



PHILADELPHIA ELECTRIC COMPANY

2301 MARKET STREET

P.O. BOX 8699

PHILADELPHIA, PA. 19101

(215) 841-5001

SHIELDS L. DALTRUFF
VICE PRESIDENT
ELECTRIC PRODUCTION

*Mort Fairtle
Fr Acsoni
as appropriate
T.*

June 18, 1981

Docket Nos. 50-277
50-278



Mr. Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulations
United States Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Eisenhut:

This letter is in response to your letter of December 22, 1980, which requested that a review be undertaken with respect to the controls for handling of heavy loads at our facility to determine the extent to which the guidelines of Enclosure 1 to your letter are presently satisfied, and to identify the changes and modifications that would be required in order to fully satisfy these guidelines. In addition, your letter required that certain information be provided. These requirements are restated below followed by our responses.

1. Submit a report documenting the results of your review and the required changes and modifications. This report should include the information identified in Section 2.1 through 2.4 of Enclosure 3, on how the guidelines of NUREG 0612 will be satisfied. This report should be submitted in two parts according to the following schedule:

- Submit the Section 2.1 information within six months from the date of this letter.

*Drawings To: BC
Aperture Card
Distribution
Aoggs
5/11*

8107080457 810618
PDR ADOCK 05000277
P PDR

- Submit the Section 2.2 and 2.3 information within nine months.

Response

The attachments to this letter provide the Section 2.1 information. The Section 2.2 and 2.3 information will be provided within nine months of the date of your letter.

2. Furnish confirmation within six months that implementation of those changes and modifications you find to be necessary will commence as soon as possible without waiting on staff review, so that all such changes, beyond the above interim actions, will be completed within two years of submittal of Section 2.4 for the above report.

Response

Necessary changes and modifications will be initiated as soon as practicable with the goal of completing the task prior to October 1, 1983. It is recognized that the analysis required for the next phase of this study will be the major determinant of necessary changes and modifications.

3. Furnish justification within six months for any changes or modifications that would be required to fully satisfy the guidelines of Enclosure 1 which you believe are not necessary.

Response

Our review has, to this point, determined only one change or modification which we feel is not necessary. This is the requirement for the marking of safe load paths on the floors. It is felt that training, procedures, interlocks and other indications such as signs provide a sufficient level of safety. As our review continues, additional changes and modifications may be identified which fall into this category.

In addition, we are presently investigating the requirements that special lifting devices and slings meet ANSI N14.6 1978 or ANSI B30.9-1971, as appropriate, as supplemented by NUREG 0612 Section 5.1.1(4) or 5.1.1(5). Based upon the results of this investigation exceptions to this requirement may be taken with equivalency justified.

If you have any questions or require additional information, do not hesitate to contact us.

Very truly yours,

A handwritten signature in cursive script, appearing to read "S. H. Grier".

Attachments

COMMONWEALTH OF PENNSYLVANIA :

SS.

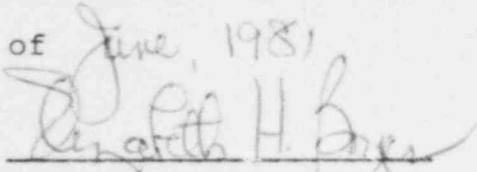
COUNTY OF PHILADELPHIA :

S. L. Daltroff, being first duly sworn, deposes and says:

That he is Vice President of Philadelphia Electric Company, the Applicant herein; that he has read the foregoing response and knows the contents thereof; and that the statements and matters set forth therein are true and correct to the best of his knowledge, information and belief.



Subscribed and sworn to
before me this 18th day
of June, 1981



Notary Public

ELIZABETH H. BOYER
Notary Public, Phila., Phila. Co.
My Commission Expires Jan. 30, 1982

ATTACHMENT 1

Control of Heavy Loads

Response to Enclosure 3, Item 2.1

- 2.1.1 Report the results of your review of plant arrangements to identify all overhead handling systems from which a load drop may result in damage to any system required for plant shutdown or decay heat removal (taking no credit for any interlocks, technical specifications, operating procedures, or detailed structural analysis).

Response

Table 1 is a list of all overhead handling systems at Peach Bottom. This table includes a column headed "exclusion criterion" which is coded to indicate those cranes which do not constitute a hazard (as defined by this study). The specific cranes which demonstrate a potential hazard are as follows:

- Reactor Building Crane (Item 1)
- Turbine Building Crane (Item 2)
- Diesel Generator Cranes (Item 4)
- Recirculation Pump Motor-Generator Hoist (Item 5)
- Pump Structure Crane (Item 6)
- Recirculation Pump Motor Hoist (Item 7)
- CRD Removal Platform Winch-Hoist (Item 13)
- CRD Removal Hoist (Item 16)
- Equipment Access Lock Removal Hoist (Item 17)
- Personnel Lock Hoist (Item 18)
- Torus Equipment Removal Hoist (Item 25)
- 15 ton Yard Crane (Item 31)
- Precoat Material Handling Hoist (Item 34) (Unit 2 only)
- Emergency Cooling Tower Jib Crane and Hoist (Item 35, 36)
- CRD Transport Jib Crane (Item 42)
- CRD Maintenance Bridge Crane (Item 44)

- 2.1.2 Justify the exclusion of any overhead handling system from the above category by verifying that there is sufficient physical separation from any load-impact point and any safety related components to permit a determination by inspection that no heavy load drop can result in damage to any system or component required for plant shutdown or decay heat removal.

Response

Table 1, column 9 (exclusion criterion) indicates those cranes which exhibit sufficient physical separation such that a load drop does not constitute a hazard in the context of this report. Cranes are excluded for the following reasons:

Criterion A: The crane or hoist is located in a structure which does not contain systems or equipment required for safe shutdown or decay heat removal. Buildings and structures which do not contain systems required for safe shutdown or decay heat removal are the Administration Building, Screen Structure, Off-Gas Recombiner Building, Off-Gas Filter Building, and Off-Gas Stack.

Criterion B: For these cranes and hoists there is no equipment required for safe shutdown or decay heat removal located in the load path. The load path is defined on the load drawings (see attachment (1)). Equipment in the area was checked against revision 13 of the Q-list and the list of equipment required for safe shutdown contained in FSAR Supplement 2, to determine if the equipment is required for safe shutdown or decay heat removal.

2.1-3 With respect to the design and operation of heavy load handling systems in the reactor building and those load handling systems identified in 2.1-1, above, provide your evaluation concerning compliance with the guidelines of NUREG 0612, Section 5.1.1. The following specific information should be included in your reply:

- a) Drawings or sketches sufficient to clearly identify the location of safe load paths, spent fuel, and safety-related equipment.

Response

The enclosed drawings, sheets 1 through 44 are provided for this purpose. These drawings are for common areas and Unit 2 (Unit 3 being similar).

