



Wisconsin Electric POWER COMPANY
 231 W. MICHIGAN, P.O. BOX 2046, MILWAUKEE, WI 53201

September 30, 1981

A-36

Mr. H. R. Denton, Director
 Office of Nuclear Reactor Regulation
 U. S. NUCLEAR REGULATORY COMMISSION
 Washington, D. C. 20555

Attention: Mr. D. Eisenhut, Director
 Division of Licensing

Gentlemen:

DOCKET NOS. 50-266 AND 50-301
NUREG-0612 - CONTROL OF HEAVY LOADS
TRANSMITTAL OF SIX-MONTH RESPONSE
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

Your letters of December 22, 1980 and February 3, 1981 requested that Wisconsin Electric Power Company review controls regarding the handling of heavy loads at Point Beach Nuclear Plant and provide certain information requested in Enclosure 2 to the December 22, 1980 letter. On June 19, 1980, we informed you of our inability to meet the requested six-month submittal date, and proposed to supply the requested information in September 1980. The enclosed report, "Response to NRC Request for Information on Control of Heavy Loads, Six-Month Report", supplies the requested information.

Additional information has also been requested for submittal under the heading of a "Nine-Month Report". This information will be forwarded to you upon completion, which we presently expect to be in December 1981. We would be pleased to answer any questions you may have regarding this submittal.

Very truly yours,

C. W. Fay
 C. W. Fay, Director
 Nuclear Power Department

Enclosure

Subscribed and sworn to before me
 This 30th day of September, 1981.

Gertrude Pleischmann
 Notary Public, State of Wisconsin

My Commission expires July 1, 1984.

Copy to: NRC Resident Inspector



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**Response to NRC Request for
information on control of
Heavy Loads
Six Month Report
for the
POINT BEACH NUCLEAR
PLANT**

Prepared for

**WISCONSIN ELECTRIC POWER COMPANY
Milwaukee, Wisconsin**

Prepared by Bechtel Power Corporation, San Francisco, California

September 1981



RESPONSE TO NRC REQUEST FOR INFORMATION
ON CONTROL OF HEAVY LOADS
SIX MONTH REPORT
FOR THE
POINT BEACH NUCLEAR PLANT
UNITS 1 & 2
WISCONSIN ELECTRIC POWER COMPANY

Prepared by
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San Francisco
California 94119

Rev. 0
September 1981

RESPONSE TO NRC REQUEST FOR INFORMATION ON
CONTROL OF HEAVY LOADS FOR POINT BEACH

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POINT BEACH NUCLEAR PLANT

UNITS 1 & 2

NUREG 0612 - CONTROL OF HEAVY LOADS

OVERHEAD HANDLING SYSTEM REVIEW

1. INTRODUCTION

Nuclear Regulatory Commission General Technical Activity Task A-36 determined that there was a need for nuclear power plants to review their design equipment and procedures for handling heavy loads (*) in those areas where, if the loads were to accidentally drop, there was a potential that such loads could damage spent fuel, fuel in the core, or equipment that may be required to achieve safe shutdown, continued decay heat removal, or the mitigation of radioactive material releases that could exceed 10CFR Part 100 limits. As a result, NUREG 0612, "Control of Heavy Loads at Nuclear Power Plants", was published in July 1980 by the NRC, which gave several recommendations to be implemented to ensure the safe handling of heavy loads.

On December 22, 1980, the NRC issued a letter requesting all licensees of operating nuclear plants to review their controls for the handling of heavy loads to determine the extent of compliance with NUREG 0612. This request was clarified and reaffirmed in the NRC letter of February 3, 1981.

2. OBJECTIVE

This report provides a response to the requirements set forth in section 2.1 of Enclosure 3 to the NRC letter to all licensees dated December 22, 1980 and as clarified by the February 3, 1981 letter. This response is based on field walkdowns and review of plant arrangements for all overhead handling systems for Point Beach Nuclear Plant, Units 1 & 2.

3. IDENTIFICATION OF OVERHEAD HANDLING SYSTEMS

3.1 Design Office Review

The identification of overhead handling systems was initially carried out by review of design and plant procedure documents, supplemented by field walkdowns.

- (*) The definitions as provided in section 1.2 of NUREG 0612 are used throughout. Any areas in NUREG 0612 report requiring either further definition or clarification for the Point Beach plant are included in Appendix A to this report.

3.2 Field Walkdown

Field walkdowns were performed to confirm initial findings and to identify any additional load handling devices, lifting devices and loads. All the load handling devices at Point Beach are shown on Figures 3-1 through 3-7 and are also listed in Table 4-1.

4. RESPONSES TO NRC REQUEST FOR INFORMATION, GENERAL REQUIREMENTS FOR OVERHEAD HANDLING SYSTEMS

4.1 NRC Question 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

A survey of the Point Beach Nuclear Plant was performed to identify the overhead handling systems from which a heavy load drop could result in damage to any "safe shutdown equipment", (as defined in Appendix A). These handling systems are listed in Table 4-2. The plant structures reviewed included the reactor containments and facades, auxiliary building, fuel storage areas, control building, turbine building, service building and the circulating water pump house. Cranes and hoists have been reviewed without consideration for:

- (a) Electrical or mechanical interlocks which could prevent the movement of a crane or monorail hook (carrying a heavy load) over spent fuel, the reactor core, or safe shutdown equipment.
- (b) Operating procedures which are used to control the movement of a heavy load along a safe load path.
- (c) Location in an area of the plant, such as the containment, which is normally unoccupied during normal plant operation.
- (d) Cranes or hoists used only for lifting a load or loads when a unit is in the shutdown or refueling mode of operation.

Additionally, it has been assumed that if a heavy load is dropped, it is capable of penetrating the floor or floors beneath the handling system, with subsequent damage to safe shutdown equipment located below the floors.

4.2 NRC Question 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 component 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

The overhead handling systems identified at Point Beach as having sufficient physical separation from any load impact point and any safe shutdown equipment such that no heavy load drop could result in damage to safe shutdown equipment are listed in Table 4-3.

4.3 NRC Question 2.1.3

With respect to the design and operation of heavy load handling systems in the containment and the spent fuel pool area 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 the reply:

4.3.1 NRC Question 2.1.3.a

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

Response

The location of the spent fuel pool, the reactor core, the containment and the safe shutdown equipment which may be affected by a heavy load drop, are shown on Figures 3-1 through 3-7. Interim load paths have been defined for all of the load handling devices and are shown on Figures 4-1 through 4-7.

4.3.2 NRC Question 2.1.3.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

Procedures are used to control the handling of loads by the turbine building crane, the containment polar crane, the auxiliary building crane, the service water pump house, monorail, etc., as noted in Table 4-2. These procedures limit the path of movement that is to be followed for each load handled by these cranes.

Interim load paths defined in the procedures minimize to the greatest extent practicable the potential for heavy loads to impact irradiated fuel in the reactor vessel, the spent fuel pool, or the safe shutdown equipment, should such loads be accidentally dropped.

For the cranes listed in Table 4-2, procedural requirements to ensure that load handling operations remain within the interim load paths have been established.

Point Beach Nuclear Plant administrative procedure PBNP 9.3 "Special Structural Limitations on the Lifting of Heavy Loads" was revised to include the interim action requirements of the NRC letter of 12-22-80. This administrative procedure includes requirements that the crane operator follow the Interim Load Paths which have been identified for each crane. Interim Load Paths are marked on Interim Load Paths Drawings (see Figures 4-1 to 4-7). These drawings are in the control room and always available for reference.

Deviations are not permitted from the prescribed Interim Load Paths without prior approval of the Manager's Supervisory Staff.

Interim Load Paths will be updated as additional information is obtained and Safe Load Paths will be defined upon completion of analyses performed in response to NUREG-0612 "nine month" report requirements. These Safe Load Path Drawings will be located such that they will be readily available for reference by crane operators. Deviations will not be permitted from Safe Load Paths without prior approval of the Manager's Supervisory Staff.

4.3.3 NRC Question 2.1.3.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

Tables 4-6 through 4-41 provide the response to this question. For each handling device, the tables list applicable information in the following categories: building location, reference drawings, crane capacities, loads lifted and their weights and dimensions, associated lifting devices and their weights and dimensions, and safety related items in the potential load drop areas. All information compiled to date is included in these tables. The information in these tables will be expanded in the "nine month" report.

All load handling devices with potential safety impact (see Table 4-2) are covered by Point Beach Nuclear Plant administrative procedure PBNP 9.3, "Special Structural Limitations on the Lifting of Heavy Loads". This administrative procedure will be reviewed upon completion of the "nine month" report and revised as appropriate.

4.3.4 NRC Question 2.1.3.d

Verification that lifting devices identified in 2.1.3-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

For the purpose of this review the lifting devices considered were those that were found to be designed and used under the definitions given Appendix A.

a) Special Lifting Devices

Westinghouse Electric Corp. supplied most of the special lifting devices and has been requested to review the design of the special lifting devices which they supplied, to determine design, fabrication, and testing compliance with the guidelines of ANSI N14.6-1978, as supplemented by NUREG 0612, Section 5.1.1 (4).

The special lifting devices used in the plant are listed in Table 4-42 and their use noted in Tables 4-6 through 4-41 as applicable.

The testing and maintenance requirements of ANSI N14.6 - 1978, Sections 5 and 6, "Special Lifting Devices for Critical Loads", will be reviewed to determine the applicability to the special lifting devices in use at Point Beach Nuclear Plant. Existing Point Beach testing and maintenance procedures will be reviewed to determine conformance with the applicable sections of ANSI N14.6 - 1978, Sections 5 and 6. The results of these reviews will be included in the "nine month" report.

b) Other Lifting Devices

A review of the design of other lifting devices in use at Point Beach including ropes, slings, and cables is proceeding to determine the design, fabrication, and proof testing compliance with the guidelines of ANSI B30.9-1971, and as supplemented by NUREG 0612, Section 5.1.1(5).

If it is found that specific compliance with the above standards is not met, it will be shown that either the actual requirements are equivalent to the standard guidelines or the lifting device can be derated on a generic basis to enable conformance. Inspection of these lifting devices will be performed as required by ANSI B30.9-1971.

4.3.5 NRC Question 2.1.3.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 this standard, sufficient information should be provided to demonstrate the equivalency of proposed alternatives.

Response

Point Beach Nuclear Plant inspection, testing, and maintenance operations have been reviewed against the requirements of ANSI B30.2 - 1976, Chapter 2-2. Plant procedures are in compliance with this chapter, with the exception of the containment polar cranes. These cranes are given an initial inspection in accordance with OSHA requirements prior to use. The major annual inspection fulfilling the requirements of ANSI B30.2, 1976 Chapter 2-2, is performed during the annual refueling outages as time permits.

4.3.6 NRC Question 2.1.3.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 design review summary for the auxiliary building, the containment polar cranes, and turbine building cranes as they apply to ANSI B 30.2 and CMAA Specification 70 will be provided in the "9 month" report.

The Point Beach auxiliary building crane will be modified to provide adequate redundant lifting features. The modification will take into consideration the ANSI B30.2, CMAA specification 70 requirements and Regulatory Guide 1.13.

4.3.7 NRC Question 2.1.3.g

Exceptions, if any, taken to ANSI B 30.2-1976 with respect to operator training, qualification, and conduct.

Response

Existing Point Beach Nuclear Plant Training Program,

TRNG 2.1 meets the requirements of ANSI B30.2 - 1976 Chapter 2-3, "Qualifications for Operators", with the following exceptions to ANSI B30.2 - 1976:

- Item 2-3.1.7e The warning bell will be actuated only as required to advise personnel of crane movement, rather than continuously during crane motion.
- Item 2-3.1.7g The main line disconnect switch will not be left open. Present operating practice is to leave it shut on some cranes, whether or not they are in use, thus reducing the delay when placing the crane in service.
- Item 2-3.1.7n The cranes will not be de-energized for normal maintenance since some maintenance requires that the power be on.
- Item 2-3.1.7o Crane controls will not be tested at the beginning of each shift. They will be tested at the beginning of each lifting operation.
- Item 2-3.1.2b
(1 & 2) Existing Wisconsin Electric medical examinations assure compliance with physical requirements as specified in Section 2-3.1.2b, 3 through 6. Future medical examinations, to be scheduled as soon as practicable, will include eye examinations to meet the requirements of Sections 2-3.1.2.b.1 and 2-3.1.2.b.2.

5. WISCONSIN ELECTRIC POSITION STATEMENTS REQUESTED BY NRC
LETTER DATED 12-22-80

5.1 NRC Request

" Furnish confirmation within six months that implementation of those changes and modifications you find are 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

Wisconsin Electric Power Company will implement modifications found to be necessary as a result of the NUREG-0612 review as soon as practicable. Necessary modifications will be completed within two years of submittal of the nine month response to NUREG-0612, subject to availability and delivery of equipment required for modification.

5.2

NRC Request

- " 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.

The criteria in NUREG-0612 are also applicable to applicants for operating licenses. Such applicants are expected to provide the information requested by item 1 above and to meet the same schedule of implementation as indicated in 2 above. Any item for which the implementation date is prior to the expected date of issuance of an operating license will be considered to be a prerequisite to obtaining that license.

For any date that cannot be met, furnish a proposed revised date, justification for the delay, and any planned compensating safety actions during the interim."

Response

Wisconsin Electric will furnish justification for not implementing modifications or changes which would be required to fully satisfy the guidelines of NUREG-0612 that we determine to be unnecessary. This justification will be furnished after the completion of the analyses being performed in response to the nine month report requirements of NUREG-0612.

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Table 4-1List of Load Handling Devices at Point Beach

<u>Item Number</u>	<u>Description</u>
1	Circulating Water Pumphouse Monorail, N-S
2	Circulating Water Pumphouse Monorail, E-W
3	Reactor Pressure Vessel Head Circular Monorail Unit 1
4	Reactor Cavity Fuel Manipulator, Unit 1
5	Containment Polar Crane, Unit 1
6	Containment Buttress Jib Cranes, Unit 1
7	Personnel Access Hatch Monorail, Unit 1
8	Auxiliary Building Main Crane
9	Ready Stores Monorail
10	Main Shop Crane
11	Containment Equipment Hatch Track, Unit 1
12	Jib Crane Over Incore Instrumentation, Unit 1
13	Feedwater Heaters Monorail, Unit 1
14	Control Building Electrical Equipment Room Monorail, El. 26'
15	Seal Water Injection Filters Jib Crane, Unit 1
16	Turbine Building Main Crane
17	Water Treatment Area Monorail
18	Jib Crane Over Incore Instrumentation, Unit 2
19	Containment Equipment Hatch Track, Unit 2
20	Seal Water Injection Filters Jib Crane, Unit 2
21	Feedwater Heaters Monorail, Unit 2
22	Personnel Access Hatch Monorail, Unit 2
23	Containment Buttress Jib Cranes, Unit 2

Table 4-1List of Load Handling Devices at Point Beach

(continued)

Crane Number

24	Reactor Pressure Vessel Circular Monorail, Unit 2
25	Containment Polar Crane, Unit 2
26	Reactor Cavity Fuel Manipulator, Unit 2
27	Spent Fuel Handling Device
28	Drumming Station Jib Crane
29	MSRV Jib Crane, Unit 1
30	Facade Monorail At Column Line L-7, Unit 1
31	Facade Monorail At Column Line L-8, Unit 1
32	MSRV Jib Crane, Unit 2
33	Facade Monorail At Column Line L-15, Unit 2
34	Facade Monorail At Column Line L-16, Unit 2
35	Monorail, East Wall Circulating Water Pump House
36	Clean Side Maintenance Shop Crane
37	Jib Cranes Over Reactor Coolant Pumps, Unit 1 & 2

Table 4-2

List of Overhead Heavy Load* Handling Devices in the Vicinity
of Safe Shutdown Equipment

<u>Item #</u>	<u>Description</u>	
1	Circulating Water Pumphouse Monorail N - S	
2	Circulating Water Pumphouse Monorail E - W	
3	Reactor Pressure Vessel Head Circular Monorail-	Unit 1
5	Containment Polar Crane	- Unit 1
6	Containment Buttress Jib Cranes	- Unit 1
8	Auxiliary Building Main Crane	
10	Main Shop Crane	
12	Jib Crane Over Incore Instrumentation	- Unit 1
16	Turbine Building Main Crane	
18	Jib Crane Over Incore Instrumentation	- Unit 2
23	Containment Buttress Jib Cranes	- Unit 2
24	Reactor Pressure Vessel Head Circular Monorail-	Unit 2
25	Containment Polar Crane	- Unit 2
31	Facade Monorail at Column L - 8	- Unit 1
33	Facade Monorail at Column L - 15	- Unit 2
34	Facade Monorail at Column L - 16	- Unit 2

*Heavy Load defined as 1750 lbs. or greater - See Appendix A
Definitions

Table 4-3

List of Overhead Handling Devices not in the Vicinity
of Safe Shutdown Equipment

- A. Cranes lifting loads, which if dropped, would not result in damage to equipment required for safe shutdown or decay heat removal, or the mitigation of radioactive material releases that could exceed 10CFR Part 100 limits. These cranes can be eliminated as non-safety-related.

Item #

- 9 Ready Stores Monorail -
 13 Feedwater Heaters Monorail, Unit 1 -
 17 Water Treatment Area Monorail -
 21 Feedwater Heaters Monorail, Unit 2 -
 35 Monorail, East Wall in Circulating Water Pumphouse -
 36 Clean Side Maintenance Shop Crane -

- B. Cranes to be justified by physical separation from safety-related areas.

Item #

- 7 Personnel Access Hatch Monorail, Unit 1 -
 15 Seal Water Injection Filters Jib Crane, Unit 1 -
 20 Seal Water Injection Filters Jib Crane, Unit 2 -
 22 Personnel Access Hatch Monorail, Unit 2 -
 28 Drumming Station Jib Crane -

TABLE 4-4

List of Load Handling Devices Excluded from the Review

A. Cranes to be excluded on the basis that the load lifted is less than the critical load definition.

- Item #4 Reactor Cavity Fuel Manipulator, Unit 1 - This crane operates in a safety-related area; however, the load carried is less than the heavy load definition. The consequences of a load drop in this area have been analyzed previously.
- Item #14 Control Building Electrical Equipment Room Monorail, Elev. 26'0" - This monorail operates in a safety-related area; however, its designated load is a 1400 lb. multi-tester which is less than the defined heavy load.
- Item #26 Reactor Cavity Fuel Manipulator, Unit 2 - Same as Item #4
- Item #27 Spent Fuel Handling Device - This crane operates in a safety-related area; however, the spent fuel elements are less than the heavy load definition. The consequences of a load drop have been analyzed previously.
- Item #29 MSRV Jib Crane, Unit 1 - This jib crane operates in a safety related area; however, its designated load is a 1250 lb. MSRV which is less than the defined heavy load.
- Item #32 MSRV Jib Crane, Unit 2 - Same as Item #29.
- Item #37 Jib Cranes Over Reactor Coolant Pumps, Unit 1 & 2 - These jib cranes operate in safety related areas; however, their heaviest designated load is a 300# reactor coolant pump shaft coupling which is less than the defined heavy load.

B. Equipment to be excluded for the reasons noted below.

- Item #11 Containment Equipment Hatch Track, Unit 1 - Not a lifting device; therefore, not intended to be included in the scope of NUREG-0612
- Item #19 Containment Equipment Hatch Track, Unit 2 - Same as Item #11.
- Item #30 Facade Monorail at Column Lines L-7, Unit 1 - This monorail is no longer in existence.

