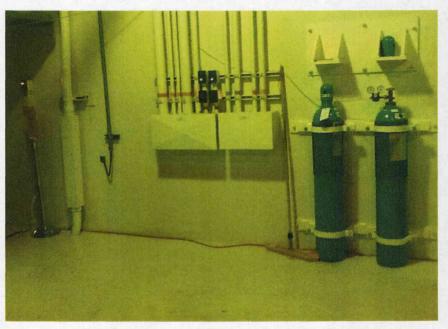
Area Walk-By Checklist (AWC)

Room	515	Floor El.	623	Bldg.	AUXB

Supporting Photos (continued):



Loosely Tied Dolly in Room 515



Cylinder tanks properly fixed to wall were found in the area

PCZ	Paul C. Rizzo Associa	Sheet 95 of 123							
							Status)n u	
Area Walk-	By Checklist (AWC)								
Room	600	Floor El.	643	Bldg.	AU	ХB	-	_	
This checklis space below	for Completing Check st may be used to docur each of the following of pace is provided at the	ment the results of questions may be	used to record the	results of judgmen	nts and find		ĥe	_	
						Y	N	U	N/A
	orage of equipment in v adverse seismic condi abinets)?					X			
	orage of equipment in conditions?	the area appear to	o be free of signific	ant		Y X	N	U	N/A
						Y	N	U	N/A
raceways a seismic co	a visual inspection from and HVAC ducting app nditions (e.g., condition of cable trays appear to	ear to be free of j n of supports is ac	potentially adverse dequate and fill			X	<u> </u>	<u> </u>	D1/A
-	pear that the area is fre		-	ial		Y X	N	U 	N/A
Related equi	pment on SWEL for th	is area:							
1) CV-5005									

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Paul C. Rizzo Associates, Inc.

Status(Y)N U

Room	600	Floor El.	643	Bldg.	AUXB			
••	ffects ear that the area is fithat could cause flo	1 ,			Y X	N	U	N/A
	ear that the area is f hat could cause a f		dverse seismic		Y X	N	U	N/A
interactions	ear that the area is f associated with ho and temporary insta	usekeeping practic	es, storage of p		Y X	N	U	N/A
•	oked for and found ffect the safety fund				Y X	N	U]

Comments (Additional pages may be added as necessary) NO

Fire Sources:

No fire sources identified in area.

Flooding Sources: Piping: Station Heating

> No concerns identified regarding flood sources. The potential flood sources in the area are Piping: Station Heating

Evaluated by:

dtte Eddie M. Guerra

Date:

7/25/2012

Brian A. Lucarelli

Date:

7/25/2012

Instructions for Completing Checklist This checklist may be used to document the results of the Area Walk-By near one or more SWEL space below each of the following questions may be used to record the results of judgments and f Additional space is provided at the end of this checklist for documenting other comments. 1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? 3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and	AUXB	Status (Y) N U - - U U U	N/A N/A
Room 601 Floor El. 643 Bldg. 4 Instructions for Completing Checklist Checklist Checklist may be used to document the results of the Area Walk-By near one or more SWEL pace below each of the following questions may be used to record the results of judgments and for Additional space is provided at the end of this checklist for documenting other comments. 1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? [] 2. Does anchorage of equipment in the area appear to be free of significant degraded conditions? [] 3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? [] 4. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and []	Y Y X Y X Y	N N	U	N/A
 Instructions for Completing Checklist This checklist may be used to document the results of the Area Walk-By near one or more SWEL pace below each of the following questions may be used to record the results of judgments and fudditional space is provided at the end of this checklist for documenting other comments. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Does anchorage of equipment in the area appear to be free of significant degraded conditions? Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and 	Y Y X Y X Y	N N	U	N/A
 Chis checklist may be used to document the results of the Area Walk-By near one or more SWEL pace below each of the following questions may be used to record the results of judgments and for Additional space is provided at the end of this checklist for documenting other comments. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Does anchorage of equipment in the area appear to be free of significant degraded conditions? Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and 	Y Y X Y X	N N	U	N/A
 potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Does anchorage of equipment in the area appear to be free of significant degraded conditions? Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and 	X Y X Y	N	U	N/A
 potentially adverse seismic conditions (if visible without necessarily opening cabinets)? P. Does anchorage of equipment in the area appear to be free of significant degraded conditions? Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and 	X Y X Y	N	U	N/A
 degraded conditions? Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and 	X Y			1
 degraded conditions? Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and 	Y	N	U	<u> </u>
raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and		N	U	
raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill conditions of cable trays appear to be inside acceptable limits)? b. Does it appear that the area is free of potentially adverse seismic spatial interactions with other equipment in the area (e.g., ceiling tiles and			1	N/A
interactions with other equipment in the area (e.g., ceiling tiles and	Y	N	U	N/A
lighting)?	X	[
Related equipment on SWEL for this area:				
I) IA608				
2) PY-101A				
3) MS101				

Paul C. Rizzo Associates, Inc. ENCINEERS & CONSULTANTS

Status (Y) N U

rea	Walk-By	Checklist	
AI CA	Walk-Dy	CHECKHSU	(AWC)

ł

Room	601	Floor El.	643	Bldg.	AUXB			
Interaction B	Effects				Y	N	U	N/A
	ear that the area is t s that could cause fl	•			<u> </u>			<u> </u>
	bear that the area is t		adverse seismic		Y X	N	U	N/A
interactions	that could cause a t	tire in the area?			Y	N	<u> </u>	N/A
interaction	bear that the area is a sociated with he area is associated with he and temporary inst	ousekeeping practi	ces, storage of po	rtable	X		I	
	Unrestraine	ed temporary stora	ge containers obs	erved in area, see	Photo 2			
-	ooked for and found affect the safety fur				Y X	N	U]
Comments (A Fire Sources:	Additional pages ma	ay be added as nec	essary)					

No fire sources identified in area.

Flooding Sources: Cont Purge Supply Heating Coil E38, Piping: Domestic water, Fire Protection, Main Steam, Station Heating

No concerns identified regarding flood sources. The potential flood sources in the area are Cont Purge Supply Heating Coil E38, Piping: Domestic water, Fire Protection, Main Steam, Station Heating

Evaluated by:

AH4 Eddie M. Guerra

Date:

7/25/2012

Date:

Brian A. Lucarelli

7/25/2012



Status (Y) N U

Area Walk-By Checklist (AWC)

Room

601

Floor El. 643

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):

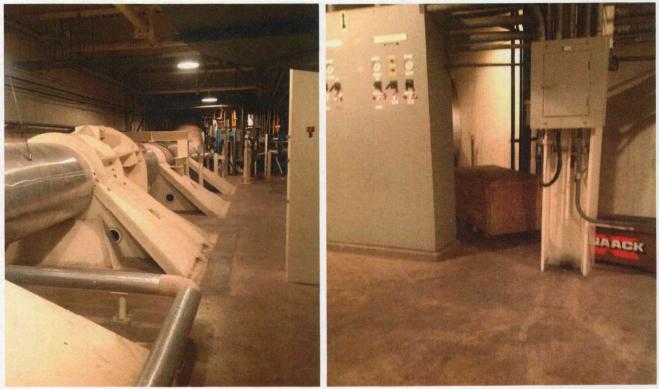


Photo 1 General View of Room 601

Photo 2 Unrestrained Storage Containers

	ul C. Rizzo Assoc	ciates, Inc.				She	et 100 c	of 123
						Status(Y)n u	
Area Walk-By	Checklist (AWC)						
Room	602	Floor El.	643	Bldg.	AUXB			
This checklist m space below eac	h of the following	ument the results of questions may be	used to record	alk-By near one or more the results of judgmen enting other comments.	ts and findings.	ne	-	
		_			Y	N	<u> </u>	N/A
	verse seismic con	n the area appear to ditions (if visible v		arily	X	L	J	I
	_				Y	N	<u> </u>	N/A
2. Does anchora degraded cond		n the area appear to	o be free of sig	gnificant	X			
					Y	N	U	N/A
raceways and seismic condit	HVAC ducting aptions (e.g., conditi	om the floor, do the opear to be free of p on of supports is a to be inside accep	potentially adv dequate and fil	/erse	X	L	I	
4. Does it appea	r that the area is f	ree of potentially a	dverse seismic	c spatial	Y X	N	U	N/A
interactions w lighting)?	vith other equipme	ent in the area (e.g.	, ceiling tiles a	and				
Related equipme	ent on SWEL for	this area:						
1) SP17A7								
2) ICS11A								

~

Paul C. Rizzo Associates, Inc. ENGINEERS & CONSULTANTS

Area Walk-By Checklist (AWC)

Status(Y)N U

Room	602	Floor El.	643	Bldg.	AUXB			
Interaction Effects 5. Does it appear that interactions that c	at the area is free				Y X	N	U	N/A
6. Does it appear that interactions that co			lverse seismic		Y X	N	U	N/A
7. Does it appear tha interactions asso equipment, and te shielding)?	ciated with house emporary installa	ekeeping practice tions (e.g., scaff	es, storage of po olding, lead		Y	N	U	N/A
Unrestrained temporary storage container in the area, see Photo 2. 8. Have you looked for and found no other seismic conditions that could adversely affect the safety functions of the equipment in the area?								
Comments (Addition <i>Fire Sources:</i>	480V Transform	mer	- /	The potential ignition :	sources in the a	rrea are 48	UV Transf	ormer
Flooding Sources:	No concerns ia	rotection, Main S lentified regardii in Steam, Statio	ng flood sources	leating . The potential flood s	ources in the ar	rea are Pip	ning: Fire	

Evaluated by:

Atto Mehneft Eddie M. Guerra

Date:

7/25/2012

Date: Brian A. Lucarelli

7/25/2012

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Paul C. Rizzo Associates, Inc.					Sheet 102 of 123	
					Status (Y) N U	
Area Walk-B	By Checklist (AWC	C)				
Room	602	Floor El.	643	Bldg.	AUXB	

Other supporting or relevant documents and photos (if any):

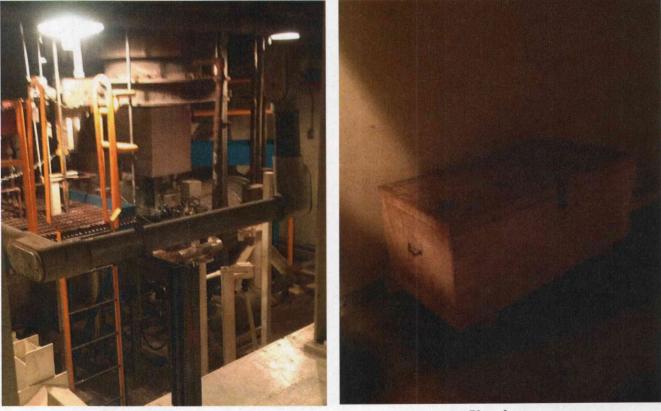


Photo 1 General View of Room 602

Photo 2 Unrestrained Storage Container

Area Walk-By Checklist (AWC) Room 603 Floor El. 638 Bldg. Instructions for Completing Checklist This checklist may be used to document the results of the Area Walk-By near one or more SWE space below each of the following questions may be used to record the results of judgments and Additional space is provided at the end of this checklist for documenting other comments. 1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? 2. Does anchorage of equipment in the area appear to be free of significant downdod conditions?		Status (Y) N U - - -	N/A
Room 603 Floor El. 638 Bldg. Instructions for Completing Checklist This checklist may be used to document the results of the Area Walk-By near one or more SWE space below each of the following questions may be used to record the results of judgments and Additional space is provided at the end of this checklist for documenting other comments. 1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? 2. Does anchorage of equipment in the area appear to be free of significant	EL items. T I findings. Y		- - U	N/4
 Instructions for Completing Checklist This checklist may be used to document the results of the Area Walk-By near one or more SWE space below each of the following questions may be used to record the results of judgments and Additional space is provided at the end of this checklist for documenting other comments. 1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? 2. Does anchorage of equipment in the area appear to be free of significant 	EL items. T I findings. Y		- - U	N/4
 This checklist may be used to document the results of the Area Walk-By near one or more SWE space below each of the following questions may be used to record the results of judgments and Additional space is provided at the end of this checklist for documenting other comments. 1. Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? 2. Does anchorage of equipment in the area appear to be free of significant 	l findings.		- U	N/4
potentially adverse seismic conditions (if visible without necessarily opening cabinets)?2. Does anchorage of equipment in the area appear to be free of significant		N	U	NI/A
potentially adverse seismic conditions (if visible without necessarily opening cabinets)?2. Does anchorage of equipment in the area appear to be free of significant	X			1N/A
	<u>Y</u>	N	U	N/A
degraded conditions?	X	<u> </u>	<u> </u>	
	Y	N	U	N/A
3. Based on a visual inspection from the floor, do the cable/conduit raceways and HVAC ducting appear to be free of potentially adverse seismic conditions (e.g., condition of supports is adequate and fill	X	<u> </u>	<u> </u>	
conditions of cable trays appear to be inside acceptable limits)?4. Does it appear that the area is free of potentially adverse seismic spatial	Y X	<u>N</u>	U	N/A
interactions with other equipment in the area (e.g., ceiling tiles and lighting)? Fire extinguisher is mounted on the wall and is not laterally supported. It is judged that it is unlikely for the extinguisher to fall or cause significat interaction with nearby equipment. Masonry walls in area, see Photo 1. Walls identified as 6017, 6027 6037, 6087, 6097, 6107, and 6047 Wall 6027 is exempt. All other walls have been seismically analyzed per NRC IE Bulletin 80-11 (Ref. VBW31-B001-164, Rev 3,SK-C-997, Rev VBW32-B001-166, Rev 5, VBW32-B001-167, Rev 8, VBW32-B001-168, Rev	, 0, VBW31)
Related equipment on SWEL for this area:				
1) TS-5261				
2) C21-1				
3) SW-5896				
4) SW3927				
5) SW3928				

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Paul C. Rizzo Associates, Inc. ENGINEERS & CONSULTANTS

Statust	(\mathbf{Y})	Ν	U
	` '		

A rea	Walk.	By Ch	ecklist	(AWC)
ni va	vv ain-	Dy Cu	ICCRIISE	$(A \cap C)$

Room	603	Floor El.	638	Bldg.	AUX	В			
Interaction I	Effects				<u> </u>	7	N	U	N/A
	bear that the area is find the stream is find the second stream is that could cause flow the second stream is the stream is the second	•			<u> </u>				
					<u> </u>	7	N	U	N/A
	pear that the area is find that could cause a find that could cause a find that could cause a find that the second s		adverse seismic		>			1	
					<u> </u>	7	<u>N</u>	U	N/A
interaction	pear that the area is finds associated with ho , and temporary insta	usekeeping practi	ces, storage of po	rtable		<u> </u>			
2,	I&C Cart no	ot restrained, see l that the I&C cart		hoto 3) would not eq	uipment.				
		acceptable interac			Ϋ́Υ	7	Ν	U	_
8. Have you	looked for and found	no other seismic	conditions that co	ould	2	K			
adversely	affect the safety fund	ctions of the equip	oment in the area?						