- b) A discussion of measures taken to ensure that load handling operations remain within safe load paths,

including procedures, if any, for deviation from these paths.

Response

Operation of the overhead handling systems in question is governed by one or more of the following procedures (copies attached). Procedure M17.2 "Reactor Building Crane Operation" governs the use of the reactor building cranes. All other maintenance procedures which require the use of the Reactor Building crane reference this procedure. Procedure MA-7 "Procedure for Handling Q-Listed Items" governs the Maintenance Division's overhead handling operations whereas, Procedure CD 13.1 "Procedure for Handling of Q-Listed Items," is utilized by the Construction Division. Any change to or deviation from a procedure must be reviewed by the Plant Operation Review Committee with the exception of procedures MA-7 and CD 13.1 which are reviewed by responsible individuals in their appropriate divisions. These procedures are subject to audit to assure compliance.

- c) A tabulation of heavy loads to be handled by each crane which includes the load identification, load weight, its designated lifting device, and verification that the handling of such load is governed by a written procedure containing, as a minimum, the information identified in NUREG 0612, Section 5.1.1(2).

Response

Table 2 provides the tabulation of heavy loads handled by each crane including the required information. Governing procedures are listed in 2.1-3(b) above. Additional procedures may be developed as our investigation continues. Any additional procedures will be forwarded with our September submittal.

- d) Verification that lifting devices identified in 3.c, above, comply with the requirements of ANSI N14.6-1978, or ANSI B30.9-1971 as appropriate. For lifting devices where these standards, as supplemented by NUREG 0612, Section 5.1.1(4) or 5.1.1(5), are not met, describe any proposed

alternatives and demonstrate their equivalency in terms of load handling reliability.

Response

Table 3 is a list of special handling devices. The special handling devices are not certified to ANSI N14.6-1978, as supplemented by NUREG 0612. Shipping cask yokes and the RPV-Drywell Head Strongback are designed to be single failure proof, which is superior to meeting the ANSI specification directly. Analysis of the remaining lifting devices is underway. All slings utilized at Peach Bottom, on Q-Listed systems, by the Construction Division meet ANSI N45.2.2-1972. Maintenance Division is in the process of upgrading all slings to the levels of ANSI N45.2.2-1972 with a completion date of September 30, 1981 anticipated. None of the slings specifically meet the requirements of ANSI B30.9-1971 as supplemented by NUREG 0612 Section 5.1.1(5).

As discussed above, an investigation has been initiated regarding this requirement regarding slings and special lifting devices which may result in our taking exception to these supplemented standards.

- e) Verification that ANSI B30.2-1976, Chapter 2-2, has been invoked with respect to crane inspection, testing and maintenance. Where any exception is taken to the standard sufficient information should be provided to demonstrate the equivalency of proposed alternatives.

Response

Maintenance procedures which cover crane inspection, testing and maintenance presently evoke ANSI B30.2-1967, which we believe meets the NRC requirement for equivalence to ANSI B30.2-1976.

- f) Verification that crane design complies with the guidelines of CMAA Specification 70 and Chapter 2-1 of ANSI B30.2-1976, including the demonstration of equivalency of actual design requirements for

instances where specific compliance with these standards is not provided.

Response

The procurement specifications for the Reactor Building Cranes, Turbine Building Cranes, Pump Structure Crane, and Diesel Generator Cranes stipulate compliance with the requirements of Electrical Overhead Crane Institute (EOCI) Specification #61. At the time of manufacture of the above cranes, EOCI Specification #61 was the accepted standard for crane design. We believe that EOCI Specification #61 complies with the intent of CMAA Specification #70.

The procurement documents for the above listed cranes did not specifically require compliance with ANSI standards. Our Architect/Engineer (Bechtel) has reviewed the procurement specifications for the cranes and found the cranes specifications exceed the scope of mandatory safety features required by ANSI B30.2-1967 which was the predecessor to ANSI B30.2-1976. It is believed this complies with the NRC requirement for equivalence with ANSI B30.2-1976.

CMAA Specification #70 and ANSI B30.2-1976 apply to top running overhead bridge and gantry cranes which are the Reactor Building, Turbine Building, Diesel Generator, and Pump Structure cranes. The balance of the cranes identified in Table 1 are not covered by the above standard crane specifications. The miscellaneous cranes and hoists purchased for Peach Bottom were industry standard hoists and monorails with requirements for compliance with portions of EOCI Specification #61. A review of the procurement documents and designs for the miscellaneous cranes and hoists has not yet been initiated but shall be completed as necessary prior to September 22, 1981.

- g) Exceptions, if any, taken to ANSI B30.2-1976 with respect to operator training, qualification, and conduct.

Response

Procedures MA-20, CD 2.1, and CD 10.2 (attached) describe operator training, qualification, and conduct. No exceptions are taken to the ANSI Standard. The procedures do not presently evoke ANSI B30.2-1976, however, revisions have been initiated to rectify this matter. Steps have been taken to assure that the qualifications of crane operators meet ANSI-B30.2-1976.

Item No.	M/R No.	Name/Service	Eqpt. No.	Location	Column	Vertical Lift	Safety Related or Irradiated Fuel		Floor Elev.	Safety Related Item Lower Floor	Dwg. No 6280	Remarks
		Capacity		Area			In load Path	Exclusion Criterion *				
1	13B	Reactor Bldg. Crane	20H01 30H01	RB	8-18;BJ 23-33; BJ	Main- 126'-3" Aux- 136'-3"	Yes		234'-0"	Yes	M-18, Rev.8 M-19, Rev.6 M-20, Rev.5	Dwg. Sh. 1-12 Whiting
		Cap. Main 125 Tons Aux 5 Tons										
2	13A	Turbine Bldg. Crane	0AH09 0BH09	TB	5-36; M-Q	Main-88' Aux-90'	No		165'-0"	Yes	M-4, Rev.8	Dwg. Sh. 13 Whiting
		Cap. 110 Tons Aux. 15 Tons										
3	25	(Reactor) Feed Pump Crane	20H07 30H07	TB	10-18; 23-31 J-M	20'-4"	No		165'-0"	No	M-10, Rev.6	Dwg. Sh. 14 Dresser
		Cap. 10 Tons										
4	25	Diesel Generator Crane	0AH11 0BH11 0CH11 0DH11	D/G	15-3.5	15'-2"	Yes		127'-0"	No	M-35, Rev.3	Dwg. Sh. 15 Dresser
		Cap. 10 Tons										
5	33	Recirc. Pump Motor- Generator Hoist	20H06 30H06	RWB	18-19; 22-23 BJ	20'-0"	No		135'-0"	Yes	M-15, Rev.8	Dwg. Sh. 16 Dresser
		Cap. 24 Tons										
6	24A	Pump Structure Crane	00H16	CWPS	1- 11; A-C	65'-0"	Yes		Floor 130'-0" Roof 130'-6"	No	A-62, Rev.2	Dwg. Sh. 17 Dresser
		Cap. Main 35 Tons Aux. 12 Tons										
7	33	Recirculation Pump Motor Hoist	0AH03 0BH03 0CH03 0DH03	RB	12-15; 26-29; B-G	17'-0"	Yes		135'-0"	No	M-15, Rev.8	Dwg. Sh. 18 Dresser
		Cap. 24 Tons										

RB - Reactor Bldg.