Table 4-5 (Sheet 1 of 1)
Circ. Water Pumphouse Monorail H-3

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref. Dwg.			
1	-	6000 #	Mono-rail	Circ. Water PH	P-163	Later	6 pumps are available for operation. The plant can be safely shut down on 3 pumps. No common cables, switchgear or piping are under the monorail.
LOAD DESCRIPTION							
No.	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
6	Service Water Pumps	2' ϕ x 4' High	Later	Later	P32 (A,B,C,D,E and F) Service Water Pumps	Not Applicable	Not Applicable
6	Service Water Pump Motors	2' ϕ x 2' High	Later	Later	Service Water Piping Service Water Electrical Connections		
-	Misc. Items	Most items less than 1750#	Later	Later			

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-6 (Sheet 1 of 1)
Circ. Water Pumphouse Monorail E-W

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS		
	Equip. No.	Service Cap.	Lift Span	Bldg.	Ref. Dwg.				
2	-	5000#	Mono-rail		P-163	Later	6 Pumps are available for operation. The plant can be safely shut down on 3 pumps. No common cables, switchgear or piping are under the monorail.		
LOAD DESCRIPTION		Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***	
N ^o .									
6	Service Water Pumps	2' ϕ x 4' High	Later	Later	F32 (A,B,C,D,E and F) Service Water Pumps	Not Applicable	Not Applicable		
6	Service Water Pump Motors	2' ϕ x 2' High	Later	Later	Service Water Piping Service Water Electrical Connections				
-	Misc. Items	Most items less than 1750#	Later	Later					

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-7 (Sheet 1 of 1)

Unit 1 RPV Head Circular Monorail

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS	
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref. Dwg.				
3	—	Later	Mono-rail Containment	M-1	Later	This monorail is used only during a cold shutdown, while the reactor vessel head is in position.		
LOAD DESCRIPTION		Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
N#								
3	Stud Tensioner	2650# 1.5' ϕ x 3.5' High	Later	Later	Reactor V	Not Applicable	No* Applicable	
12	Reactor Head Studs	500#	Later	Later				
1	Seal Ring	Later	Later	Later				

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-8 (Sheet 1 of 1)
Unit 1 Reactor Cavity Fuel Manipulator

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref. Dwg.	Contain-ment		
4	1-Z16	6000#	25'		M-1	Compliance review not required for cranes carrying less than heavy loads.	Load carried is less than the heavy load definition. Consequences of load drop has been analyzed previously and found acceptable.
LOAD DESCRIPTION							
No.	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
121	Fuel Bundle and Control Rod Assembly	1404#	Fuel grapple arm is built into the manipulator.	Compliance review not required	Not Applicable	Not Applicable	Not Applicable

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-9 (Sheet 1 of 3)
Unit 1 Containment Polar Crane

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref. Dwg.			
5	1-Z13	100 main 15 aux. tons	100'	Containment	M-1	Later	Used only during shutdown. Safety implications of items impacted during shutdown will be evaluated in the "nine month" report.
LOAD DESCRIPTION							
No.	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or E30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
2	Reactor Coolant Pump (RCP) Unit 1P1 (A&B)	Later	Later	Later	Reactor head control cables	1-P1 (A&B) Reactor Coolant Pumps	Service water piping 8"HB-19
2	RCP Motor	Later	Reactor Coolant Pump Motor Lifting Device	Later	Containment Spray Line	Service water piping 8"HB-19	Containment spray pump discharge line 6"SI-301R-1
2	RCP Fly-wheel	Later	Later	Later	H & V Ducting	Instrument air lines	Piping for safety injection sys.
2	RCP Fly-wheel	Later	Later	Later	Service Water Piping 8"HB-19	Safety injection system accumulator tanks 1-T34 (A&B)	Pressure Relief Tank 1-T2
2	RCP Fly-wheel	Later	Later	Later	Safety injection tanks 1-T-34 (A&B)	H & V Ducting	Cables for neutron detection system
8	Containment Ventilation Fans 1W1A1 thru 1W1D2	5000# each	Later	Later	Piping for safety injection system	Containment Spray Line	Cables for auxiliary feedwater system
2	Fan For Control Rod Cooling 1W3 (A&B)	2400# each	Later	Later	1-W3A, 1-W3B, 1-W5A Reactor CRD Mech. Cooling Fans	HEV units 1-W1B 1&2, 1-W1C 1&2 1W5 A&B	Instrument air lines
1	Reactor Vessel Head	170,000#	R.V. Head Lifting Device	Later	Cables to HEV units 1W1 (A&B)	Cables to Safety injection system controls (valves, instrumentation, etc.)	HEV units 1-W1D1, 1-W1D2, 1-W4B
1	R.V. Head Stud Back (loaded)	6000#	Later	Later	Fuel core (when vessel head is removed)	Incore instrumentation table	Pressure transmitters 1-PT940, 1-PT941, 1-PT1004
3	Stud tensioner	2650#	Later	Later	Vessel head (when missile shield is removed)	Radiation monitors	Cables for HEV units
					Reactor coolant pumps (when missile planks are removed)	Steam and drain lines to containment heat exchangers (e.g., 1-HX-76)	Cables for residual head removal system
					Pressurizer (when missile planks are removed)	Instrument racks 1-C57A, 1-C57C	Emergency feedwater piping 3"EB-10
							RHR pump suction piping 10"AC-601R-2

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-9 (Sheet 2 of 3)

Unit 1 Containment Polar Crane

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS	
	Equip. No.	Service Cap.	Lift Span	Eldg. Ref. Dwg.				
5	1-Z13	100 main 15 aux. tons	100'	Containment	M-1	See sheet 1 of 3	See sheet 1 of 3	
LOAD DESCRIPTION		Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or E30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
No.								
1	R.V. Head missile shield plug	Later	Later	Later	Later		Cables for Containment isolation	Component cooling water piping to RCP's
4	Main steam snubber	Later	Later	Later	Later		Cables for reactor coolant system	Reactor coolant tank drain line Reactor coolant tank 1-T16
1	PAR vessel inspection device	Later	Later	Later	Later		Cables for auxiliary feedwater system	H&V ducting
10	RCP missile shield planks	Later	Wire Rope	Later	Later		Reactor vessel (when missile shield is in place)	Steam generator blowdown line Steam generator level transmitters
3	Pressurizer missile shield planks	Later	Wire Rope	Later	Later		Reactor coolant pump oil lift pump 1-P74	Condensate return unit pumps 1-P82 (A&B)
4	Steam Generator snubber	Later	Later	Later	Later		Safety injection accumulator tanks 1-T34 A&B	
1	Vessel Internals (Upper & lower)	Later	Upper Internal lifting device (used for lower core barrel removal also)	Later	Later			

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-9 (Sheet 3 of 3)
Unit 1 Containment Polar Crane

ITEM No.	HANDLING DEVICE		LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS	
	Equip. No.	Service Cap.	Lift Span	Bldg Ref. Dwg.			
9	1-213	100 main 15 aux. tons	100'	Contain- ment	M-1	See sheet 1 of 3 See sheet 1 of 3	
LOAD DESCRIPTION							
No.	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
3	Reactor vessel head IR&V ducts	2000#	Fabric Slings	Later			
-	Misc valves, heat exchangers, etc.	Most less than 1750#	Fabric Slings	Later			
1	Crane hook and bottom block	6750#	Later	Later			
1	Crane top block	1450#	Later	Later			

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-10 (Sheet 1 of 1)
Unit 1 Jib Cranes on Containment Buttresses

ITEM No.	HANDLING DEVICE		LOCATION			OVERALL DEGREE OF COMPLIANCE * 3 **	REMARKS	
	Equip. No.	Service Cap.	Lift Span	Bldg.	Ref. Wg.			
6	—	Later	12' boom	1/2 scale	M-1	Later	Used only at 5 yr. intervals. A probabilistic risk analysis will justify exclusion of these devices.	
LOAD DESCRIPTION		Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI B14.6 (1978) or E30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
N ^o .								
1	Tendon Surveillance pump	3000#	Removable Wire Rope (and wench)	Later	Concrete pipeways housing safety-related piping and cables (for RSH, SIS, etc.)	Not Applicable	Not Applicable	
1	Tendon Surveillance ram	2000#	Removable Wire Rope (and wench)	Later	Steam generator blowdown lines Radiation monitors			

* DEGREE of compliance with
ANSI B 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part 2
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-11 (Sheet 1 of 1)

Unit 1 Monorail in Personnel Access Hatch

ITEM No.	HANDLING DEVICE		LOCATION			OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Spn	Eldg Ref.	Dwg.		
7	—	Not Reviewed	Mono-rail	Containment	M-1	Compliance review not required for handling devices in areas with no safety equipment.	Removable. Used only when containment is open during a cold shutdown. No safety related items under path of this monorail.
LOAD DESCRIPTION							
N ^o .	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or E30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
3	Stud tensioner	2650# 1.5' x 3.5' high	Identification not required	Not Applicable	None	None	None
—	Misc items moved in and out of containment	Most items less than 1750#	Identification not required	Not Applicable			

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-1E (Sheet 1 of 3)
Auxiliary Building Main Crane

ITEM No.	HANDLING DEVICE		LOCATION			OVERALL DEGREE OF COMPLIANCE * & **	REMARKS	
	Equip. No.	Service Cap.	Lift Span	Eldg. Ref.	Dwg.			
8	Z15	130 main 20 aux. tons	75'	Aux.	M-1	Later	Single failure proof components are being procured for this crane.	
LOAD DESCRIPTION		Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
N ^o .								
6	Charging Pump with motor	9650#	Later	Later	Spent fuel Spent fuel pool	Spent fuel pool demineralizer Component cooling water piping	Boric Acid system piping Residual heat removal pumps 1-F10 (A&B), 2-F10 (A&B)	
4	Residual heat removal pump with motor	7000#	Later	Later	Spent fuel pool heat exchanger HX-13 Spent fuel pool pumps F12 (A&B)	Component cooling water heat exchangers Boric acid tanks T6 (A,B & C)	Residual heat removal heat exchangers 1-HX11 (A&B) 2-HX11 (A&B) Residual heat removal piping and cables	
4	Component cooling pump with motor	3200#	Later	Later	Spent fuel pool cooling sys. piping and cables Spent fuel pool exhaust fans W21 (A&B)	Boric acid system piping Boric acid recirc. pumps 1-F116, 2-F116	Containment spray pumps 2-F14 (A&B)	
2	Spent fuel pool pump with motor	1800#	Later	Later		Boric acid transfer pumps 1P4 (A&B) 2P4 (A&B) Waste distillate tanks	Component cooling water pumps 1-F11 (A&B), 2-F11 (A&B) Safety injection pumps 1-F15 (A&B) 2-F15 (A&B)	
4	Containment spray pump with motor	5400#	Later	Later			Reactor coolant pump discharge piping 3"WD-151R-9	
4	Safety injection pump with motor	10,225#	Later	Later				
2	Aux. bldg. stack exhaust fan	2400#	Later	Later				

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP AEB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-12 (Sheet 2 of 3)
Auxiliary Building Main Crane

ITEM No.	HANDLING DEVICE		LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS	
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref. Dwg.			
8	Z 15	130 main 20 aux. tons	75'	Aux. M-1	See sheet 1 of 3	See sheet 1 of 3	
LOAD DESCRIPTION							
N ^o .	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
2	Aux. bldg. carbon exhaust fan	3500#	Later	Later			
1	Aux. bldg. supply air fan	3200#	Later	Later			
2	Spent fuel pool exhaust fan	later	Later	Later			
3	Reactor head stud tensioner	2650#	Later	Later			
1	Resin cask (full)	48,000# 73" ϕ x 75" high	Later	Later			
1	Filter cask	3850#	Later	Later			
1	New fuel shipping cask (full)	7000#	Later	Later			
1	Watergate	3000#	Later	Later			
1	Spent fuel shipping cask (full)	48,000#	Later	Later			

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP AEB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-12 (Sheet 3 of 3)
Auxiliary Building Main Crane

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref. Dwg.			
8	Z15	130 main 20 aux. tons	75'	Aux.	M-1	See sheet 1 of 3	See sheet 1 of 3
LOAD DESCRIPTION							
N ^o .	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI B14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
45	Concrete hatch covers	Heaviest cover 18,750#	Later	Later			
1	Small filter can	2000#	Later	Later			
-	Misc items	most less than 1750#	Later	Later			
1	Crane hook and block	10,500#	Later	Later			

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-7 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-13 (Sheet 1 of 1)
Ready Stores Monorail

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Rldg.	Ref. Dwg.		
9	Z84	1000 lb.	Mono-rail	Service Building	M-5	Compliance review not required for handling devices in non-safety areas.	There are no safety related items in the lift path of this monorail.
LOAD DESCRIPTION			Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items*** Elev.	Class "B" Impacted Items*** Elev.	Class "C,D" etc. Impacted Items*** Elev.
N#	Item Handled	Weight & Dimension					
-	Misc items to stock ready stores	less than 1000#	identification not required	Compliance review not required	None	None	Not Applicable

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 1-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-14 (Sheet 1 of 1)
Main Shop Crane

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS	
	Equip. No.	Service Cap.	Lift Span	Bldg	Ref. Dwg.			
10	270	6000 lbs	33'	Service Building	M-5	Later		
LOAD DESCRIPTION				Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
N ^o .	Item Handled	Weight & Dimension						
-	Misc items required in performance of normal maintenance fabrication	less than 6000#	Later	Later	None	Cables for auxiliary feed-water system	Nct Applicable	

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 7
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - compliance in most areas
3 - compliance in few areas
4 - no evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-15 (Sheet 1 of 1)

Unit 1 Containment Equipment Hatch Track

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS	
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref. Dwg.				
11	1-Z-18	Not reviewed	Overall Hatch Track	Containment	M-7	Not reviewed as not in scope of NUREG 0612	This is not a lifting device, therefore is not intended to be included in NUREG 0612.	
	LOAD DESCRIPTION							
	Item #	Weight & Dimension	Handled	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
← NOT REVIEWED AS NOT IN SCOPE OF NUREG 0612 →								

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP AEB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-16 (Sheet 1 of 1)

Unit 1 Jib Crane Over Incore Instrumentation

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref. Dwg.			
12	—	Later	10' boom	Containment	M-5	Later	The safety related status of this crane is to be determined.
LOAD DESCRIPTION							
N ^o .	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
1	Incore Instrumentation Table	Weight later 4'x4' 8' high	Later	Later	HVAC units HVAC (AMB) HVAC ducting Radiation monitor LRT Cables for residual heat removal system	HVAC ducting 1-T16 Reactor coolant drain tank Reactor Coolant drain tank piping Component cooling water piping to reactor coolant pump 4" AC-152N-4 Emergency feedwater piping 3"-EB-10 Residual heat removal pump suction line 10" AC-601-R2	Not Applicable

* DEGREE of compliance with
 ANSI N 14.6 (1978)
 ANSI B 30.2 ch. 2
 ANSI B 30.9
 ANSI B 30.10
 CMA Spec 20
 BTP ASB 9-1 Part B
 NUREG 0554
 NUREG 0612 App. C.

** 1 - Excellent, complete compliance
 2 - Compliance in most areas
 3 - Compliance in few areas
 4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
 Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
 Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-17 (Sheet 1 of 1)
Unit 1 Monorails for Feedwater Heaters

ITEM No.	HANDLING DEVICE		LOCATION			OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip No.	Service Cap.	Lift Span	Bldg	Ref. Dwg.		
13	1-281 1-282 (A & B)	Not re-viewed	Mono-rail	Turbine	M-5	Compliance review not required for handling devices in non-safety areas.	There is no safety related equipment in the lift path of this monorail.
LOAD DESCRIPTION			Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
N#.	Item Handled	Weight & Dimension					
4	Feedwater Heaters	Not re-viewed	Identification not required	Compliance review not required	None	None	Not Applicable

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-18 (Sheet 1 of 1)
Monorail at North End of Control Building Electrical Equipment Rm, El. 20'

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	State	Ref. Dwg.		
14	-	2000#	Mono-rail	Control	M-5	Compliance review not required for handling devices carrying less than heavy loads.	This monorail does not carry heavy loads.
LOAD DESCRIPTION							
No.	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dis.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
1	Multi-amp Tester	1400# 5'x2' x4'	Identification not required	Compliance review not required	Not Applicable	Not Applicable	Not Applicable

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
ASME Spec 20
ASME B 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-19 (Sheet 1 of 1)

Unit 1 Jib Crane Over Seal Water Injection Filters

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Blkg. Ref. Dwg.			
15	—	3000#	8' boom	Aux.	M-5	Compliance review not required for handling devices in areas with no safety equipment	There are no safety related items in this area.
LOAD DESCRIPTION							
N#	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items*** Elev. 26'-0"	Class "B" Impacted Items*** Elev.	Class "C,D" etc. Impacted Items*** Elev.
1	Filter casks	2000#	Identification not required	Compliance review not required	None	None	Not Applicable
1	Concrete Hatch Cover	2025#	Identification not required	Not Applicable			

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP AEB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-20 (Sheet 1 of 6)
Turbine Building Main Crane

ITEM No.	HANDLING DEVICE		LOCATION			OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref. Dwg.			
16	214	125 main 20 aux. tons	120'	Turbine & Control	M-3	Later	
LOAD DESCRIPTION			Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
N#	Item Handled	Weight & Dimension					
8	Moisture separator reheater bundle	Later	Later	Later	Air intakes to diesel generators	Computer Room	Main control room (cables, IRV, instrumentation, etc.)
8	Generator hydrogen cooler	Later	Later	Later		HRV units for control bldg	
2	Exciter cooler	Later	Later	Later		HRV ducting for control bldg	HRV units for control bldg.
4	Condensate pump with motor	30,000# each	Later	Later		Diesel generators	Cable spreading room (cables, IRV, etc.)
6	heater drain pump with motor	Later	Later	Later		Service water piping	Electrical equipment room (cables, IRV, etc. for control bldg)
4	Steam Gen. feedwater pump	6500#	Main feed pump lifting rig	Later			Service water piping
4	Steam Gen. feedwater pump base-plate	8200#	Later	Later			Auxiliary feedwater pumps 1-P29, 2-P29
							Emergency batteries
						Switchgear room	
						Auxiliary feedwater piping 3"EB-10	

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-20 (Sheet 2 of 6)
Turbine Building Main Crane

ITEM No.	HANDLING DEVICE		LOCATION			OVERALL DEGREE OF COMPLIANCE* & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg Ref. Dwg.			
16	214	125 main 20 aux. tons	120'	Turbine & Control	M-3	See sheet 1 of 6	
LOAD DESCRIPTION							
N ^o .	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
4	Steam Gen. feedwater pump fly-wheel	5800#	Later	Later			
4	Steam Gen. feedwater pump motor	17,000#	Later	Later			
2	Aux. feed-pump with motor	Later	Later	Later			
2	Aux. feed-water pump with motor	Later	Later	Later			
1	Common Vac priming pump	1755#	Later	Later			
2	Vacuum priming pump with motor	1755#	Later	Later			
2	Deaerated water pump with motor	Later	Later	Later			

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part 3
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continue after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continue to the next lower (third) structural floor.

Table 4-20 (Sheet 3 of 6)
Turbine Building Main Crane

ITEM No.	HANDLING DEVICE		LOCATION			OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Ride Ref. Dwg.	Ref. Dwg.		
16	Z14	125 main 20 aux. tons	120'	Turbine & Control	M-3	See sheet 1 of 6	
LOAD DESCRIPTION							
N ^o .	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI B14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
1	Generator rotor	235,000#	Later	Later			
1	Generator hydrogen cooler	4300#	Later	Later			
2	Generator bearing bracket (half)	13,600# each	Later	Later			
2	Generator bearing (half)	2215# each	Later	Later			
1	Exciter rotor	18,670#	Later	Later			
1	Exciter stator	5560#	Later	Later			
1	Exciter pedestal bearing & seals	2450#	Later	Later			
1	Exciter seating plate and bed plates	11,000#	Later	Later			

* DEGREE of compliance with
ANSI B 14.6 (1978)
ANSI B 30.2 cb. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-20 (Sheet 4 of 6)
Turbine Building Main Crane

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref. Dwg.			
16	Z14	125 main 20 aux. tons	120'	Turbine Control	M-3	See sheet 1 of 6	
LOAD DESCRIPTION							
No.	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
1	Exciter housing and outboard cooler (doghouse)	15,500#	Later	Later			
1	High pressure (H.P.) turbine outer cover	81,700#	Later	Later			
1	H.P. turbine rotor	70,000#	High pressure and low pressure rotor lifting device	Later			
2	H.P. turbine blade ring #1 (half)	3200# each	Later	Later			
2	H.P. turbine blade ring #2 (half)	6700# each	Later	Later			
1	Low pressure (L.P.) turbine outer cover	122,300#	Later	Later			
2	L.P. turbine #1 inner cylinder (half)	50,000# each	Later	Later			

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-20 (Sheet 5 of 6)
Turbine Building Main Crane

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg Ref. Dwg.			
16	Z14	125 main 20 aux. tons	120'	Turbine Control	M-3	See sheet 1 of 6	
LOAD DESCRIPTION							
N ^o .	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or P30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
2	L.P. turbine #2 Inner cylinder (half)	90,000# each	Later	Later			
1	L.P. turbine rotor	160,000#	High pressure and low pressure rotor lifting device	Later			
2	L.P. turbine blade ring (half)	4950# each	Later	Later			
2	L.P. turbine cylinder inlet flow guide (half)	5000# each	Later	Later			
8	L.P. turbine bearings #3, #4, #5, #6 (half)	3325# each	Offset Lifting Rig	Later			
1	L.P. turbine cross-over adapter piece	6500#	Later	Later			

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP AEB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-20 (Sheet 6 of 6)
Turbine Bullhead Main Crane

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Rld. Per. Dwg.			
16	214	125 main 20 aux. tons	120'	Turbine & Control	M-3	See sheet 1 of 6	
LOAD DESCRIPTION							
Nº.	Item Handled	Weight & Dimension	Assoc. Lifting Dev. weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
1	L.P. turbine cross-over pipe Keweenaw	32,000#	Later	Later			
1	L.P. turbine cross-over pipe Pt. Beach	12,000#	Later	Later			
1	L.P. turbine lifting gear	10,000#	Later	Later			
1	Crane hook & bottom block	10,500#	Later	Later			
1	Crane top block	2000#	Later	Later			

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-21 (Sheet 1 of 1)
Water Treatment Area Monorail

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg.	Ref. Dwg.		
17	280	not reviewed	Mono-rail	Auxiliary	M-2005	Compliance review not required for handling devices in non-safety areas.	There are no safety related items in the lift path of this monorail.
LOAD DESCRIPTION							
No.	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
-	Identification not required	not reviewed	Identification not required	Compliance review not required	None	Not Applicable	Not Applicable

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
ETP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-22 (Sheet 1 of 1)

Unit 2 JIB Crane Over Incore Instrumentation

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS	
	Equip. No.	Service Cap.	Lift Span	Bldg.	Ref. Dwg.			
18	—	Later	10' boom Containment		M-2005	Later	The safety related status of this crane is to be determined.	
LOAD DESCRIPTION		Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or E30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
N ^o .								
1	Incore Instrumentation Table	Wt. later 4'x4' x8' high	Later	Later	2-W4 (A&B) Reactor Cavity Cooling Fans H&V Ducting Safety injection system piping 6"RC-2501R-5	4"-WD-151R-8 Containment sump drain piping Component cooling water piping 4"AC-152N-4	Not Applicable	

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP AEB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-23 (Sheet 1 of 1)

Unit 2 Monorail for Containment Equipment Hatch Track

ITEM No.	HANDLING DEVICE		LOCATION			OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref. Dwg.			
19	2-218	not reviewed	Monorail Track	Containment	M-2005	Not reviewed as not in scope of NUREG 0612.	Not a lifting device, therefore not intended to be included in the scope of NUREG 0612.
LOAD DESCRIPTION							
N ^o .	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or E30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
← NOT REVIEWED AS NOT IN SCOPE OF NUREG 0612 →							

* DEGREE of compliance with
 ANSI N 14.6 (1978)
 ANSI B 30.2 ch. 2
 ANSI B 30.9
 ANSI B 30.10
 CMA Spec 20
 BTP ASB 9-1 Part B
 NUREG 0554
 NUREG 0612 App. C.