Comments (Additional pages may be added as necessary)

NO

Fire Sources:

No fire sources identified in area.

Flooding Sources: No concerns identified regarding flood sources. The potential flood sources in the area are Demin water storage tank T108, Cem Pot Feeder T154, Expansion tank T88, Piping: Chilled water, Domestic water, demin water, fire protection, Station Heating, Service water

Evaluated by:

ne. toto / Date:

7/25/2012

Eddie M. Guerra

Date: Brian A. Lucarelli

7/25/2012

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603

Status (Y) N U

Area Walk-By Checklist (AWC)

Room

Floor El. 638

Bldg.

AUXB

Other supporting or relevant documents and photos (if any):

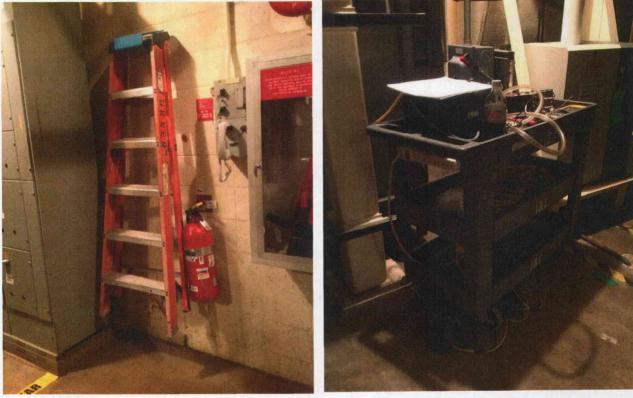


Photo 1 Fire Extinguisher not Restrained and Masonry Wall Photo 2 Cart Not Restrained

Paul C. Rizzo Associates, Inc. She						eet 106 of 123		
						Status:(Y)n u	
Area Walk-	By Checklist (AWC)							
Room	251	Floor El.	565	Bldg.	INTK		_	
This checklis space below	s for Completing Cher st may be used to docu each of the following pace is provided at the	ment the results of questions may be	used to record the	e results of judgmen	nts and findings.	he		
			······································	<u></u>	Y	N	- U	N/A
1. Does anch	norage of equipment in	the area appear t	o be free of		X			
opening ca 2. Does anch	 Does anchorage of equipment in the area appear to be free of potentially adverse seismic conditions (if visible without necessarily opening cabinets)? Anchor threads shown with substantial length past nut, see Photo 1. Judged acceptable as the support loads are very insignificant. Does anchorage of equipment in the area appear to be free of significant degraded conditions? 				Y	N	U	N/A
					Y	N	U	N/A
raceways a seismic con	a visual inspection from and HVAC ducting app nditions (e.g., conditio of cable trays appear t	bear to be free of n of supports is a	potentially advers dequate and fill	e	Y	N	U	N/A
4 Does it an	pear that the area is free	e of potentially a	adverse seismic sn	atial		N	T	
	ns with other equipmer	nt in the area (e.g	., ceiling tiles and			L	1	1
			onent, see Photo 2. ern due to weight o	of hanging light				
Related equi	pment on SWEL for th	nis area:						
1) SW82								

~

Paul C. Rizzo Associates, Inc. SCINEERS & LYNSPITASTS

Area Walk-By Checklist (AWC)

Status: Y)n u

Room	251	Floor El.	565	Bldg.	INTK		_	
Interaction Effects5. Does it appear that the area is free of potentially adverse seismic interactions that could cause flooding or spray in the area?						N	U	N/A
	pear that the area is fiss that could cause a fi	• •	dverse seismic		Y X	N	U	N/A
interaction	pear that the area is fins associated with ho , and temporary instance ,	usekeeping practic	ces, storage of po	ortable	Y X	<u>N</u>	U	N/A
•	looked for and found affect the safety fund				Y X	N	U]
Comments (Additional pages may	y be added as nece	essary)					

Fire Sources: NO

No fire sources identified in area.

No concerns identified regarding flood sources. The potential flood sources in the area are Piping: Domestic Flooding Sources: Water, Demin Water, Service Water, Clean Water

Evaluated by:

dille Eddie M. Guerra

Date:

7/25/2012

Brian A. Lucarelli

Date:

7/25/2012

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Status: (Y)N U

Area Walk-By Checklist (AWC)

251

Room

<u> 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997</u>

Floor El. 565

Bldg.

INTK

Other supporting or relevant documents and photos (if any):



Photo 1 Anchor Threading Substantially Past Nut Photo 2 Hanging Light Touching Component

DCZ	Paul C. Rizzo Asso	ciates, Inc.				She	et 109	of 123
						Status:(Y)n u	
Area Walk-E	By Checklist (AWC	C)						
Room	50	Floor El.	585	Bldg.	INTK		_	
This checklist space below e	each of the followin	cument the results og questions may be	used to record	alk-By near one or more d the results of judgmen tenting other comments.	ts and findings.	he	-	
					Y	N	U	N/A
	orage of equipment adverse seismic co binets)?			sarily	X			
					Y	N	U	N/A
2. Does anche degraded c	orage of equipment onditions?	in the area appear t	o be free of si	gnificant	X			
	Minor corr	osion on various co to affect componen			Y	N	U	N/A
	visual inspection f	rom the floor, do th	e cable/condu	it	X			
seismic con	nd HVAC ducting a aditions (e.g., condit of cable trays appea	tion of supports is a	dequate and fi					
				g structural beam with j ceptable due to short spo				
					Y	N	U	N/A
	bear that the area is s with other equipm				X		<u> </u>	J
0 0,	It is judged	l that it is unlikely f	or the extingu	d is not laterally support isher to fall or cause sig				
Related equip	oment on SWEL for	<i>with nearby equipr</i> this area:	neni.					
1) P4-1								
2) F1-2								

-



Area Walk-By Checklist (AWC)

Status: Y N U

Room	50	Floor El.	585		Bldg.	IN	ГК			
Interaction Effect	:S						Y	N	U	N/A
	hat the area is free o could cause floodin			2		L.,	X			
							Y	N	U	N/A
• •	hat the area is free o could cause a fire in	• •	lverse seismic	•			X			
							Y	N	U	N/A
interactions ass	hat the area is free o ociated with housek temporary installati	eeping practice	es, storage of			Γ.	X	1		
•	d for and found no o t the safety function						Y X	N	U]

 Comments (Additional pages may be added as necessary)
 Fire Sources:
 NO

 No fire sources identified in area.
 No

Flooding Sources: No concerns identified regarding flood sources. The potential flood sources in the area are Piping: Aux. Steam, Chlorination, circulating water, fire protection, screenwash, service water, water treatment

Evaluated by:

ine Itie My Date:

7/25/2012

Eddie M. Guerra

Date: Brian A. Lucarelli

7/25/2012



Other supporting or relevant documents and photos (if any):

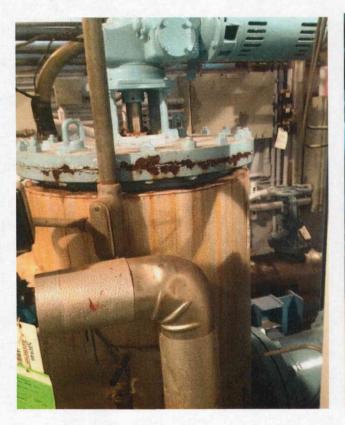


Photo 1 Minor Corrosion



Photo 2 Rod Hung Pipes

BCS	Paul C. Rizzo Assoc	iates, Inc.				She	et 112 c	of 123
					S	Status)n u	
Area Walk-	By Checklist (AWC)						
Room	51	Floor El.	576	Bldg.	INTK			
This checkli space below	each of the following	ument the results of questions may be	e used to record t	k-By near one or more SV the results of judgments a nting other comments.		•	_	
	norage of equipment i y adverse seismic con abinets)?			ily	Y X	N	U	N/A
	norage of equipment i conditions?	n the area appear t	to be free of sign	ificant	Y X	N	U	N/A
		ged, see Photo 1. a significant adver	se seismic condi	ition.				
raceways a seismic co	a visual inspection fr and HVAC ducting ap onditions (e.g., conditi s of cable trays appear	opear to be free of on of supports is a	potentially adve dequate and fill	rse	Y X	<u>N</u>	U	N/A
-		• •	., ceiling tiles an	-	Y X	<u>N</u>	U	N/A
Dalata -	Top conduit	s will provide late		emed not significant				
-	ipment on SWEL for	this area:						
1) E12C								

-

Paul C. Rizzo Associates, Inc. ENGINEERS & CONSULTANTS

Area Walk-By Checklist (AWC)

Status (Y) N U

Room	51	Floor El.	576	Bldg.	INT	K	•		
Interaction I	Effects					Y	N	U	N/A
	bear that the area is f s that could cause fl					X			
						Y	N	U	N/A
	bear that the area is that could cause a f		dverse seismic		L	<u>x</u>			
7 Doos it an	bear that the area is t	free of potentially a	dverse seismic		[Y X	<u>N_</u>	U	N/A
interaction	ns associated with he , and temporary inst	ousekeeping practic	ces, storage of por	rtable	L		_		J
	Scaffolding	in area appears to	be adequately re	strained.		Y	N	U	
•	looked for and found affect the safety fun					X]

Comments (Additional pages may be added as necessary)

Fire Sources: Transformer For Lighting Panel L3012 No concerns identified regarding fire sources. The potential ignition sources in the area are Transformer For Lighting Panel L3012

Flooding Sources: No concerns identified regarding flood sources. The potential flood sources in the area are Ptiping: Fire Protection, Aux. steam, diesel fuel oil, screenwash, water treatment

Evaluated by:

ditte Eddie M. Guerra

Date:

7/25/2012

Brian A. Lucarelli

Date:

7/25/2012



Status (Y) N U

Area Walk-By Checklist (AWC)

51

Room

Floor El.

576

Bldg.