ECT- Emergency Cooling Tower

TB - Turbine Bldg.

D/G- Diesel Generating Bldg.

RWB - Radwaste Bldg.

Y - Yard

CWPS- Circulating Water Pump Structure

Item No.	M/R No.	Name/Service	Eqpt. No.	Location	Column	Vertical Lift	Safety Related or Irradiated Fuel		Floor Elev.	Safety Related Item Lower Floor	Dwg. No 6280	Remarks
		Capacity		Area			In load Path	Exclusion Criterion *				
8 & 9	33	Condensate Pump Hoist	20H15	TB	16-20; 21-25; M-O	Main-24' Aux-22'	No	B	116'-0"	No	M-2, Rev. 8	Dwg. Sh. 19 Dresser
		" " " (Aux)	30H15									
		Cap. Main 125 Tons Aux 8 Tons	20H43 30H43									
10	33	Vacuum Breaker Valve Trolley	00H02	RB			NA		NA		Deleted Dresser	
11 & 12	25	Machine Shop Crane	00H12	Admin. Bldg.	X	Main 20'-5"	No	A	116'-0"	No	S-526, Rev. 5	Dwg. Sh. 20 Dresser
		Cap. Main. 5 Tons		X								
13	33	CRD Removal Platform Winch-Hoist	20H20	RB	13-17; 28-31; B-C	40'	Yes	B	116'-0" 135'-0"	No	M-15, Rev. 8	Dwg. Sh. 21 Dresser
		Cap. 1 Tons	30H20									
14	33	CRD Transfer Cart Removal Winch	00H34	RB	13-17; 28-31; B-C	65'	No	B	116'-0" 135'-0"	No	M-15, Rev. 8	Dwg. Sh. 22 Dresser
		Cap. 1 Tons										
15	M-1	CRD Rotation Hoist	20H08	RB		---	NA		NA		Deleted GE	
		Cap. 0.5 Tons	30H08									
16	M-1	CRD Removal Hoist	20H05	RB	12-15; 26-29; CG	---	Yes		116'-0"	No	M-15, Rev. 8	Dwg. Sh. 23 GE
		Cap. 0.5 Tons	30H05									

RB - Reactor Bldg.

ECT- Emergency Cooling Tower

TB - Turbine Bldg.

D/G- Diesel Generating Bldg.

RWB - Radwaste Bldg.

Y - Yard

CWPS- Circulating Water Pump Structure

*See Page i

Item No.	M/R No.	Name/Service	Eqpt. No.	Location	Column	Vertical Lift	Safety Related or		Floor Elev.	Safety Related Item Lower Floor	Dwg. No 6280	Remarks
		Capacity					Area	Irradiated Fuel In load Path				
17	F1d	Equipment Access Lock Removal Hoist Cap. 12 Tons	20H04 30H04	RB 7,15	13-10; 24-28; B-F	1.5' Hor.-21'	No		135'-0"	Yes	M-15, Rev. 8	Dwg. Sh. 24 Field Purchase
18	33	Personnel Lock Hoist Cap. 24 Tons	20H22 30H22	RB 8,16	13-17; 24-31; A-J	14'	No		135'-0"	Yes	M-15, Rev. 8	Dwg. Sh. 25 Dresser
19 & 20	33	Condensate Demineralizer Hoist & Aux. Cap. 16 Tons Aux. 1 Ton	20H25 30H25 20H47 30H47	TB 4,13	8-18; 23-33; J-K	28'	No	B	135'-0"	No	M-23, Rev. 4	Dwg. Sh. 26 Dresser
21	33	5000# Escapement Door Lift Winch Cap. 1.5 Tons	00H32	RWB 9	19.6-20 B	15'	No	B	135'-0"	No	M-15, Rev. 8	Dwg. Sh. 27 Dresser
22	33	2500# Escapement Door Lift Winch Cap. 3 Tons	0AH33 0BH33	RWB 9	19.6-20 B	15'	No	B	135'-0"	No	M-15, Rev. 8	Dwg. Sh. 28 Dresser
23 & 24	33	Radwaste Bldg. Hoist Cap. 5 Tons	00H35	RWB 10	20-21.4 F-G	Main-117' Spare-29'	No	B	135'-0"	No	M-15, Rev. 8	Dwg. Sh. 29 Dresser
25	33	Torus Eqpt. Removal Hoist Cap. 3 Tons	00H37	RB 7,8 15,16	8-10; 15-17; B-C	44'	No		135'-0"	Yes	M-15, Rev. 8	Dwg. Sh. 30 Dresser

RB - Reactor Bldg.

ECT- Emergency Cooling Tower

TB - Turbine Bldg.

D/G- Diesel Generating Bldg.

RWB - Radwaste Bldg.

Y - Yard

CWPS- Circulating Water Pump Structure

Item No.	M/R No.	Name/Service Capacity	Eqpt. No.	Location Area	Column	Vertical Lift	Safety Related or Irradiated Fuel		Floor Elev.	Safety Related Item Lower Floor	Dwg. No 6280	Remarks
							In load Path	Exclusion Criterion *				
26 & 27	Fld 33	Off Gas Filter Trolley Cap. Main 3 Tons	00H53	Off Gas Filter Bldg X	--	--	No	A	125'-0"	No	A-69, Rev. 4	Dwg. Sh. 31 Field Spare Dresser
28	33	Recombiner Bldg. Hoist Cap. 10 Tons	00H42	Recomb. Bldg. X	33-34; B-H	56'	No	A	135'-0" & 157'-0"	No	M-36, Rev. 2	Dwg. Sh. 32 Dresser
29	33	Main Steam Line Relief Valve Removal Hoist Cap. 5 Tons	2AH40 2BH40 3AH40 3BH40				NA			NA		Deleted Dresser
30	33	Fuel Pool Filter Demin. Hoist Cap. 5 Tons	00H55	RWB 6	20-21.4 F-J	29'	No	B	135'-0"	No	M-15, Rev. 8	Dwg. Sh. 33 Dresser
31	94	15 Ton Yard Crane Cap. 15 Tons	00H56	Y X	Res- tricted Area	---	No		135'-0"	Yes	C-2, Rev. 6	Dwg. Sh. 34 Self-Pro- pelled; Po- wer Eqpt. Co
32	33	CW Pump Structure Trash Handling Eqpt. Hoist Cap. 3 Tons	20H50 30H50	CWPS X	4,5; 7-8; C-D	25'	No	B	112'-0" 116'-0"	No	A-62, Rev. 2	Dwg. Sh. 35 Dresser
33	33	Off Gas Stack Hoist Jib Crane Cap. 3 Tons	00H46	Off Gas Stack X	---	---	No	A	273'-6"	No	S-440, Rev. 10	Dwg. Sh. 36 Dresser

RB - Reactor Bldg.