** 1 - Excellent, complete compliance
 2 - Compliance in most areas
 3 - Compliance in few areas
 4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
 Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
 Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-24 (Sheet 1 of 1)
Unit 2 Jib Crane Over Seal Water Injection Filters

ITEM No.	HANDLING DEVICE		LOCATION			OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldr. Ref. Dwg.	Auxiliary		
20	—	3000#	0' 0"	M-2005		Compliance review not required for handling devices in areas with no safety equipment.	There are no safety related items in this area.
LOAD DESCRIPTION							
Qty.	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or E30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
1	Filter cask	2000#	Identification not required	Not Applicable	None	None	Not Applicable
1	Concrete Hatch Cover	2025#	Identification not required	Not Applicable			

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-25 (Sheet 1 of 1)
Unit 2 Monorails for Feedwater Heaters

ITEM No.	HANDLING DEVICE		LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS			
	Equip. No.	Service Cap.	Lift Span	Bldg Ref. Dwg.					
21	2-281 2-282 (A&B)	not re- viewed	Monorails	Turbine	M-2005	Compliance review not required for handling devices in non-safety areas	There is no safety related equipment in the path of this monorail.		
LOAD DESCRIPTION			Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***		
N ^o .	Item Handled	Weight & Dimensions							
4	Feedwater heaters	not re- viewed	Identification not re- quired	Compliance review not required	None	None	Not Applicable		

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-26 (Sheet 1 of 1)

Unit 2 Monorail in Personnel Access Hatch

ITEM No.	HANDLING DEVICE		LOCATION			OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Spec	Bldg Ref. Dwg.			
22	—	Not reviewed	Monorail	Containment	M-2001	Compliance review not required for handling devices in areas with no safety equipment.	Removable, used only when containment is open during a cold shutdown. No safety related items under path of this monorail.
LOAD DESCRIPTION							
N ^o .	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (19/1)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
3	Stud Tensioner	2650# 1.5' ϕ x 3.5' high	Identification not required	Not applicable	None	None	None
—	Misc items moved in and out of containment	Most less than 1750#	Identification not required	Not Applicable			

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-27 (Sheet 1 of 1)

Unit 2 Jib Cranes on Containment Buttresses

ITEM No.	HANDLING DEVICE		LOCATION			OVERALL DEGREE OF COMPLIANCE * & **	REMARKS	
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref.	Dwg.			
23	—	Later	12' boom	Facade	M-2001	Later	Used only at 5 year intervals. A probabilistic risk analysis will justify exclusion of these devices.	
LOAD DESCRIPTION		Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or E30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
No.								
1	Tendon Surveillance pump	3000#	Removable wire rope (and wench)	Later	Steam Generator blowdown lines	Not Applicable	Not Applicable	
1	Tendon Surveillance ram	2000#	Removable wire rope (and wench)	Later	Concrete pipeways housing safety related piping and cables (for RHR, SIC, etc.) Radiation monitor			

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP AEB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-28 (Sheet 1 of 1)

Unit 2 RPV Circular Head Monorail

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Eldr.	Ref. Dwg.		
24	—	Later	Monorail	Containment	M-2001 M 2060	Later	This monorail is used only during a cold shutdown, while the reactor vessel head is in position.
LOAD DESCRIPTION							
N ^o .	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
3	Stud tensioner	2650# 1.5' ϕ x 3.5' high	Later	Later	Reactor vessel	Not Applicable	Not Applicable
12	Reactor head studs	500#	Later	Later			
1	Seal ring	Later	Later	Later			

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-29 (Sheet 1 of 3)
U-11 2 Containment Polar Crane

ITEM No.	HANDLING DEVICE		LOCATION			OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref. Dwg.	Contain-ment		
25	2-Z13	100 main 15 aux. tons	100'		M-2001 M-2009	Later	Used only during shutdown. Safety implications of items impacted during shutdown will be evaluated in the "nine month" report.
LOAD DESCRIPTION							
N#.	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
2	Reactor Coolant Pump (RCP) 2-P1 (A&B)	Later	Later	Later	Reactor Head control cables	2-P1 (A&B)	Service water piping 8"HB-19
					Containment Spray Line	Reactor Coolant Pumps	Piping for safety injection sys.
					H&V Ducting	Service Water Piping 8"HB-19	Pressurizer relief tank 2-T2
					Service Water Piping 8"HB-19	Instrument Air Lines	Cables for auxiliary feedwater system
2	RCP Motor	Later	Reactor Coolant pump Motor Lifting Device	Later	Safety injection tanks 2-T34 (A & B)	Safety injection system accumulator tanks 2-T34 (A&B)	Instrument air lines
					Piping for safety injection system	H&V Ducting	Cables for H&V units
2	RCP Fly-wheel	Later	Later	Later	H&V Units 2-W3A, 2-W3B, 2-W5A	Containment Spray Line	Cables for residual heat removal system
					Cables to H&V Units 2W1 (A&B)	H&V Units 2W5B, 2W1D1, 2W1D2	Emergency feedwater piping 3"EB-10
					Fuel core (when vessel head is removed)	Cables to H&V Units	Component cooling water piping
8	Containment Ventilation fans 2W1A1 thru 2W1D2	5000# each	Later	Later	Vessel head (when missile shield is removed)	Cables to safety injection system controls (valves, instrumentation, etc.)	Reactor coolant tank 2-T16
					Reactor coolant pumps (when missile planks are removed)	Incore instrumentation table	H&V ducting
2	Control Rod Cooling fans 2W3 (A&B)	2400# each	Later	Later	Pressurizer (when missile shield planks are removed)	Steam and drain lines to containment heat exchangers (e.g. 2-HX-76)	Steam generator blowdown line
					Reactor Vessel Head	Instrument racks 2-C57C, 2-C57D	Condensate return unit pumps 2-P82 (A&B)
1	Reactor Vessel Head	170,000#	R.V. Head Lifting Device	Later	Cables for auxiliary feed-water system		RHR pump suction piping 10"AC-601R-2

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-29 (Sheet 2 of 3)

Unit 2 Containment Polar Crane

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref. Dwg.			
25	2-213	100 main 15 aux. tons	100'	Contain- ment	M-2001 M-2009	See Sheet 1 of 3	See sheet 1 of 3
LOAD DESCRIPTION							
N ^o .	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or E30.5 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
1	R.V. head stud rack (loaded)	6000#	Later	Later		Cables for reactor coolant system	Containment spray pump discharge line 6"SI-301R-1
3	Stud tensioner	2650#	Later	Later		Reactor vessel (when missile shield is in place)	
1	R.V. head missile shield plug	later	Later	Later			
4	Main Steam Snubber	Later	Later	Later			
1	PAR vessel inspection device	Later	Later	Later			
10	RCP missile shield planks	Later	Wire Rope	Later			

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-29 (Sheet 3 of 3)
Unit 2 Containment Polar Crane

ITEM No.	HANDLING DEVICE		LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS	
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref. Dwg.			
25	2 Z13	100 main 20 aux. tons	100'	Containment	M-2001 M-2009 See sheet 1 of 3	See sheet 1 of 3	
LOAD DESCRIPTION							
N#	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI 114.5 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
3	Pressurizer missile shield planks	Later	Wire Rope	Later			
4	Steam Gen. Snubber	Later	Later	Later			
1	Vessel Internals (Upper and lower)	Later	Upper internal Lifting Device (used for lower core barrel also)				
3	Reactor Vessel head H&V ducts	About 2000#	Fabric Slings	Later			
-	Misc. valves heat exchangers, etc.	Most less than 1750#	Fabric Slings	Later			
1	Crane hook & bottom block	6750#	Later	Later			
1	Crane top block	1450#	Later	Later			

* DEGREE of compliance with
ANSI W 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-30 (Sheet 1 of 1)

Unit 2 Reactor Cavity Fuel Manipulator

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg.	Ref. Dwg.		
26	2-Z16	6000#	25'	Containment	M-2001	Compliance review not required for cranes carrying less than heavy loads.	Load carried is less than the heavy load definition. Consequences of a load drop has been previously analyzed and found acceptable.
LOAD DESCRIPTION							
N ^o .	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
121	Fuel bundle and control rod assembly	1404#	Fuel grappling arm is built into the manipulator	Compliance review not required	Not Applicable	Not Applicable	Not Applicable

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-31 (Sheet 1 of 1)
Spent Fuel Handling Device

ITEM No.	HANDLING DEVICE		LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS	
	Equip. No.	Service Cap.	Lift Span	Bldg Ref. Dwg.			
27	Z17	2000#	27'	Auxiliary	M-1	Compliance review not required for cranes carrying less than heavy loads. The spent fuel elements are less than the heavy load definition. Consequences of a load drop has been analyzed previously and found acceptable.	
LOAD DESCRIPTION							
N ^o .	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
348 bundles in place, 1502 capacity	Spent fuel bundle with poison rod assembly and handling tool	1750#	Spent fuel grappling arm is built into the handling device	Compliance review not required	Not Applicable	None	None

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-32 (Sheet 1 of 1)
Drumming Station Jib Crane

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Eldg.	Ref. Dwg.		
28	260	5 tons	18' boom	Auxiliary	M-3	Compliance review not required for handling devices in areas with no safety equipment.	A drop of a radwast drum does not pose a significant radiation release hazard. Reference: 10 CFR Part 100.
LOAD DESCRIPTION							
N ^o .	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or E30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
(Varies)	55 gallon drums of radwaste	1030#	Identification not required	Compliance review not required	None	Not Applicable	Not Applicable

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-33 (Sheet 1 of 1)

Unit 1 Jib Crane over MSR's

ITEM No.	HANDLING DEVICE		LOCATION			OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref.	Dwg.		
29	—	not reviewed	10' boom	Facade	M-1 M-60	Compliance review not required for handling devices carrying less than heavy loads.	This jib crane does not carry heavy loads.
LOAD DESCRIPTION							
No.	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or E30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
4	Main steam relief valve	1265#	Identification not required	Compliance review not required	Not Applicable	Not Applicable	Not Applicable

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI Z 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-34 (Sheet 1 of 1)

Unit 1 Facade Monorail at Lines "L" and "7"

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref.	Dwg.		
30	-	-	-	Facade	M-1 M-60	---	This monorail is no longer in existence.
N ^o .	LOAD DESCRIPTION		Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or E30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
	Item Handled	Weight & Dimension					
-	-	-	-	-	-	-	-

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
WUREG 0554
WUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-35 (Sheet 1 of 1)

Unit 1 Facade Monorails at Lines "L" and "B"

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg.	Ref. Dwg.		
31	—	Later	Monorail	Containment	M-1 M-60	Later	Loads not yet identified. Use of this monorail is still under investigation.
LOAD DESCRIPTION							
N ^o .	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or E30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
—	Later	Later	Later	Later	Concrete pipeway housing safety-related piping and cables (for RHR, SIS, etc.)	Not Applicable	Not Applicable

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-36 (Sheet 1 of 1)
Unit 2 Jib Cranes Over MERV's

ITEM No.	HANDLING DEVICE		LOCATION			OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Eldr.	Ref. Dwg.		
32	-	Not re-viewed	10' boom	Facade	M-2001 M-2060	Compliance review not required for handling devices carrying less than heavy loads.	This jib crane does not carry heavy loads.
LOAD DESCRIPTION							
N#	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1976) or B30.9 (1971)	Class "A" Impacted Items***	Class "E" Impacted Items***	Class "C,D" etc. Impacted Items***
4	Main steam relief valve	1265#	Identification not required	Compliance review not required	Not Applicable	Not Applicable	Not Applicable

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "E" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-37 (Sheet 1 of 1)

Unit 2 Facade Monorail at Lines "L" and "15"

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref. Dwg.	Ref. Dwg.		
33	-	Later	Monorail	Facade	M-2001 M-2002	Later	Loads not identified yet. Use of this monorail is still under investigation.
LOAD DESCRIPTION							
N ^o .	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI M14.6 (1978) or E30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
-	Later	Later	Later	Later	Concrete pipeway housing safety related piping and cables (for RHR, SIS, etc.)	Not Applicable	Not Applicable

* DEGREE of compliance with
ANSI M 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-38 (Sheet 1 of 1)

Unit 2 Facade Monorail at Column Line L-16

ITEM No.	HANDLING DEVICE		LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS	
	Equip. No.	Service Cap.	Lift Span	Eldg. Ref. Dwg.			
34	—	Later	Monorail	Facade	M-2001 M-2002 Later	Loads not yet identified. Use of this monorail is still under investigation.	
LOAD DESCRIPTION		Item Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or E30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
N ^o .	Handled						
—	Later	Later	Later	Later	Concrete pipeway housing safety-related piping and cables (for RHR, SIS, etc.)	Not Applicable	Not Applicable

* DEGREE of compliance with
ANSI N 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP AEB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-39 (Sheet 1 of 1)
 Monorail, East Wall in Circulating Water Pump House

ITEM No.	HANDLING DEVICE		LOCATION			OVERALL DEGREE OF COMPLIANCE * & **	REMARKS	
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref. Dwg.				
35	—	3000#	Monorail	Circ. Water PH	Sargent & Lundy M-4	Compliance review not required for handling devices in non-safety areas.	There are no safety related items in the lift path of this monorail.	
LOAD DESCRIPTION		Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI N14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
No.								
8	Traveling Water Screens		Not reviewed	Identification not required	Compliance review not required	None	Not Applicable	Not Applicable
8	Steel plate hatch covers		Not reviewed	Identification not required	Compliance review not required			

* DEGREE of compliance with
 ANSI N 14.6 (1978)
 ANSI B 30.2 ch. 2
 ANSI B 30.9
 ANSI B 30.10
 CMA Spec 20
 BTP ASB 9-1 Part B
 NUREG 0554
 NUREG 0612 App. C.

** 1 - Excellent, complete compliance
 2 - Compliance in most areas
 3 - Compliance in few areas
 4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
 Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
 Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-40 (Sheet 1 of 1)

Clean Side Maintenance Shop Crane

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg. Ref.	Dwg.		
36	Zenar No. 4750	3 tons	31'	Clean side Main. shop	Zenar dwg. 100-D1193	Compliance review not required for cranes in non-safety areas.	There are no safety related items in the lift path of this crane.
LOAD DESCRIPTION							
N ^o .	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI B14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
—	Misc. items required in performance of normal maintenance fabrication.	Less than 3 tons	Identification not required	Compliance review not required	None	Not Applicable	Not Applicable

* DEGREE of compliance with
ANSI B 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP A&T 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-41 (Sheet 1 of 1)

Jib Cranes Over Reactor Coolant Pumps, Units 1 & 2

ITEM No.	HANDLING DEVICE			LOCATION		OVERALL DEGREE OF COMPLIANCE * & **	REMARKS
	Equip. No.	Service Cap.	Lift Span	Bldg.	Ref. Dwg.		
37	—	1000#	10' boom	Containment	M-1 M-2001	Later	These jib cranes do not carry heavy loads.
LOAD DESCRIPTION							
N ^o .	Item Handled	Weight & Dimension	Assoc. Lifting Dev. Weight & Dim.	Degree of Compliance with ANSI B14.6 (1978) or B30.9 (1971)	Class "A" Impacted Items***	Class "B" Impacted Items***	Class "C,D" etc. Impacted Items***
2	Reactor Coolant Pump Shaft Coupling	300#	Identification not required	Compliance review not required	Reactor Coolant pumps 1-P1 (A & B) (when missile planks are removed)	Reactor coolant pumps 1-P1 (A & B), 2-P1 (A & B) (when missile planks are in place) -	None
—	Reactor Coolant Pump Seal Parts	Less than 300#	Identification not required	Compliance review not required			

* DEGREE of compliance with
ANSI B 14.6 (1978)
ANSI B 30.2 ch. 2
ANSI B 30.9
ANSI B 30.10
CMA Spec 20
BTP ASB 9-1 Part B
NUREG 0554
NUREG 0612 App. C.

** 1 - Excellent, complete compliance
2 - Compliance in most areas
3 - Compliance in few areas
4 - No evidence of compliance

*** Class "A" items: - are those items in the free fall vertical trajectory between the load (and its lifting device) and the first structural floor.
Class "B" items: - are those items in the trajectory path that continues after the first structural floor is penetrated and the resultant missile(s) fall to hit the next lower (second) structural floor.
Class "C" items: - are those items in the trajectory path that continues to the next lower (third) structural floor.