INTK

Other supporting or relevant documents and photos (if any):

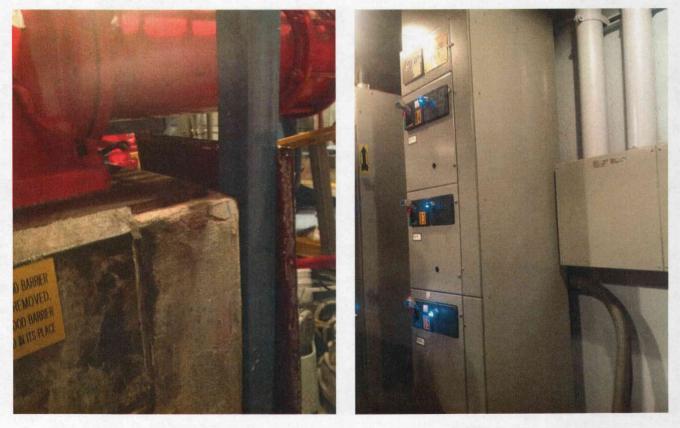


Photo 1 Damaged Grout Photo 2 Movement of MCC Restrained by Adjacent Component

	aul C. Rizzo Asso	ciates, Inc.				She	eet 115	of 123
_					:	Status)n u	
Area Walk-By	y Checklist (AWC	C)						
Room	52	Floor El.	576	Bldg.	INTK		_	
This checklist space below ea	ach of the followin		used to record the	results of judgme		e	_	
					Y	N	U	N/A
	dverse seismic con	in the area appear t nditions (if visible		/	X			
					Y	N	U	N/A
2. Does anchor degraded co		in the area appear	to be free of signifi	cant	X		L	
		corrosion noted foi to affect componer		-	P3-3. See Photos 1,	2 and 3.		
					Y	N	U	N/A
raceways and seismic cond	d HVAC ducting a litions (e.g., condit	rom the floor, do th ppear to be free of ion of supports is a r to be inside accep	potentially adverse dequate and fill	2	X	 N	J U	N/A
interactions		free of potentially a lent in the area (e.g		atial	Y X			
lighting)?	It is judged interaction Fire exting Masonry w	uisher is mounted of that it is unlikely f with nearby equips uishers not restrain all 237I in area ha 10-B001-055, Rev d	or the extinguisher ment. aed s been seismically	to fall or cause si	ignificant			
Related equipt	ment on SWEL for	this area:						
1) F12D								
2) EF12C								
3) P3-2								

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Paul C. Rizzo Associates, Inc. ENGINEERS & CONSULTANTS

Status	(\mathbf{Y})	Ν	U

Room	52	Floor El.	576		Bldg.	INTK		_	
	that the area is fr	ee of potentially a oding or spray in t		с		Y X	N	U	N/A
	that the area is fr could cause a fi	ee of potentially a re in the area?	dverse seismi	c		Y X	<u>N</u>	U	N/A
interactions as	sociated with ho	ee of potentially a usekeeping practic llations (e.g., scaff	es, storage of			Y X	<u>N</u>	U	N/A
•		no other seismic c tions of the equipr				Y X	N	U]

 Comments (Additional pages may be added as necessary)
 Fire Sources:
 NO

 No fire sources identified in area.
 NO

Flooding Sources: No concerns identified regarding flood sources. The potential flood sources in the area are Ptping: Fire Protection, Aux. Steam, Circulating Water, Circulating water tubing, Service water tubing, water treatment

Evaluated by:

this Eddie M. Guerra

Date:

7/25/2012

Brian A. Lucarelli

Date:

7/25/2012

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Area Walk-By Checklist (AWC)



Photo 1 Minor Corrosion of Pump P3-1

Photo 2 Minor Corrosion of Pump P3-3



Photo 3 Minor Corrision of Pump P3-2

PCR	Paul C. Rizzo Asso	ciates, Inc.				Sh	eet 118	of 123
						Status (Y)n u	
Area Walk-E	By Checklist (AWC	C)						
Room	53	Floor El.	566.25	Bldg.	INTK	-	_	
This checklist space below e	for Completing Cl t may be used to do each of the followin ace is provided at th	cument the results of questions may be	used to record the	results of judgment		'ne	_	
					Y	N	U	N/A
	orage of equipment adverse seismic con binets)?		X					
2. Does ancho degraded c	orage of equipment onditions?	in the area appear t	Y X	<u>N</u>	U	N/A		
		rout, see Photo 1. to have an adverse	effect on support's	seismic capacity.	Y	N	U	N/A
raceways ar seismic con	visual inspection find HVAC ducting a ditions (e.g., conditions (call trays appea	ppear to be free of ion of supports is a	potentially adverse dequate and fill		X			
	pear that the area is s with other equipm			tial	Y X	N 	U	N/A
Related equip	oment on SWEL for	this area:						
1) SW3963								
2) SW1399								

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Paul C. Rizzo Associates, Inc. ENGINEERS & CONSULTANTS

Area Walk-By Checklist (AWC)

Status (Y) N U

Room	53	Floor El.	566.25	Bldg.	INT	<u> </u>		
-	Effects opear that the area is finns that could cause flo					-	U	N/A
-	opear that the area is fins that could cause a fi		dverse seismic				I U	N/A
	opear that the area is fi							N/A
			folding, lead		cern. See Pho	oto 2.		
		in area appears to				YN	I U	_
-	looked for and found y affect the safety fund			ıld	2	K		
Comments	(Additional pages may	v he added as nece	ecory)					

 Comments (Additional pages may be added as necessary)
 Fire Sources:
 NO

 No fire sources identified in area.
 NO

Flooding Sources: No concerns identified regarding flood sources. The potential flood sources in the area are Piping: Fire Protection, Aux. Steam, Circulating Water, Domestic Water, Diesel Fuel Oil, Demi water, Screenwash, Service water, Water treatment, Neutralizing Tank discharge

Evaluated by:

ditte Eddie M. Guerra

Date:

7/25/2012

-

Date: Brian A. Lucarelli

7/25/2012

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	Paul C. Rizzo Asso	ociates, Inc.				Sheet 120 of 123
					S	tatus (Y) N U
Area Walk-B	By Checklist (AW)	C)				
Room	53	Floor El.	566.25	Bldg.	INTK	

Other supporting or relevant documents and photos (if any):



Photo 1 Damaged Grout Photo 2 Ladder Not Restrained

	ul C. Rizzo Associ	ates, Inc.			Sheet 121 of 123					
						Status:(Y)N U			
Area Walk-By	Checklist (AWC)									
Room	YARD	Floor El.	585	Bldg.	YARD					
This checklist n space below eac	ch of the following	ment the results of questions may be	used to record th	By near one or mor e results of judgmen ing other comments	nts and findings.	e	-			
	age of equipment in dverse seismic conc nets)?			ly	Y X	N	U	N/A		
2. Does anchora degraded cor	age of equipment ir nditions?	the area appear t	o be free of signif	ficant	Y	N	U	N/A		
raceways and seismic condi	isual inspection fro HVAC ducting ap itions (e.g., condition	bear to be free of on of supports is a	potentially advers dequate and fill	se	Y	<u>N</u>	U	N/A		
4. Does it appea	cable trays appear ar that the area is fr with other equipmen	ee of potentially a	dverse seismic sp		Y	N	U	N/A		
Related equipm	nent on SWEL for t	nis area:								

1) T153-1

Paul C. Rizzo Associates, Inc.

Area Walk-By Checklist (AWC)

Status: YN U

Room	YARD	Floor El.	585	Bldg.	<u>Y</u>	ARD	-		
	C ffects ear that the area is free that could cause floo					Y X	N	U	N/A
••	ear that the area is fro that could cause a fir		dverse seismic	;		Y X	N	U	N/A
interaction	ear that the area is fro s associated with hou and temporary instal	sekeeping practic	ces, storage of		C	Y X	N	U	N/A
•	ooked for and found a affect the safety funct					Y X	N	U]

Comments (Additional pages may be added as necessary)

 Fire Sources:
 EMERGENCY DIESEL GENERATOR FUEL OIL STOR

 No concerns identified regarding fire sources.
 The potential ignition sources in the area are EMERGENCY

 DIESEL GENERATOR FUEL OIL STOR

Flooding Sources: No concerns identified regarding flood sources. The potential flood sources in the area are T146, T147, T148, T149, T150, T151-1, T151-2, T160, T168, T188, T212, T45

Evaluated by:

ANIE Date: Eddie M. Guerra

7/25/2012

Brian A. Lucarell

Date:

7/25/2012



Other supporting or relevant documents and photos (if any):



Photo 1

APPENDIX D COMPONENT LIST FOR ANCHORAGE CONFIGURATION CHECK

COMPONENT ID	References
2N	Drawing C-0752 Rev 0011 Drawing E-854Q-115-1
2P	Drawing C-0752 Rev 0011 Drawing E-854Q-115-2
C21-1	Calculation C-CSS-C21-1
C25-3	Calculation C-CSS-C25-3
C3615	Calculation C-CSS-C3615
C3645	Calculation C-CSS-C3645
C4606	Calculation C-CSS-C4606 Calculation C-CSS-C4603
C73-1	Calculation C-CSS-C73-1
C78-2	Calculation C-CSS-C78-1
D1_ED	Calculation C-CSS-DCMCC-1 Drawing C-0233 Rev 0011
DIN	Drawing E-20-4-7(2) Drawing C-0220D Rev 0004
D2_ED	Calculation C-CSS-DCMCC-002 Calculation C-CSS-DCMCC-1
D2N	Drawing E-20-4-7(2) Drawing C-0220D Rev 0004 Calculation C-CSS-YV4
D2P	Drawing C-0220E Rev 0003
DBC2P	Calculation C-CSS-DBC2P
E11B	Calculation C-CSS-E11B Drawing C-0233 Rev 0011
E12B	Calculation C-CSS-E12B
E12C	Calculation C-CSS-E12C Drawing C-0233 Rev 0011 Drawing C-0412B Rev 0004
E22-1	Calculation C-CSS-E22-1 Drawing M-23-5-3 Drawing 7749-M-23-3-5 Calculation 97209-TR-01_REV0 (Altran)

COMPONENT ID	References	
E22-2	Calculation C-CSS-E22-1 Drawing M-23-5-3 Drawing 7749-M-23-3-5 Calculation 97209-TR-01_REV0 (Altran)	
E27-1	Calculation C-CSS-E27-1	
E27-2	Calculation C-CSS-E27-2	
F11A	Calculation C-CSS-F11A Drawing C-0233 Rev 0011	
F12A	Calculation C-CSS-F12A	
F12D	Calculation C-CSS-E12C Calculation C-CSS-F12D Drawing C-0412B Rev 0004	
K5-1	Calculation C-CSS-K5-1	
K5-2	Calculation C-CSS-K5-2	
P14-1	Calculation C-CSS-P14-1	
P14-2	Calculation C-CSS-P14-1 Calculation C-CSS-P14-2	
P3-2	Drawing M-045-00002-0011	
P372B	Calculation C-CSS-P37-2	
P42-1	Calculation C-CSS-P42-1	
P43-2	Calculation C-CSS-P43-2 Calculation C-CSS-P43-001	
P58-1	Calculation C-CSS-P58-1	
RC3701	Calculation C-CSS-RC3701	
T10	Calculation C-CSS-T10 Drawing 7749-C-34-147-3	
T12	Calculation C-CSS-T12	
T46-1	Drawing C-0213A Rev 0001 Calculation C-CSS-T46-1	
XCE1-1	Calculation C-CSS-CE1-001 Calculation C-CSS-E1	
XDF1-2	Calculation C-CSS-DF1-2 Calculation C-CSS-F1	
Y2	Calculation C-CSS-Y2	
YF1	Calculation C-CSS-YF1 Calculation C-CSS-F12B	
YRF2	Calculation C-CSS-YRF2 Calculation C-CSS-D2P	

COMPONENT ID	References	
YV2	Calculation C-CSS-YV2	
	Calculation C-CSS-D2P	
YV4	Calculation C-CSS-YV4	

APPENDIX E MASONRY BLOCK WALLS VERIFIED UNDER IE BULLETIN 80-11

Elevation	Room	Wall	Seismically Analyzed	Reference
		1157	Yes	VBW03-B001-009, Rev 5 (8/16/93)
545	122	1167	Yes	VBW03-B001-010, Rev 8 (4/20/89)
		1187	Exempt	SK-C-992, Rev A (6/6/89)
		2047	Yes	VBW06-B001-028, Rev 4 (7/29/88)
	225	2427	Yes	VBW10-B001-058, Rev 3 (1/2/06)
		2437	Yes	VBW10-B001-059, Rev 1 (6/29/81)
		2077	Yes	VBW06-B001-031, Rev 2 (12/1/86)
565	227	2087	Yes	VBW06-B001-032, Rev 3 (2/4/91)
505		2447	Yes	VBW10-B001-060, Rev 4 (3/14/86)
		2317	Yes	VBW09-B001-049, Rev 8 (2/6/06)
	236	2327	Yes	VBW09-B001-050, Rev 4 (2/4/06)
	230	2337	Yes	VBW09-B001-051, Rev 10 (1/15/06)
		2347	Yes	VBW09-B001-052, Rev 3 (2/8/91)
576	52	237I	Yes	VBW10-B001-055, Rev 14 (2/10/87)
585		3227	Yes	VBW15-B001-080, Rev 6 (5/18/88)
		3247	Yes	VBW16-B001-082, Rev 5 (8/5/81)
		3257	Yes	VBW16-B001-083, Rev 2 (4/27/88)
		3267	Yes	VBW16-B001-084, Rev 5 (4/27/88)
	312	3277	Yes	VBW17-B001-085, Rev 4 (4/25/88)
	512	3297	Yes	VBW17-B001-087, Rev 4 (4/25/88)
		3357	Yes	VBW18-B001-091, Rev 5 (4/25/88)
		3367	Yes	VBW19-B001-092, Rev 2 (10/28/87)
		3417	Yes	VBW19-B001-096, Rev 5 (4/27/88)
		3427	Exempt	SK-C-994, Rev A (6/6/89)
		308D	Yes	VBW12-B001-068, Rev 3 (5/27/81)
		309D	Yes	VBW13-B001-069, Rev 3 (5/28/81)
	318	310D	Yes	VBW13-B001-070, Rev 3 (5/28/81)
		311D	Yes	VBW13-B001-071, Rev 8 (4/20/88)
		338D	Yes	VBW19-B001-093, Rev 5 (9/26/81)
	210	304D	Yes	VBW12-B001-064, Rev 8 (8/26/87)
	319	307D	Yes	VBW12-B001-067, Rev 7 (4/20/88)
	201 4	305D	Yes	VBW12-B001-065, Rev 5 (4/21/88)
	321A	306D	Yes	VBW12-B001-066, Rev 6 (8/26/87)
	328	3307	Yes	VBW17-B001-088, Rev 6 (6/21/89)
		3347	Yes	VBW18-B001-090, Rev 3 (6/14/89)