ECT- Emergency Cooling Tower

TB - Turbine Bldg.

D/G- Diesel Generating Bldg.

RWB - Radwaste Bldg.

Y - Yard

CWPS- Circulating Water Pump Structure

*See Page i

Item No.	M/R No.	Name/Service	Eqpt. No.	Location	Column	Vertical Lift	Safety Related or Irradiated Fuel		Floor Elev.	Safety Related Item Lower Floor	Dwg. No 6280	Remarks
		Capacity		Area			In load Path	Exclusion Criterion *				
34	33	Pre Coat Material Handling Cap. 0.5 Tons	20H54 30H54	RB 1,11	8-18; 31-33; G-H	30'	Yes		180'-0"	No	M-16, Rev. 6	Dwg. Sh. 37 Dresser
35 & 36	33	Emergency C.T. Hoist Cap. 0.5 Ton	00H49 00H48	ECT X	1-2; CD	40'	No		153'-0"	Yes	S-535 Rev. 10	Dwg. Sh. 38 Dresser
37	33	Screen Structure Trash Handling Eqpt. Hoist Cap. 5 Tons	2AH45 2BH45 3AH45 3BH45	Screen Struct. X	1-4 32-35; A-B	26'	No		116'-0"	No	A-70, Rev. 3	Dwg. Sh. 39 Dresser
38 & 39	33	Gamma Scan Colli. Hoist " " " Jib Crane Cap. 0.5 Tons	20H52 30H52 20H51 30H51	Deleted			NA			NA		Deleted Dresser
40	M-1	Fuel Pool Jib Crane Cap. 0.5 Tons	2AH19 2BH19 3AH19 3BH19	Deleted			NA			NA		Deleted GE
41		Radwaste Bldg. Eqpt. Hoist Cap. 5.0 Tons		RB 9	19-20; B-F	~ 80'	No		165'-0"	No	M-4 Rev. 8	Sht. 40
42		CRD Transport Jib Crane Cap. 3.0 Tons		RB 8, 16	8-10; 31-33; H-J	60'	No		195'-0"	Yes	M-5 Rev. 9	42

RB - Reactor Bldg.

ECT- Emergency Cooling Tower

TB - Turbine Bldg.

D/G- Diesel Generating Bldg.

RWB - Radwaste Bldg.

Y - Yard

CWPS- Circulating Water Pump Structure

*See Page i

Item No.	M/R No.	Name/Service Capacity	Eqpt. No.	Location Area	Column	Vertical Lift	Safety Related or Irradiated Fuel		Floor Elev.	Safety Related Item Lower Floor	Dwg. No 6280	Remarks
							In load Path	Exclusion Criterion *				
43		CRD Jib Crane Cap. 1.0 Ton		RB 7, 15	15-17; 29-31; B-C	15'	No	B	135'-0"	No	M-3 Rev. 7	Sht. 41
44		CRD Maint. Bridge Crane Cap. 1.0 Ton		RB 15	23-26; B-C	15'	Yes		195'0"	No	M-31, Rev. 5	Sht. 44
45		CRD Storage Jib Crane Cap. 0.5 Tons		RB 15	8-12; 29-33; B-C	15'	No	B	195'0"	No	M-5 Rev. 9	Sht. 43

RB - Reactor Bldg.

ECT- Emergency Cooling Tower

TB - Turbine Bldg.

D/C- Diesel Generating Bldg.

RWB - Radwaste Bldg.

Y - Yard

CWPS- Circulating Water Pump Structure

* See Page i

TABLE 1

The following are the definitions used for the exclusion criteria in Table 1.

Criterion A: The crane or hoist is located in a structure which does not contain systems or equipment required for safe shutdown or decay heat removal. Buildings and structures which do not contain systems required for safe shutdown or decay heat removal are Administratin Building, Screen Structure, Off-Gas Recombiner Building, Off-Gas Filter Building, Off-Gas Stack.

Criterion B: For these cranes and hoists there is no equipment required for safe shutdown or decay heat removal located in the load path. The load path is defined on the load drawings (see attachment (1)). Equipment in the area was checked against revision 13 of the Q-list and the list of equipment required for safe shutdown contained in FSAR Supplement 2 to determine if the equipment as required for safe shutdown or decay heat removal.

TABLE 2

Typical Load/Impact Area Matrix

CRANE: REACTOR BUILDING CRANE - 20H01, 30H01

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING					
IMPACT AREA	REACTOR BUILDING	HAZARD ELIMINATION CATEGORY	ELEVATION	HAZARD ELIMINATION CATEGORY	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
LOADS	UNIT 2 - COOL. 8-18; B-5 UNIT 3 - COOL. 23-33; B-5					
1. Shield Plug 95 tons ea.			234'-0"		1. Irradiated Fuel 2. Fuel Pool 3. Reactor Vessel 4. Vent Stack Rad. Mon. Panels	
2. (Dryer-Separator) Pool Plug 44 tons ea.						
3. (Fuel Pool) Slot Plug 5.5 tons ea.						
4. Drywell Head 65 tons						
5. Reactor Vessel Head 100 tons						
6. Steam Dryer 31 tons						

6/12/8107

Typical Load/Impact Area Matrix

CRANE: REACTOR BUILDING CRANE - 20H01 - 30H01

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) <u>EXAMPLE:</u> REACTOR BUILDING, AUXILIARY BUILDING					
IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
LOADS	Reactor Building Units 2 & 3 - See page 1					
7. Steam Separator 52 tons	234'-0"	As in Page 1				
8. Fuel Cask 100 or 37.1 tons						
9. Fuel Pool Gate #1 3.25 tons						
10. Fuel Pool Gate #2 3.25 tons						
11. Refueling Channel Shield 22 tons						
12. Personnel Basket 4 tons						

Typical Load/Impact Area Matrix

CRANE: REACTOR BUILDING CRANE - 20H01 - 30H01

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING					
IMPACT AREA	Reactor Building					
LOADS	Units 2 & 3 - See page 1					
	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
13. Fuel Bundle 0.34 ton	234'-0"	As in Page 1				
14. Spent Fuel Storage Rack 0.86 ton						
15. Eqpt. Handling Platform 2 tons						
16. (RPV-Drywell Hd) Strongback 3.1 tons						
17. Fuel Cask Yoke 1.41 tons						
18. Hydraulic Tensioner 3.1 tons						