Table 4-42

List of Special Lifting Devices At Point Beach

Lifting Device	For
*Reactor Head Lifting Device	Reactor Vessel Head
*Upper Internal Lifting Device	Reactor Lower Core Barrel Removal and Upper Internal
*Reactor Coolant Pump Motor Lifting Device	Reactor Coolant Pump Motor
*High Pressure & Low Pressure Rotor Lifting Device (Turbine)	Turbine High Pressure Rotor and Low Pressure Rotor
Offset Lifting Rig	Turbine Upper Bearing Housing
Main Feed Pump Lifting Rig	Main Feed Pump

*Supplied by Westinghouse

LIST OF FIGURES

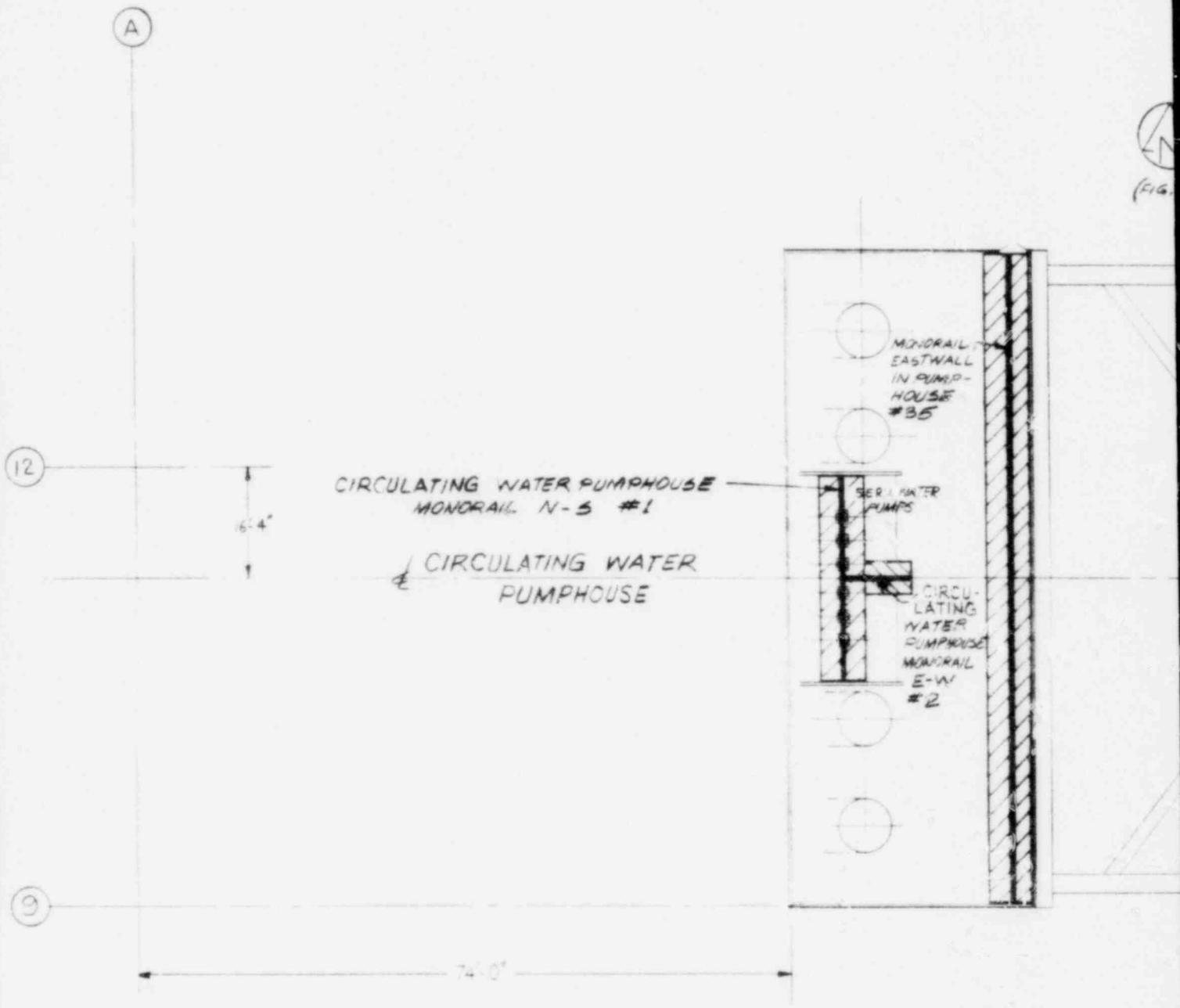
Point Beach Nuclear Plant, Units 1 & 2
Load Handling Device Locations

- 3-1 Load Handling Devices Items 1, 2, & 35
- Enlarged Coverage Envelopes &
The List of Cranes and Handling
Devices
- 3-2 Load Handling Devices Items 3, 4, 5, 6, 7, 8, 16, 27,
29, 31, 37A & 37B - Enlarged Coverage Envelopes
- 3-3 Load Handling Devices Items 16 & 28
- Enlarged Coverage Envelopes
- 3-4 Load Handling Devices Items 9, 10, 11, 12, 13, 14, 15,
& 36 - Enlarged Coverage Envelopes
- 3-5 Load Handling Devices Items 16, 22, 23, 24, 25, 26, 32,
33, 34, 37C & 37D - Enlarged Coverage Envelopes
- 3-6 Load Handling Devices Items 16
- Enlarged Coverage Envelope
- 3-7 Load Handling Devices Items 17, 18, 19, 20, & 21
- Enlarged Coverage Envelopes

Interim Load Paths For Cranes (Per NUREG-0612)

4-1	SK-C-250	Units 1 & 2
4-2	SK-C-251	Unit 1
4-3	SK-C-252	Unit 1
4-4	SK-C-253	Unit 1
4-5	SK-C-254	Unit 2
4-6	SK-C-255	Unit 2
4-7	SK-C-256	Unit 2

The drawings and the design it covers are the property of BENTON. They are made available to the licensee's representative agreement that they will not be reproduced, copied, loaned, exhibited, or used without the written consent of the licensee.



PLAN OF CIRCULAT

REFERENCE DWGS: CRANES & HANDLING DEVICES

		SAVED			
		BOTH UNITS	UNIT 1	UNIT 2	
(FIG. 3-1)	1	Monorails Over Service Water Pumps in Circulating Water Pumphouse	✓		
(FIG. 3-1)	2	Monorail Thru Doorway in Circulating Water Pumphouse	✓		
(FIG. 3-2)	3	RPV Head Circular Monorail		✓	✓
(FIG. 3-2)	4	Reactor Cavity Fuel Manipulator (1-216)		✓	✓
(FIG. 3-2)	5	Containment Polar Crane (1-213)		✓	✓
(FIG. 3-2)	6	Jib Cranes on Containment Busses (6 total)		✓	✓
(FIG. 3-2)	7	Monorail in Personnel Access Hatch		✓	✓
(FIG. 3-2)	8	Auxiliary Building Main Crane (215)	✓		
(FIG. 3-4)	9	Ready Stores Monorail (234)	✓		
(FIG. 3-4)	10	Main Shop Crane (270)	✓		
(FIG. 3-4)	11	Monorail for Containment Equipment Hatch (1-218)		✓	✓
(FIG. 3-4)	12	Jib Crane Over Incore Instrumentation		✓	✓
(FIG. 3-4)	13	Monorails for Feedwater Heaters (1-2B1A, 1-2B1B, 1-2B2A, 1-2B2B)		✓	✓
(FIG. 3-4)	14	Monorail at North End of Control Building Electrical Equipment Room	✓		
(FIG. 3-4)	15	Jib Crane Over Seal Water Injection Filters		✓	✓
(FIG. 3-4)	16	Turbine Building Main Crane (214)		✓	✓
(FIG. 3-7)	17	Water Treatment Area Monorail (2-80)	✓		
(FIG. 3-7)	18	Jib Crane Over Incore Instrumentation		✓	✓
(FIG. 3-7)	19	Monorail for Containment Equipment Hatch (2-218)		✓	✓
(FIG. 3-7)	20	Jib Crane Over Seal Water Injection Filters		✓	✓
(FIG. 3-7)	21	Monorails for Feedwater Heaters (2-2B1A, 2-2B1B, 2-2B2A, 2-2B2B)		✓	✓
(FIG. 3-5)	22	Monorail in Personnel Access Hatch		✓	✓
(FIG. 3-5)	23	Jib Cranes on Containment Busses (6 total)		✓	✓
(FIG. 3-5)	24	RPV Head Circular Monorail		✓	✓
(FIG. 3-5)	25	Containment Polar Crane (2-213)		✓	✓
(FIG. 3-5)	26	Reactor Cavity Fuel Manipulator (2-216)		✓	✓
(FIG. 3-5)	27	Spent Fuel Handling Device (214)	✓		
(FIG. 3-2)	28	Drumming Station Jib Crane (260)	✓		
(FIG. 3-2)	29	Jib Crane Over MSR's (NO LONGER EXISTS)		✓	✓
(FIG. 3-5)	30	Facade Monorail at Lines "L" and "B"		✓	✓
(FIG. 3-5)	31	Jib Crane Over MSR's		✓	✓
(FIG. 3-5)	32	Facade Monorail at Lines "L" and "S"		✓	✓
(FIG. 3-5)	33	Facade Monorail at Lines "L" and "K"		✓	✓
(FIG. 3-1)	34	MONORAIL, EAST WALL OF CIRCULATING WATER PUMPHOUSE	✓		
(FIG. 3-4)	35	CLEAN SIDE MAINTENANCE SHOP CRANE	✓		
(FIG. 3-2)	37A-B	CONTAINMENT JIB CRANES OVER REACTOR COOLANT PUMPS		✓	✓
(FIG. 3-5)	37C-D	"		✓	✓

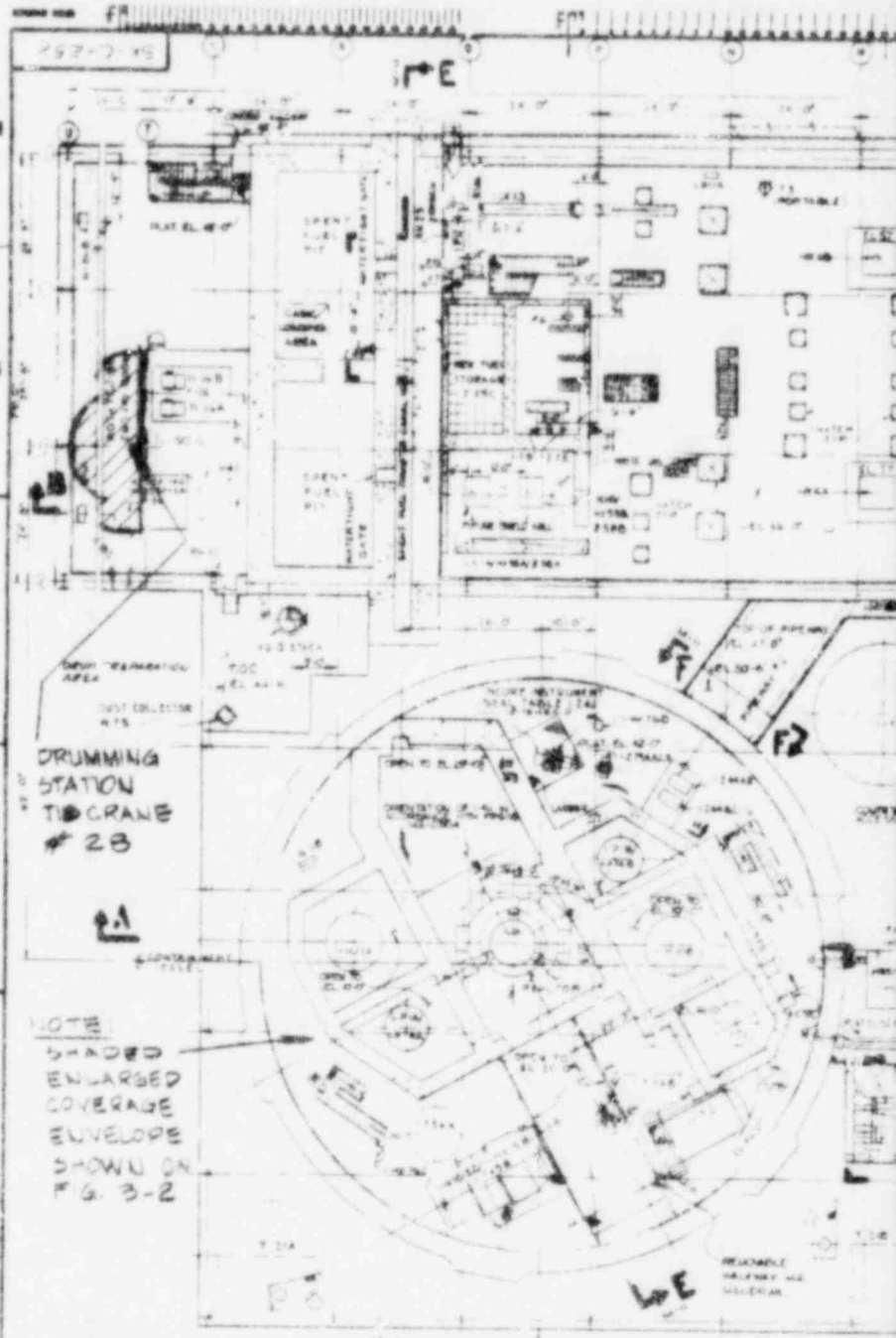
NOTES:

1. SHADING DEPICTS ENLARGED COVERAGE ENVELOPE TYPICAL SYMBOL.

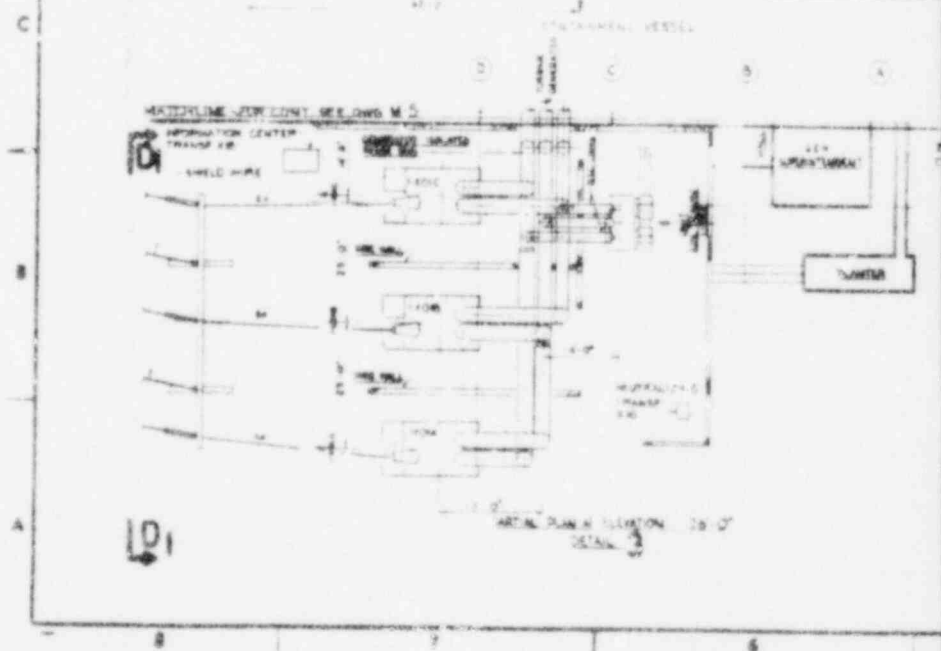
2. CRANES SHOWN ON THIS DRAWING ARE 2' 6" WIDE

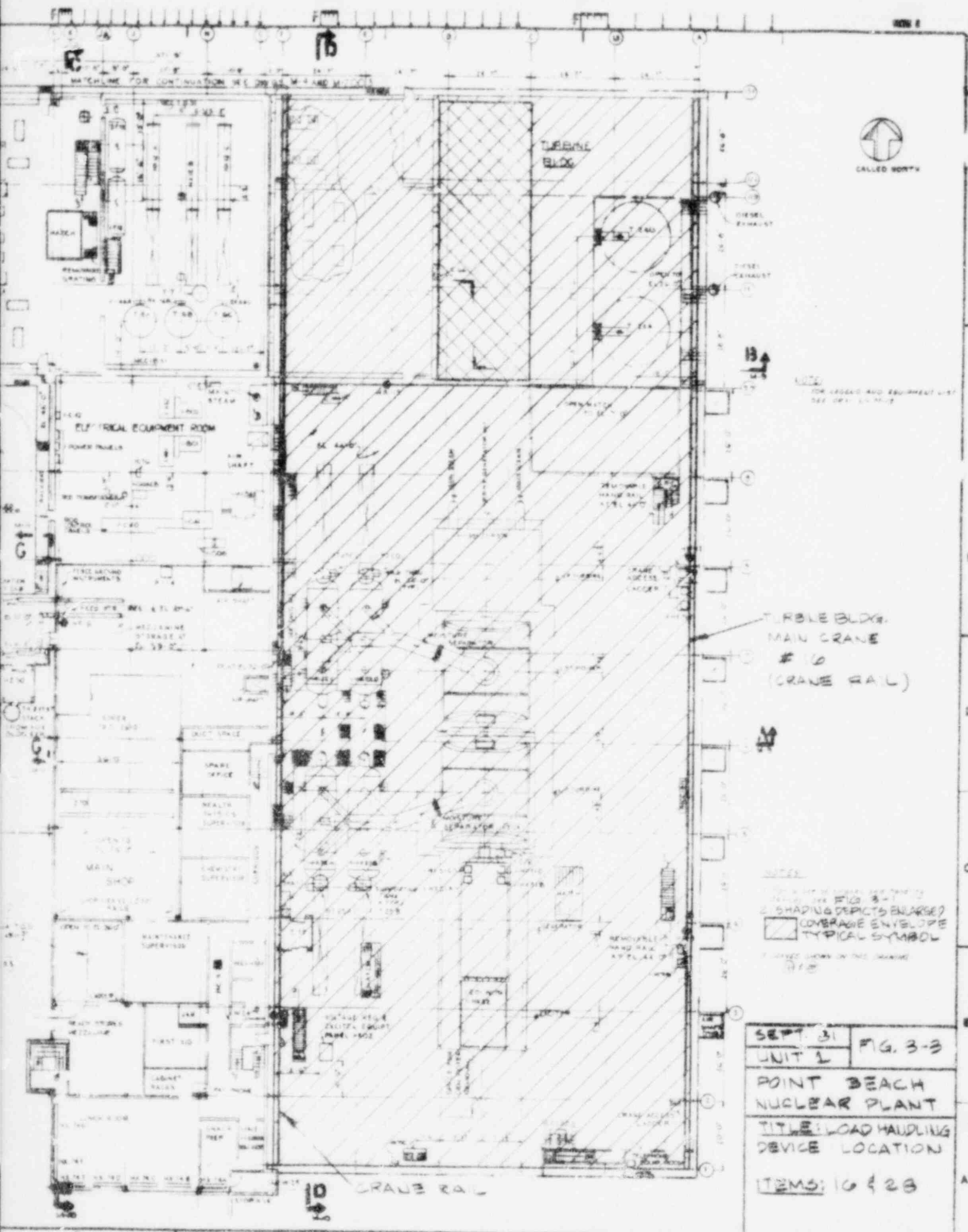
CIRCULATING WATER PUMPHOUSE

SEPT 81	POINT BEACH NUCLEAR PLANT
UNIT 1	TITLE: LOAD HANDLING DEVICE LOCATION
FIG. 3-1	ITEMS: 1, 2 & 35



NOTE:
 SHADOW
 ENLARGED
 COVERAGE
 ENVELOPE
 SHOWN ON
 FIG. 3-2



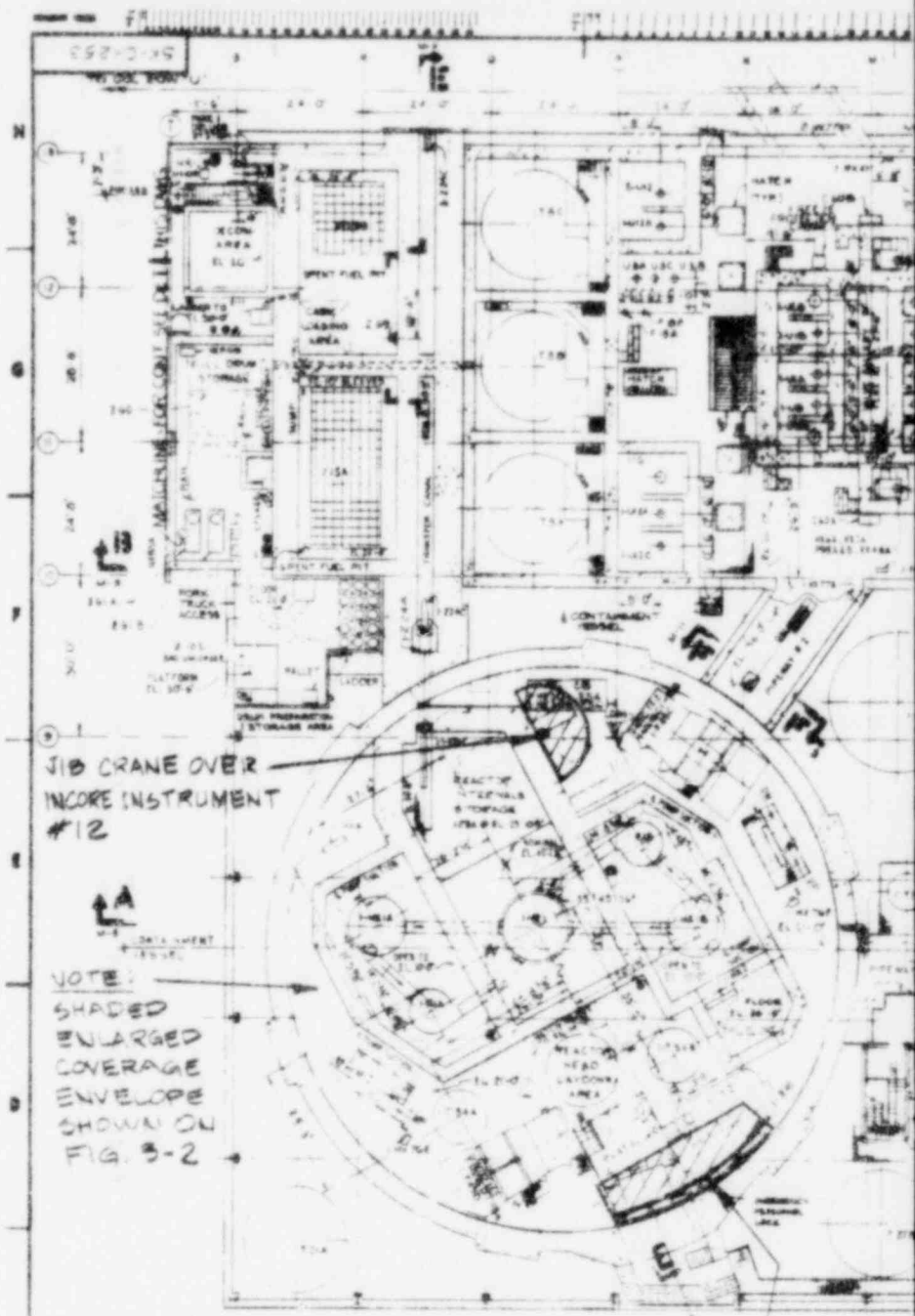


SEE LIST OF LOADS AND EQUIPMENT LIST
SEE DRAWING 10-10-10

TURBINE BLDG.
MAIN CRANE
10
(CRANE RAIL)