Elevation	Room	Wall	Seismically Analyzed	Reference
		3397	Yes	VBW19-B001-094, Rev 5 (6/3/06)
		3407	Yes	VBW19-B001-095, Rev 10 (7/5/06)
		4016	Yes	VBW20-B001-100, Rev 14 (12/6/88)
		4026	-	-
		4036	Yes	VBW21-B001-102, Rev 13 (3/31/99)
		4046	_	-
603	428	4786	Yes	VBW25-B001-125, Rev 9 (6/26/90)
		4796	Yes	VBW25-B001-126, Rev 6 (12/11/90)
		4886	Yes	VBW27-B001-135, Rev 19 (4/29/88)
		4896	Yes	VBW27-B001-136, Rev 3 (7/18/06)
		4906	Yes	VBW28-B001-137, Rev 3 (9/23/81)
		5017	Yes	VBW29-B001-143, Rev 10 (1/7/06)
		5147	Yes	VBW29-B001-148, Rev 6 (6/10/06)
		5157	Yes	VBW29-B001-149, Rev 5 (8/14/96)
		5167	-	
		5177	Yes	VBW29-B001-151, Rev 2 (9/27/86)
	502	5187	Yes	VBW29-B001-152, Rev 5 (1/7/06)
		5197	Yes	VBW30-B001-153, Rev 3 (3/31/86)
		5207	Yes	VBW30-B001-154, Rev 9 (9/17/93)
(0)		5227	-	-
623		5237	Yes	VBW30-B001-156, Rev 2 (1/3/91)
		5277	Yes	VBW30-B001-158, Rev 4 (6/10/06)
		5107	Yes	VBW29-B001-145, Rev 13 (6/5/06)
		5127	Yes	VBW29-B001-146, Rev 8 (1/12/06)
		5287	Yes	VBW31-B001-159, Rev 9 (11/16/89)
	505	5297	Yes	VBW31-B001-160, Rev 3 (2/16/88)
		5347	Yes	VBW31-B001-161, Rev 4 (4/27/82)
		5357	Yes	VBW31-B001-162, Rev 1 (5/11/81)
		5367	Yes	VBW31-B001-163, Rev 2 (10/17/85)
		6017	Yes	VBW31-B001-164, Rev 3 (2/14/06)
		6027	Exempt	SK-C-997, Rev 0 (1/4/99)
		6037	Yes	VBW31-B001-165, Rev 9 (10/7/05)
643	603	6087	Yes	VBW32-B001-166, Rev 5 (11/1/90)
		6097	Yes	VBW32-B001-167, Rev 8 (11/7/84)
		6107	Yes	VBW32-B001-168, Rev 2 (5/10/88)
		6047	Yes	VBW32-B001-177, Rev 0 (12/21/83)

APPENDIX F DAVIS-BESSE DESIGN CRITERIA MANUAL

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Revision: 0					
Responsible Engineer:	Checker:	Theo Swim	Approver:		Date: <u>6/27/88</u>

1.0 DESIGN EARTHOUAKE BASIS

The design earthquake basis depends on the regional geology, site seismology, and historical occurrences, etc. These subjects are discussed in detail in the Davis-Besse USAR Appendix 2C. This section consists of presenting the design response spectra and design time history used in the seismic analysis and seismic design of Category I structures which form the Davis-Besse licensing commitment. Although this section is essentially historical, it is also applicable to Post 1979 Category I building design.

1.1 DESIGN EARTHQUAKE

The NRC's Seismic and Geology Siting Criteria (10 CFR 100, Appendix A) requires that for purposes of analysis and design, two design earthquakes be specified; i.e., a maximum possible (larger) earthquake and a maximum probable (smaller) earthquake.

The maximum possible (larger) earthquake is defined as that earthquake producing the maximum vibratory ground motion that the nuclear power generating plant is designed to withstand without functional impairment of those features necessary to shut down the reactor and maintain the plant in a safe condition without undue risk to the health and safety of the public. The maximum horizontal ground acceleration for the maximum possible (larger) earthquake is 0.15 g. The maximum possible earthquake is also referred to as Safe-Shutdown Earthquake or SSE.

The Maximum Probable Earthquake is the conservatively determined earthquake and associated ground motion that might reasonably or probably be expected to occur at the nuclear plant site. The Maximum Probable Earthquake is similar to the Operating Basis Earthquake (OBE) terminology presently being used by the NRC. The maximum horizontal ground acceleration for the maximum probable (smaller) earthquake is 0.08 g.

1.2 DESIGN RESPONSE SPECTRA-

The design response spectra for horizontal ground motion of the maximum possible (larger, SSE) earthquake for 0 percent, 1/2 percent, 1 percent, 2 percent, 5 percent, and 10 percent of critical damping are shown in Figure II.E.1-1. Figure II.E.1-2 shows the corresponding response spectra for the maximum probable (smaller, OBE) earthquake, which are obtained by multiplying the maximum possible (larger) earthquake spectra values by a factor of 8/15. Figure II.E.1-3 shows the Davis-Besse time-history design spectrum plotted with the ground design spectrum for 4-percent damping. This figure also shows that the time-history response spectrum conservatively envelops the Davis-Besse design spectrum.

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The input design response spectra, often referred to as a "Newmark" spectra, is based on research conducted by Dr. Newmark in conjunction with the NRC.

Based on site studies prepared for Davis-Besse Power Station Unit 1, the maximum ground acceleration, velocity, displacement, and earthquake duration are shown in Table II.E.1-1. The vertical component of each earthquake is defined as two-thirds of the horizontal component.

1.3 DESIGN TIME-HISTORY ACCELEROGRAM

The east-west accelerogram of the Helena, Montana earthquake of October 31, 1935 was used as the basis for development of the project acceleration time-histories for both design earthquakes. The Helena record was modified to obtain an acceleration time-history having the required duration, maximum ground accelerations, and a resulting response spectra with values generally greater than the Newmark design spectra. Figure II.E.1-4 shows the modified Helena horizontal time-history accelerogram developed for Davis-Besse Power Station Unit 1. Reference 1 presents this record as a digitized time-history of 30 seconds in intervals of 0.01 second.

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Table II.E. 1-1

LIMITING PARAMETERS FOR THE DESIGN EARTHQUAKES

1. HORIZONTAL VIBRATORY GROUND MOTIONS

- a. Maximum Possible Earthquake (larger earthquake, SSE)
 - Maximum ground acceleration: 0.15 G

Maximum ground velocity: 5 inches/second

Maximum ground displacement: 3.33 inches

Total duration: 30 seconds

- b. Maximum Probable Earthquake (smaller earthquake, OBE)
 - Maximum ground acceleration:0.08 GMaximum ground velocity:2.67 inches/secondMaximum ground displacement:1.78 inches

Total duration:

2. VERTICAL VIBRATORY GROUND MOTIONS

Maximum Possible (larger) Earthquake and Maximum Probable (smaller) Earthquake

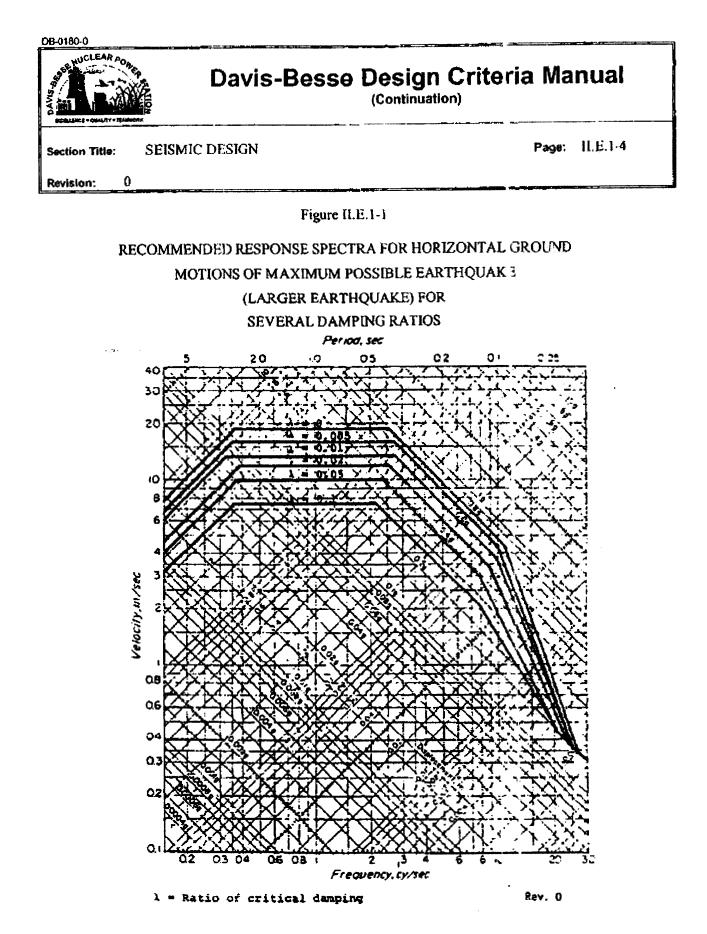
30 seconds

Vertical vibratory ground motions are two-thirds of the respective maximum horizontal vibratory ground motions.

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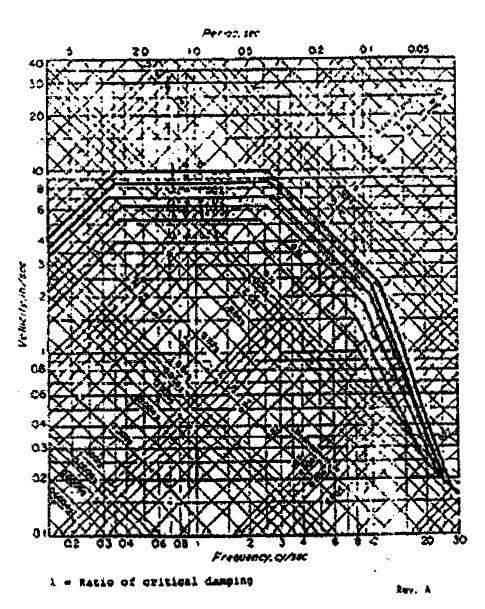
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Figure II.E.1-2

RECOMMENDED RESPONSE SPECTRA FOR HORIZONTAL GROUND MOTIONS OF MAXIMUM PROBABLE EARTHQUAKE (SMALLER EARTHQUAKE) FOR SEVERAL DAMPING RATIOS



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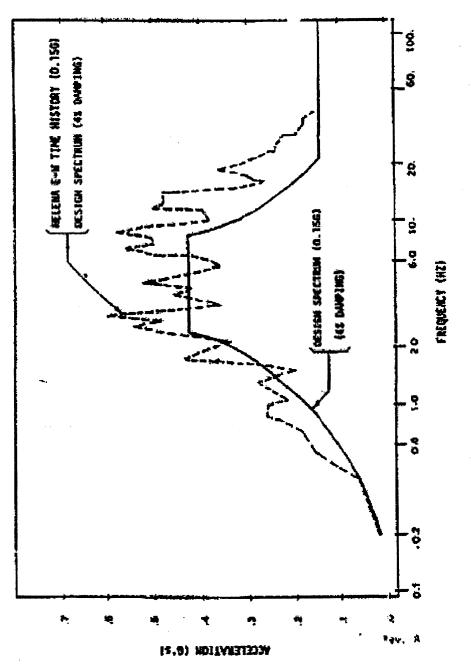
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Figure II.E.1-3

DESIGN TIME-HISTORY SPECTRUM VERSUS DESIGN SPECTRUM COMPARISON



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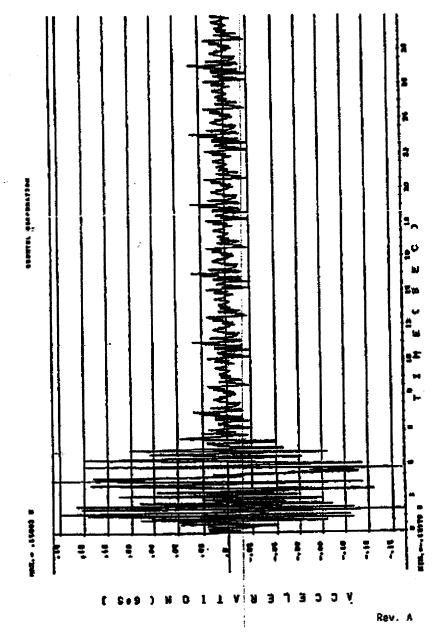
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Figure II.E.1-4

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MODIFIED HELENA TIME-HISTORY ACCELEROGRAM

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Revision: 3 Responsible Engineer:	Checker: Jon Hook	Approver: Theo Swim	Date: <u>2/13/96</u>

This section discusses the seismic analytical approach for both Seismic Category I and Non-(Seismic Category I) structures. Modeling considerations, and the time-history method of analysis, are described for the major Category I buildings. Although this section is essentially historical, new structures would also require the considerations described herein.