Typical Load/Impact Area Matrix

CRANE: REACTOR BUILDING CRANE - 20H01 - 30H01

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING					
IMPACT AREA	Reactor Building Units 2 & 3 - As in Page 1					
LOADS	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
19. Dryer-Separator Sling 1.75 tons	234'-0"	As in Page 1				
20. Reactor Building Crane Hook 2.9 tons						
21. RB Crane Load Block 7.2 tons						
22. Head Stud Rack 1.5 tons						
23. Service Platform 2 tons						
24. In Service Shielding 70 tons						

"PEACH BOTTOM ATOMIC POWER STATION - UNITS 2 & 3"

Typical Load/Impact Area Matrix

CRANE: REACTOR BUILDING CRANE - 20H01 - 30H01

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING					
IMPACT AREA	Reactor Building Units 2 & 3 - As in page 1					
SOURCE						
ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	
25. In Vessel Hydrolaser 900#	234'-0" →			As in page 1 →		
26. Flange Protector 200#						
27. Hatch Cover						

Typical Load/Impact Area Matrix

CRANE: TURBINE BUILDING CRANE - 0AH09, 0BH09

LOCATION		INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING					
IMPACT AREA		Turbine Building Col. 5-36; M-Q					
LOADS	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	
1. Gen. Wound Rotor 205 tons	165'-0"	HPSW & ESW inside Trench below EL. 116'					
2. Gen. Outer End Section 44 tons		0". Trench is in line with T/G Hatch.					
3. Trunnion (Gen.) 8 tons							
4. Gen. Outer Shield (upper) 10.3 tons							
5. Gen. Outer Shield (lower) 10.8 tons							
6. Gen. Inner Shield 1 ton							

Typical Load/Impact Area Matrix

CRANE: TURBINE BUILDING CRANE - 0AH09- 0BH09

LOCATION		INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING					
IMPACT AREA	LOADS	Turbine Building Units 2 & 3 - As in Page 5					
		ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
7. Gen. Terminal Box w/ HV Bushing 10.3 tons		165'-0"	As in Page 5				
8. (HP) Turb. Outer Shell (upper) 72 tons							
9. (HP) Turb. Outer Shell (lower) 68 tons							
10. (HP) Turb. Rotor 64 tons							
11. (LP) Turb. Exhaust Hood 63 tons							
12. (LP) Turb./Inner Casing 60 tons							

Typical Load/Impact Area Matrix

CRANE: TURBINE BUILDING CRANE - 0AH09 - OBH09

LOCATION		INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AFFILIANT BUILDING						
IMPACT AREA	LOADS	Turbine Building Unit 2 & 3 - As in Page 5-40-						
		ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	
	13. (LP) Turb. A-Rotor 144 tons	165'-0"	As in Page 5					
	14. (LP) Turb. B-Rotor 149 tons							
	15. (LP) Turb. C-Rotor 153 tons							
	16. (LP) Turb. Diaphragm 6 tons							
	17. Lifting Bar (Tandem) tons							
	18. Lifting Bar (Rotor) tons							

Typical Load/Impact Area Matrix

(REACTOR) FEED PUMP CRANE - 20H07, 30H07

CRANE:

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING					
IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
<p>Turbine Building</p> <p>Unit 2 - Col. 9-19; J-M</p> <p>Unit 3 - Col. 22-32; J-M</p>	El. 165'-0"	None				
1. Reactor Feed Pump Assembly 3.8 tons						
2. RFP Turbine Case 8 tons						
3. RFP Turbine Rotor 3.4 tons						
4. HP Stop Valve 1.75 tons						
5. LP Stop Valve 3.7 tons						

0AH11
0BH11
0CH11
0DH11

Typical load/Impact Area Matrix

CRANE: DIESEL GENERATOR CRANE

LOCATION		INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING						
IMPACT AREA	LOADS	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	
		Diesel Generator Building Units 2 & 3 - Col. 1.5 - 3.5						
1. Generator Rotor 8.15 tons		127'-0"	Yes 1. Class IE wiring 2. Emer. SV piping 3. Safety-related equipment					
2. Generator Stator 6.5 tons								
3. Crank Shaft 1.4 tons								
4. Exhaust Silencer 1.83 tons								
5. Compressed Air Cylinder 0.75 tons								
6. Lube Oil Pump & Motor 1.2 tons								

Typical Load/Impact Area Matrix

0AHL1
0BH11
0CH11
0DH11

CRANE: DIESEL GENERATOR CRANE - 0DH11

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING						
	IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
	Diesel Generator Building Units 2 & 3 - Col. 1.5 - 3.5						
7. Cooling Water Heat Exchanger 1.61 tons	127'-0"	As in Page 9					
8. Lube Oil Heat Exch. 1.61 tons							
9. Air Starter Comp. 0.7 tons							
10. Air Cooler Coolant HX. 1.9 tons							
11. Fuel Tank 0.73 tons							
12. Local Control Bd. 1 ton							

Typical load/impact free Matrix

CRANE: RECIR. PUMP M/G HOIST - 20H06, 30H06

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING						
	IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
		Radwaste Bldg. Unit 2 - Col. 18-19; B-J Unit 3 - Col. 22-23; B-J					
		135'-0"	None				
1. Motor Rotor 7.63 tons							
2. Motor Bearing, etc. 2 tons							
3. Gen. Rotor 7.9 tons							
4. Gen. Bearing, etc. 2 tons							
5. Fluid Drive, dry 17.5 tons							
6. Fluid Drive, Wet 21 tons							

Typical Load/Impact Area Matrix

CRANE: PUMP STRUCTURE CRANE - 00H16

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING					
IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
<p>1. High Press. SW Pump 3.5 tons</p> <p>2. High Press. SW Pump Motor 3.75 tons</p> <p>3. High Press. SW Pump Base 2 tons</p> <p>4. Emergency SW Pump 2.75 tons</p> <p>5. Emergency SW Pump Motor 1.5 tons</p>	<p>112'-0"</p> <p>130'-6"</p>	<p>Yes</p> <p>1. Class IE wiring</p> <p>2. HPSW Pump</p> <p>3. ESW Pump</p> <p>4. Piping</p>				

2AH03
 3BH03
 3AH03
 RECIRCULATION PUMP MOTOR HOIST - 3BH03

Typical Load/Impact Area Matrix

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING					
IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
LONGS Reactor Building Unit 2 - Col. 12-15; B-G Unit 3 - Col. 26-29; B-G						
RECIRCULATION PUMP 1. Pump Motor 21.5 tons ea. 135'-0"		Yes Class IE Wrng. RHR-PIPING				
2. Pump 13.6 tons ea.						