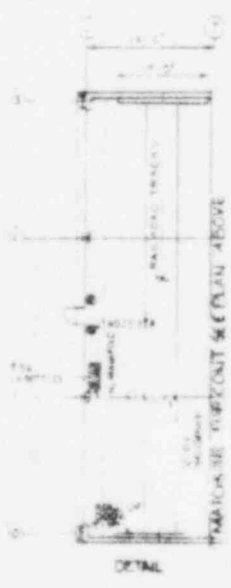
NOTES
 1. SEE LIST OF LOADS AND EQUIPMENT LIST
 2. SHADING DEPICTS ENLARGED
 COVERAGE ENVELOPE
 TYPICAL SYMBOL
 3. SHADING SHOWS ON THIS DRAWING
 10-10-10

SEPT. 31	FIG. 3-3
UNIT 2	
POINT BEACH NUCLEAR PLANT	
TITLE: LOAD HANDLING DEVICE LOCATION	
ITEMS: 10 & 20	



JIB CRANE OVER
INCORE INSTRUMENT
#12

NOTE:
SHADED
ENLARGED
COVERAGE
ENVELOPE
SHOWS ON
FIG. 3-2

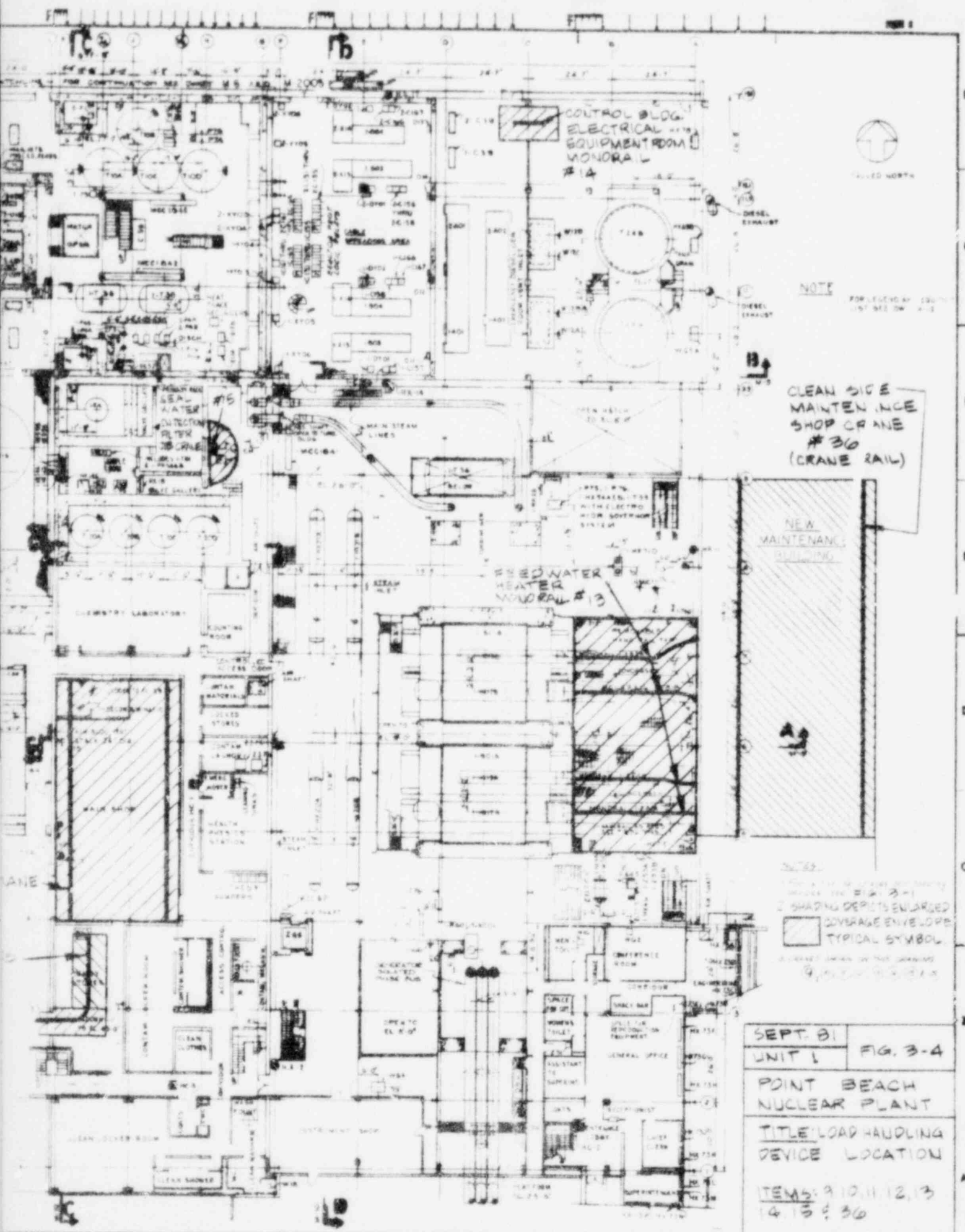


CONTAINMENT EQUIPMENT
HATCH TRACK # 11
(NOT A LIFTING DEVICE)

MAIN SHOP
#10
(CRANE RAIL)

READY STORE
MONORAIL
#9

DETAIL



NOTE FOR ELEVATION SEE 1ST SHEET DWG #1-1

CLEAN SIDE MAINTENANCE SHOP CRANE #30 (CRANE RAIL)

NEW MAINTENANCE BUILDING

NOTES:
1. THIS PLAN IS SUBJECT TO ANY CHANGES MADE BY THE DESIGNER.
2. SHADING DEPICTS ENLARGED COVERAGE ENVELOPE.
3. TYPICAL SYMBOL FOR LOAD HANDLING DEVICE IS SHOWN IN THE DRAWING.

SEPT. 81
UNIT 1
POINT BEACH NUCLEAR PLANT
TITLE: LOAD HANDLING DEVICE LOCATION
ITEMS: 9, 10, 11, 12, 13, 14, 15, 30

#52-0-15

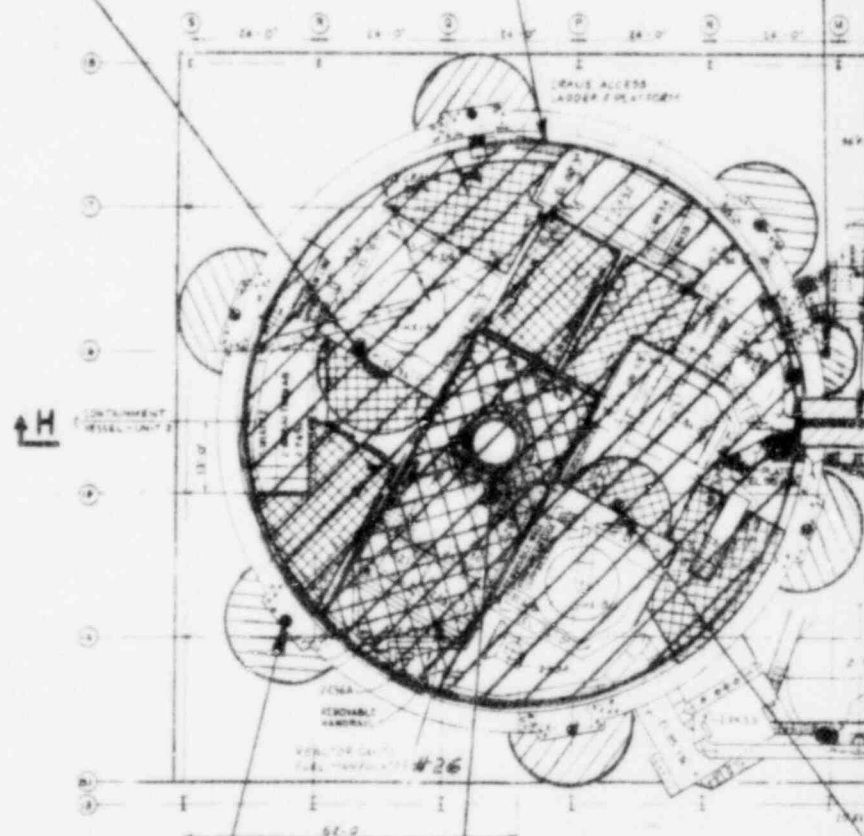
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E
D
C
B
A

CONTAINMENT
POLAR CRANE
#25 (CRANE RAIL)

PERSONNEL ACCESS
HATCH MONORAIL
#22

JIB CRANE OVER
REACTOR COOLANT PUMP
#37 D

MSRV'S
JIB CRANE
#32



CONTAINMENT
BUTTRESS JIB CRANE
#23
TYPICAL 6 PLCS.

REACTOR PRESSURE
VESSEL HEAD
CIRCULAR MONORAIL
#24

8 7 6



PARABOLIC ANTENNA
- EAT EL. 27' 6"
- EAT EL. 27' 6"

NOTE:
FOR LIFTING AND EQUIPMENT LIST
SEE DRAWING 3-1

1 1' 6" 2 1' 6" 3 1' 6" 4 1' 6" 5 1' 6" 6 1' 6" 7 1' 6" 8 1' 6" 9 1' 6" 10 1' 6"



TURBINE BLDG.
MAIN CRANE
#16

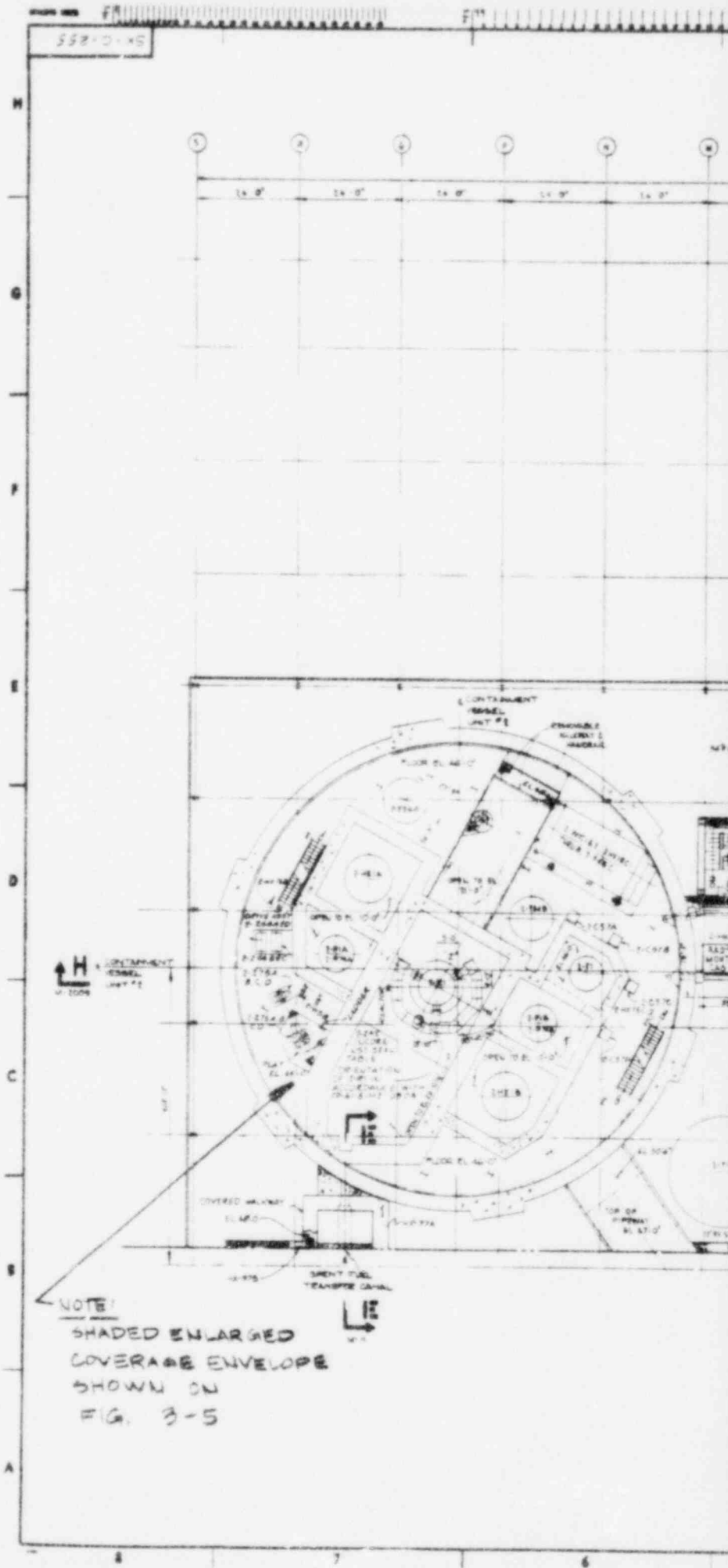
FACADE MONORAIL
34
C (AT COLUMN L-16)

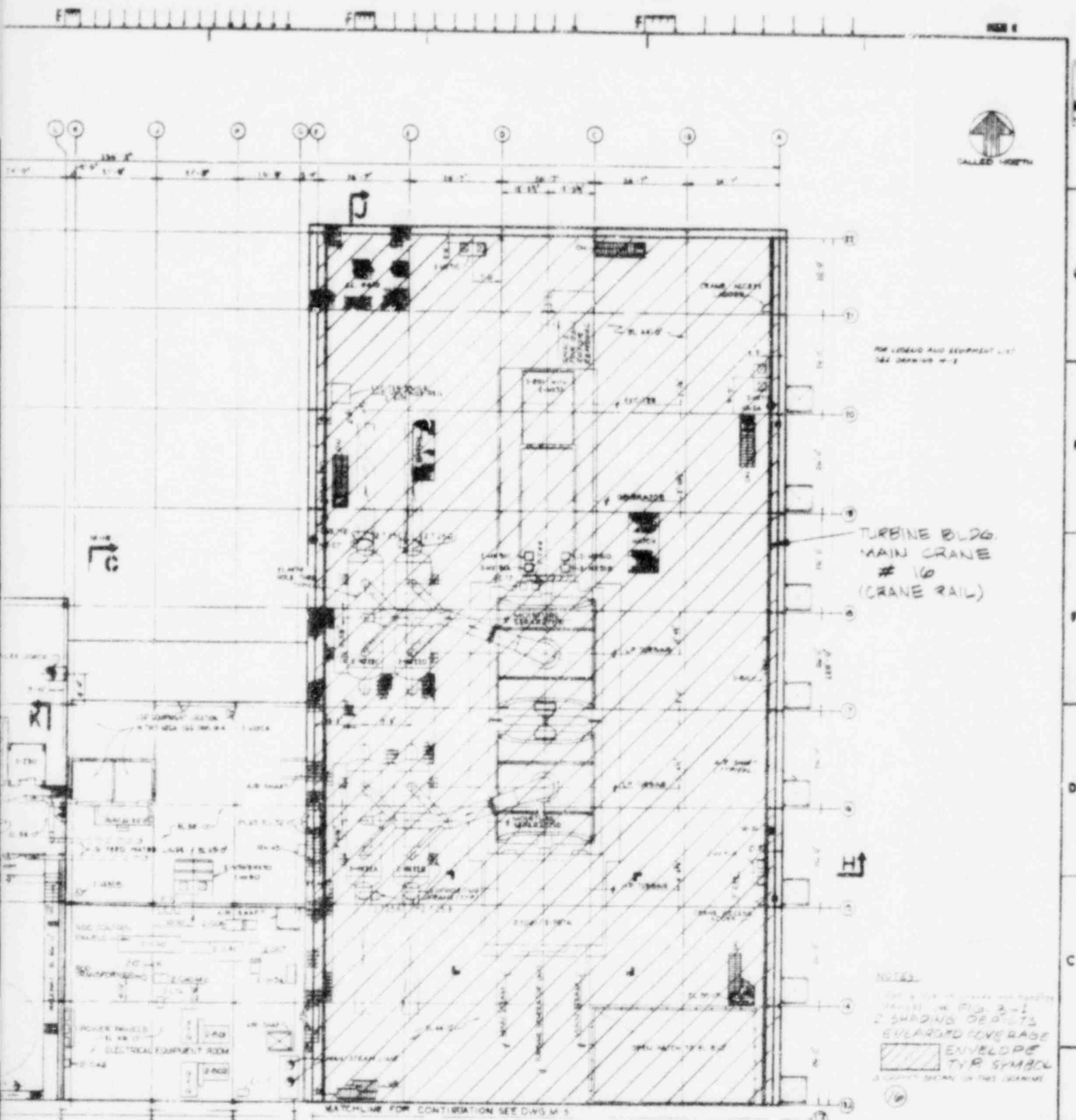
FACADE MONORAIL
33
C (AT COLUMN L-15)

JIB CRANE OVER
REACTOR COOLANT PUMP
37 C

- NOTES:
1. SEE THE REGULATORY PLAN DRAWING 3-1 FOR THE REGULATORY PLAN.
 2. SHADING DEPICTS ENLARGED COVERAGE.
 3. ENVELOPE TYP. SYMBOL.
 4. CRANE RAIL ON THIS DRAWING.
- (1) (2) (3) (4) (5) (6) (7) (8) (9) (10)
 (11) (12) (13) (14) (15) (16) (17) (18) (19) (20)

SEPT 81	POINT BEACH NUCLEAR PLANT
UNIT 2	TILE LOAD HANDLING DEVICE LOCATION
FIG. 3-5	ITEMS: 16, 22, 23, 24, 25 26, 32, 33, 34, 37C & 37D