2.1 SEISMIC CATEGORY I STRUCTURES

The Seismic Category I structures which have been designed to withstand the effects of the design earthquakes are listed below:

- Shield building
- Containment vessel
- Containment internal structures
- Auxiliary building
- Intake structure excluding superstructure
- Service water tunnel and valve room
- Borated water storage tank and foundation
- Seismic Category I electrical duct banks and manholes
- Emergency diesel fuel oil tanks and foundations
- Chlorine detector building

The Seismic Category I systems and components located in these structures have also been designed for the effects of the design earthquakes.

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The design of Seismic Category I structures has been based on the techniques of TID 7024 (Reference 2) and the applicable sections of BC-TOP-4A (Reference 3). Lumped mass mathematical models shown in Figures II.E.2-1 through II.E.2-8 were used to analyze the major Seismic Category I structures applying both time-history and spectral response techniques. A discussion of time-history analysis is given in Section II.E.2.2, and the spectral response technique is discussed in Section II.E.3.1. It should be noted that the major plant structures as well as Areas 6, 7, and 8 of the auxiliary building are separated by 1 inch expansion (seismic) joints in order to ensure independent response under seismic excitation.

The lump mass models were dynamically excited using ground spectra and time-history as given in Figures II.E.1-1 and II.E.1-2, and in Reference 1. Seismic forces for the design of buildings were obtained using the spectral response technique. Using the time-history technique, floor response spectra were developed at each floor level for three directions of earthquake excitation. The floor spectra, found in References 4 and 5 as well as in calculations listed in Table II.E.2-2, are used to obtain seismic loads for the design of systems, subsystems, and components that are uncoupled with the building walls or slabs (refer to Section II.E.3).

2.2 MODELING

The Seismic Category I structures resting on sound bedrock have been idealized as fixed-base, lumped-mass systems as shown in Figures II.E.2-2 through II.E.2-7. The Seismic Category I structures which have been analyzed considering soil structure interaction effects include Area 6 of the auxiliary building and the borated water storage tank (see Figures II.E.2-1 and II.E.2-8).

In the model for the three areas of the auxiliary building, the intake structure, and the containment internals, a concentrated mass was located at each floor level to mathematically represent the mass of slabs, walls, and equipment. This idealization was based on the assumption that the floor slabs will act as rigid diaphragms. These masses were connected by massless beam elements representing the stiffness of the walls and columns between floors. The lumped mass points for the shield building, containment vessel, and borated water storage tank were established in accordance with the building geometry and structural properties.

For Area 6 of the auxiliary building, the foundation consists of a system of beams and reinforced concrete columns (Caissons) extending 27 feet through Class I structural backfill to the rock surface. In the mathematical model shown in Figure II.E.2-1, the soil and concrete masses between the grade slab and the rock surface have been lumped at three points. Translational soil springs located at these points represented the shear rigidity of the soil. A rotational spring at the top of the columns represented the rotational stiffness of the column group. The system was assumed free to rotate at the rock surface and lateral stability was provided by the translational soil springs.

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For the borated water storage tank, the foundation is a reinforced concrete slab approximately 6 feet deep and 49 feet in diameter, which rests on structural backfill extending to the in situ rock at elevation 560 feet. The mathematical model shown in Figure II.E.2-8 consisted of a lumped mass idealization of the superstructure and foundation which, in turn, was supported by springs representing the horizontal, vertical, and rotational stiffness of the compacted structural backfill. These stiffnesses have been determined using methods presented in Reference 3.

Other Category I structures such as the service water tunnel, valve rooms, buried oil storage tank, and electrical manholes with associated duct banks, have been idealized as single-degree-of-freedom systems. Since the fundamental modes were in the rigid range, design response spectra for these structures was the ground spectra.

2.3 TIME-HISTORY ANALYSIS

The time-history method of analysis has been utilized to analyze the Seismic Category I buildings for purposes of developing the structure's response necessary for evaluating equipment installations. Although this method of seismic analysis has principally been used for the analysis of buildings, it is applicable to any structural system where the base excitation is defined as a function of time and acceleration.

As presented in Section II.E.2.1, mathematical models representing the buildings have been used to determine the time-history response of the buildings subjected to the design earthquake time-history using a modal technique. For each building, at least one mode of vibration was considered, and all modes below 33 Hz were used for modal synthesis in each direction of excitation. In these instances, the total sum of the modal masses used in the analysis was at least 90 percent of the building mass. A set of uncoupled modal equations, representing the idealized system under dynamic loading, has been solved using a mathematical routine such as the Runge-Kutta Fourth-Order method. By algebraically combining the modal responses at each time increment, acceleration time-histories at the various floor elevations have been obtained. These time-history records, have been used to develop the floor response spectra for seismic qualification of installations.

The response spectra have been constructed by monitoring the maximum response of interest at each step of time-history integration. It is assumed that the time-history varies linearly between data points. Frequency data points are those listed in Table 5-1 of Reference 3 in addition to the natural frequencies of the structure. Peaks associated with structural frequencies have been broadened by ± 10 percent of the peak frequency value and subsequently smoothed to account for uncertainties in the model representations.

Since the building models are of a planar nature, no cross-coupling floor response spectra have been generated.

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The time-history analysis technique has been used principally to obtain floor response spectra which in turn are used to define the seismic input for decoupled systems, subsystems, and components at their respective attachment points to the building structure.

2.4 DAMPING

When various components within a structural system possessed different percentages of critical damping, composite modal damping was calculated using the mass weighted method in the CE-917 program (see Section III.B.10), or the lowest damping value was conservatively used in the design for all components. Since 1980, certain structural analysis computer programs such as BSAP have utilized a strain-energy method for computing composite modal damping. This approach is preferred since the damping magnitude can be related to potential component deformations.

The percentages of critical damping for analyzing structures, systems and components are shown in Table II.E.2-1. The damping values shown above the dashed line in the table are those to which the plant has been licensed. The damping values below the dashed line in the table have been used since 1980 and were derived on the basis of reference 10 (CMU walls) and reference 11 (conduit, cable tray, wireway). Prior to 1980, damping values for items below the dashed line were derived by comparison with the damping values for the structurally similar items above the dashed line. Higher damping values than those listed in Table II.E.2-1 are allowed, provided proper justification (i.e. test results, etc.) is available for specific components or equipment.

For example, appropriate damping values for seismically qualifying equipment by analysis such as electrical cabinets, housing components, or devices such as meters and switches shall be based on the type of support assembly and whether it is bolted or welded. More exact damping values can be obtained from qualification test reports of similar equipment if available.

2.5 NON-(SEISMIC CATEGORY I) STRUCTURES

Non-(Seismic Category I) structures have been designed in accordance with the seismic requirements of the Uniform Building Code (Reference 7) or the Ohio Basic Building Code (reference Section II.H). Structures designed to these codes include:

٠	Turbine building	(UBC)
•	Turbine generator pedestal	(UBC)
•	Office building	(UBC)
•	Water treatment building	(UBC)

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•	Cooling tower	(UBC)	
•	Cooling water pump house	(UBC)	

- Personnel processing facility (OBBC) Personnel shops facility (OBBC) Administration building (UBC, 1979, Zone 2) Training simulator facility (OBBC) Low level radwaste storage (OBBC) facility
- Station Blackout Diesel Building (UBC)
- Yard structures not listed in (UBC) Section II.E.2.1, including intake structure superstructure.

Section 2312 of the Uniform Building Code describes the requirements for evaluating the lateral earthquake forces for Non- (Seismic Category I) structures and also the lateral forces on elements of structures and nonstructural components. For Davis-Besse Power Station Unit 1, structures are designed to requirements of Zone 1 of the UBC Seismic Zone Map except as noted in Section II.H for TED structures. The interaction between Seismic Category I and Non- (Seismic Category I) buildings has been precluded such that in the building design each structure responds independently to seismic motions.

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Table II.E.2-1

PERCENT OF CRITICAL DAMPING FACTOR

.

Item, Equipment, or Structures	Maximum Probable <u>Earthquake</u>	Maximum Possible Earthquake
 Large diameter piping systems, pipe diameter greater than 12 in. 	0.5	0.5
 Small diameter piping systems, diameter less than or equal to 12 in. 	0.5	0.5
Welded steel structures	2	2
Bolted steel structures	2	5
Reinforced concrete structures	2	4
Equipment	1	1
CMU walls	4	7
Conduit support systems	4	7
Cable tray/wireway systems	4	7
HVAC support systems	2	2

Refer to Section III.B.11.3.5.1.B.3.b for use of alternative (higher) damping values per ASME Code Case N-411.

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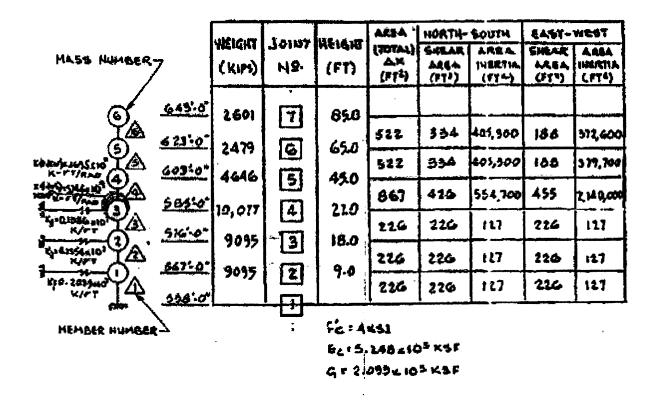
Table II.E.2-2

INDEX TO CALCULATIONS FOR SEISMIC ACCELERATION RESPONSE SPECTRA

Building/Location	Earth Quake	Ref/ Calc.	No. Sheets
Ground	OBE/	USAR	2
	SSE	Sect. 3.7	
Auxiliary Building - Area 6	SSE	S-18	12
Auxiliary Building - Area 7	SSE	S-19	21
Auxiliary Building - Area 8	SSE	S-20	21
Containment Shield Bldg.	SSE	S-21	12
Containment Vessel	SSE	S-22	16
Containment Internals	SSE	S-23	36
Intake Structure	\$\$E	S-24	12
Valve Room	SSE	S-25	2
Auxiliary Building - Area 6	OBE	S-18	12
Auxiliary Building - Area 7	OBÉ	S-19	21
Auxiliary Building - Area 8	OBE	S-20	21
Containment Shield Building	OBE	S-21	12
Containment Vessel	OBE	S-22	16
Containment Internals	OBE	S-23	36
Intake Structure	OBE	S-24	12
Valve Room	OBE	S-25	2

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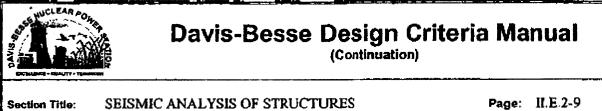
MATHEMATICAL MODEL, AUXILIARY BUILDING ALEA 6



NOTE: The Shear Area and Moment of Inertia designated as A_{n-s} and I_{n-s} is the Shear Area and Moment of Inertia for an earthquake in the North-South direction which means it is the Moment of Inertia about the East-West axis.

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Figure II.E.2-2

MATHEMATICAL MODEL, AUXILIARY BUILDING AREA 7

<u>AUX. BLOG.</u> AREA 7				,, ,				
S-BUILT COND.	WEIGHT KIPS	JOHIT NO.	HEJGHT H (FT_)	TOTAL AREA (FT.2)		H-SOUTH NOMENT OF INFRILA		T-WEST MOMENT OF MENTIA (FT.4)
ØEL 660'-0"	4508		115					•
©EL 643'-0"	6463		98	1094	469	2,027×10°	616	6,941 x 10 ⁵
(5) EL.623-0	3820	٩	78	703	389	1935×10 ⁴	314	3.428 ×10
EL_ 612-0"	2566	5	67	649	402	1953×10 ⁵	247	3,709 × 10 ⁻
3 EL. 603'-0"	3748	16. Da	58	9 77	539	2.360×10 ⁴	428	6.366 × 10 ⁵
2 EL 585-0"	9155	30, 0	40	913	536	2,813 x 10 ⁵	357	6,454 x 10
1 2	9055	2¢ (0)	⁻ 20-	1804	1011,4	3195×10 ⁵	792	1,016 x 10 ⁶
EL 545-0" BASE			0	1778	883	2358×10	858	8538×10 ⁴
6432	fc.4k	si ; w.	145',P	CFJE	c . 5.2	48 x 10 ⁵ K	SF;(3-2,099×10 KS

NOTE: The Shear Area and Moment of Inertia designated as A_{n-s} and I_{n-s} is the Shear Area and Moment of Inertia for an earthquake in the North-South direction which means it is the Moment of Inertia about the East-West axis.