Typical Load/Impact Area Matrix

CRANE: CONDENSATE PUMP HOIST - 20M15 & 30H15
CONDENSATE PUMP AUXILIARY HOIST - 20H43 & 30H43

INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING							
LOCATION	IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
	Turbine Building Unit 2 - Col. 16-20; M-Q Unit 3 - Col. 21-25; M-Q						
Condensate Pumps	1. Pump Motor 9.5 tons ea.	91.6'-0"	None				
		116'-0"					
		2. Pump 10.3 tons ea.					
Miscellaneous Loads Up to 7.5 tons are handled by Auxiliary Hoist.							

Typical Load/Impact Area Matrix

NAME: VACUUM BREAKER VALVE TROLLEY - 00H02

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S)	EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING					
		ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
IMPACT AREA	<p style="text-align: center;">D E L E T E D</p>						

Tyical load/impact Area Matrix

CRANE: MACHINE SHOP CRANE - 00H12

INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING							
LOCATION	IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
	Administration Building Units 2 & 3	116'-0"	None				
Crane Loads & Miscellaneous Loads up to 5 tons							

"PEACH BOTTOM ATOMIC POWER STATION - UNITS 2 & 3"

Typical Load/Impact Area Matrix

CRANE: CRD REMOVAL PLATFORM WINCH - 20H20, 30H20

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
IMPACT AREA	Reactor Building Unit 2 - Col. 13-17; B-C Unit 3 - Col. 28-31; B-C	116'-0"					
		135'-0"	None				
LOADS	Load Capacity up to 1 ton						

Typical load/Impact Area Matrix

CRANE: CRD REMOVAL PLATFORM WINCH - 20H20, 30H20

LOCATION		INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING					
IMPACT AREA	LOADS	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
				116'-0"			
		135'-0"	None				
Load Capacity up							
to 1 ton							

Typical load/Impact Area Matrix

CRAWLER: CRD TRANSFER CART REMOVAL WINCH - 00H34

INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING							
LOCATION	IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
	Reactor Building Unit 2 - 13-17; B-C Unit 3 - 28-31; B-C						
Load up to 1 ton		116'-0" 135'-0"	None				
"							

Typical Load/Impact Area Matrix

CRANE: CRD TRANSFER CART REMOVAL WINCH - 00H34

INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) PARALLEL REACTOR BUILDING, AUXILIARY BUILDING							
LOCATION	IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
	Reactor Building Unit 2 - 13-17; B-C Unit 3 - 28-31; B-C						
		116'-0"	None				
		135'-0"					

Typical Load/Impact Area Matrix

CORRE: CRD ROTATION HOIST - 20H08 - 30H08

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING					
IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
LOADS		ELEVATION	HAZARD ELIMINATION CATEGORY	ELEVATION	HAZARD ELIMINATION CATEGORY	HAZARD ELIMINATION CATEGORY
D E L E T E D						

Typical load/impact Area Matrix

CRD: CRD REMOVAL HOIST - 20H05 - 30H05

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S)	EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING					
		ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
IMPACT AREA	Reactor Building Unit 2 - Col. 12-15; C-G Unit 3 - Col. 26-29; C-G						
LOADS							
CRD's - 500#		116'-0"	Yes CRD's				

Typical Load/Impact Area Matrix

CRANE: EQUIPMENT ACCESS LOCK REMOVAL HOIST - 20H04 - 30H04

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING					
IMPACT AREA	Reactor Building Unit 2 - Col. 10-13; B-F Unit 3 - Col. 24-28; B-F					
LOADS	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
1. Hatch Cover 3.5 tons	135'-0" ↓	Yes RHR, RCIC Piping, MSRV discharge line				
2. Concrete Shielding Blocks - 0.8T	↓	↓				
3. Concrete Plug 0.5 ton	↓	↓				

Typical Load/Impact Area Matrix

CRANE: PERSONNEL LOCK HOIST - 20H22 - 30H22

INDICATES THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S)		SAMPLE: REACTOR BUILDING, AUXILIARY BUILDING	
LOCATION	IMPACT AREA	HAZARD ELIMINATION CATEGORY	HAZARD ELIMINATION CATEGORY
LOADS	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
	Reactor Building Unit 2 - Col. 13-17; A-J Unit 3 - Col. 24-31; A-J		
1. Recirc. Pump 13.6 tons	135'-0"	Yes 1. HHR piping 2. RCIC piping	
2. Recirc. Pump Motor 21.5 tons		3. HPCI piping 4. Torus Below El. 135'-0"	
3. Air Lock 24 tons		0" Floor	
4. Concrete Shielding 0.9T			
5. Concrete Plug 0.5T			

Typical Load/Impact Area Matrix

CONDENSATE DEMINERALIZER HOIST - 20H25 & 30H25

CONDENSATE DEMINERALIZER AUX. HOIST - 20H47 & 30H47

CRANE:

INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, SAFELIST BUILDING

LOCATION	IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
	Turbine Building Unit 2 - Col. 8-18; J-M Unit 3 - Col. 23-33; J-M						
A. Condensate Demin.		116'-0" 135'-0"	None				
1. Powdex Unit 8.75 tons ea.							
2. Filter Unit 0.37 tons ea.							
3. Precoat Tank ton							

Typical Lead/Impact Area Matrix

RW BUILDING DEMINERALIZER HOIST - 00H35

CHART

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING						
	IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
	Radwaste Building Units 2 & 3, Col. 20-21.4; F-G						
1. Waste Collector Filter 1.65 tons	135'-0"	None					
2. Powdex Unit 8.75 tons							
3. Precoat Pump 1/2 ton							

Typical Lead/Impact Area Matrix

CRANE: TORUS EQUIPMENT REMOVAL HOIST - 00H37

LOCATION		INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING						
IMPACT AREA	IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	
	Drywell Floor Unit 2 - Col. 8-10; B-C Unit 3 - Col. 15-17; B-C		Yes					
Access Hatch 3 tons		135'-0"	Torus					

Typical Lead/Impact Area Matrix

OFFGAS FILTER TROLLEY - 00H53

CLAIMS:

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING					
IMPACT AREA	Off Gas Filter Building					
SOURCE	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
1. Waste Collector Filter 1.65 tons	125'-0"	None				

Typical Load/Impact Area Matrix

CRANE: RECOMBINER BUILDING HOIST - 90H42

LOCATION		INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING						
IMPACT AREA		RECOMBINER BUILDING						
LOAD		ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION FOR CATEGORY	
Recombiner	135'-0"	None						
Tons	157'-0"							
Recombiner Lid								
1.4 Tons								
Filter Cartridge								
0.65 tons								

"PEACH BOTTOM ATOMIC POWER STATION - UNITS 2 & 3"

2AH40
2BH40
2AH40

Typical Load/Impact Area Matrix

CRANE: MAIN STEAM RELIEF VALVE REMOVAL HOIST - 3BH40

INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING		HAZARD ELIMINATION CATEGORY		SAFETY-RELATED EQUIPMENT		HAZARD ELIMINATION CATEGORY	
LOCATION	IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	ELEVATION	SAFETY-RELATED EQUIPMENT	ELEVATION	HAZARD ELIMINATION CATEGORY
D E L E T E D							

Typical Load/Impact Area Matrix

CRANE: FUEL POOL FILTER DEMINERALIZER HOIST - 00H55

INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING							
LOCATION	IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
	Radwaste Building Units 2 & 3 - Col. 20 - 21.4; F-J						
FP Filter. up to 5 tons		135'-0"	None				

Typical Load/Impact Area Matrix

CRANE: 15 TON YARD CRANE - 00H56

INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) BY FILE: REACTOR BUILDING, AUXILIARY BUILDING							
LOCATION	IMPACT AREA	HAZARD ELIMINATION CATEGORY	ELEVATION	HAZARD ELIMINATION CATEGORY	SAFETY-RELATED EQUIPMENT	ELEVATION	HAZARD ELIMINATION CATEGORY
	Self Propelled - Moves Around the Plant.						
Misc. Loads 15 tons			116'-0" 135'-0"	See drawing for restricted areas.			