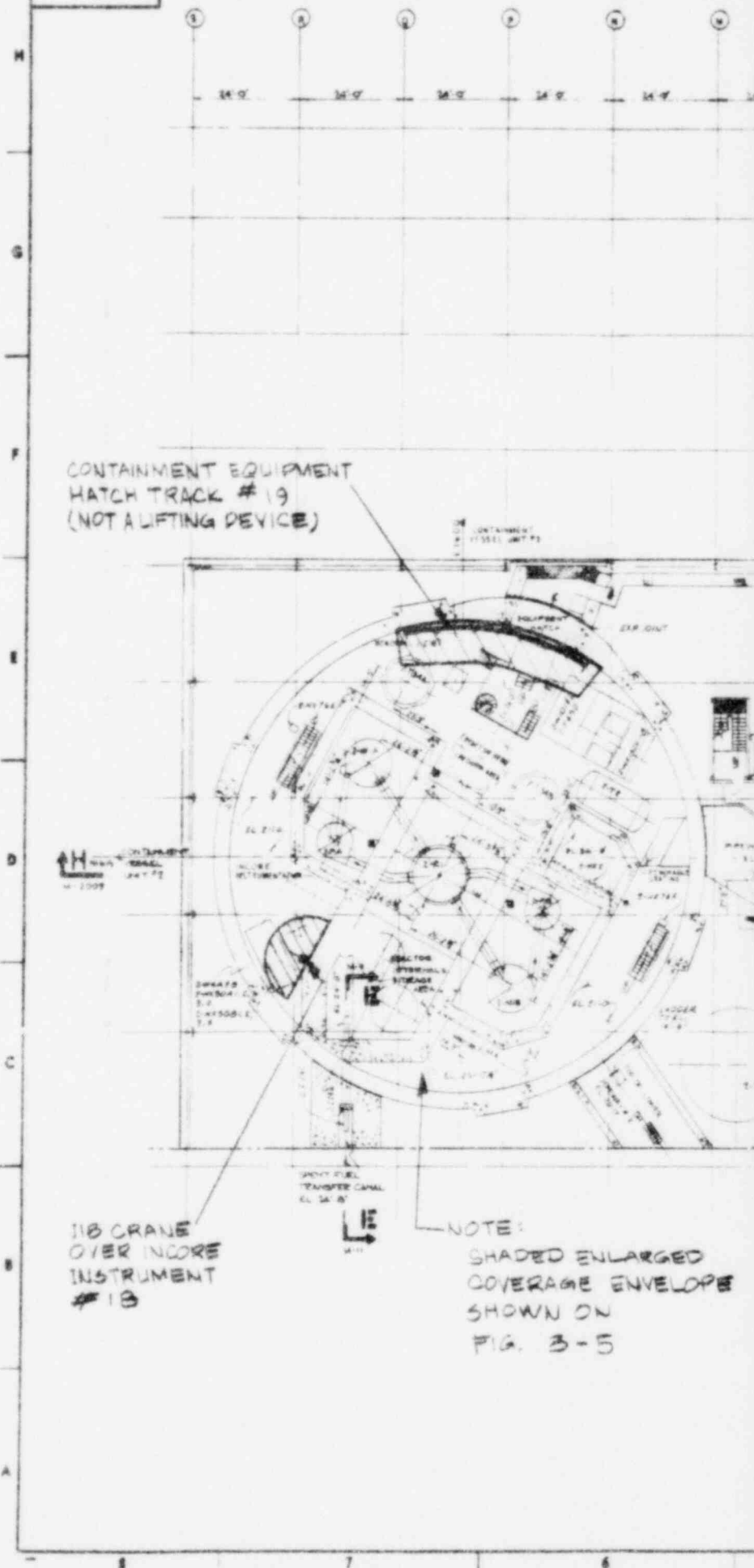




KJ M-100
 M-100

SEPT 31	POINT BEACH NUCLEAR PLANT
UNIT 2	TITLE: LOAD HANDLING DEVICES LOCATION
FIG. 3-6	ITEM: 16

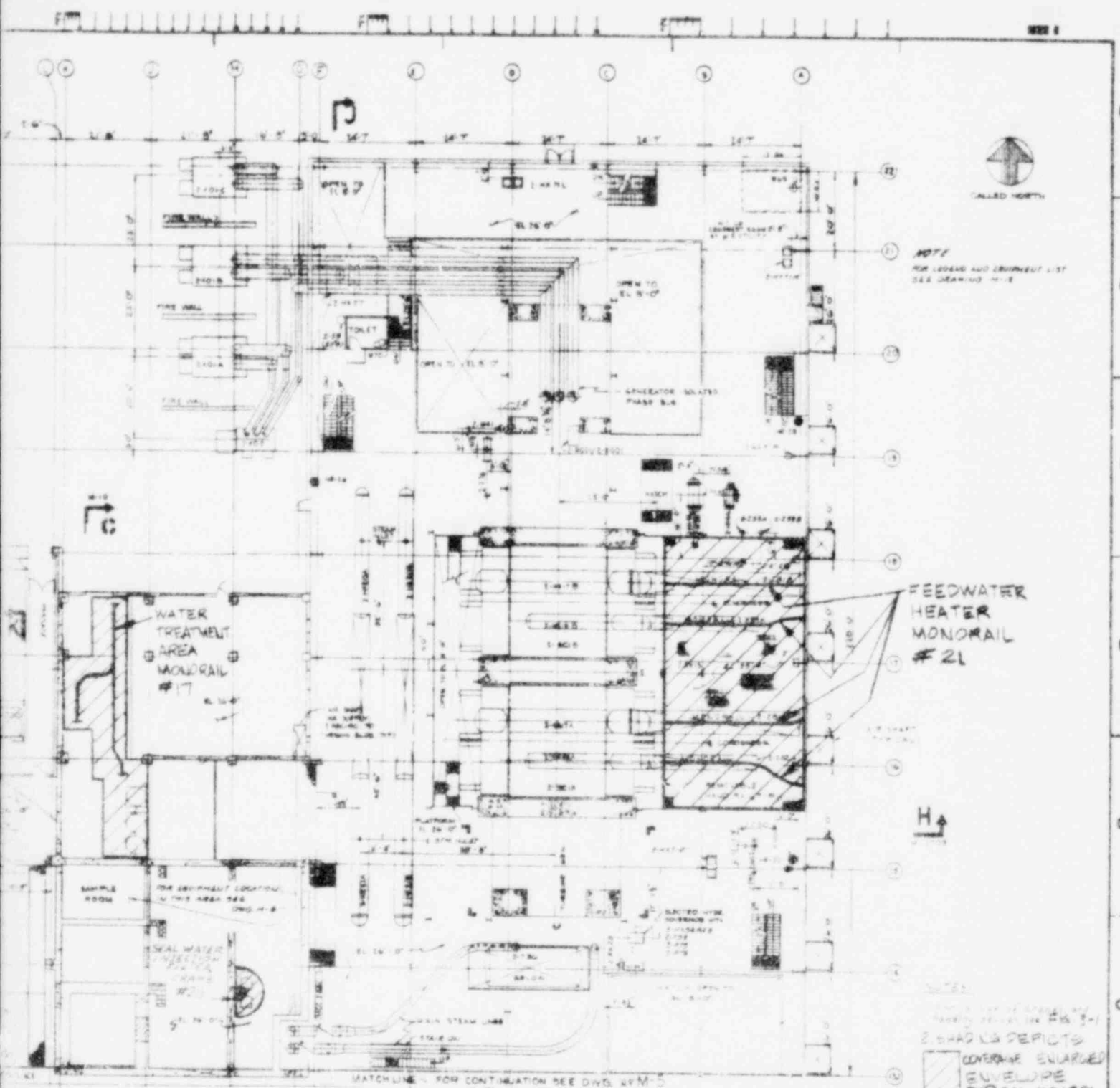
FR 952-D-45



CONTAINMENT EQUIPMENT
HATCH TRACK # 19
(NOT A LIFTING DEVICE)

JIB CRANE
OVER INCORE
INSTRUMENT
18

NOTE:
SHADED ENLARGED
COVERAGE ENVELOPE
SHOWN ON
FIG. 3-5



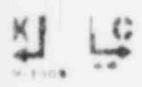
NOTE
FOR LOADS AND EQUIPMENT LIST
SEE DRAWING 3-1

FEEDWATER
HEATER
MONORAIL
#21



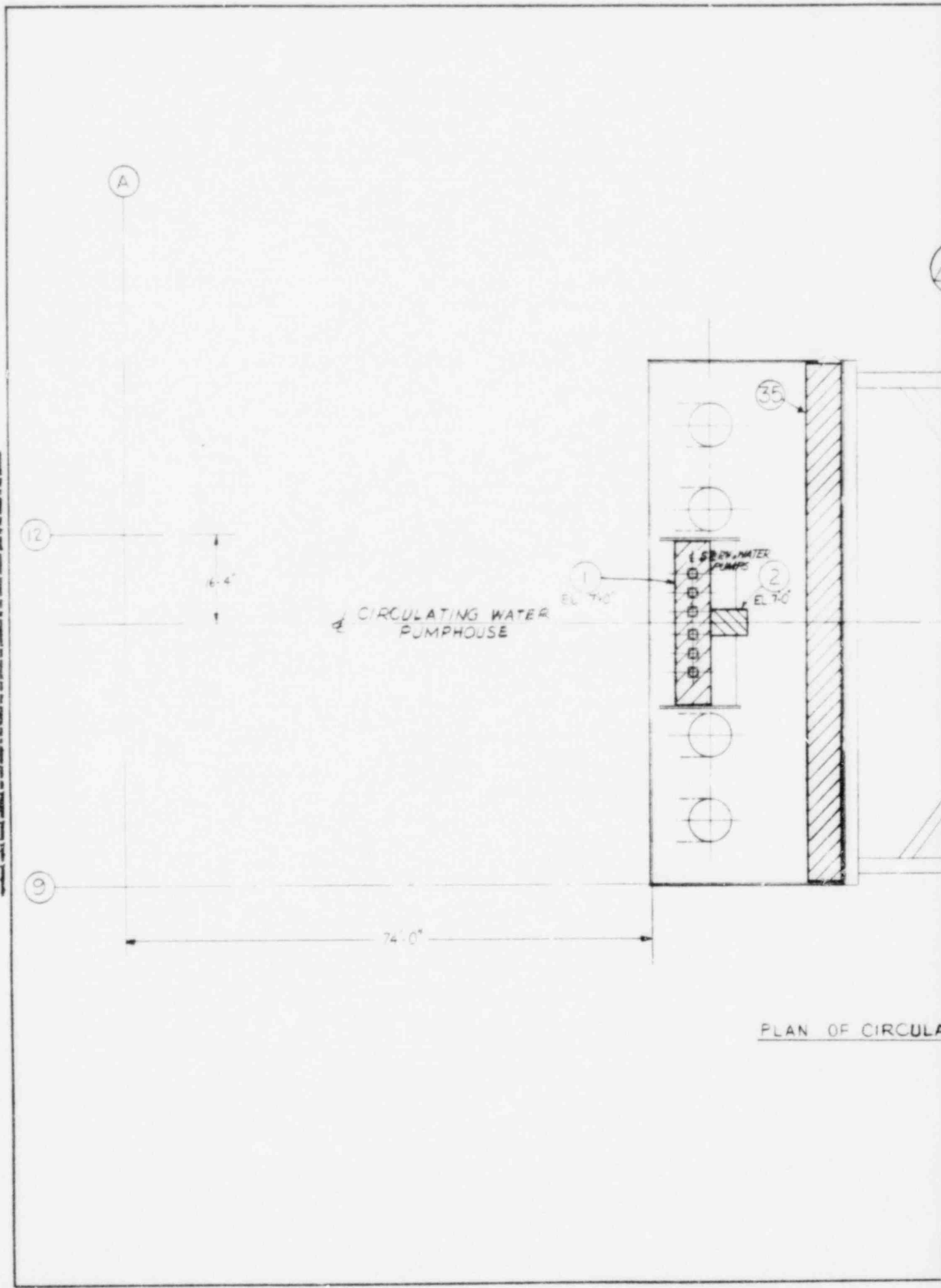
LEGEND
 [Hatched Box] COVERAGE ENLARGED
 [Solid Box] ENVELOPE
 [Circle with X] TYPICAL SYMBOL
 (1) (2) (3) (4) (5)

MATCHLINE - FOR CONTINUATION SEE DWG. 3-1



SEPT 81	POINT BEACH NUCLEAR PLANT
UNIT 2	TITLE: LOAD HANDLING DEVICES LOCATION
FIG. 3-1	ITEMS: 17, 18, 19, 20 21

The drawings and the design are subject to the approval of the Engineer. The drawings are not to be used for any other purpose without the written consent of the Engineer.