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MATHEMATICAL MODEL, AUXILIARY BUILDING AR 3A 8

AUX. BLDG.	Alice and head designed				the ball of the Processories			
AREA 8			HEIGHT	TOTAL	Contraction from the state of the state	-SOUTH		T-WEST
AS-BUILT COND.	WEIGHT XIPS	JOINT ON	н (FT.)	AREA (FT.2)		MOMENT OF INDITIA (FT,4)	SHEAR AREA (FT.2)	MOMENT OF
	2090	8	103.0					
6 EL.653-3"	4061	0.25.0	97	649	158	432072.	491	1337986.
5EL.642-6	4559	0	86.25	1268	411	1955193.	857	3196459.
EL. 622 - 6"	5610	Ē.	66,25	1331	464	193822:2.	867	3285000.
3EL. 602-6"	7327	() () () () () () () () () () () () () (46.25	1453	551	23268()2.	902	344730B.
2 EL.584-0"	13274	30, OF	27.75	2684	1243	2984627.	1441	5791113.
1 EL. 564'-0"	18053		7.75	3579	1481	6730000	2097	10296000.
EL.556-3 BASE EL.545-0"	f'c•4 ke		0 145 PC	Call Contract of Call		3700123. B x 10 ⁵ KSF		7012791. 099×10 ⁵ KS
BASE	[ட		Call Contract of Call				

NOTE: The Shear Area and Moment of Inertia designated as A_{n-s} and I_{n-s} is the Shear Area and Moment of Inertia for an earthquake in the North-South direction which means it is the Moment of Inertia about the East-West axis.

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MATHEMATICAL MODEL, SHIELD BUILDING

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EL.\$01.00	A	# Wy= 5457 ^K	- 2	i = 2,991,468	Ax = 1564.0 A ₄₁₁ = 777,0
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EL.744.00	<u>A</u>	# Wie = 5244 ^K	È		
EL.720.00		2 Ws = 5386 ^K	3	1 + 3,225,460	Ax = 1289.8 Axy = 549.4
EL.692.00	A	• Wi = 5771 ^K	3		1944 - Till Martin, Science - Science (19) & genetice some - Pro- Stationa
EL.660.00	A	- W7 = 4290 ^K	ţ,		وروب بالمراجع والمراجع
EL.646.50	A	~ We = 1526 ^K	2	1-2,004,776	Ager = 1196.3 Ager = 598.2
EL.643.00	A	1+ Ws= 3311k	21		·
EL-609.00	A	" We = 1526"	34	1 = 2,949,284	Ax = 1175.0 Aux = 587.5
EL.603.00	A	1* W1 = 1697"	* 1		
(3)	A	" W2 = 2791"	3	1 = 2,892,722	Ax = 1163.3 Agrs = 576.7
EL.678.75	A	+ W1 = 2120 ^K	2		n Marana ananananan isa
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	7777			ienerven. Gohits	
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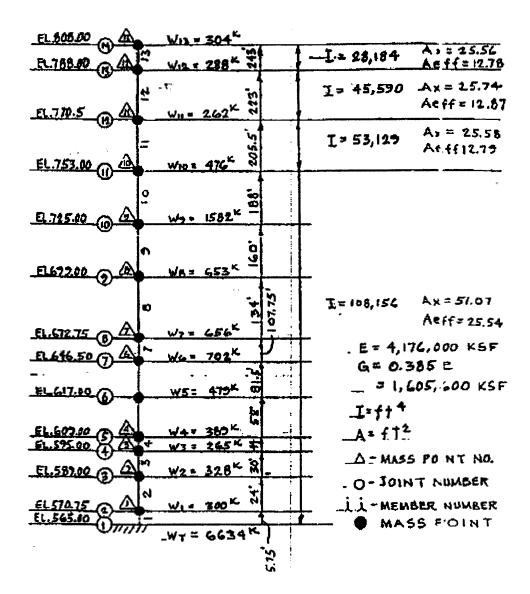
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Figure II.E.2-5



MATHEMATICAL MODEL, CONTAINMENT VESSEI.

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MATHEMATICAL MODEL, CONTAINMENT INTERNAL STRUCTURES

MATH M	IODEL								
MASS NUP	15KR	WEIGHT	74101	HEIGHT	TOUL)	HORTH	SOUTH AREA	EAST-	WEST AARA
		(XIPS)	NS.	(FT)	(PTT)	A##A (171)	INCATIA. (FY4)	AREA (FT ³)	(FT4)
<u>EL.653:0"</u>		2593	B	88	1371	909	TH,000	476	251,100
EL. 641:3"	(11)	2687	12	16.25	1311				
E1.629:6*		3518		64.5	1371	907	тцооо	416	251,100
EL.624.6	人员				1311	909	7(1,000	416	251,100
		1375	10	595	1287	909	545,600	501	207,700
EL. 617:9"	(8)	1618	9	52.75	1287			501	207,500
el.604-0	$\overline{\mathcal{T}}$	2046	8	41	1287	909	543,600		<u> </u>
EL.603.0	ČA.	5218		38	1287	909	545,600	501	207,500
EL.5950	XA		1	20	1831	1194	4113,000	810	1A19,000
		3511	6	30	1831	1154	113,000	810	1429,000
EL.585-0	(4)	5640	3	20		far in the second	<u> </u>		
EL.578-0*		5346	4	13	2255	1493	1,103,102	968	1,544,768
E1.574-0*	XA			1	8318	2680	375,921	2749	4063.071
a a construction of the second se		1841	Ð	9	2117	1275	1,136,104	1304	998,000
EL.570-9"	(1)	1614	2	5.75				1304	-
EL. 545:0"	IĄ	L		L	2177	1275	1,176,704		775,066
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			₹ = 97,	• • • •	-	×10 ⁴ P51		16,000	
			6: <u>5</u> 2(1/		16,000 1° 0.25)		64 × 23	50,400	-
			- ••	· · ·		,			

NOTE: The Shear Area and Moment of Inertia designated as A_{n-s} and I_{n-s} is the Shear Area and Moment of Inertia for an earthquake in the North-South direction which means it is the Moment of Inertia about the East-West axis.

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MATHEMATICAL MODEL, INTAKE STRUCTURE

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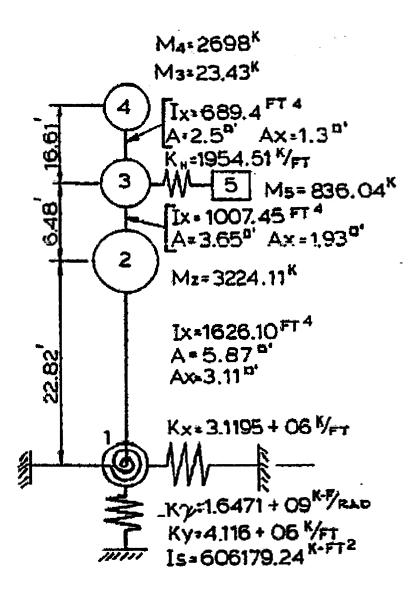
 $E = W^{1.5} \times 33\sqrt{k}^{-7} = (145)^{1.6}(33)\sqrt{4000}$ MODULUS OF ELASTICITY: E = 524,757 KSF SHEAR MOOLUUS: G = 209,900 KSF G = $\frac{E}{2(7+1)} = \frac{524,757}{2(7+25)}$

			JOINT NUMBER	HEIGHT	ARCA	NORTH	SOUTH	EAST	WEST
		<i>ww</i> 0)		ų <i>v</i>	1 1 1 1 1 1	SHEAR AREA (Ft')	AREA INERTIA	SHEAR AREA (PL)	AREA INERTIA (FC)
Mass Point									
EL.5910"		- 880 -	- 00 -	- 45 -	464.5	323	182,540	141.5	222,140
EL.5850"		- 1270 -	- 🛈 -	- 39 -	811.0	323	2:6,040	488.0	314,370
EL.576"		- 2430 -	- 🗩 -	- 30 -				RAD 0	
EL.5610" (1)	Â	- 1950 -	- 020 -	- 15 -	\$60.0	410	2:3,000	540.0	359,650
EL.646'0"	Â		С П		782.0	182	182,360	600.0	227,940
	Mombe	* r							

NOTE: The Shear Area and Moment of Inertia designated as A_{n-s} and I_{n-s} is the Shear Area and Moment of Inertia for an carthquake in the North-South direction which means it is the Moment of Inertia about the East-West axis.

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MATHEMATICAL MODEL, BORATED WATER STORAGE TANK



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During the operational phase of the plant, many equipment modifications have been implemented, and it is anticipated that, in the future, equipment upgrading will continue. This section is presented to describe the post-1979 seismic qualification procedures utilized for Seismic Class I equipment modifications. This section is essentially current in applicability but is based on past experience.

Prior to performing any type of seismic qualification, the system must be identified as being either Seismic Category I or Non- (Seismic Category I) system that could affect the functionality of a Seismic Category I system.

⁵In order to perform seismic qualification of systems, three options are available:

- a. Spectral response analysis
- b. Simplified seismic analysis
- c. Seismic testing

Although the time-history method of analysis can be classified as a seismic qualification method, its use is generally restricted to studies where in-structure response is necessary.

Equipment and component installations are categorized as either flexible or rigid. Seismically rigid installations are those whose fundamental frequency is equal to or greater than 33 Hz. All other installations are flexible.

For rigid installations, the system is subjected to the zero-period acceleration (ZPA) for analysis and design. For installations which have a natural frequency below 33 Hz, one of the qualification options listed above may be used to ensure structural adequacy.

It should be noted that structural steel framing and platforms shall not span seismic joints, thereby altering seismic independence of the structures. However, systems such as conduits, cable trays, HVAC ducts, etc. supported between structures that are seismically independent, such as between Areas 6, 7, and 8 of the auxiliary building or between floors of the same building, shall also be analyzed for the differential movements of the support points. The response due to vibratory motion from seismic excitation shall be combined absolutely with the response due to the differential support movements and the dead load, live load, and contingency loads. Systems of this type include piping, conduit, HVAC lines, or other equipment which may span a seismic joint.

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The following criteria define the boundary between a system (and its supports) and the supporting structure. Systems are decoupled from the structure at the system support and structure interface. Piping, conduit, and cable tray systems are decoupled at the point of connection to a piece of equipment. Generally, the system being investigated is considered decoupled from the supporting structure when its fundamental frequency is significantly lower than that of the supporting structure. Specific criteria for decoupling are expressed in terms of frequency and mass ratio and are given in Reference 3.

3.1 SPECTRAL RESPONSE ANALYSIS

A structural system is idealized into discrete elements and a mathematical model is formulated which represents, in three-dimensions, both the stiffness and inertial characteristics of the system. A finite element computer program is used to analyze this representation. Natural frequencies and associated mode shapes which describe the vibration characteristics of the system are obtained using a modal extraction routine.

The spectral response technique subjects each mode of the system to acceleration levels as given by the design floor response spectra.

Seismic analyses prior to 1974 combined modal responses using strictly an SRSS technique. Based on recommendations as cited in NRC Regulatory Guides, the importance of considering the effects of closely spaced modes became evident.

Since 1974, the practice is to perform an SRSS summation of modal responses to obtain total response for each direction of seismic excitation. However, if the modes are closely spaced (i.e., less than 10 percent between natural frequencies) the absolute sum of the responses of each group of closely spaced modes shall be obtained, and the results from all the closely spaced groups are then combined with the other modes using the SRSS method. Responses of similar components resulting from different directions of earthquake excitation shall also be combined by the SRSS method (As a basis for this modal response method, refer to NRC Regulatory Guide 1.92, Rev 0, Dec. 1974 Sections B and C.)

Prior to 1974, seismic analyses combining spatial responses were determined by the larger of the X + Y and the Z + Y earthquake responses where X and Z are the perpendicular horizontal directions and Y is the vertical direction. Since then, the preferred technique is to combine spatial responses for three directions of excitation using the SRSS technique as presented in NRC Regulatory Guide 1.92.

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For systems having significant natural frequencies above 33 Hz, seismic analyses since 1983 have incorporated the effects of these higher modes as described in Reference 8, Section 3.1, in lieu of the methods of NRC Regulatory Guide 1.92. This technique assumes that the modes above 33 Hz will respond in phase with each other to the peak ZPA. Therefore, the effects of these modes are combined algebraically. This is equivalent to a pseudo-static response to the inertial forces from these higher modes excited at the ZPA.

To determine the overall structural peak response, the total combined response to high frequency modes is combined with the total combined response from lower frequency modes using the SRSS Method.

3.2 SIMPLIFIED SEISMIC ANALYSIS

If the system or equipment is structurally simple, i.e. the dynamic model may be represented by one mass and one spring, the natural frequency of the system or equipment is determined using the techniques of Reference 6. The natural frequency, together with the appropriate damping value, is used to enter the appropriate acceleration response spectrum to obtain the equipment acceleration in units of g's. The corresponding inertia force is obtained by multiplying the weight times the acceleration.

Under certain conditions, the natural frequencies of the systems or equipment may not be calculated. Under these conditions, using the appropriate damping value, the peak value of acceleration response curve, or the values obtained from duplicate or dynamically similar systems which have been analyzed are used to calculate the response. This response is then multiplied by a static coefficient of 1.5 to account for the effects of both multifrequency excitation and multimode response in order to obtain the design inertial force. A lower coefficient may be used if it will yield conservative results and is technically justified (Reference J. D. Stephenson paper, Circa 1971).

3.3 SEISMIC QUALIFICATION BY TESTS

Seismic qualification of most Seismic Category I original equipment purchased and installed during the construction phase has been qualified to requirements as described in IEEE-344-71. In most cases, as stated in the qualification reports, the input motion for qualification was single axis, single frequency, either of the form of sine beat or sine dwell.