Typical Load/Impact Area Matrix

20H50
 CW PUMP STRUCTURE TRASH HANDLING EQPT. HOIST - 30H50

LOCATION/A	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING						
	IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
	Screen Structure Unit 2 - Col. 4-5; C-D Unit 3 - Col. 7-8; C-D						
	Trash up to 3 tons	116'	None				

Typical Load/Impact Area Matrix

CRANE: OFF-GAS STACK HOIST - 00H46
JIB CRANE

INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AFFILIANT BUILDING

LOCATION	IMPACT AREA	LOADS	IMPACT AREA(S)								
			ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY			
	Off-Gas Stack Units 2 & 3 - Stack Area	Loads up to 3 tons	273'-6"	None							

Typical load/impact Area Matrix

CLAIMS: PRECAST MATERIALS HANDLING - 20H54 - 30H54

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING						
IMPACT AREA	REACTOR BUILDING Units 2 & 3 - Col. 8-10; 31--33; G. H.	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
Miscellaneous Loads up to 1/2 ton		165'-0"	None				

- 2AH45
- 2BH45
- 3SH45
- 3BH45

Typical Load/Impact Area Matrix

CHARGE: STRUCTURE SCREEN TRASH HANDLING EQPT. HOIST

INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING							
LOCATION	IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
	Screen Structure Unit 2 - Col 1-4; A-B Unit 3 - Col. 32-35; A-B	116-0"	None				
Screen Structure Loads up to 5 tons							

Typical Lead/Impact Free Matrix

GAMMA SCAN COLLIMATOR HOIST & TROLLEY - 20H52 - 30H52

GAMMA SCAN COLLIMATOR JIB CRANE - 20H51 - 30H51

CRANE:

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING					
IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
<p style="text-align: center;">D E L E T E D</p>						

"PEACH BOTTOM ATOMIC POWER STATION - UNITS 2 & 3"

Typical Load/Impact Area Matrix
 2AH19
 3AH19
 2BH19
 CRANE: FUEL POOL JIB CRANE - 3BH19

INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING		ELEVATION		SAFETY-RELATED EQUIPMENT		HAZARD ELIMINATION CATEGORY		HAZARD ELIMINATION CATEGORY		SAFETY-RELATED EQUIPMENT		HAZARD ELIMINATION CATEGORY	
LOCATION	IMPACT AREA												
	Deleted												

Typical Load/Impact Area Matrix

CRANE: Radwaste Building Equipment Hoist

INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING							
LOCATION		ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
IMPACT AREA	Radwaste Building Cols. 19-20, B-F	165'-0"	None				
LOADS	Loads up to 5 tons						

Typical Load/Impact Area Matrix

CRD Transport Jib Crane

LOCATION		INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING						
IMPACT AREA	LOADS	BUILDING(S)					HAZARD ELIMINATION CATEGORY	HAZARD FLUENT CATEGORY
		ELEVATION	SAFETY-RELATED EQUIPMENT	ELEVATION	SAFETY-RELATED EQUIPMENT	ELEVATION		
Loads up to 3 tons		Reactor Building						
		Col. 8-10; H-J 31-33; H-J	195'-0"	Yes Core Spray Below El. 135 '-0"				

Typic Load/Impact Area Matrix

CRANE: CRD Jib Crane

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING					
	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
IMPACT AREA	Reactor Bldg. Cols.: 15-17; B-C 29-31; B-C					
LOADS	135'-0"	None				
Loads up to						
1 ton						

Typical load/impact Area Matrix

CRANE: CRD Maintenance Bridge Crane

LOCATION	INDICATE THE BUILDING(S) CORRESPONDING TO THE IMPACT AREA(S) EXAMPLE: REACTOR BUILDING, AUXILIARY BUILDING					
IMPACT AREA	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY	ELEVATION	SAFETY-RELATED EQUIPMENT	HAZARD ELIMINATION CATEGORY
LOADS	Reactor Building Col. 23-26; B-C	Yes Safety Related Electrical Conduit		195'-0"		

TABLE 3

PBAPS SPECIAL LIFTING DEVICES

<u>ITEM</u>	<u>SPECIAL LIFTING DEVICE</u>
1	RPV-Drywell Head Strongback
2	Fuel Cask Yoke
3	Hydraulic Tensioner
4	Dryer Separator Sling (w/Hook Box)
5	Service Platform Sling
6	Spent Fuel Grapple
7	Lifting Bar (tandem) (TB Crane)
8	Lifting Bar (rotor) (TB Crane)

RSL
6/11/81

PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM UNITS 2 AND 3

M-17.2 REACTOR BUILDING CRANE OPERATION

PURPOSE:

The purpose of this procedure is to describe the operation of the reactor building main crane.

PREREQUISITES:

1. Maintenance procedure M-17.1 is complete.
Maintenance Supervision _____ Date _____
2. 480 V.A.C. power (bus 2G4-R-D) available to operate the crane.
3. The crane shall be operated and rigging directions given by the following classifications only: Maintenance first and second class riggers, construction first and second class riggers and any rigger who has satisfied the requirements of a maintenance or construction first or second class rigger.

TECHNICAL SPECIFICATIONS:

1. 3.10.D

SPECIAL PRECAUTIONS:

1. All items being moved by the reactor building crane must be moved in adherence to their particular "safe load path". A "safe load path" for any item is considered to be:
 - a) The minimum distance between where the item is located and its destination and,
 - b) Keeping the item at the lowest possible height from the refueling floor (less than 1 foot if possible) and,
 - c) Making no traverse (except as described in item d) over irradiated fuel or in the proximity to safe shutdown equipment and,
 - d) Any loads that must go over spent fuel or safe shutdown equipment (e.g. dryer, separator, empty load block) must be rigged in such a fashion to be considered single - failure - proof or if single - failure - proof is not provided, a safe - load - path is considered to be:
 - (1) The minimum distance to its storage location,
 - (2) The minimum height above the floor (less than 1 foot if possible),
 - (3) And if possible do not lift loads over the other loads.