CIRCULATING WATER PUMPHOUSE

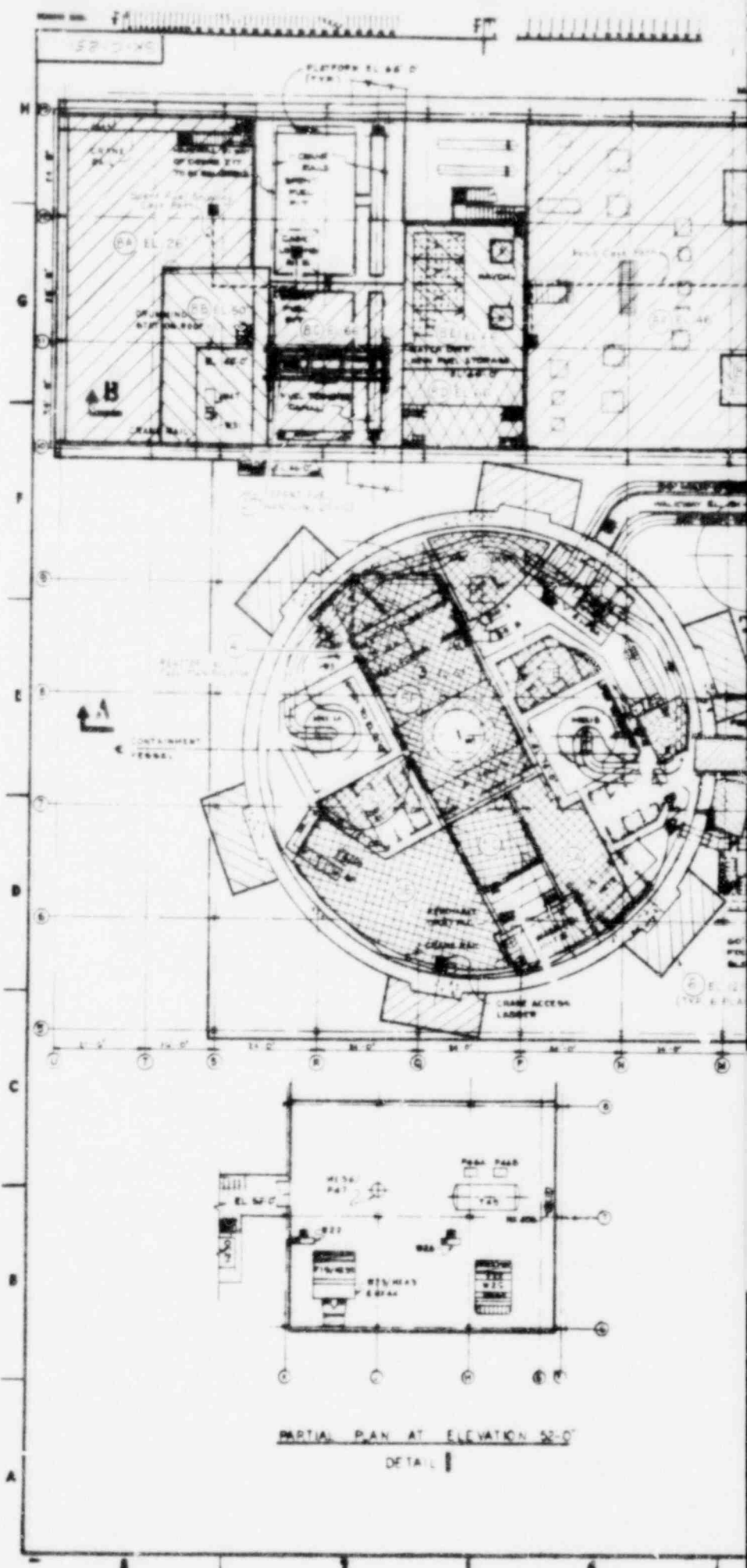
5 6 IN. WATER PUMPS

35

1 EL. 7'-0"

2 EL. 7'-0"

PLAN OF CIRCULA



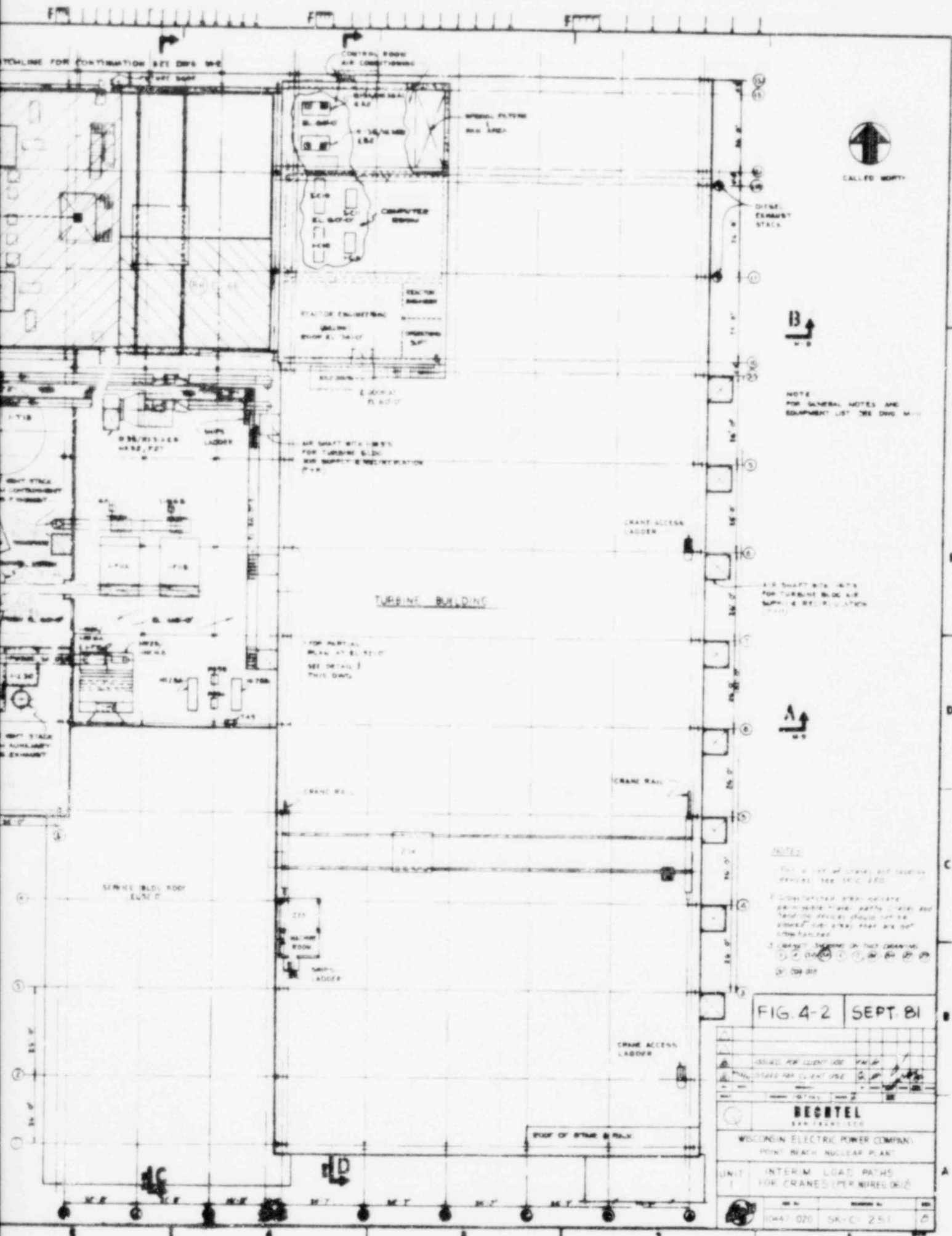
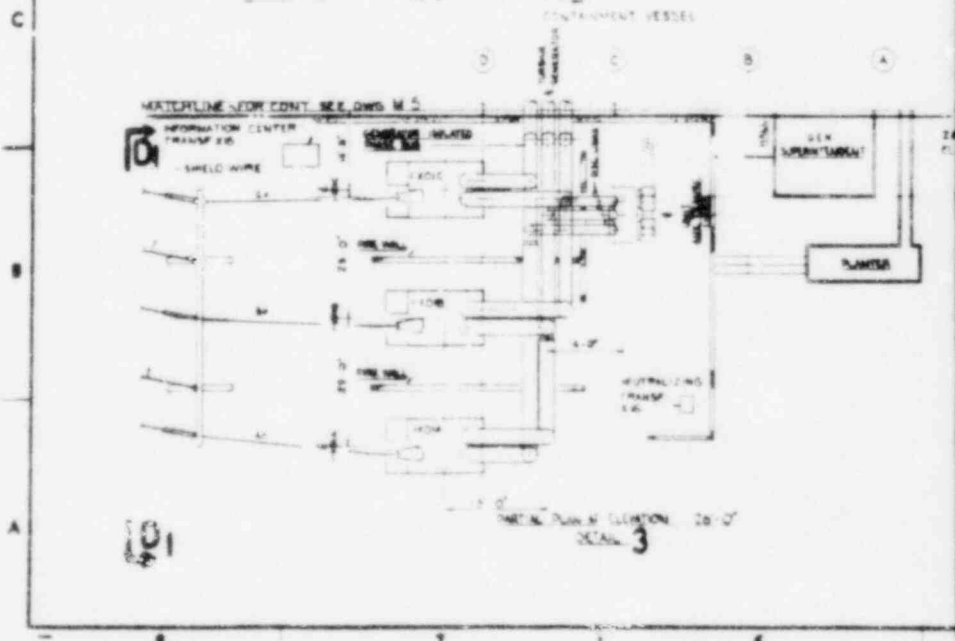
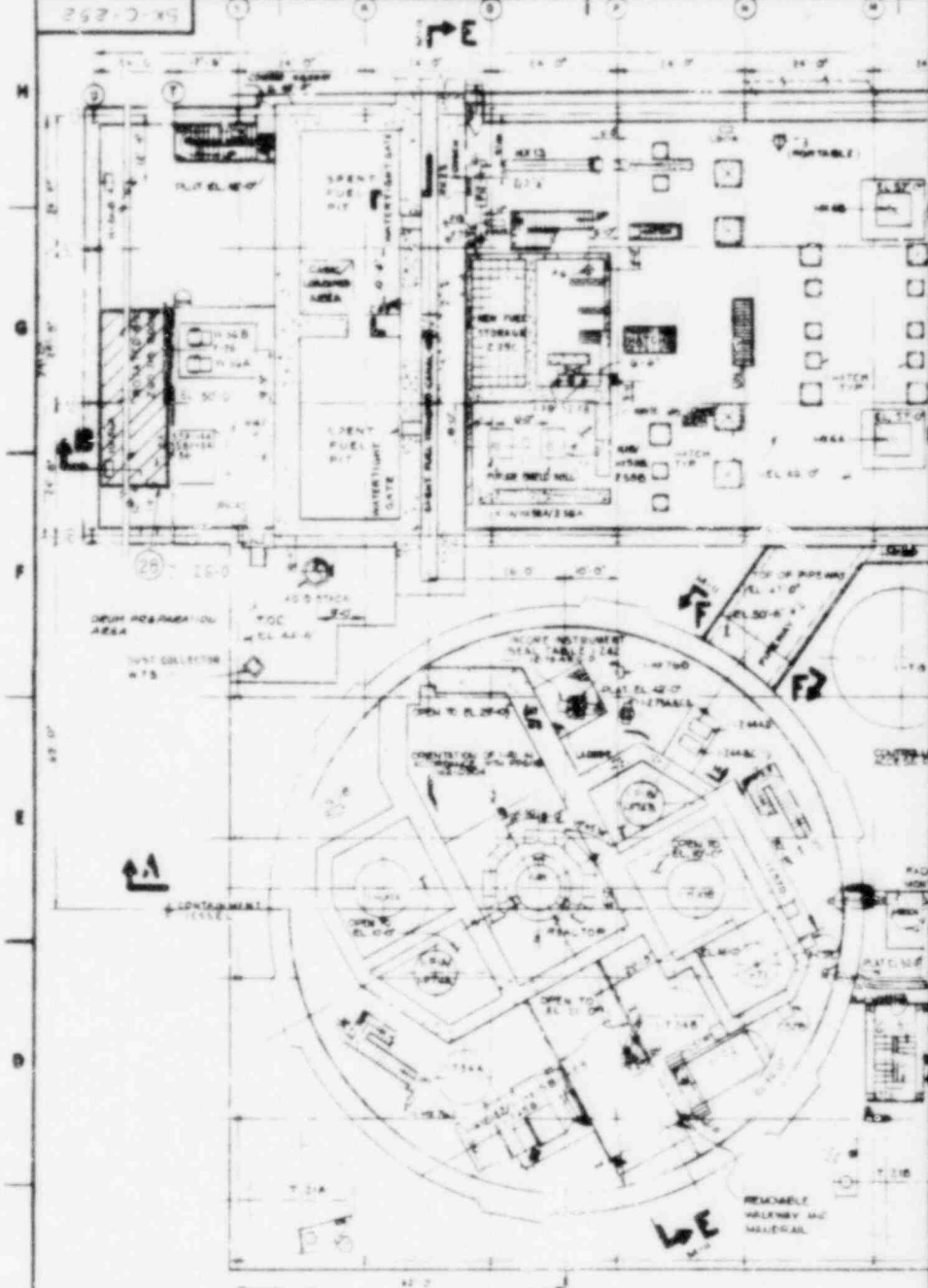
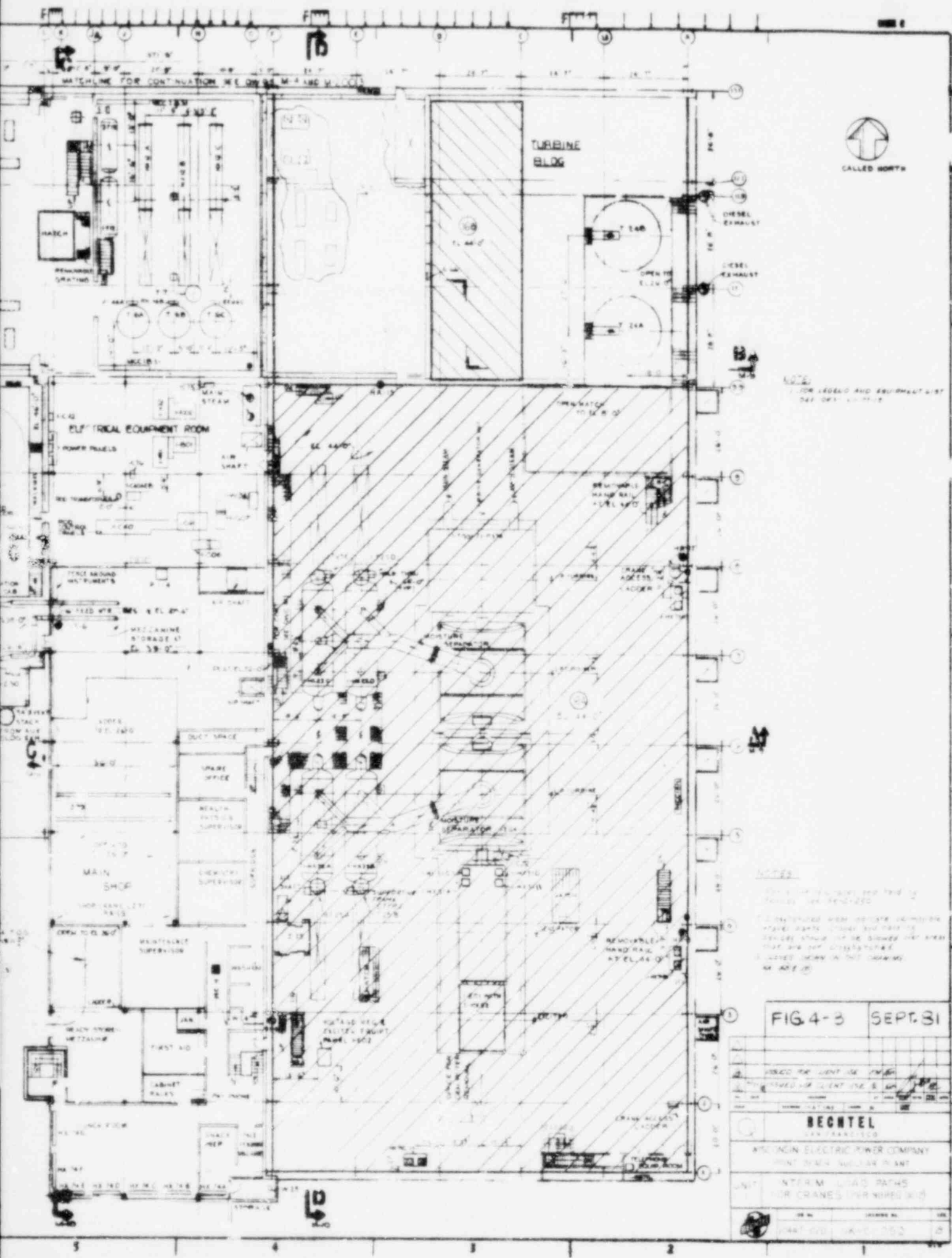


FIG. 4-2 SEPT 81

ISSUED FOR CLIENT USE	DATE	BY
ISSUED FOR CLIENT USE	DATE	BY
BECHTEL SAN FRANCISCO		
WISCONSIN ELECTRIC POWER COMPANY POINT BEACH NUCLEAR PLANT		
UNIT 1 INTERIM LOAD PATHS FOR CRANES (PER NUREG 0612)		
REV. NO.	REVISION	DATE
0047-020	SR-C-251	



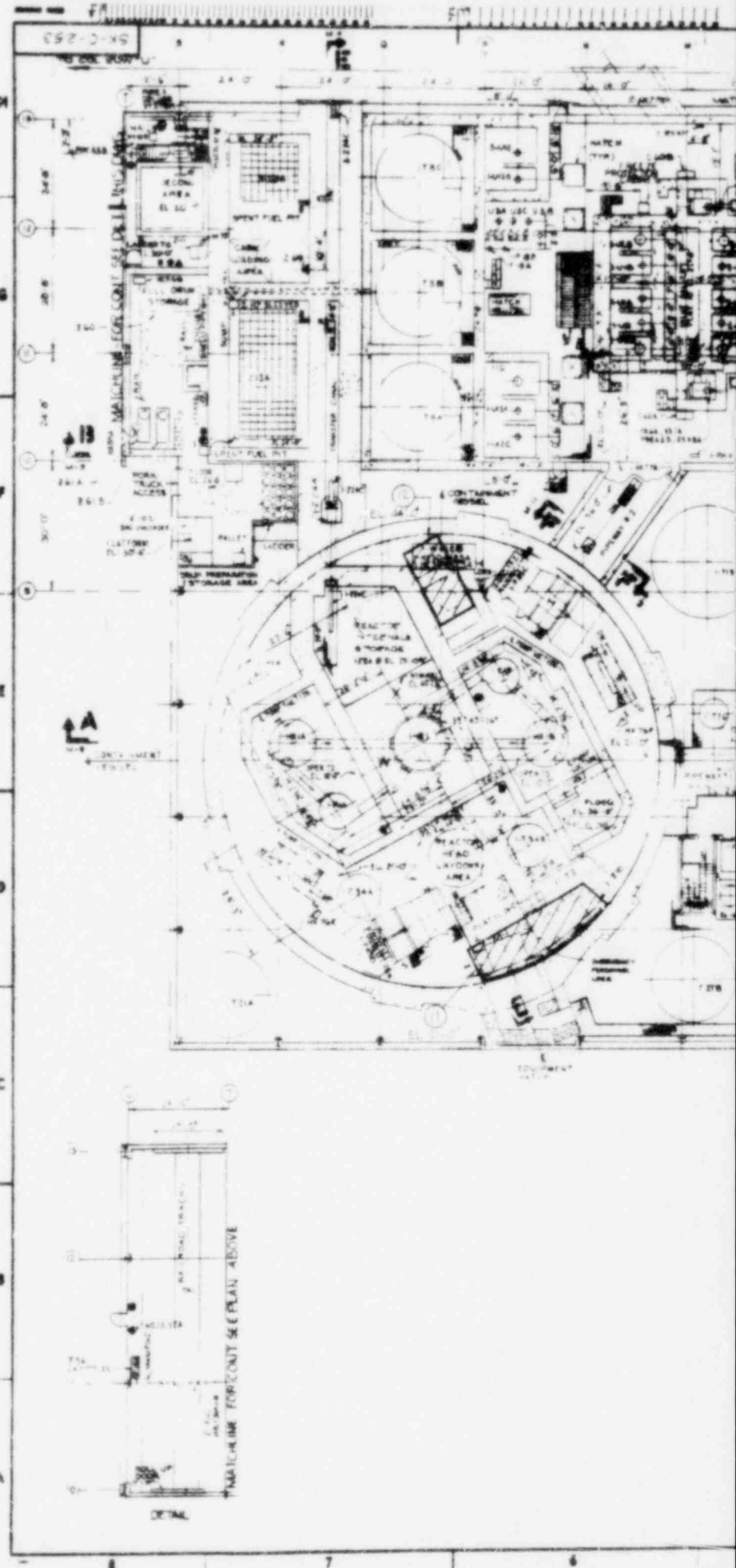


NOTE:
FOR LEGEND AND EQUIPMENT LIST
SEE DWG. 100-100

NOTES:
1. THIS FLOOR PLAN IS THE PROPERTY OF THE COMPANY AND IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE COMPANY.
2. THIS FLOOR PLAN IS THE PROPERTY OF THE COMPANY AND IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE COMPANY.
3. THIS FLOOR PLAN IS THE PROPERTY OF THE COMPANY AND IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE COMPANY.

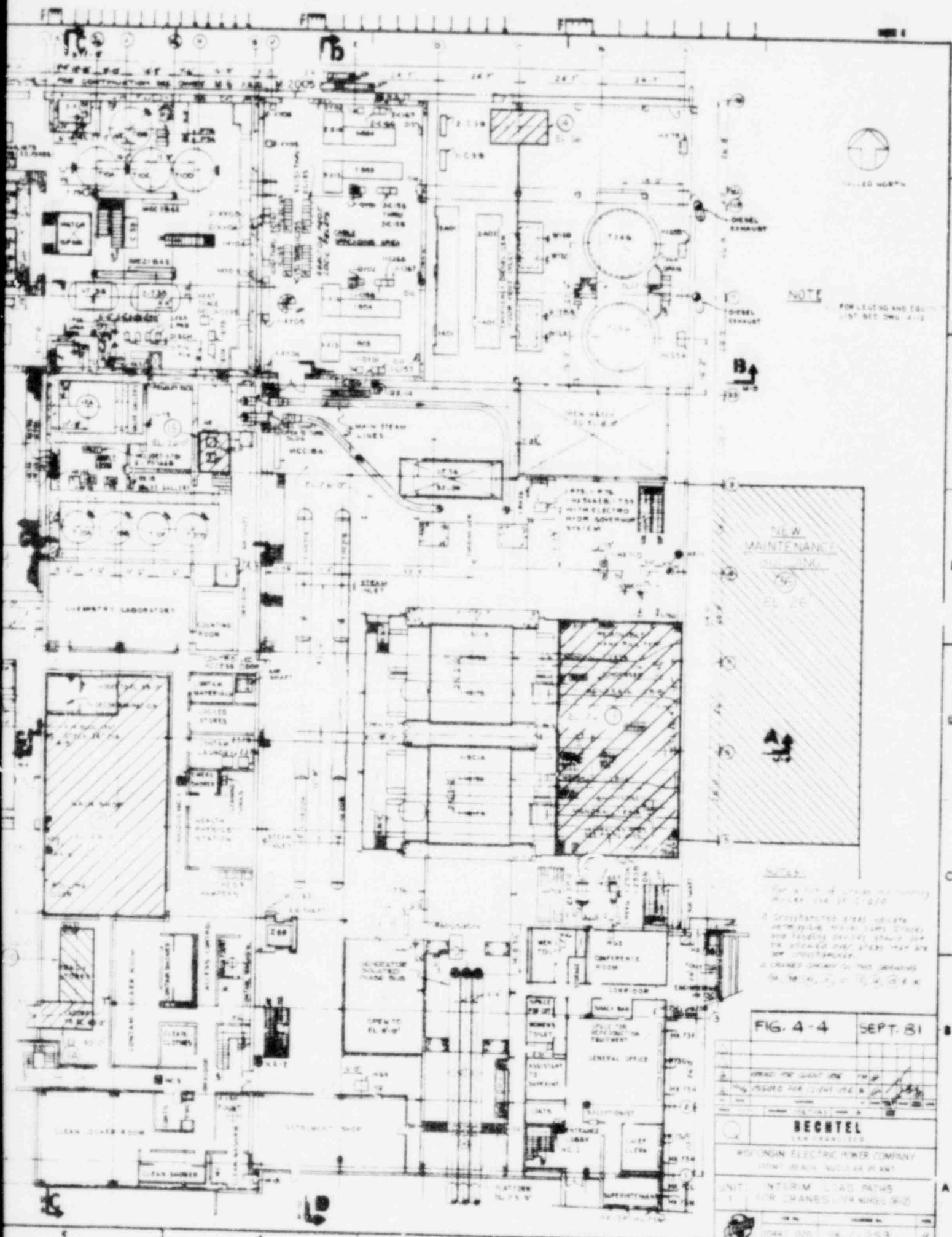
FIG. 4-3 SEPT. 51

NO.	DATE	BY
BECHTEL SAN FRANCISCO		
WESTINGHOUSE ELECTRIC POWER COMPANY POINT BRUCE NUCLEAR PLANT		
UNIT 1 INTERMEDIATE LOAD PATHS FOR CRANES OVER NUCLEAR ISLAND		



DETAIL FOR CONT. SEE PLAN ABOVE

DETAIL



NOTE
FOR LEGEND AND EQUIPMENT LIST SEE DWG. 4-2

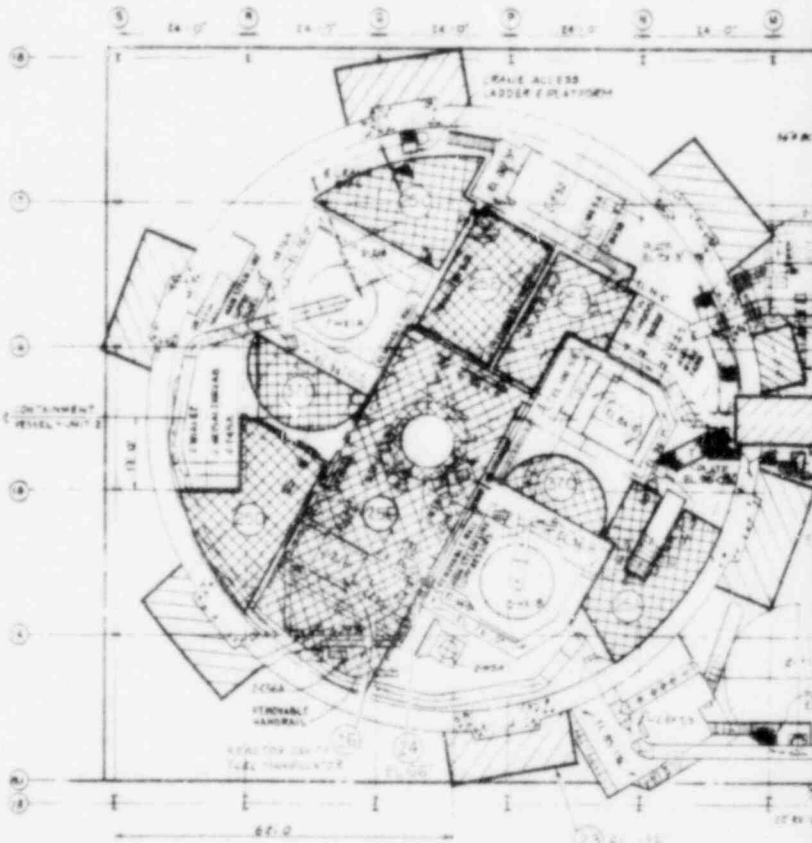
NOTES
 1. For a list of items and quantity refer to the Bill of Materials.
 2. Cross-hatched areas indicate work to be done. Work to be done and loading details shall not be allowed over areas that are not cross-hatched.
 3. CRANES ARE TO BE OPERATED IN THE MANNER SHOWN ON THIS DRAWING.