Since 1975, seismic qualification of equipment has been accomplished by testing when the equipment is so complex that it cannot be modeled to adequately predict its response or when structural integrity alone cannot ensure the design-intended function. Seismic qualification using test methods shall be based on the recommendations cited in IEEE-344-1975 (Reference 9).

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Two major categories of test methods are used for seismic qualification: proof testing and fragility testing. A proof test requires equipment to be subjected to the particular response spectrum or time-history defined for the mounting location of the equipment. Fragility testing is used to qualify equipment by determining its ultimate capability.

Test methods simulating seismic environment also fall into two general categories: single frequency and multiple frequency.

In general, the proof test seismic simulation waveforms shall:

- a. Produce a test response spectrum (TRS) which closely envelops the required response spectrum (RRS)
- b. Have an input shake table acceleration magnitude equal to or greater than the ZPA
- c. Include frequencies up to but not above the ZPA asymptote
- d. Have a duration where each test should at least equal the strong motion portion of the design time-history.

Proof testing can utilize waveforms such as continuous sine, sine beat, decaying sine, multiple frequency, or time-history, provided the frequency and amplitude are chosen to properly qualify the test item.

The more common state-of-the-art testing subjects the test specimen to a random excitation where the amplitude is controlled in one-third octave or narrower bandwidths. The excitation is controlled to provide a TRS which meets or exceeds the RRS. The random excitation should have a minimum duration of 30 seconds. Five OBE (smaller earthquake) level tests followed by an SSE (larger earthquake) should define the qualification sequence having a minimum of two biaxial tests.

Equipment originally purchased for Davis-Besse Power Station Unit 1 was seismically qualified to specifications based on methods described in IEEE-344, 1971 edition. New equipment and current modifications are qualified by test methods described in IEEE-344-75 (Reference 9). Replacement parts for original equipment shall, as a minimum, maintain their original level of seismic qualification. Replacement part qualification may be based on one of the following:

- a. [EEE-344-71
- b. IEEE-344-75

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Detailed test requirements are defined in the seismic qualification attachment to the purchase specification listed in Table II.E.3-1, along with the acceptance criteria, depending on the type of equipment being qualified.

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Table II.E.3-1

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SEISMIC QUALIFICATION SPECIFICATION ATTACHMENTS

Attachment Designation	Title	
EA-I	Seismic Qualification Requirements for Class 1E Electric I Equipment, Devices, and Supports	
J-1	Seismic Qualification Requirements for Class 1E Control Panel Assemblies and Class 1E Control and Instrumentation Devices	
J-3	Seismic Qualification Requirements for Power-Actuated /alves	
J-5	Seismic Qualification Requirements for Class 1E Field Mounted Instruments	
J-6	Seismic Qualification Requirements for Nuclear Class Instrument Valves	
(M-900)	Qualification of Seismic Category I Mechanical Equipment	
* C-41	Earthquake Resistance Design of Class 1 Equipment	
+ C-41-A	Earthquake Resistance Design of Class 1 Equipment	

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Davis-Besse Design Criteria Manual
Section Title: REFERENCES Page: II.E.4-1
Revision: 2
Responsible Engineer: Checker: Theo Swim_ Approver: Vem Watson Date: 7/16/90

- 1. Davis-Besse Nuclear Power Station No. 1, Civil Engineering Calculation: Seismic Analysis Report, Volume S1, No. 2, May 1973.
- 2. Nuclear Reactors and Earthquakes, TID-7024, Lockheed Aircraft Corp. and Holmes and Navrer, Inc., prepared for USAEC, August 1963.
- 3. Seismic Analyses of Structures and Equipment for Nuclear Power Plants, Topical Report BC-TOP-4-A Rev. 3, Bechtel Power Corp., Nov. 1974.
- 4. Letter No. BT-16827, dated 6/13/86, from V. R. Marathe (Bechtel) to B. J. Carrick (TE).
- 5. Letter No. BT-12724, dated 2/19/82, from J. W. Fay (Bechtel) to C. R. Domeck (TE).
- 6. Biggs, John M., Introduction to Structural Dynamics, McGraw-Hill, 1964.
- 7. Uniform Building Code, International Conference of Building Officials, Whittier, California, 1967.
- 8. Recommended Revisions to Nuclear Regulatory Commission Seismic Design Criteria, NUREG/CR-1161RD, prepared by Lawrence Livermore Laboratory, May 1980.
- IEEE Recommended Practices for Seismic Qualification of Class 1E Equipment for Nuclear Power Generating Stations (IEEE-344-75), by the Institute of Electrical and Electronics Engineers, 1975.
- 10. "Re-evaluation Criteria for Concrete Masonry Walls," I.E. Bulletin No. 80-11, Davis Besse Nuclear Power Station, Document No. C-1, Rev. I, May 1981.
- "Cable Tray and Conduit Raceway Seismic Test Program", Anco Engineers, Inc., Report No. 1053-21.1-4, 15, December 1978.

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APPENDIX G DAVIS-BESSE A-46/IPEEE VULNERABILITIES

Equipment ID	Bidg.	EI.	Outlier Description	Outlier Resolution	Reference Mod Package or Other Comments	Record Date from FileNet
C21-1	AUXB	585	Base vibration isolators do not provide adequate restraint of overturning moment	Modify existing anchorage	MOD 95-0031	12/13/1996
C21-2	AUXB	585	Base vibration isolators do not provide adequate restraint of overturning moment	Modify existing anchorage	MOD 95-0031	12/13/1996
C5703	AUXB	623	I of 4 mounting bolts missing on two local instruments.	The missing bolts were replaced.	MWO 1-94-0006 (Work Request 94-1248)	1/2/1994
D2	AUXB	585	The internal portion of switchgear was not available for inspection.	Relocate the relay and remove D2 from the SSEL	MOD 95-0023	9/3/1996
E1	AUXB	603	Lifting hoist is free to slide which is not included in the GERS	Restrain the lifting hoist	MOD 95-0030 voided. Procedures DB-ME-09102 (5.2) \$ DB-ME-09103 (5.1) revised to require hoist/trolly to be secured	(MOD) 10-10- 1997 DB-ME-09102 4/19/01 DB-ME-09103 4/20/98
F1	AUXB	603	Lifting hoist is free to slide which is not included in the GERS	Restrain the lifting hoist	MOD 95-0030 voided. Procedures DB-ME-09102 (5.2) \$ DB-ME-09103 (5.1) revised to require hoist/trolly to be secured	(MOD) 10-10- 1997 DB-ME-09102 4/19/01 DB-ME-09103 4/20/98
P3-1	ΙΝΤΚ	576	The vertical pump shaft is 29 feet long which is greater than the GIP value of 20 ft.	Analysis performed indicated that the deflections and stresses were low	Acceptable as-is	N/A
P3-2	ΙΝΤΚ	576	The vertical pump shaft is 29 feet long which is greater than the GIP value of 20 ft.	Analysis performed indicated that the deflections and stresses were low	Acceptable as-is	N/A
S31-1	AUXB	638	Spring isolators are not adequate for side loading	Modify existing support	MOD 95-0046	11/9/1995
S31-2	AUXB	638	Spring isolators are not adequate for side loading	Modify existing support	MOD 95-0046	11/9/1995

Equipment ID	Bldg.	EI.	Outlier Description	Outlier Resolution	Reference Mod Package or Other Comments	Record Date from FileNet
C5702	AUXB	623	An unanchored bookcase could fall and strike the cabinet	Bookcase has been relocated	Bookcase has been relocated	N/A
C5703	AUXB	623	An unanchored bookcase could fall and strike the cabinet	Bookcase has been relocated	Bookcase has been relocated	N/A
C5704	AUXB	623	An unanchored bookcase could fall and strike the cabinet	Bookcase has been relocated	Bookcase has been relocated	N/A
C5705	AUXB	623	An unanchored bookcase could fall and strike the cabinet	Bookcase has been relocated	Bookcase has been relocated	N/A
C5706	AUXB	623	An unanchored bookcase could fall and strike the cabinet	Bookcase has been relocated	Bookcase has been relocated	N/A
C5707	AUXB	623	An unanchored bookcase could fall and strike the cabinet	Bookcase has been relocated	Bookcase has been relocated	N/A
C5708	AUXB	623	An unanchored bookcase could fall and strike the cabinet	Bookcase has been relocated	Bookcase has been relocated	N/A
C5709	AUXB	623	An unanchored bookcase could fall and strike the cabinet	Bookcase has been relocated	Bookcase has been relocated	N/A
C5710	AUXB	623	An unanchored bookcase could fall and strike the cabinet	Bookcase has been relocated	Bookcase has been relocated	N/A
C5712	AUXB	623	An unanchored bookcase could fall and strike the cabinet	Bookcase has been relocated	Bookcase has been relocated	N/A
C5755C	AUXB	623	Due to either a small or no gap, and the presence of essential relays in the cabinet striking with an adjacent cabinet could exist	Provide a restraint to prevent the adjacent cabinets from striking	MOD 95-0032	4/1/1997
C5755C	AUXB	623	Suspended ceiling deficiencies noted	To be corrected	PCAQ-94-0042 (7-94-0042- 01)	(PCAQ) 1-17- 1994 (MWO) 3-21- 1996
C5755D	AUXB	623	Due to either a small or no gap, and the presence of essential relays in the cabinet striking with an adjacent cabinet could exist	Provide a restraint to prevent the adjacent cabinets from striking	MOD 95-0032	4/1/1997

Equipment ID	Bldg.	EI.	Outlier Description	Outlier Resolution	Reference Mod Package or Other Comments	Record Date from FileNet
C5755D	AUXB	623	Suspended ceiling deficiencies noted	To be corrected	PCAQ-94-0042 (7-94-0042- 01)	(PCAQ) 1-17- 1994 (MWO) 3-21- 1996
C5756C	AUXB	623	Due to either a small or no gap, and the presence of essential relays in the cabinet striking with an adjacent cabinet could exist	Provide a restraint to prevent the adjacent cabinets from striking	MOD 95-0032	4/1/1997
C5756C	AUXB	623	Suspended ceiling deficiencies noted	To be corrected	PCAQ-94-0042 (7-94-0042- 01)	(PCAQ) 1-17- 1994 (MWO) 3-21- 1996
C5756D	AUXB	623	Due to either a small or no gap, and the presence of essential relays in the cabinet striking with an adjacent cabinet could exist	Provide a restraint to prevent the adjacent cabinets from striking	MOD 95-0032	4/1/1997
C5756D	AUXB	623	Suspended ceiling deficiencies noted	To be corrected	PCAQ-94-0042 (7-94-0042- 01)	(PCAQ) 1-17- 1994 (MWO) 3-21- 1996
C5761A	AUXB	623	Suspended ceiling deficiencies noted	To be corrected	PCAQ-94-0042 (7-94-0042- 01)	(PCAQ) 1-17- 1994 (MWO) 3-21- 1996
C5762A	AUXB	623	Due to either a small or no gap, and the presence of essential relays in the cabinet striking with an adjacent cabinet could exist	Provide a restraint to prevent the adjacent cabinets from striking	MOD 95-0032	4/1/1997
C5762A	AUXB	623	Suspended ceiling deficiencies noted	To be corrected	PCAQ-94-0042 (7-94-0042- 01)	(PCAQ) 1-17- 1994 (MWO) 3-21- 1996
C5762C	AUXB	623	Due to either a small or no gap, and the presence of essential relays in the cabinet striking with an adjacent cabinet could exist	Provide a restraint to prevent the adjacent cabinets from striking	MOD 95-0032	4/1/1997

Equipment ID	Bldg.	EI.	Outlier Description	Outlier Resolution	Reference Mod Package or Other Comments	Record Date from FileNet
C5762C	AUXB	623	Suspended ceiling deficiencies noted	To be corrected	PCAQ-94-0042 (7-94-0042- 01)	(PCAQ) 1-17- 1994 (MWO) 3-21- 1996
C5762D	AUXB	623	Due to either a small or no gap, and the presence of essential relays in the cabinet striking with an adjacent cabinet could exist	Provide a restraint to prevent the adjacent cabinets from striking	MOD 95-0032	4/1/1997
C5762D	AUXB	623	Suspended ceiling deficiencies noted	To be corrected	PCAQ-94-0042 (7-94-0042- 01)	(PCAQ) 1-17- 1994 (MWO) 3-21- 1996
C5763C	AUXB	623	Due to either a small or no gap, and the presence of essential relays in the cabinet striking with an adjacent cabinet could exist	Provide a restraint to prevent the adjacent cabinets from striking	MOD 95-0032	4/1/1997
C5763C	AUXB	623	Suspended ceiling deficiencies noted	To be corrected	PCAQ-94-0042 (7-94-0042- 01)	(PCAQ) 1-17- 1994 (MWO) 3-21- 1996
C5763C	AUXB	623	Small cart adjacent to the cabinet could strike the cabinet	The cart has been relocated	The cart has been relocated	N/A
C5763D	AUXB	623	Due to either a small or no gap, and the presence of essential relays in the cabinet striking with an adjacent cabinet could exist	Provide a restraint to prevent the adjacent cabinets from striking	MOD 95-0032	4/1/1997
C5763D	AUXB	623	Suspended ceiling deficiencies noted	To be corrected	PCAQ-94-0042 (7-94-0042- 01)	(PCAQ) 1-17- 1994 (MWO) 3-21- 1996
C5763D	AUXB	623	Small cart adjacent to the cabinet could strike the cabinet	The cart has been relocated	The cart has been relocated	N/A