Note: Precaution number 2 must be adhered to at all times.

2. Loads of 1,000 lbs. or greater shall not be moved over fuel assemblies in the fuel pool at any time, per Tech. Spec. 3.10.D.
3. Empty load block moves must adhere to special precaution No. 1.

SPECIAL TOOLS:

None

REFERENCES:

1. Instruction Book 6280-M13B-50, Whiting Corp., Operating Instructions
2. Whiting Corp. drawings, Bechtel Foreign Print Nos. 6280-M13B-38, 6280-M13B-B16, 6280-M13B-B17, 6280-M13B-15.

PROCEDURE:

CHANGES THAT DO NOT CHANGE THE INTENT OF THIS PROCEDURE MAY BE MADE PROVIDED THAT THE CHANGES ARE DOCUMENTED ON THIS PROCEDURE AND INITIALED BY A MEMBER OF SHIFT SUPERVISION AND ONE MEMBER OF THE PORC TO SIGNIFY APPROVAL. THE PORC MEMBER APPROVAL MAY BE GRANTED BY TELEPHONE. ANY CHANGE TO THIS PROCEDURE WHICH CHANGES ITS INTENT MUST BE REVIEWED AND APPROVED BY THE PORC PRIOR TO IMPLEMENTATION.

1. See Whiting Corp. Instruction Book 6280-M13B-28, Reference 1, Print No. U-60327 for location of cab and pendant controls.
2. TO PREVENT ALL CRANE MOTION IN AN EMERGENCY, PRESS "STOP" BUTTON.
3. Maximum crane speeds are:

Main hoist	4.5 fpm
Main hoist using inching drive	4 inches per minute
Auxiliary hoist	23 fpm
Trolley	40 fpm
Bridge	50 fpm
4. To prepare for operation
 - a. Check to see that all cab control handles are in the "OFF" position.
 - b. Check to see that switch "MHC" (The (2) lube oil pumps switch) on the trolley is in the "ON" position.
 - c. Place the "Cab-Floor" selector in the "Cab" position to energize cab controls. This will de-energize pendant controls.
 - d. Place main breaker switch, 2G4-R-D, in the "ON" position.
 - e. Press the "Start" button and observe that the red "Power-On" light indicates power is on.
5. To operate crane
 - a. All controls are the stepped type with five accelerating points in each direction. Higher speeds are obtained as controller is advanced to each point. Depending on load, motion may not occur at first or second points. Always move handle slowly through each speed point, both starting and stopping.

DO NOT OPERATE CONTINUOUSLY IN THE FIRST, SECOND, OR THIRD POSITIONS AS THE EDDY CURRENT BRAKE WILL OVERHEAT.

b. Main and auxiliary hook operation

- (1) To raise hook, pull control handle toward you
- (2) To lower hook, push control handle away from you
- (3) To stop hook, return control handle to the "OFF" position, automatically setting the electric brakes
- (4) Main hook limits - if upper limit switch, lower limit switch (at El. 237'), maximum load limit switch (approx. 120 tons), or minimum load limit switch (loss of hook weight) are actuated, main hook motion will stop. Following limit switch operation, motion is only permitted in the opposite direction. Motion over the spent fuel pool with any load on the main hook is prohibited by the key switch interlock.
- (5) Auxiliary hook limits - if upper limit switch or lower limit switch are actuated, auxiliary hook motion will stop. Following limit switch operation, auxiliary hook motion is only permitted in the opposite direction.
- (6) The main hook has an inching drive. To use the inching drive, place cab selector in "Slow" position and use main hook control in normal manner. Main hook maximum speed is 4 inches per minute.
- (7) If the red rotating light on the trolley is actuated the main hook is tilted to one side. Lower the load and balance evenly.

ACTUATION OF UNBALANCED LOAD LIGHT CAN ALSO INDICATE CABLE FAILURE. INSPECT CABLES BEFORE FURTHER OPERATION.

- (8) If crane trips off (Power-on light goes out and crane stops) check the following:
 - (a) Loss of 480 V.A.C. power
 - (b) "Stop" button was accidentally used
 - (c) Hoist overspeed trip has operated

LOSS OF POWER COULD BE CAUSED BY OVERSPEED TRIP OPERATION. THIS INDICATES EQUIPMENT MALFUNCTION. DETERMINE CAUSE OF THE TRIP BEFORE CONTINUING OPERATION.

c. Trolley and bridge operation

- (1) Advance control handle in desired direction.
- (2) To stop trolley motion, move handle to "OFF" position, automatically setting electric brake.
- (3) To stop bridge motion, move handle to "OFF" position and apply foot brake.

BRIDGE MAY DRIFT IF FOOT BRAKE IS NOT APPLIED.

- (4) Restricted area operation -
- (a) The key switch interlock must be actuated to move the loaded main hook over the spent fuel pool and further North and West. If the hook with a load is moved to the boundary of the restricted area without operating the interlock, the crane will stop. To move away from the restricted area the interlock must be reset using the key switch in bypass until the main hook is clear of the restricted area.

TO MOVE A SPENT FUEL CASK INTO THE CASK LOADING AREA OF THE SPENT FUEL POOL, THE KEY SHALL BE OBTAINED FROM SHIFT SUPERVISION. NO OTHER ACTUATION OF THIS INTERLOCK IS ALLOWED WITHOUT PERMISSION OF STATION SUPERVISION.

- d. To operate the crane with the pendant
- (1) Check that the "Cab-Floor" selector switch is in the "Cab" position.
 - (2) Press pendant lowering button momentarily. The pendant will lower to elevation 240' and stop.
 - (3) Place "Cab-Floor" selectro switch in the "Floor" position. Crane is now controlled from the pendant, and cab controls are de-energized.
 - (4) Use appropriate pendant control as labeled to control crane and pendant. Pendant can be raised and moves East and West from the pendant. Bridge, trolley, main hoist, and auxiliary hoist control is five speed.

CONTROL OF MAIN HOOK FROM THE PENDANT IS PROHIBITED.
THE BRIDGE BRAKE CANNOT BE CONTROLLED FROM THE PENDANT.

- e. Press "Stop" button (de-energizing crane and setting bridge electric brake) and place main breaker 2G4-R-D in "OFF" position when not using the crane.

IN-PROGRESS INSPECTION:

None

TESTING:

Periodic preventive maintenance shall be done in accordance with Maintenance procedure M 17.2.

RETURN TO NORMAL:

Ensure that the work area is cleaned up and that proper housekeeping practices involving tools, equipment and materials used in the performance of the work are followed. Document this inspection by signing the "Checked By" portion in Section 6 of the MRF (See A-26 Procedure for Corrective Maintenance).