FIG. 4-4 SEPT. 61

APPROVED FOR CONSTRUCTION	DATE
ISSUED FOR CONSTRUCTION	DATE
BECHTEL SAN FRANCISCO	
WESTINGHOUSE ELECTRIC POWER COMPANY POINT BEACH NUCLEAR PLANT	
UNIT: INTERIM LOAD PATHS FOR CRANES (TRUCKS) 612	
DR. NO.	CHANGED BY
0441-020	OK C-253

752-0-X

H
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D
C
B
A

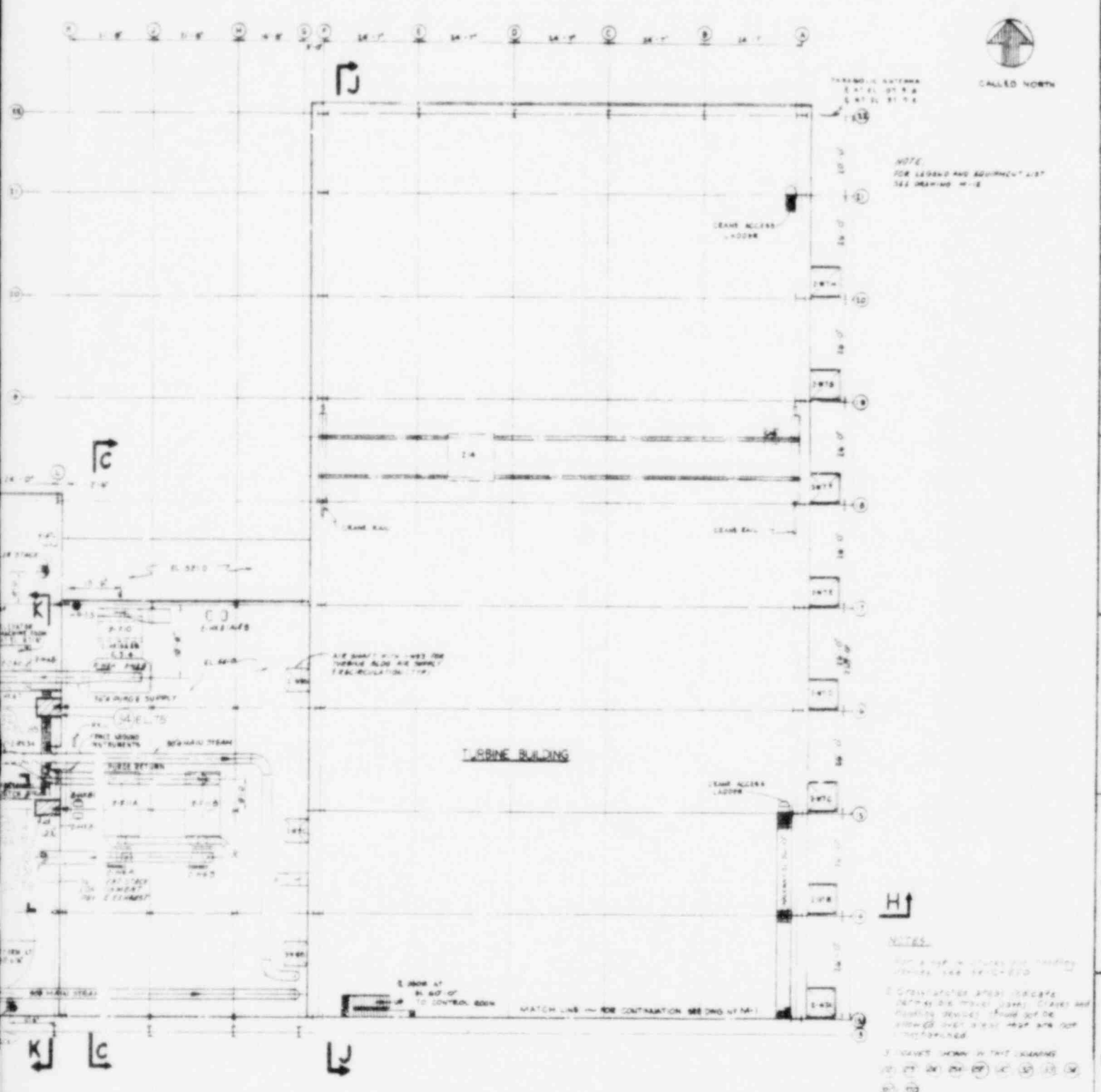




CALLED NORTH

TRUSS & ANTENNA
E AT EL 51' 0"
E AT EL 51' 0"

NOTE:
FOR LEGEND AND EQUIPMENT LIST
SEE DRAWING W-12



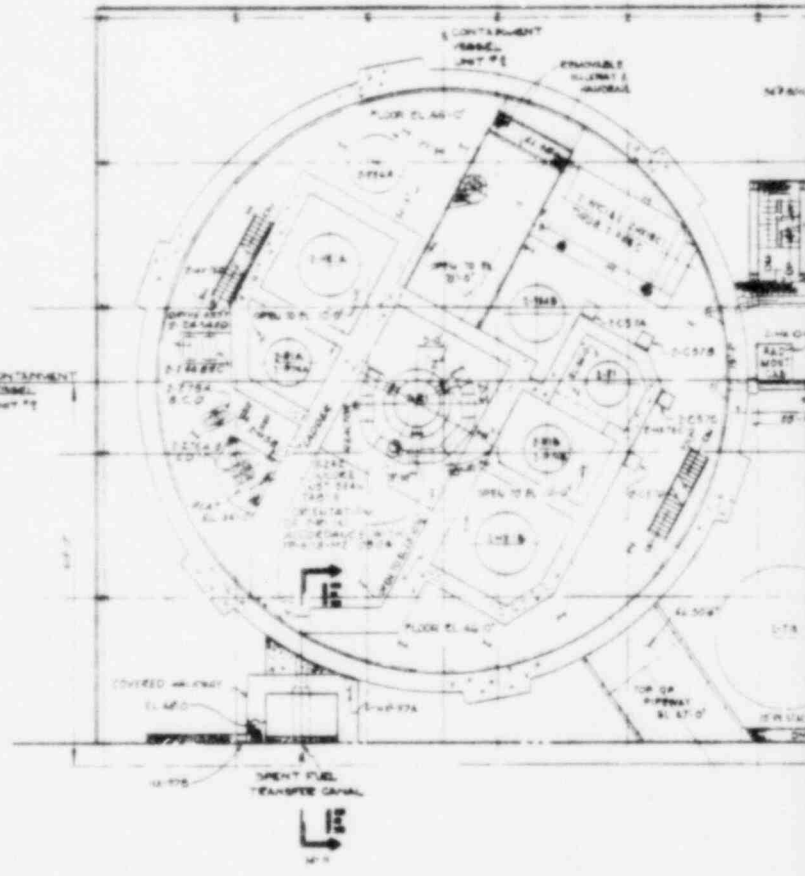
NOTES:

1. FOR A FULL LIST OF CRANES AND TRAILERS REFER TO W-12-270
2. CONSTRUCTION DETAILS INDICATE CRANES AND TRAILERS TO BE PROVIDED OVER THESE PATHS ARE NOT INDICATED.
3. CRANES SHOWN IN THIS DRAWING ARE NOT TO BE USED FOR CRANES OR TRAILERS.

SEPT. 81 FIG. 4-3	ISSUED FOR CLIENT USE ISSUED FOR CLIENT USE
	BECHTEL SAN FRANCISCO WISCONSIN ELECTRIC POWER COMPANY POINT ROCK NUCLEAR PLANT
	UNIT INTER M LOAD PATHS FOR CRANES (PER NUREG 060)
	SHEET NO. 10447-020 DRAWING NO. W-12-254 3

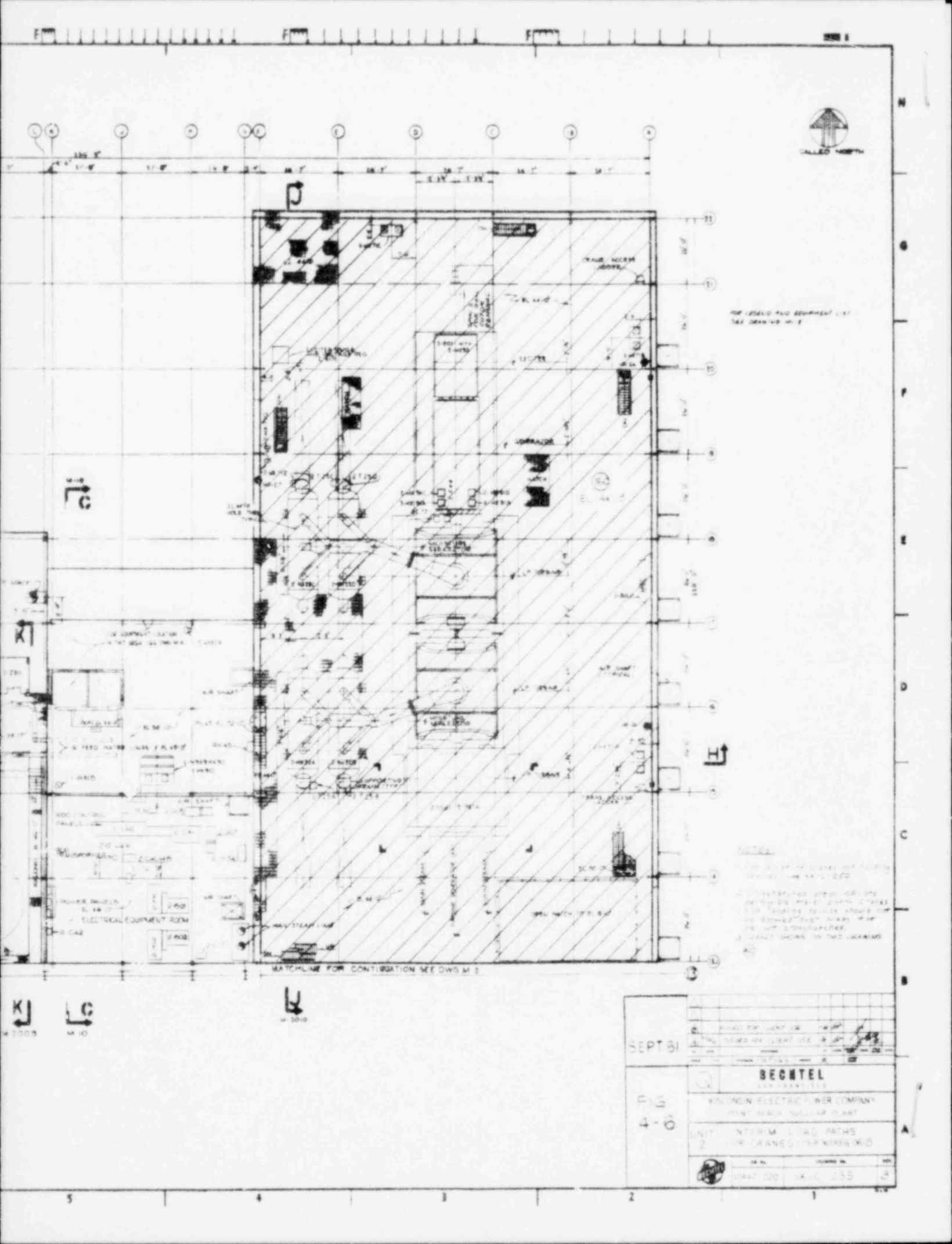
H
G
F
E
D
C
B
A

14' 0" 14' 0" 14' 0" 14' 0" 14' 0"



CONTAINMENT CANAL

WENT FUEL TRANSFER CANAL



TOP LEGAL AND EQUIPMENT LIFT
SEE DRAWING M-2

- NOTES:
1. THIS PLAN IS FOR CRANES AND EQUIPMENT LIFTING. SEE DRAWING M-2 FOR CRANES.
 2. CRANES AND EQUIPMENT LIFTING ARE TO BE PROVIDED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITIES.
 3. CRANES AND EQUIPMENT LIFTING SHALL BE PROVIDED BY THE CONTRACTOR.

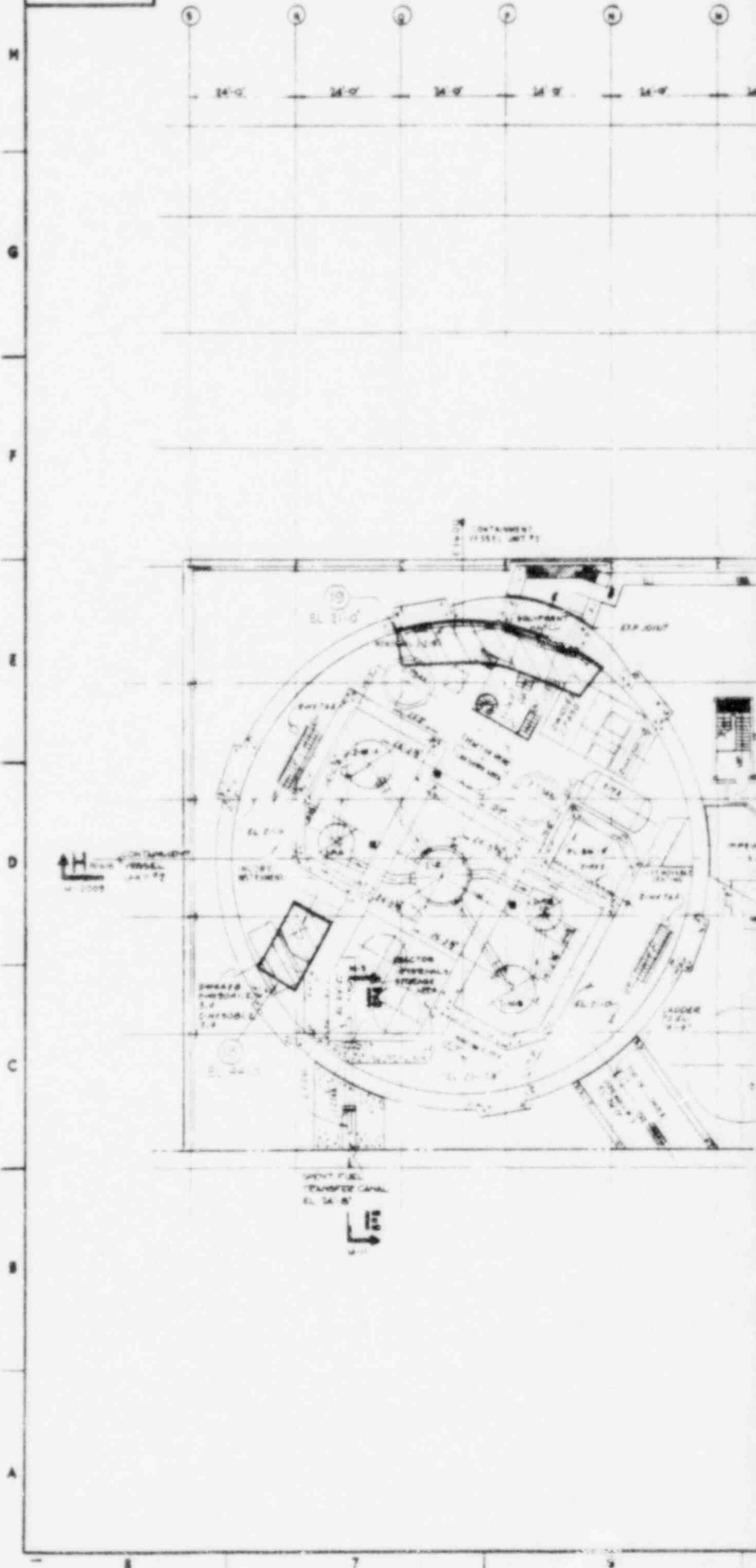
MATCHLINE FOR CONTINUATION SEE DWG M-2

SEPT 81 4-0	PROJECT NO. 100-100-100 SHEET NO. 100-100-100
	BECHTEL BECHTEL CORPORATION 1700 BROADWAY, OAKLAND, CALIF. 94612
UNIT 2 INTERIM LOAD PATHS FOR CRANES (SEE WIRING DIAG)	DRAWN BY: H.K.C. 155 CHECKED BY:

KJ 47009
 LG M-10

U-1010

022-0-45

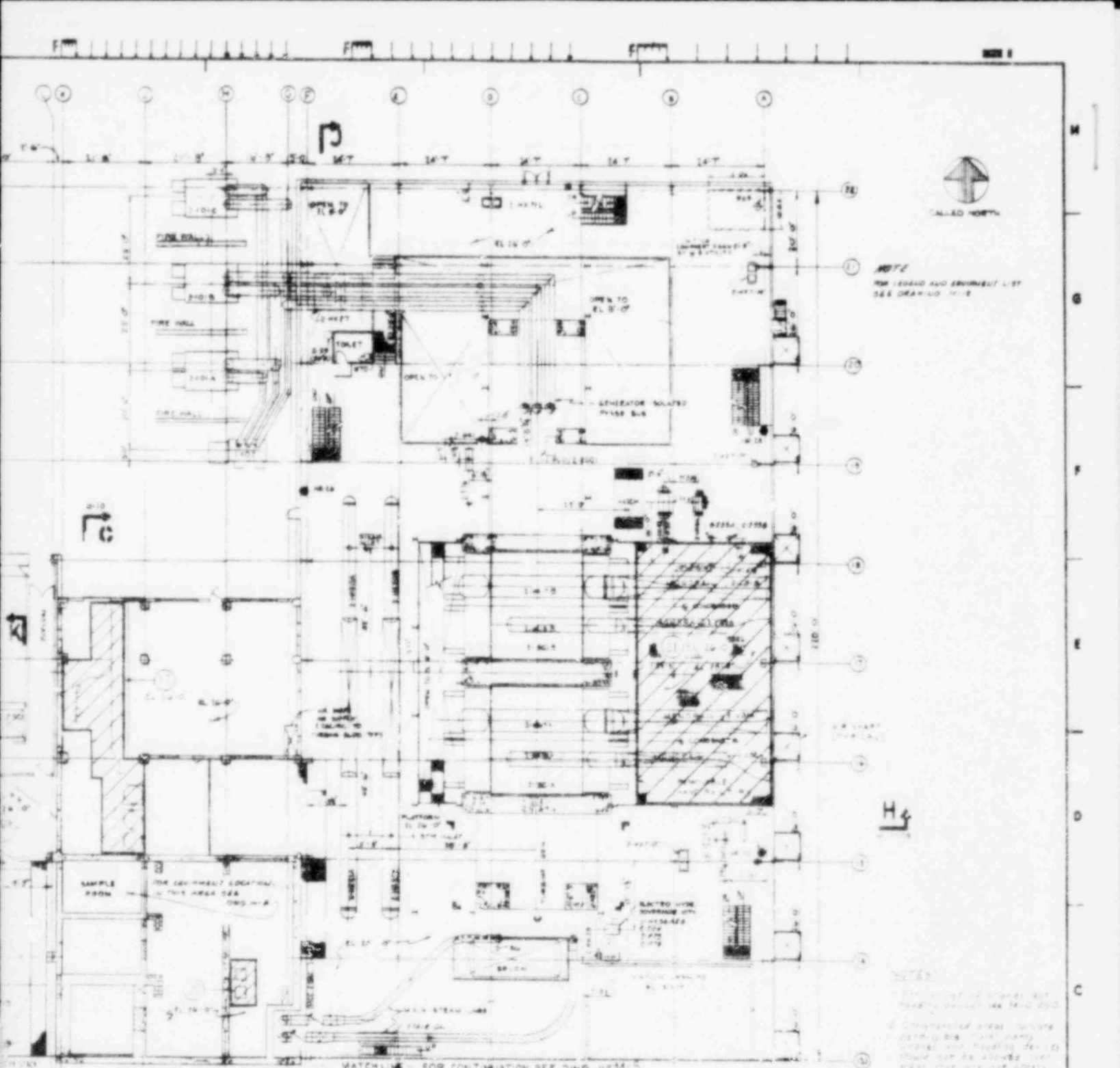


H
G
F
E
D
C
B
A

1 2 3 4 5 6

ENTRANCE (SEE DET 1)
ENTRANCE (SEE DET 2)

ENTRANCE (SEE DET 3)
ENTRANCE (SEE DET 4)



NOTE
 FOR LEGEND AND EQUIPMENT LIST
 SEE DRAWING 42M 5

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- NOTES**
- 1. CRANE PATHS TO BE SHOWN BY DASHED LINES.
 - 2. CRANE PATHS TO BE SHOWN BY DASHED LINES.
 - 3. CRANE PATHS TO BE SHOWN BY DASHED LINES.
 - 4. CRANE PATHS TO BE SHOWN BY DASHED LINES.

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SEPT 81	
DESIGNED BY	
CHECKED BY	
APPROVED BY	
BECHTEL	
BECHTEL CORPORATION	
415 NEW ELECTRIC POWER COMPANY	
POINT SHAW, MISSISSIPPI PLANT	
UNIT 2	INTERIM LOAD PATHS
	FOR CRANES PER PURCHASE
DATE	ISSUED NO.
NO. 1008	4-1008

Appendices

Appendix A - Terms and Definitions as Used in Point Beach NUREG-
0612 Review

APPENDIX A

TERMS AND DEFINITIONS AS USED IN POINT BEACH NUREG 0612 REVIEW

- Safe Shutdown Equipment - Safety-related equipment and associated subsystems that would be required to bring the plant to cold shutdown conditions or provide continued decay heat removal following the dropping of heavy load. Safety functions that should be preserved are those which provide capability to maintain reactor coolant pressure boundary, capability to reach and maintain subcritical removal of decay heat, and capability to maintain integrity of components whose failure could result releases in excess of 10 CFR 100 limits.
- Lifting Device - Any load carrying connection between the crane (or hoist) hook and the load.
- Special Lifting Device - A lifting device which has been specially designed or manufactured to handle a specific and particular load.
- Enlarged Coverage Envelope - This is the plan area as covered by the maximum travel limits of load handling device crane/hoist hook extended out to allow for the drop of the largest dimensioned load or lifting device. The extension dimension being taken in all lateral directions as being the largest dimension of either the load or the lifting device as noted in Figure A-1.
- Class A, B, C, etc., items (as hit by dropped load) - The NRC criteria (for response to section 2.1) that no credit for natural structure resistance be taken into account means that all items that could be hit in the drop envelope as it is extended from and to each of the lower floor areas, must also be considered. To ease the safety evaluation work that must be carried out for the nine month report (NRC letter Sections 2.2 and 2.3) these items have been categorized as follows: