



CONNECTICUT YANKEE ATOMIC POWER COMPANY

BERLIN, CONNECTICUT

P. O. BOX 270 HARTFORD, CONNECTICUT 06101

TELEPHONE
203-666-6911

June 2, 1980

Docket No. 50-213
A00898

Director of Nuclear Reactor Regulation
Attn: Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

- References:
- (1) D. L. Ziemann letter to W. G. Council dated February 15, 1980.
 - (2) D. L. Ziemann letter to W. G. Council dated March 6, 1980.
 - (3) W. G. Council letter to D. L. Ziemann dated March 11, 1980.
 - (4) W. G. Council letter to D. L. Ziemann dated March 12, 1980.
 - (5) W. G. Council letter to D. L. Ziemann dated April 29, 1980.
 - (6) D. L. Ziemann letter to W. G. Council dated March 28, 1980.
 - (7) W. G. Council letter to D. M. Crutchfield dated May 1, 1980.

Gentlemen:

Haddam Neck Plant
Environmental Qualification of Electrical Equipment

In Reference (1), the Staff identified the need to accelerate the environmental qualification review process and forwarded the guidelines for evaluating the environmental qualification of Class 1E electrical equipment and the guidelines for identification of safety-related equipment for which environmental qualification is to be addressed as Enclosures 1 and 2, respectively. In Reference (2), the Staff forwarded the environmental qualification program schedule as Enclosure 1 and the qualification program submittal content as Enclosure 2. Enclosure 2 specified five items which are addressed as follows:

NRC Item (1)

The emergency procedures and list of safety-related systems.

CYAPCO Response

The above information has been supplied in References (3) and (5). In addition, relevant piping and instrument and equipment location drawings were provided in Reference (4).

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NRC Item (2)

The definition of and basis for the hostile service conditions both inside and outside containment.

CYAPCO Response

The above information request has been the subject of many telephone discussions between our Staffs during the past several weeks. The attached material has been formatted to accommodate incorporation of the service condition profiles at such time as they become finalized. For the purposes of this submittal, the information available is summarized on the system component evaluation worksheets. The qualification documentation, which has been reformatted to be consistent with that specified in I&E Bulletin No. 79-01B, reflects only that information which was available from the original SEP environmental qualification effort. Updates/revisions to this material will be the subject of future correspondence as well as being the subject of discussions during the upcoming site audit.

NRC Item (3)

The identification and justification of equipment considered qualified by experience.

CYAPCO Response

To date, the CYAPCO qualification effort has not determined which safety-related equipment is considered qualified by experience.

NRC Item (4)

The tabulation of safety-related equipment located in a hostile environment, with identification of the service conditions and qualification testing for each in the format used for either SEP Topic III-12 or I&E Bulletin No. 79-01B submittals.

CYAPCO Response

The lists of safety-related electrical equipment, which have been developed in accordance with the enclosures to Reference (1), are attached. This compilation was derived by listing all electrical equipment within the systems or subsystems that were identified in Reference (5). In accordance with the Reference (1) guidance, annunciation, computer, and sequence of events recording equipment were not included. The attached list is approximately 50 percent complete, and it is currently anticipated that the majority of the remaining equipment can be itemized by the time of the site audit.

NRC Item (5)

The list of equipment in the tabulation of Item (4) that is not qualified in accordance with the specific requirements of Reference (1), together with the justification for the deviations from the guidelines.

CYAPCO Response

The current status of the qualification effort is not sufficiently advanced to respond to this request.

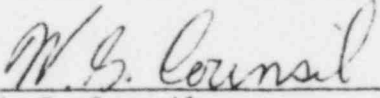
In Reference (6), the Staff supplemented its information requests by forwarding Enclosures 2 and 3 regarding plant-specific calculations for service condition profiles. This latter request was fulfilled in part by Reference (7). The only remaining information requirements were specific responses to Enclosure 3 of Reference (6), which are attached.

Although the attached information does not fully respond to the Staff requests, CYAPCO notes that extensive resources have been expended to date in attempting to disposition the Staff's concerns on the qualification issue. Personnel from the NSSS supplier have been utilized extensively to assist CYAPCO and NUSCO personnel in developing the detailed information required. The format and specificity of the attached information is illustrative of CYAPCO's intention to fully respond in a manner which will preclude the need for subsequent re-reviews. To this end, numerous avenues are being pursued to ensure that limiting and defensible service condition profiles will be utilized for the qualification effort.

As verbally agreed in recent telephone discussions, CYAPCO is currently planning for the site audit to be conducted the week of June 30, 1980. Although this early timetable has further strained CYAPCO resources, every effort will be made to have sufficient information available such that a meaningful audit can be conducted.

Very truly yours,

CONNECTICUT YANKEE ATOMIC POWER COMPANY



W. G. Council
Senior Vice President

Attachment

STATE OF CONNECTICUT)
) ss. Berlin
COUNTY OF HARTFORD)

June 2, 1980

Then personally appeared before me, W. G. Council, who being duly sworn, did state that he is Vice President of Connecticut Yankee Atomic Power Company, the Licensee herein, that he is authorized to execute and file the foregoing information in the name and on behalf of the Licensee herein and that the statements contained in said information are true and correct to the best of his knowledge and belief.

Sheila M. Pates
Notary Public

My Commission Expires March 31, 1981

HADDAM NECK PLANT
SYSTEM COMPONENT EVALUATION
WORK SHEETS

Facility: CONNECTICUT YANKEE
 Unit: Haddam Neck Plant
 Docket: 50-213

SYSTEM COMPONENT EVALUATION WORK SHEET

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
System: Reactor Coolant Plant ID No.: MOV311, MOV312, MOV313, MOV314 Component: Motor Operator for Seal Water Return Line Valve Manufacture: Crane Teledyne Model Number: Teledyne T4 Function: Operators for MOV's 311, 312, 313 & 314 Accuracy: NA Service: Closes to prevent high temperature coolant from flowing thru the pres. housing of RCS pump Location: Middle level, outer annulus of the contain- ment Flood Level Elev: Above Flood Level: Yes No	Operating Time	Ref. 1,2	Ref. 1,2	Ref. 1,2 (10.3),4	Ref. 2,3,4		
	Temperature (°F)	Ref. 1,2	Ref. 1,2	Ref. 1,2 (10.3),4	Ref. 2,3,4		
	Pressure (PSIA)	Ref. 1, 2	Ref. 1, 2	Ref. 1,2 (10.3),4	Ref. 2,3,4		
	Relative Humidity(%)	100	100	Ref. 1,2 (10.3),4	Ref. 2,3,4		
	Chemical Spray	1.5% Boric Acid	1.5% Boric Acid	Ref. 2	Ref. 6,10		
	Radiation	Ref. 1,2 (10.3),4	1x10 ⁷ R	Ref. 1,4	Ref. 4,5,7,8		
	Aging						
	Submergence						

*Documentation References:

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See "List of References" behind this section of worksheets.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
System: Reactor Coolant Plant ID No.: MOV861A-D Component: Motor Operator-Valve Manufacture: Crane Teledyne Model Number: T-4 Function: Operators for MOV861A, 861B, 861C, 861D Accuracy: NA Service: Safety Injection flow to primary loops Location: Middle level, outer annulus-containment Flood Level Elev: Above Flood Level: Yes No	Operating Time	Ref. 1,2	Ref. 1,2	Ref. 1,2 (10.3),4	Ref. 3,4,7,8	Simultaneous Test	
	Temperature (°F)	Ref. 1, 2	Ref. 1, 2	Ref. 1,2 (10.3),4	Ref. 3,4,7,8	Simultaneous Test	
	Pressure (PSIA)	Ref. 1, 2	Ref. 1, 2	Ref. 1,2 (10.3),4	Ref. 3,4,7,8	Simultaneous Test	
	Relative Humidity(%)	100	100	Ref. 1,2 (10.3),4	Ref. 3,4,7,8	Simultaneous Test	
	Chemical Spray	1.5% Boric Acid	1.5% Boric Acid	Ref. 2	Ref. 6,10	Sequential Test	
	Radiation	Ref. 1,2 (10.3),4	1x10 ⁷ R	Ref. 1,4	Ref. 4,5,7,8	Analysis of Materials	
	Aging						
Submergence							

*Documentation References:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
Residual Heat System: Removal Plant ID No.: MOV780	Operating Time	Ref. 1,2	Ref. 1,2	Ref. 1, 2(10.3),4	Ref. 3,4, 7,8,9	Simultaneous Test	
Component: Motor Operator Valve, Inboard Stop	Temperature (°F)	Ref. 1, 2	Ref. 1, 2	Ref. 1, 2(10.3),4	Ref. 3,4 7,8,9	Simultaneous Test	
Manufacture: Crane Teledyne	Pressure (PSIA)	Ref. 1, 2	Ref. 1, 2	Ref. 1, 2(10.3),4	Ref. 3,4 7,8,9	Simultaneous Test	
Model Number: T-10	Relative Humidity(%)	100	100	Ref. 1, 2(10.3),4	Ref. 3,4 7,8,9	Simultaneous Test	
Function: Operator for MOV780	Chemical Spray	1.5% Boric Acid	1.5% Boric Acid	Ref. 2	Rev. 6,10,11	Sequential Test	
Accuracy: NA	Radiation	Ref. 1, 2 (10.3)	1 x 10 ⁷ R	Ref. 1,2	Rev. 4,5,7, 8,12	Analysis of Materials	
Service: Open to permit RHR flow**	Aging						
Location: Middle level, outer annulus of containment--Loop 1							
Flood Level Elev: Above Flood Level: Yes No	Submergence						

*Documentation References:

See "List of References" behind this section of worksheets.

Notes:

**To allow cooldown of reactor coolant system to less than 200°F following a small LOCA

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
Residual Heat System: Removal Plant ID No.: MOV781	Operating Time	Ref. 1,2	Ref. 1,2	Ref. 1, 2(10.3),4	Ref. 3,4,7, 8,9	Simultaneous Test	
Component: Motor Operator Valve, Outboard Stop	Temperature (°F)	Ref. 1, 2	Ref. 1, 2	Ref. 1, 2(10.3),4	Ref. 3,4,7, 8,9	Simultaneous Test	
Manufacture: Crane Teledyne	Pressure (PSIA)	Ref. 1, 2	Ref. 1, 2	Ref. 1, 2(10.3),4	Ref. 3,4,7, 8,9	Simultaneous Test	
Model Number: T-10	Relative Humidity(%)	100	100	Rev. 1, 2(10.3),4	Ref. 3,4,7, 8,9	Simultaneous Test	
Function: Operator for MOV781	Chemical Spray	1.5% boric acid	1.5% boric acid	Rev. 2	Rev. 6,10,11	Sequential Test	
Accuracy: NA	Radiation	Ref. 1,2 (10.3),4	1 x 10 ⁷ R	Ref. 1,4	Ref. 4,5,7, 8,12	Analysis of Materials	
Service: Open to permit RHR flow**	Aging						
Location: Lower level, outer annulus of containment--loop 1							
Flood Level Elev: Above Flood Level: Yes No	Submergence						

*Documentation References:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
Residual Heat System: Removal Plant ID No.: MOV803	Operating Time	Ref. 1,2	Ref. 1,2	Ref. 1,2, (10.3),4	Ref. 3,4,7, 8,9	Simultaneous Test	
Component: Motor Operator Valve, Outboard Stop	Temperature (°F)	Ref. 1, 2	Ref. 1, 2	Ref. 1,2, (10.3),4	Ref. 3,4,7, 8,9	Simultaneous Test	
Manufacture: Crane Teledyne	Pressure (PSIA)	Ref. 1, 2	Ref. 1, 2	Ref. 1,2, (10.3),4	Ref. 3,4,7, 8,9	Simultaneous Test	
Model Number: T-10	Relative Humidity(%)	100	100	Ref. 1,2, (10.3),4	Ref. 3,4,7, 8,9	Simultaneous Test	
Function: Operator for MOV803	Chemical Spray	1.5% boric acid	1.5% boric acid	Ref. 2	Ref. 6,10,11	Sequential Test	
Accuracy: NA	Radiation	Ref. 1,2, (10.3),4	1 x 10 ⁷ R	Ref. 1,4	Ref. 4,5,7, 8,12	Analysis of Materials	
Service: Open to permit RHR flow**	Aging						
Location: Lower level, outer annulus of con- tainment--loop 2							
Flood Level Elev: Above Flood Level: Yes No	Submergence						

*Documentation References:

See "List of References" behind this section of worksheets

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
Residual Heat System: Removal Plant ID No.: MOV804 Component: Motor Operator Valve, Inboard Stop Manufacture: Crane Teledyne Model Number: T-10 Function: Operator for MOV804 Accuracy: NA Service: Open to permit RHR flow** Location: Middle level, outer annulus of con- tain t--loop 2 Flood Level Elev: Above Flood Level: Yes No	Operating Time	Ref. 1,2	Ref. 1,2	Ref. 1,2 (10.3),4	Ref. 3,4,7, 8,9	Simultaneous Test	
	Temperature (°F)	Ref. 1,2	Ref. 1, 2	Ref. 1,2 (10.3),4	Ref. 3,4,7, 8,9	Simultaneous Test	
	Pressure (PSIA)	Ref. 1, 2	Ref. 1, 2	Ref. 1,2 (10.3),4	Ref. 3,4,7, 8,9	Simultaneous Test	
	Relative Humidity(%)	100	100	Ref. 1,2 (10.3),4	Ref. 3,4,7, 8,9	Simultaneous Test	
	Chemical Spray	1.5% Boric Acid	1.5% Boric Acid	Ref. 2	Ref. 6,10,11	Sequential Test	
	Radiation	Ref. 1,2 (10.3),4	1 x 10 ⁷ R	Ref. 1,4	Ref. 4,5,7, 8,12	Analysis of Materials	
	Aging						
	Submergence						

*Documentation References:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
System: Letdown Isolation Plant ID No.: MOV200 Component: Motor Operator Valve Manufacture: Crane Teledyne Model Number: R-4 Function: Operator for MOV200 Accuracy: NA Service: Containment Isolation of Letdown Line Location: Middle level, outer annulus of containment Flood Level Elev: Above Flood Level: Yes No	Operating Time	Ref. 1,2	Ref. 1,2	Ref. 1,2 (10.3),4	Ref. 3,4,7,8	Simultaneous Test	
	Temperature (°F)	Ref. 1,2	Ref. 1,2	Ref. 1,2 (10.3),4	Ref. 3,4,7,8	Simultaneous Test	
	Pressure (PSIA)	Ref. 1,2	Ref. 1,2	Ref. 1,2 (10.3),4	Ref. 3,4,7,8	Simultaneous Test	
	Relative Humidity(%)	100	100	Ref. 1,2 (10.3),4	Ref. 3,4,7,8	Simultaneous Test	
	Chemical Spray	1.5% boric acid	1.5% boric acid	Ref. 2	Ref. 6,10,11	Sequential Test	
	Radiation	Ref. 1,2 (10.3),4	1×10^7 F	Ref. 1,4	Ref. 4,5,7,8 12	Analysis of Materials	
	Aging						
	Submergence						

*Documentation References:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
System: Reactor Cor Deluge Plant ID No.: MOV871A, MOV871B Component: Motor Operator Valve Manufacture: Crane Teledyne Model Number: T-4 Function: Operator for MOV871A and B Accuracy: NA Service: Open to permit safety injection flow directly into the core Location: during long term cooling Reactor Cavity of Containment Flood Level Elev: Above Flood Level: Yes No	Operating Time	Ref. 1,2	Ref. 1,2	Ref. 1,2 (10.3),4	Ref. 3,4,7,8	Simultaneous Test	
	Temperature (°F)	Ref. 1,2	Ref. 1,2	Ref. 1,2 (10.3),4	Ref. 3,4,8,9	Simultaneous Test	
	Pressure (PSIA)	Ref. 1,2	Ref. 1,2	Ref. 1,2 (10.3),4	Ref. 3,4,8,9	Simultaneous Test	
	Relative Humidity (%)	100	100	Ref. 1,2 (10.3),4	Ref. 3,4,8,9	Simultaneous Test	
	Chemical Spray	1.5% boric acid	1.5% boric acid	Ref. 2	Ref. 6,10,11	Sequential Test	
	Radiation	Ref. 1,2 (10.3),4	1×10^7 R	Ref. 1,4	Ref. 4,5,7,8,12	Analysis of Materials	
	Aging						
	Submergence						

*Documentation References:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
Emergency Core Cooling-- System: Charging Plant ID No.: MOV292B & MOV292C Component: Motor Operator--Valves Manufacture: Limatorque Model Number: SMB-0 Function: Operators for Valves MOV292B & MOV292C Accuracy: NA Service: Provides charging flow for core cooling & recirculation flow during long term cooling Location: Lower level, outer annulus of containment Flood Level Elev: Above Flood Level: Yes No	Operating Time	Ref. 1,2 (10.3)	Ref. 1,2	Ref. 1,2 (10.3),4	Ref. 16,17, 18	Simultaneous Test	
	Temperature (°F)	Ref. 1,2 (10.3)	Ref. 1,2	Ref. 1,2 (10.3),4	Ref. 16,17, 18	Simultaneous Test	
	Pressure (PSIA)	Ref. 1,2 (10.3)	Ref. 1,2	Ref. 1,2 (10.3),4	Ref. 16,17 18	Simultaneous Test	
	Relative Humidity(%)	100	100	Ref. 1,2 (10.3),4	Ref. 16,17 18	Simultaneous Test	
	Chemical Spray	1.5% boric acid	1.5% boric acid	Ref. 2	Ref. 16,17, 18	Simultaneous Test	
	Radiation	Ref. 1,2 (10.3)	2 x 10 ⁸ R	Ref. 1,2		Sequential Test	
	Aging						
Submergence							

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
Containment Heat Removal System; Air Recirculating Plant ID No.: MOV25-MOV29 Component: Motor Operator--Valves Manufacture: Limatorque Model Number: SMB-0 Function: Operators for MOV's 25-29 Accuracy: NA Service: Backup fire protection for charcoal filters Location: Lower level, outer annulus of containment Flood Level Elev: _____ Above Flood Level: Yes No	Operating Time	Variable Backup	Up to 7 days, see Ref. 14	Ref. 1,2 (10.3),4	Ref. 14,15	Simultaneous Test	
	Temperature (°F)	Variable Backup	Up to 7 days, see Ref. 14	Ref. 1,2 (10.3),4	Ref. 14,15	Simultaneous Test	
	Pressure (PSIA)	Variable Backup	Up to 7 days, see Ref. 14	Ref. 1,2 (10.3),4	Ref. 14,15	Simultaneous Test	
	Relative Humidity(%)	100	100	Ref. 1,2 (10.3),4	Ref. 14	Simultaneous Test	
	Chemical Spray	1.5% boric acid	1.5% boric acid	Ref. 2	Ref. 14	Simultaneous Test	
	Radiation	Ref. 1,2 (10.3),4	2.2 x 10 ⁸ R	Ref. 1,2,4	Ref. 12,15	Sequential Test	
	Aging						
Submergence							

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
Containment Heat System: Removal Spray Plant ID No.: MOV24, MOV34 Component: Motor Operator--Valve Manufacture: Limitorque Model Number: SMB-0 Function: Operators for MOV24 & MOV34 Accuracy: NA Service: Open to reduce fission product concentration & containment pressure following LOCA Location: Lower level, outer annulus of containment Flood Level Elev: Above Flood Level: Yes No	Operating Time	Variable Backup	Up to 7 days, see Ref. 14	Ref. 1,2 (10.3),4	Ref. 14,15	Simultaneous Test	
	Temperature (°F)	Variable Backup	Up to 7 days, see Ref. 14	Ref. 1,2 (10.3),4	Ref. 14,15	Simultaneous Test	
	Pressure (PSIA)	Variable Backup	Up to 7 days, see Ref. 14	Ref. 1,2 (10.3),4	Ref. 14,15	Simultaneous Test	
	Relative Humidity(%)	100	100	Ref. 1,2 (10.3),4	Ref. 14 "	Simultaneous Test	
	Chemical Spray	1.5% boric acid	1.5% boric acid	Ref. 2	Ref. 14	Simultaneous Test	
	Radiation	Ref. 1,2 (10.3),4	$2.2 \times 10^8 R$	Ref. 1,2,4	Ref. 12,15	Sequential Test	
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
Containment Heat Removal System: Air Recirculation Plant ID No.: F-17-1,2,3,4 Component: Fan Motor Manufacture: Westinghouse Electric Model Number: Type CSP Frame: 684-5S Function: Drive Fans F-17-1,2,3,4 Accuracy: NA Service: To Effect a Rapid Depressurization (continued)** Location: Middle level, outer annulus of containment Flood Level Elev: _____ Above Flood Level: Yes _____ No _____	Operating Time	Ref. 1,2	Rev. 1,2	Rev. 1,2	Ref. 19,20, 21	Analysis & Test	
	Temperature (°F)	Ref. 1,2	320°F	Ref. 1,2	Ref. 19,20, 21	Analysis & Test	
	Pressure (PSIA)	Ref. 1,2	80 psig	Ref. 1,2	Ref. 19,20, 21	Analysis & Test	
	Relative Humidity(%)	100	100	Ref. 1,2	Ref. 19,20, 21	Analysis & Test	
	Chemical Spray	Ref. 1,2	3,000 ppm boric acid	Ref. 1,2	Ref. 19,20, 21	Analysis & Test	
	Radiation	Ref. 1,2	2 x 10 ⁸ R	Ref. 1,2	Ref. 19,20, 21	Analysis & Test	
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*Documentation References:

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**of the containment and to provide for iodine filtration as fission products are released from the core.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
Engineered Safeguards System: Pressurizer Pres. Plant ID No.: PT401-1,2,3 Component: Pressure Transmitter Manufacture: Foxboro Model Number: 611GM-DSI Function: Transmit pressure signal Accuracy: NA Service: To initiate safety injection Location: Lower level, outer annulus of containment Flood Level Elev: Above Flood Level: Yes No	Operating Time	Ref. 1,2	Ref. 1,2	Ref. 1,2	Ref. 22,23,24	Analysis of Tests	
	Temperature (°F)	Ref. 1,2	294°F	Ref. 1,2	Ref. 22,23,24	Analysis of Tests	
	Pressure (PSIA)	Ref. 1,2	60 psig	Ref. 1,2	Ref. 22,23,24	Analysis of Tests	
	Relative Humidity(%)	100	100	Ref. 1,2	Ref. 22,23,24	Analysis of Tests	
	Chemical Spray	Enclosed, not exposed				Analysis of Tests	
	Radiation	Ref. 1,2	1 x 10 ⁶ R	Ref. 1,2	Ref. 22,23,24	Analysis of Tests	
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	Submergence						

*Documentation References:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
Engineered Safeguards System: Pressurizer Level Plant ID No.: LT401-1,2,3	Operating Time	Ref. 1,2	Ref. 1,2	Ref. 1,2	Ref. 22,23, 24	Analysis of Tests	
Component: Liquid Level Transmitter	Temperature (°F)	Ref. 1,2	294°F	Ref. 1,2	Ref. 22,23, 24	Analysis of Tests	
Manufacture: Foxboro	Pressure (PSIA)	Ref. 1,2	60 psig	Ref. 1,2	Ref. 22,23, 24	Analysis of Tests	
Model Number: 613HM-HSI	Relative Humidity(%)	100	100	Ref. 1,2	Ref. 22,23, 24	Analysis of Tests	
Function: Transmit Liquid Level Signal	Chemical Spray	Enclosed, not exposed				Analysis of Tests	
Accuracy: NA	Radiation	Ref. 1,2	1 x 10 ⁶ R	Ref. 1,2	Ref. 22,23, 24	Analysis of Tests	
Service: To initiate safety injection	Aging						
Location: Lower level, outer annulus of containment							
Flood Level Elev: Above Flood Level: Yes No	Submergence						

*Documentation References:

See "List of References" behind this section of worksheets.