Equipment ID	Bldg.	EI.	Outlier Description	Outlier Resolution	Reference Mod Package or Other Comments	Record Date from FileNet
C5762	AUXB	623	Suspended ceiling deficiencies noted	To be corrected	PCAQ 94-0042 (7-94-0042- 01)	(PCAQ) 1-17- 1994 (MWO) 3-21- 1996
C5792A	AUXB	623	Suspended ceiling deficiencies noted	To be corrected	PCAQ 94-0042 (7-94-0042- 01)	(PCAQ) 1-17- 1994 (MWO) 3-21- 1996
CDE11D	AUXB	565	Due to either a small or no gap, and the presence of essential relays in the cabinet striking with an adjacent cabinet could exist	Provide a restraint to prevent the adjacent cabinets from striking	MOD 95-0041	1/18/1999
CDF11A-2	AUXB	603	Due to either a small or no gap, and the presence of essential relays in the cabinet striking with an adjacent cabinet could exist	Provide a restraint to prevent the adjacent cabinets from striking	MOD 95-0040	8/11/1999
DIN	AUXB	603	Due to either a small or no gap, and the presence of essential relays in the cabinet striking with an adjacent cabinet could exist	Provide a restraint to prevent the adjacent cabinets from striking	MOD 95-0043 voided	9/24/1997
D2P	AUXB	603	Due to either a small or no gap, and the presence of essential relays in the cabinet striking with an adjacent cabinet could exist	Provide a restraint to prevent the adjacent cabinets from striking	MOD 95-0038 voided, as cabinet replaced with seismically qualified cabinet.	9/24/1997
E11B	AUXB	585	Several breakers in the MCC have padlocks that are free to strike the MCC	Padlocks to be replaced with smaller ones and attached to the MCC	Velcro used to restrain	N/A
E11C	AUXB	585	A large portable frame is located behind the MCC that could strike the MCC	The frame has been relocated	The frame has been relocated	N/A
E11D	AUXB	565	An abandon cable tray support is in close proximity to the MCC, which could strike the MCC	Cable tray support removed	Cable tray support removed	N/A
E12B	AUXB	585	MCC is in contact with the support for a pipe restraint	Modify existing pipe restraint	MOD 95-0044	1/28/1999
F11A	AUXB	603	Several breakers in the MCC have padlocks that are free to strike the MCC	Padlocks to be replaced with smaller ones and attached to the MCC	Velcro used to restrain	N/A

Equipment ID	Bldg.	EI.	Outlier Description	Outlier Resolution	Reference Mod Package or Other Comments	Record Date from FileNet
F11A	AUXB	603	Due to either a small or no gap, and the presence of essential relays in the cabinet striking with an adjacent cabinet could exist	Provide a restraint to prevent the adjacent cabinets from striking	MOD 95-0040	8/11/1999
F11A	AUXB	603	An adjacent electrical junction box is in close proximity to the MCC which could impact the MCC	Relocate/modify junction box	MOD 95-0040	8/11/1999
F11C	AUXB	565	MCC is located next to a fire extinguisher that could strike the MCC	Provide a barrier to prevent impact	FPR 95-0671-901	12/4/1995
HV5261	AUXB	638	Inadequate clearance between the operator and the HVAC support	Provide lateral support	MOD 94-0034	8/28/1995
HV5262	AUXB	638	Inadequate clearance between the operator and the HVAC support	Provide lateral support	MOD 94-0034	8/28/1995
LT-1402	AUXB	623	Instrument line from TI2-I to LT-1402 is in contact with platform	Provide lateral support for the platform	MOD 95-0037	10/17/1997
LT-1403	AUXB	623	Instrument line from TI2-II to LT-1403 is in contact with platform	Provide lateral support for the platform	MOD 95-0037	10/17/1997
PSL 4928A	AUXB	565	Chain from overhead hoist could strike PSL 4928A	Chain was secured	Chain was secured	N/A
PSL 4928B	AUXB	565	Chain from overhead hoist could strike PSL 4928B	Chain was secured	Chain was secured	N/A
RC 2826	AUXB	565	Unsecured hydrazine barrel is adjacent to the cabinet	Hydrazine barrel was removed and secured	Hydrazene barrel was removed and secured	N/A
RC 3004	ΙΝΤΚ	565	Rod-hung conduit support could swing and strike cabinet	Rework conduit support	MOD 95-0042	2/18/1999
RC 3701	AUXB	585	Back of cabinet is in contact with pipe support	Rework cabinet/support	MOD 95-0036	4/4/1997
TS 5262	AUXB	638	Instrument is in the arc of an unanchored MCC	Provide anchorage for the MCC	MOD 95-0035	6/30/1997
YE1	AUXB	585	MCC is in contact with the support for a pipe restraint	Modify the existing pipe restraint	MOD 95-0044	1/28/1999

Equipment ID	Bldg.	EI.	Outlier Description	Outlier Resolution	Reference Mod Package or Other Comments	Record Date from FileNet
YV2	AUXB	603	Due to either a small or no gap, and the presence of essential relays in the cabinet striking with an adjacent cabinet could exist	Provide a restraint to prevent the adjacent cabinets from striking	MOD 95-0038 voided, as cabinet replaced with seismically qualified cabinet.	9/24/1997
YV3	AUXB	603	Due to either a small or no gap, and the presence of essential relays in the cabinet striking with an adjacent cabinet could exist	Provide a restraint to prevent the adjacent cabinets from striking	MOD 95-0043 voided, as cabinet replaced with seismically qualified cabinet.	9/24/1997
YV4	AUXB	603	Existing gap between cabinet and the Containment is not sufficient to preclude striking	Increase the gap to prevent the cabinet from striking	MOD 95-0034	7/30/1997
E22-1	AUXB	585	Applied loads exceed the anchor bolt a1lowables	Re-evaluate the system loads and provide additional support if required	PCAQ 98-1945 MOD 98-0058	(PCAQ) 11-3- 1998 (MOD) 8-5-1999
E22-2	AUXB	585	Applied loads exceed the anchor bolt a1lowables	Re-evaluate the system loads and provide additional support if required	MOD 98-0058	8/5/1999
E22-3	AUXB	585	Applied loads exceed the anchor bolt a1lowables	Re-evaluate the system loads and provide additional support if required	MOD 98-0058	8/5/1999
E27-1	AUXB	545	Applied loads exceed the anchor bolt a1lowables	Re-evaluate the system loads and provide additional support if required	PCAQ 97-1174 MOD 97-0068	(PCAQ) 9-4-1997 MOD 7/13/98
E27-2	AUXB	545	Applied loads exceed the anchor bolt a1 lowables	Re-evaluate the system loads and provide additional support if required	PCAQ 97-1174 MOD 97-0068	(PCAQ) 9-4-1997 MOD 7/13/98
T12-1	AUXB	623	Embedment length of the J-Bolt is less than the GIP minimum value	Analysis performed indicated that the existing anchorage detail is adequate.	Acceptable as is	N/A
T12-2	AUXB	623	Embedment length of the J-Bolt is less than the GIP minimum value	Analysis performed indicated that the existing anchorage detail is adequate.	Acceptable as is	N/A
T18	AUXB	565	Applied loads exceed the anchor bolt a1lowables	Re-evaluate the loads on the anchors	Deleted per RFA 95-0248	8/29/1995

Equipment ID	Bldg.	EI.	Outlier Description	Outlier Resolution	Reference Mod Package or Other Comments	Record Date from FileNet
T7-1	AUXB	565	Embedment length of the J-Bolt is less than the GIP minimum value	Analysis performed indicated that the existing anchorage detail is adequate.	Acceptable as is	N/A
T7-2	AUXB	565	Embedment length of the J-Bolt is less than the GIP minimum value	Analysis performed indicated that the existing anchorage detail is adequate.	Acceptable as is	N/A
T12-I	AUXB	623	Instrument line from TI2-I to LT-1402 is in contact with platform	Provide lateral support for the platform	MOD 95-0037	10/17/1997
T12-II	AUXB	623	Instrument line from TI2-II to LT-1403 is in contact with platform	Provide lateral support for the platform	MOD 95-0037	10/17/1997

Table G-2. List of Relays Replaced Due to Vulnerabilities Identified During the A-46/IPEEE Programs					
Safe Shutdown Equip	Relay Name From Dwg.	Contacts Location	Area-Room- Elevation	MOD Package	
YV2	K1	YV2	6-428-603	95-0019-00	
P37-2, AD105,	50GS	D1 BUS	6-323-585	95-0021-00	
HISMU24B			<		
AC101	51-1	C1 BUS	6-325-585	95-0024-00	
AD101	51-2	D1 BUS	6-323-585	95-0024-00	
AD101	51-3	D1 BUS	6-323-585	95-0024-00	
AC101	51-4	C1 BUS	6-325-585	95-0024-00	
AD101	51-5	D1 BUS	6-323-585	95-0024-01	
AACD1	52X/AACD1	D1 BUS	6-323-585	95-0022-00	
ABDC1	52X/ABDC1	C1 BUS	6-325-585	95-0022-00	
AC110	52X/AC110	C1 BUS	6-325-585	95-0022-00	
AD110	52X/TDC	D1 BUS	6-323-585	95-0022-00	
AACD1	62/TDO	D1 BUS	6-323-585	95-0023-00	
AD101	87/DG	C3616	6-319-585	95-0020-00	
C3618	BUR-1,BUR-2	C3618	6-319-585	95-0028-00	
AC101	CR3-X	C3617	6-318-585	95-0028-00	
AC101	FSS-X	C3617	6-318-585	95-0028-00	
RC-2A, HISRC2-6	PSH/RC2-5	C5759D	7-502-623	95-0019-00	
C3617	R3X1	C3617	6-318-585	95-0028-00	
C3617	R3X2	C3617	6-318-585	95-0028-00	
C5762C, C5755C,	S1 (PWR	C5755C&D,	7-502-623	95-0032-00	
C5763C, C5756D,	SUPPLIES)	C5756C&D,			
PSH7528A,		C5762C&D,			
PSH7531A, PT2002,		C5763C&D			
PT2003, HIS7528,					
HIS7524, HIS7530,					
HIS7531					
AC101	V/F	C3617	6-318-585	95-0028-00	

Outlier No.	Outlier Description	Outlier Resolution	Reference Mod Package or Other Comments
101-1	Edge distance on conduit clamp to the edge of the unistrut channel is very small at six consecutive supports	Provide end restraints	PCAQ 94-0011 MWO 7-94-0011-06
105-1	Threaded rod to the overhead shell anchor is missing	Install the missing threaded rod	PCAQ 95-0567-02 FPR 95-0567-701
209-1	2" conduit support beam clamp is not properly installed	Re-install support	PCAQ 95-0567-02
218-1	Conduit 39242C is missing several conduit clamps	Install the conduit missing clamps Work to be done during an outage	PCAQ 95-0567-03
218-2	Cable tray BCBD and BLBE are missing clamps to the tray	Install missing tray clamps. Work to be done during an outage	PCAQ 95-0567-03
236-1	3/4" conduit has a span greater than GIP allowable	Clamp the conduit to an adjacent existing support.	PCAQ 95-0567 -0'2
240-1	1-1/2" conduit does not have an industry acceptable support creating a cantilever overspan condition	Install a new support	PCAQ 95-0567-04 FPR 95-0657-704
303-1	Inadequate flexibility for the differential building movement. Conduit has 6" span between the floor penetration and support	Remove clamp for this conduit at the support to provide sufficient conduit flexibility	PCAQ 95-0567-02
304-1	Conduit support has horizontal member disconnected from the vertical member	Install unistrut brackets for connection to the vertical member	PCAQ 95-0567-02
410-1	Conduit clamp is not properly engaged in the unistrut	Rework the conduit clamp	PCAQ 94-0011 MWO 7-94-0011-07
410-2	Edge distance of cable tray clamp to the edge of the unistrut channel is small	Provide end restraints	PCAQ 94-0011 MWO 7-94-0011-07

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Table G-3	Table G-3: List of Cable Trays and Conduit Enhanced due to Vulnerabilities Identified During the A-46/IPEEE Programs				
Outlier No.	Outlier Description	Outlier Resolution	Reference Mod Package or Other Comments		
422A-3	Base plate on the cantilever bracket exceeds the allowables	Replace the cantilever plate!bracket	MOD 95-0045		
500-1	Support is not attached to beam which results in conduit exceeding the GIP span criteria	Attach support to building structure	PCAQ 95-0567-04 FPR 95-567-702		
502-1	3/4" conduit has a span of 12' which is greater than the GIP allowable of 10'.	Provide support	PCAQ 95-0567-04 FPR 95-567-703		
601-1	Local yielding at the beam attachment	This support will be stiffened	MOD 95-0045		

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