Notes:

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SYSTEM COMPONENT EVALUATION WORK SHEET

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
System: cables various Plant ID No.:	Operating Time	40 years + LOCA	40 years + LOCA	40 years + LOCA	40 years + LOCA	Simultaneous Testing	
Component: NA	Temperature (°F)	300	346	346	346	Simultaneous Testing	
Manufacture: Kerite	Pressure (PSIA)	40	113	113	113	Simultaneous Testing	
Model Number: NA	Relative Humidity(%)	100%	100%	100%	100%		
Function: Pwr., control	Chemical Spray	3,000 ppm boron	3,000 ppm boron	3,000 ppm boron	3,000 ppm boron		
Accuracy: NA	Radiation	2 x 10 ⁸ Rads	2 x 10 ⁸ Rads	2 x 10 ⁸ Rads	2 x 10 ⁸ Rads		
Service: Class 1E equip.	Aging	Arrhenius Air Oven 40 years	Arrhenius Air Oven 40 years	Arrhenius Air Oven	Arrhenius Air Oven	Air Oven	
Location: Containment							
Flood Level Elev: Above Flood Level: Yes No	Submergence						

*Documentation References:

Franklin Institute Research Laboratories
 Report #F-C4020-1 and F-C4020-2

IEEE 323-1974
 IEEE 383-1974

Notes:

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF ⁶		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
System: cables various Plant ID No.:	Operating Time	40 years + LOCA	40 years + LOCA	40 years + LOCA	40 Years + LOCA	Sequential Testing	
Component: NA	Temperature (°F)	300	346	346°F	346°F	Sequential Testing	
Manufacture: Brand Rex	Pressure (PSIA)	40	128	113	128	Sequential Testing	
Model Number: NA	Relative Humidity(%)	100%	100%	100%	100%	Sequential Testing	
Function: Pwr, Control, Inst.	Chemical Spray	3,000 ppm boron	3,000 ppm boron	3,000 ppm boron	3,000 ppm boron	Sequential Testing	
Accuracy: NA	Radiation	2 x 10 ⁸ rads	2 x 10 ⁸ rads	2 x 10 ⁸ rads	2 x 10 ⁸ rads	Sequential Testing	
Service: Class 1E equip.	Aging	Arrhenius Air Oven 40 years	Arrhenius Air Oven 40 years	Air Oven	Air Oven	Air Oven	
Location: Containment							
Flood Level Elev: Above Flood Level: Yes No	Submergence						

*Documentation References:

Notes:

Franklin Institute Research Laboratories
 F-C4113 dated May 1975

IEEE 323-1974
 IEEE 383-1974

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
ENGINEERED SAFEGUARDS System: Plant ID No.: VARIED Component: TERMINAL BLOCKS Manufacture: GENERAL ELECTRIC Model Number: EB-25 Function: TO MAKE CABLE TERMINATIONS Accuracy: NA Service: PROVIDE ELECTRICAL CONNECTIONS-VARIOUS CIRCUIT Location: LOWER LEVEL, OUTER ANNULUS OF CONTAINMENT Flood Level Elev: Above Flood Level: Yes No	Operating Time	Ref. 1,2	Ref. 25	Ref. 1,2, 25	Ref. 25,28, and 29	Simultaneous Test	
	Temperature (°F)	Ref. 1,2	286 ^{°C}	Ref. 1,2, 25	Ref. 25,28, and 29	Simultaneous Test	
	Pressure (PSIA)	Ref. 1,2	40 PSI	Ref. 1,2, 25	Ref. 25,28, and 29	Simultaneous Test	
	Relative Humidity(%)	Ref. 1,2	100	Ref. 1,2, 25	Ref. 25,28, and 29	Simultaneous Test	
	Chemical Spray	Ref. 1,2	2640 PPM Boric Acid	Ref. 1,2, 25	Ref. 25,28, and 29	Simultaneous Test	
	Radiation	Ref. 1,2	5x10 ⁶ R	Ref. 1,2, 25	Ref. 29	Simultaneous Test	
	Aging						
Submergence							

***Documentation References:**

Notes:

See "List of References" behind this section of work sheets.

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
ENGINEERED SAFEGUARDS System: Plant ID No.: VARIOUS Component: TERMINAL BLOCKS Manufacture: WESTINGHOUSE ELECTRIC Model Number: STYLE 805-432 Function: TO MAKE CABLE TERMINATIONS Accuracy: NA Service: PROVIDE ELECTRICAL CONNECTIONS-VARIOUS CIRCUITS Location: LOWER LEVEL, OUTER ANNULUS OF CONTAINMENT Flood Level Elev: Above Flood Level: V.S. NO	Operating Time	Ref. 1,2	Ref. 1,2, 25,28	Ref. 25	Ref. 25,26, 27,28,29	Simultaneous Test	
	Temperature (°F)	Ref. 1,2	286°F	Ref. 25	Ref. 25,26, 27,28,29	Simultaneous Test	
	Pressure (PSIA)	Ref. 1,2	40 PSIG	Ref. 25	Ref. 25,26, 27,28,89	Simultaneous Test	
	Relative Humidity(%)	Ref. 1,2	100	Ref. 25	Ref. 25,26, 27,28,29	Simultaneous Test	
	Chemical Spray	Ref. 1,2		Ref. 25	Ref. 25,26, 27,28,29	Simultaneous Test	
	Radiation	Ref. 1,2		Ref. 25	Ref. 25,26, 27,28,29	Analysis and Test	
	Aging						
Submergence							

*Documentation References:

Notes:

See "List of References" behind this section of work sheets.

Facility: CONNECTICUT YANKEE
 Unit: Midam Neck Plant
 Docket: 50-213

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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
CONTAINMENT HEAT REMOVAL System: Plant ID No.: CHARCOAL FILTER RELATED Component: TEMPERATURE DETECTORS- 40 USED IN CAR SYSTEM Manufacture: FENWALL Model Number: 27121 Function: DETECT TEMPERA- TURE AND ACTUATES SWITCH Accuracy: NA Service: DETECTS HIGH TEM- PERATURE IN CHARCOAL FILTER AND ACTIVATES ANNUNCIATOR Location: MIDDLE LEVEL, OUTER ANNULUS OF CONTAINMENT Flood Level Elev: Above Flood Level: Yes No	Operating Time	Ref. 1,2					
	Temperature (°F)	Ref. 1,2			Ref. 30	Analysis	
	Pressure (PSIA)	Ref. 1,2					
	Relative Humidity(%)	Ref. 1,2					
	Chemical Spray	Ref. 1,2	Encapsula- ted Protec- ted NA				Analysis
	Radiation	Ref. 1,2	3 x 10 ⁷ R	Ref. 1,2	Ref. 30	Analysis	
	Aging						
	Submergence						

*Documentation References:

Notes:

See "List of References" behind this section of work sheets.

Facility: CONNECTICUT YANKEE
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EQUIPMENT DESCRIPTION	ENVIRONMENT			DOCUMENTATION REF*		QUAL. METHOD	OUTSTANDING ITEMS
	Parameter	Spec.	Qual.	Spec.	Qual.		
System: Penetrations Plant ID No.: All	Operating Time	40 years normal + emergency	same as spec	SP-GEE-40	IPS-434-1,2,3	Test & Analysis	
Component: Electrical Penetration	Temperature (°F)	340	same as spec	SP-GEE-40	IPS-434-1,2,3	Test & Analysis	
Manufacture: Conax	Pressure (PSIA)	70	same as spec	SP-GEE-40	IPS-434-1,2,3	Test & Analysis	
Model Number:	Relative Humidity (%)	100	same as spec	SP-GEE-40	IPS-434-1,2,3	Test & Analysis	
Function: To bring Pwr., Control & Instr. into containment	Chemical Spray	2,640 ppm boron	same as spec	SP-GEE-40	IPS-434-1,2,3	Test & Analysis	
Accuracy: NA	Radiation	1 x 10 ⁸	same as spec	SP-GEE-40	IPS-434-1,2,3	Test & Analysis	
Service:	Aging	IEEE 323 & 317	same as spec	SP-GEE-40	IPS-434-1,2,3	Test & Analysis	
Location: Containment							
Flood Level Elev: Above Flood Level: Yes No	Submergence	*	*	*	*	*	

*Documentation References:

SP-GEE-40
 IEEE-323, 1974
 IEEE-317, 1976

Notes:

* New penetrations installed above present and future flood levels

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Unit: Haddam Neck Plant
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List of References

For "System Component Evaluation Work Sheets"

1. Letter of 3/6/78 from CYAPCO, D. C. Switzer, to NRC, V. Stello, Jr. plus Supplement #1 of July, 1978.
2. Haddam Neck Plant, "Facility Description and Safety Analysis".
3. Crane R&D Laboratory Report E.L. 7828-2, S.O. 952075 dated Oct. 20, 1969.
4. Letter of 12/29/78 from CYAPCO, W. G. Counsil, to NRC, D. L. Ziemann, "Attachment - Haddam Neck Plant, Systematic Evaluation Program, Electrical Equipment Environmental Qualification" dated December, 1978.
5. NUSCO Evaluation (GEE-78-387) dated 7/28/78.
6. NUSCO Evaluation (GEE-78-396) dated 7/28/78.
7. Crane Company letter of 2/1/78.
8. Crane Company letter of 2/2/78.
9. NUSCO Evaluation (GEE-78-382) dated 7/21/78.
10. NUSCO Evaluation (GEE-78-384) dated 7/20/78.
11. NUSCO Evaluation (GEE-79-449) dated 7/30/79.
12. NUSCO Evaluation (GEE-79-10) dated 1/4/79.
13. NUSCO Evaluation (GEE-78-383) dated 7/20/78.
14. Franklin Institute Report F-C2232-01 of November 1968
15. Limitorque letter of 1/31/78
16. Limitorque Test Report #600198 dated 1/2/69.

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List of References

For "System Component Evaluation Work Sheets"

17. Franklin Institute Report F-C3441 dated September 1972
18. NUSCO Evaluation (GEE-78-411) dated 8/3/78
19. Westinghouse Electric letter CY-W-78-518 dated 4/5/78.
20. NUSCO Evaluation (GEE-78-388) dated 7/28/78.
21. Stone & Webster - Report No. 4 dated 9/6/78.
22. Amendment 47 to San Onofre FSAR - pages 6A-32, 33, and 6B-17, 18 and 19,
23. NUSCO Evaluation (GEE-79-29) dated 1/11/79
24. NUSCO Evaluation (GEE-79-340) dated 5/31/79.
25. CYAPCO - Plant Design Change Request No. 27D dated 1/28/78.
26. CYAPCO letter of 2/2/78, Switzer to NRC, A. Schwencer.
27. CYAPCO letter of 2/10/78, Switzer to NRC, A. Schwencer.
28. NUSCO Evaluation (GEE-78-127) dated 3/27/78.
29. CYAPCO letter of 3/29/78, Switzer to NRC, Zieman.
30. NUSCO Evaluation (GEE-79-150) dated 3/9/79.

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HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

REACTOR PROTECTION SYSTEM

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 1 Cont. on

SYSTEM: REACTOR PROTECTION

EQUIPMENT: REACTOR COOLANT INSTRUMENT RACK LEVEL TRANSMITTERS

16103 - Reference Dwg(s): 34018 Sh. 1 & 2, Rev. 7
37022 Sh. 4, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
LT 401-1	Level Transmitters	X		R-4	Instrument Rack E EL 16"
LT 401-2	Level Transmitters	X		R-4	Instrument Rack E EL 16"
LT 401-3	Level Transmitters	X		R-4	Instrument Rack E EL 16"
LT 402	Level Transmitters	X		R-4	Cold Condition
1 IT 171	Cable				
1 IT 172	Cable				
1 IT 173	Cable				
1 IT 174	Cable				
1 IT 175	Cable				
1 IT 176	Cable				
1 IT 178	Cable				
1 IT 179	Cable				
RCP 7A-c	Containment Penetrations	X		R-1 R-2	
Cont. BD	Control Board		X	S-1	Section C

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

CONTAINMENT ISOLATION

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 1 Cont. on 2

SYSTEM: Containment Isolation

EQUIPMENT: Valves - Electrically Operated/Indicated

16103 - Reference Dwg(s): 34024, 37031, Sh. 6 and 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone		Misc.
SOV-20-TV3	solenoid operated trip valve		x			
Panel F	main cntl. board		x	S-1		to serve SOV-20-TV3
IM336	cable		x			2/C-12 nha
2/C-12	cable		x			to latch cntl. on SOV-20-TV3
2/C-12	cable		x			to SOV-20-TV3
FIC 608	flow controller		x			RCP thermal barrier coolant
FIC 611	flow controller		x			drain cooler coolant
TIA 608	temp. ind. alarm		x			RCP thermal barrier coolant
TIA 611	temp. ind. alarm		x			drain cooler coolant
IM274	cable		x			5/C-12 nhc
IM273	cable		x			2/C-12 nha
Panel E	main cntl. board		x	S-1		
FCV-608	flow cntl. board		x			

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 2 Cont. on 3

SYSTEM: Containment Isolation

EQUIPMENT: Valves - Electrically Operated/Indicated (continued)

16103 - Reference Dwg(s): 34024, 37031, Sh. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
IM277	cable		x		5/C-12 nhc
IM276	cable		x		2/C-12 nha
Panel E	main cntl. board		x	S-1	
FCV 611	valve operator		x		
IM266	cable		x		5/C-12 nhc
Panel C	main cntl. board		x	S-1	
SOV-558	valve solenoid		x		pressurizer relief tank vent
SOV-20-TV2	solenoid oper. trip valve		x		
2/C-12	cable		x		to SOV-20-TV2
2/C-12	cable		x		to latch cntl. on SOV-20-TV2
IM335	cable		x		2/C-12 nha
Panel F	main cntl. board		x	S-1	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Containment Isolation

EQUIPMENT: Valves - Electrically Operated/Indicated (continued)

16103 - Reference Dwg(s): 34024, 37011, Sh. 8, 37014, Sh. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
Panel F	main cntl. board		x		FOR SOV-20-TV4
SOV-20-TV4	solenoid operated trip valve		x		
126PL30	cable		x		from JB to power receptacle
IM316	cable		x		
TV 1841	trip valve		x		reactor coolant drain line
SOV station	switch station for solenoid		x		at el. 21'6" in PA bldg
SOV-554	solenoid operated valve		x		
2/C-12	cable		x		to SOV-554
IM267	cable		x		2/C-12 nha
SOV-204	solenoid operated valve		x		
IM258	cable		x		3/C-12 nhb

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

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SYSTEM: Containment Isolation

EQUIPMENT: Valves - Electrically Operated/Indicated (continued)

16103 - Reference Dwg(s): 34024, 37031, Sh. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
SOV-203	solenoid operated valve		x		
2/C-12	cable		x		to SOV-203
IM262	cable		x		3/C-12 nhb from JB to VV-203
2/C-12	cable		x		to VV-202
IM260	cable		x		3/C-12 nhb from JB at SOV-202 SOV station to VV-202
SOV-20-TV5	solenoid operated trip valve		x		
2/C-12	cable		x		to latch control on SOV-20-TV5
2/C-12	cable		x		to SOV-20-TV5

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

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SYSTEM: Containment Isolation

EQUIPMENT: Valves - Electrically Operated/Indicated (continued)

16103 - Reference Dwg(s):

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CONTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
SOV-20 TV-1811	solenoid operated trip valve		x		elevation 21'6"
2/C-12	cable		x		to SOV-20 TV-1811
2/C-12	cable		x		to latch control on SOV-20 TV-1811
SOV-20 TV-1812	solenoid operated trip valve		x		
2/C-12	cable		x		to SOV-20 TV-1812
2/C-12	cable		x		to latch control on SOV-20 TV-1812
SOV-20 TV-4	solenoid operated trip valve		x		
2/C-12	cable		x		to SOV-20 TV-4
2/C-12	cable		x		to latch control on SOV-20 TV-4

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

EMERGENCY POWER

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

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SYSTEM: Emergency Power - 4160 V System

EQUIPMENT: Diesel Generators EG2A

16103 - Reference Dwg(s): 30011, Rev. 9
37005, Sh. 8-9, Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
Emerg. Gen. 2A	diesel generator		x	D-1	
4160 swgr. bus 8	switchgear		x	D-1	cubes 1-6
elec. cntl pnl.	cntl. panel		x	D-1	EGP2A
aux. board pnl.	aux. board		x		A7 8D81
cntl. board	cntl. board		x	S-1	section C & G
diesel eng. cntl panel	cntl. panel		x	D-1	2A
141PH 1	cable		x	D-1	350 MCM Triplex nph
141PH 8	cable		x	D-1	No. 2 Triplex nnd
141PH 9	cable		x	D-1	1/C-No. 6 ngl
141PH 10	cable		x	D-1	4/C-10 nsv
141PH 11	cable		x		5/C-12 nhc
141PH 13	cable		x		2/C-10 nss
141PH 14	cable		x	D-1	12/C-12 nnf
141PH 18	cable		x	D-1	3/C-12 nhb
141PH 19	cable		x	D-1	2/C-12 nha
142PH 4	cable		x	D-1, S-1	7/C-12 nhd
143PH 1	cable		x	D-1, A-3	7/0-3/C Triplex
144PH 1	cable		x	D-1, A-1D	250 MCM Triplex npf

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Power - 4160 V System

EQUIPMENT: Diesel Generators EG2B

16103 - Reference Dwg(s): 30011, Rev. 9
37005, Sh. 10-11, Rev.

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
Emerg. Gen. 2B	diesel generator		x	D-2		
4160 swgr.	switchgear		x	D-2		cubes 1-6
elec. cntl. pnl.	cntl. panel		x	D-2		EGP2B
aux. board pnl.	aux. board		x			AB 9D81
cntl. board	cntl. board		x	S-1		section C & G
diesel eng. cntl. panel	cntl. panel		x	D-2		2A
151PH 1	cable		x	D-2		350 MCM Triplex nph
151PH 8	cable		x	D-2		No. 2 Triplex nnd
151PH 9	cable		x	D-2		1/C-No. 6 ngl
151PH 10	cable		x	D-2		4/C-10 nsv
151PH 11	cable		x			5/C-12 nhc
151PH 13	cable		x			2/C-10 nss
151PH 14	cable		x	D-2		12/C-12 nhf
151PH 18	cable		x	D-2		3/C-12 nhb
151PH 19	cable		x	D-2		2/C-12 nha
152PH 4	cable		x	D-2, S-1		7/C-12 nha
153PH 9	cable		x			3/C-12 nhb
154PH 1	cable		x	D-2, A-1D		250 MCM Triplex npf

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Power - 480V System

EQUIPMENT: Switchgear - Bus Section

16103 - Reference Dwg(s): 30004, Sh. 1, Rev. 14; 32001, Sh. 6J, Rev. B; 37006, Sh. 3, Rev. 9

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		Fire Zone	REMARKS
		Inside	Outside		
480V SWGR	switchgear		x		Bus 4 compt 4D
P-37-1C	service water pump				
114PL1	cable				500 MCM triplexed nnh
114PL2	cable				12/C-12 nhf
114PL3	cable				2/C-9 nhj
114PL4	cable				5/C-12 nhc
114PL5	cable				2/C-12 nha
Aux BD	auxiliary board				PNL A4
Cont BD	cntl. board		s	S-1	section F
27X-4	relay				AB/MG
27Y-4	relay				AB/HEA

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Power - 480V System

EQUIPMENT: Switchgear - Bus Section

16103 - Reference Dwg(s): 30004, Sh. 1, Rev. 14; 32001, Sh. 6J, Rev. B;
37006, Sh. 5, Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
480V SWGR	Switchgear		x		Bus 5 compt 4D
P-37-1B	service water pump				
130PL1	cable				500 MCM triplexed nnh
130PL2	cable				12/C-12 nhf
130PL3	cable				2/C-4 nhj
130PL4	cable				5/C-12 nhc
aux BD	auxiliary board				PNL A4
cont BD	cntl. board		x	S-1	section F
27X-5	relay				AB/HEA
27Y-5	relay				AB/MG

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Power - 480V System

EQUIPMENT: Switchgear - Bus Section

16103 - Reference Dwg(s): 30004, Sh. 1, Rev. 14; 32001, Sh. 6J, Rev. B;
37006, Sh. 8, Rev. 9

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
480V SWGR	switchgear		x		Bus 6 compt 14D
P-37-1C	service water pump				
146PL1	cable				500 MCM triplexed nnh
146PL2	cable				12/C-12 nhf
146PL3	cable				2/C-9 nhj
146PL4	cable				
aux BD	auxiliary board				PNL A4
cont BD	cntl. board		S	S-1	section F
27X-6	relay				AB/MG
27Y-6	relay				AB/HEA

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 6 Cont. on 7

SYSTEM: Emergency Power - 480V System

EQUIPMENT: Switchgear - Bus Section

16103 - Reference Dwg(s): 30004, Sh. 1, Rev. 14; 32001, Sh. 6J, Rev. B;
37006, Sh. 6J, Rev. B

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
480V SWGR	switchgear		x		Bus 7 compt 17D
P-37-1D	service water pump				
156PL1	cable				500 MCM triplexed nhh
156PL2	cable				12/C-12 nhf
156PL3	cable				2/C-9 nhj
156PL4	cable				7/C-12 nhd
aux BD	auxiliary board				PNL A4
cont BD	cntl. board		x	S-1	section F
27X-7	relay				AB/MG
27Y-7	relay				AB/HEA

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Power - 480V System

EQUIPMENT: Switchgear - Bus Section

16103 - Reference Dwg(s): 30004, Sh. 1, Rev. 14; 32001, Sh. 6J, Rev. B;
37006, Sh. 3, Rev. 9

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
480V SWGR	switchgear		x		Bus 4 compt 4B
P-13-1A	component cooling pump		x	ALA	
112PL1	cable				1/0 triplexed nnj
112PL2	cable				12/C-12 nhf
112PL3	cable				2/C-9 nhj
112PL4	cable				5/C-12 nhc
aux BD	auxiliary board				PNL A4
cont BD	cntl. board				section E
27X-4	relay				AB/MG
27Y-4	relay				AM/HEA

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 8 Cont. on 9

SYSTEM: Emergency Power - 480V System

EQUIPMENT: Switchgear - Bus Section

16103 - Reference Dwg(s): 30004, Sh. 1, Rev. 14; 32001, Sh. 6J, Rev. B;
37006, Sh. 7, Rev. 8

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
480V SWGR	switchgear		x		Bus 6 compt 14B	
P-13-1B	component cooling pump		x	ALA		
114PL1	cable				1/0 triplexed nnj	
144PL2	cable				12/C-12 nhf	
114PL3	cable				2/C-9 nhj	
114PL4	cable				5/C-12 nhc	
aux BD	auxiliary board				PNL A4	
cont BD	cont. board				section E	
27X-6	relay				AB/MG	
27Y-6	relay				AB/HEA	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 9 Cont. on 10

SYSTEM: Emergency Power - 480V System

EQUIPMENT: Switchgear - Bus Section

16103 - Reference Dwg(s): 30004, Sh. 1, Rev. 14; 32001, Sh. 6J, Rev. B;
37006, Sh. 7J, Rev. 8

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
480V SWGR	switchgear		x		Bus 7 compt 16D	
P-13-1C	component cooling pump		x	A1A		
152PL1	cable				1/0 triplexed nnj	
152PL2	cable				12/C-12 nhf	
152PL3	cable				2/C-9 nhj	
152PL4	cable				5/C-12 nhc	
aux BD	auxiliary board				PNL A4	
cont BD	cntl. board				section E	
27Y-7	rela,				AB/HEA	
27X-7	relay				AB/MG	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Power - 480V System

EQUIPMENT: Switchgear - Bus Section

16103 - Reference Dwg(s): 30004, Sh. 1, Rev. 14; 32001, Sh. 6J, Rev. B;
37006, Sh. 1, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
480V SWGR	switchgear		x		Bus 4 compt 2B
Dist CAB	distribution cabinet		x		Pressurizer heater A
104PL1	cable				4/0 triplexed nne
104PL2	cable				4/0 triplexed nne
104PL3	cable				9/C-12 nne
104PL4	cable				3/C-12 nne
104PL5	cable				6 triplexed nnc
104PL6	cable				6 triplexed nnc
104PL7	cable				6 triplexed nnc
104PL8	cable				6 triplexed nnc
104PL9	cable				6 triplexed nnc
104PL10	cable				6 triplexed nnc
104PL11	cable				6 triplexed nnc
104PL12	cable				6 triplexed nnc
104PL13	cable				6 triplexed nnc
104PL14	cable				6 triplexed nnc
104PL15	cable				6 triplexed nnc
104PL16	cable				6 triplexed nnc
104PL17	cable				6 triplexed nnc

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Power - 480V System

EQUIPMENT: Switchgear - Bus Section

16103 - Reference Dwg(s): 30004, Sh. 1, Rev. 14; 32001, Sh. 6J, R W. B;
37006, Sh. 1, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
104PL18	cable				6 triplexed nnc
104PL19	cable				6 triplexed nnc
104PL20	cable				6 triplexed nnc
aux BD	auxiliary board		x		panel A4
RCP 19A1-3	containment penetration	x		R-1 R-2	
RCP 19B1-3	containment penetration	x		R-1 R-2	
RCP 19C1&2	containment penetration	x		R-1 R-2	
cont BD	cntl. board		x	S-1	section C
27Y-4	relay				AB/MG

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Power - 480V System

EQUIPMENT: Switchgear - Bus Section

16103 - Reference Dwg(s): 30004, Sh. 1, Rev. 14; 32001, Sh. 6J, Rev. B;
37006, Sh. 4, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
480V SWGR	switchgear		x		Bus 5 compt 6B
Dist CAB	distribution cabinet		x		Pressurizer heater-B
118PL1	cable				4/0 triplexed nne
118PL2	cable				4/0 triplexed nne
118PL3	cable				9/C-12 nhe
118PL4	cable				3/C-12 nhb
118PL5	cable				6 triplexed nnc
118PL6	cable				6 triplexed nnc
118PL7	cable				6 triplexed nnc
118PL8	cable				6 triplexed nnc
118PL9	cable				6 triplexed nnc
118PL10	cable				6 triplexed nnc
118PL11	cable				6 triplexed nnc
118PL12	cable				6 triplexed nnc
118PL13	cable				6 triplexed nnc
118PL14	cable				6 triplexed nnc
118PL15	cable				6 triplexed nnc
119PL16	cable				6 triplexed nnc
119PL17	cable				6 triplexed nnc

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Power - 480V System

EQUIPMENT: Switchgear - Bus Section

16103 - Reference Dwg(s): 30004, Sh. 1, Rev. 14; 32001, Sh. 6J, Rev. B;
37006, Sh. 4, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
119PL18	cable				6 triplexed nnc
119PL19	cable				6 triplexed nnc
119PL20	cable				6 triplexed nnc
Aux BC	auxiliary board		x		Panel A4
RCP19A4-6	containment penetration	x		R-1 R-2	
RCP19B4-6	containment penetration	x		R-1 R-2	
RCP19C5&6	containment penetration	x		R-1 R-2	
cont BD	cntl. board		x	S-1	section C
27Y-5	relay				AB/HEA

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Power - 480V System

EQUIPMENT: Switchgear - Bus Section

16103 - Reference Dwg(s): 30004, Sh. 1, Rev. 14; 32001, Sh. 6J, Rev. B;
37006, Sh. 6, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
480V SWGR	switchgear		x		Bus 6 compt 11B
Dist CAB	distribution cabinet		x		pressurizer heater - D
134PL1	cable				4/0 triplexed nne
134PL2	cable				4/0 triplexed nne
134PL3	cable				9/C-12 nhe
134PL4	cable				3/C-12 nhb
134PL5	cable				6 triplexed nnc
134PL6	cable				6 triplexed nnc
134PL7	cable				6 triplexed nnc
134PL8	cable				6 triplexed nnc
134PL9	cable				6 triplexed nnc
134PL10	cable				6 triplexed nnc
134PL11	cable				6 triplexed nnc
134PL12	cable				6 triplexed nnc
134PL13	cable				6 triplexed nnc
134PL14	cable				6 triplexed nnc
134PL15	cable				6 triplexed nnc
134PL16	cable				6 triplexed nnc
134PL17	cable				6 triplexed nnc

SYSTEM: Emergency Power - 480V System

EQUIPMENT: Switchgear - Bus Section

16103 - Reference Dwg(s): 30004, Sh. 1, Rev. 14; 32001, Sh. 6J, Rev. B;
37006, Sh. 6, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
134PL18	cable				6 triplexed nnc	
134PL19	cable				6 triplexed nnc	
134PL20	cable				6 triplexed nnc	
Aux BD	auxiliary board		x		panel A4	
RCP17A1-3	containment penetration	x		R-1 R-2		
RCP17B1-3	containment penetration	x		R-1 R-2		
RCP17C1&2	containment penetration	x		R-1 R-2		
Cont BD	cntl. board		x	S-1	section C	
27Y-6	relay				AB/HEA	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Power - 480V System

EQUIPMENT: Switchgear - Bus Section

16103 - Reference Dwg(s): 30004, Sh. 1, Rev. 14; 32001, Sh. 6J, Rev. B;
37006, Sh. 8&9, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
480V SWGR	switchgear		x		Bus 7 compt 16B
Dist CAB	distribution cabinet		x		pressurizer heater - E
150PL1	cable				4/0 triplexed nne
150PL2	cable				4/0 triplexed nne
150PL3	cable				9/C-12 nhe
150PL4	cable				3/C-12 nhb
150PL5	cable				6 triplexed nnc
150PL6	cable				6 triplexed nnc
150PL7	cable				6 triplexed nnc
150PL8	cable				6 triplexed nnc
150PL9	cable				6 triplexed nnc
150PL10	cable				6 triplexed nnc
150PL11	cable				6 triplexed nnc
150PL12	cable				6 triplexed nnc
150PL13	cable				6 triplexed nnc
150PL14	cable				6 triplexed nnc
150PL15	cable				6 triplexed nnc
150PL16	cable				6 triplexed nnc
150PL17	cable				6 triplexed nnc

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

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SYSTEM: Emergency Power - 480V System

EQUIPMENT: Switchgear - Bus Section

16103 - Reference Dwg(s): 30004, Sh. 1, Rev. 14; 32001, Sh. 6J, Rev. B;
37006, Sh. 8&9, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
150PL18	cable				6 triplexed nnc	
150PL19	cable				6 triplexed nnc	
150PL20	cable				6 triplexed nnc	
Aux BD	auxiliary board		x		panel A4	
RCP17A4-6	containment penetration	x		R-1 R-2		
RCP17B4-6	containment penetration	x		R-1 R-2		
RCP17C5&6	containment penetration	x		R-1 R-2		
Cont BD	cntl. board		x	S-1	section C	
27Y-7	relay				AB/HEA	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Power - 125 V System

EQUIPMENT: Emergency Generator Controls EGG2A

16103 - Reference Dwg(s): 30008, Rev. 12
37017, Sh. 3, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
125V DC dist. swbd	switchboard		x		bus 1 ckt. 7
4160 V swgr.	switchgear		x		bus 8 CUB 1 & 6
1B 28	cable				1/C-1/0 nhs
1B 29	cable				1/C-1/0 nhs
1B 81	cable				3/C-12 nnd
1B 83	cable				2/C-10 nss
1B 84	cable				5/C-12 nhc
1B 85	cable				5/C-12 nhc
1B 86	cable				7/C-12 nhd
1B 87	cable				5/C-12 nhc
1B 88	cable				2/C-12 nha
1B 90	cable				2/C-10 nss
1B 91	cable				12/C-12 nhf
1B 92	cable				7/C-12 nhd
DC dist cab	distribution cab.				EGG 2A
elect. cntl pnl.	control panel				EGP 2A
aux. BD	auxiliary board				pnl A7 8DB1
diesel eng. cntl pnl.	cntl. pnl.				2A
control BD	control board				section C & G

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Power - 125 V System

EQUIPMENT: Emergency Generator Controls EGG2A

16103 - Reference Dwg(s): 30008, Rev. 12
37017, Sh. 3, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
1B 96	cable				2/C-10 nss
1B 97	cable				5/C-12 nhc
1B 98	cable				5/C-12 nhc
1B 99	cable				5/C-12 nhc
1B 101	cable				2/C-10 nss
1B 102	cable				2/C-12 nhb
1B 103	cable				2/C-12 nha
1B 104	cable				2/C-12 nha
1B 105	cable				2/C-12 nha
1B 106	cable				2/C-12 nha
1B 108	cable				2/C-10 nss
1B 109	cable				5/C-12 nhc
1B 110	cable				5/C-12 nhc
1B 111	cable				5/C-12 nhc
1B 112	cable				3/C-12 nhb

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 20 Cont. on 21

SYSTEM: Emergency Power - 125 V System

EQUIPMENT: Inverter "A"

16103 - Reference Dwg(s): 30008, Rev. 12
 30055, Sh. 1, Rev. 2
 37017, Sh. 1, Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
125 V DC bat.	battery		x	S-8	1A
125 V DC distr. swbd	switchboard		x		bus 1 800A
1B 1	cable		x		1/C 500 MCM nnv
1B 2	cable		x		1/C 500 MCM nnv
1B 13	cable		x		1/C Z nnr
ckt. 20	circuit		x		
ckt. 8	circuit		x		
inverter "A"	inverter		x		
AC pnl "A"	control pnl.		x		
cntl BD	control board		x	S-1	Pack #3 sec. "A"

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 21 Cont. on 22

SYSTEM: Emergency Power - 125 V System

EQUIPMENT: Inverter "B"

16103 - Reference Dwg(s): 30008, Rev. 12
30055, Sh. 1, Rev. 2

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
125 V DC bat.	battery		x	S-8		1A
125 V DC distr. swbd	switchboard		x			bus 1 800A
ckt 20	circuit		x			
inverter "B"	inverter		x			
AC pnl "B"	control panel		x			
cntl BD	control board		x	S-1		rack #2 sec. "A"

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 22 Cont. on 23

SYSTEM: Emergency Power - 125 V System

EQUIPMENT: Inverter "C"

16103 - Reference Dwg(s): 30008, Rev. 12
30055, Sh. 1, Rev. 2

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
125 V DC bat.	battery		x	S-8	1B	
125 V DC distr.	switchboard		x		bus 2 800A	
ckt. distr. 9	circuit		x			
ckt. distr. 7	circuit		x			
inverter "C"	inverter		x			
AC pnl. "C"	control panel		x			
cntl. BD	control board		x	S-1	rack #3 sec. "A"	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 23 Cont. on 24

SYSTEM: Emergency Power - 125 V System

EQUIPMENT: Inverter "D"

16103 - Reference Dwg(s): 30008, Rev. 12
30055, Sh. 1, Rev. 2
37017, Sh. 2, Rev. 9

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
125 V DC bat.	battery		x	S-8	1B	
125 V DC distr.	switchboard		x		Bus 2 800A	
1B 41	cable		x		1/C 500 MCM nnv	
1B 42	cable		x		1/C 500 MCM nnv	
1B 49	cable		x		1/C-2 nnr	
ckt. 9	circuit		x			
inverter "D"	inverter		x			
AC pnl "D"	control panel		x			
cntl. BD	control board		x		rack #2 sec. "A"	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 24 Cont. on 25

SYSTEM: Emergency Power - 125 V System

EQUIPMENT: Emergency Generator Controls EGG2B

16103 - Reference Dwg(s): 30008, Rev. 12
37017, Sh. 4, Rev. 5, Sh. 1 of 2

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
125 V DC distr. swbd.	switchboard		x		bus 2 ckt. 18
4160 V swgr.	switchgear		x		bus 9 CUB 1 & 6
1B 74	cable				1/C-1/0 nhs
1B 75	cable				1/C-1/0 nhs
1B 121	cable				3/C-12 nnd
1B 123	cable				2/C-10 nss
1B 124	cable				5/C-12 nhc
1B 125	cable				5/C-12 nhc
1B 126	cable				7/C-12 nhd
1B 127	cable				5/C-12 nhc
1B 128	cable				2/C-12 nhb
1B 130	cable				2/c-10 nss
1B 131	cable				12/C-12 nhf
1B 132	cable				7/C-12 nhd
DC dist. cab.	distribution cab.				EGG 2B
elec. cntl pnl	control panel				EGP 2B
aux BD	auxiliary board				pnl A8 9D 1
diesel eng. cntl pnl.	control panel				2A
cnt. BD	control board				section C & G

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Power - 125 V System

EQUIPMENT: Emergency Generator Controls EGG 2B

16103 - Reference Dwg(s): 30008, Rev. 12
37017, Sh. 4, Rev. 5, Sh. 2 of 2

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
1B 136	cable				2/C-10 nss
1B 137	cable				5/C-12 nhc
1B 138	cable				5/C-12 nhc
1B 139	cable				5/C-12 nhc
1B 141	cable				2/C-10 nss
1B 142	cable				3/C-12 nhb
1B 143	cable				2/C-12 nhb
1B 144	cable				2/C-12 nhb
1B 145	cable				2/C-12 nhb
1B 146	cable				2/C-12 nhb
1B 148	cable				2/C-10 nss
1B 149	cable				5/C-12 nhd
1B 150	cable				5/C-12 nhd
1B 151	cable				5/C-12 nhd

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

EMERGENCY CORE COOLING

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

EMERGENCY CORE COOLING

HIGH PRESSURE SAFETY INJECTION

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 1 Cont. on 2

SYSTEM: Emergency Core Cooling - HP Safety Injection

EQUIPMENT: Pump Motor

16103 - Reference Dwg(s): 37005, Sh. 10

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
P-15-1A	Pump Motor - HP safety injection		x		
152PH 1	cable		x		3/C-250 MCM
4160V Bus 9	switchgear		x		
152PH 3	cable		x		2/C-10 nss
152PH 4	cable		x		7/C-12 nhf
Sec. C panel	main cntl. board		x		
152PH 5	cable		x		5/C-12 nhc
Panel AB	aux. cntl. panel		x		

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 2 Cont. on 3

SYSTEM: Emergency Core Cooling - HP Safety Injection

EQUIPMENT: Pump Motor

16103 - Reference Dwg(s): 37005, Sh. 8

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
P-15-1B	Pump Motor - HP safety injection		x			
142PH 1	cable		x		3/C-250	MCM
4160V Bus 8	switchgear		x			
142PH 3	cable		x		2/C-10	nss
142PH 4	cable		x		7/C-12	nhd
Sec. C panel	main cntl. board		x			
142PH 5	cable		x		5/C-12	nhc
Panel A7	aux. cntl. board		x			

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 3 Cont. on 4

SYSTEM: Emergency Core Cooling - HP Safety Injection

EQUIPMENT: Valve Motor

16103 - Reference Dwg(s): 37031, 34024, 95026

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
WV 875	Valve Motor		x		El. 21' 6"
2/C-12	cable		x		
3/C-12	cable		x		
pos. sw.	switch		x		
rbg	term. board		x		6P-30A
1M-10	cable		x		5/C-12 nhc
Sec. C panel	main cntl. board		x		ind. lights
1AN230	cable		x		2/C-14 nhp
TS 1882	temp. switch		x		
PAB cntl panel	cntl. board		x		

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 4 Cont. on 5

SYSTEM: Emergency Core Cooling - HP Safety Injection

EQUIPMENT: Loop 1 Safety Injection Valve

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		Fire Zone	REMARKS
		Inside	Outside		
VV 861A	Valve Motor	x		R-4	El. 17' 9"
129PL 32	cable		x	S-8 R-1 R-2	12 Triplex nna
129PL 33	cable	x		R-2 R-4	12 Triplex nna
129PL 34	cable		x	S-8 S-1	7/C-12 nhd
129PL 35	cable		x	S-8 R-1 R-2	7/C-12 nhd
129PL 36	cable	x		R-2 R-4	7/C-12 nhd
RCP 22A	cntmt. penet.	x		R-2 R-1	
RCP 22D	cntmt. penet.	x		R-2 R-1	
MCC 5-1	motor cntl. center		x	S-8	compt. 3 FM
cntl. board	cntl. board		x	S-1	Sec. C

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Core Cooling - HP Safety Injection

EQUIPMENT: Loop 2 Safety Injection Valve

16103 - Reference Dwg(s): 34018, Sh. 1, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
VV 861B	Valve Motor	x		R-4	El. 17' 9"
129PL 88	cable		x	S-8 R-1 R-2	12 Triplex nna
129PL 89	cable	x		R-2 R-4	12 Triplex nna
129PL 90	cable		x	S-8 S-1	7/C-12 nhd
129PL 91	cable		x	S-8 R-1 R-2	7/C-12 nhd
129PL 92	cable	x		R-2 R-4	7/C-12 nhd
RCP 20A	cntmt. penet.	x		R-2 R-1	
RCP 20D	cntmt. penet.	x		R-2 R-1	
MCC 5-1	motor cntl. center		x	S-8	compt.
cntl. board	cntl. board		x	S-1	Sec.

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Core Cooling - HP Safety Injection

EQUIPMENT: Loop 3 Safety Injection Valve

16103 - Reference Dwg(s): 34018, Sh. 1, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
VV 861C	Valve Motor	x		R-4	El. 17' 9"
135PL 41	cable		x	S-8 R-1 R-2	12 Triplex nna
135PL 42	cable	x		R-2 R-4	12 Triplex nna
135PL 43	cable		x	S-8 S-1	7/C-12 nhd
135PL 44	cable		x	S-8 R-1 R-2	7/C-12 nhd
135PL 45	cable	x		R-2 R-4	7/C-12 nhd
RCP 18A	cntmt. penet.	x		R-2 R1	
RCB 18D	cntmt. penet.	x		R-2 R-1	
MCC 5-1	motor cntl center		x	S-8	compt. 9 FM
cntl. board	cntl. board		x	S-1	Sec. C

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 7 Cont. on 8

SYSTEM: Emergency Core Cooling - HP Safety Injection

EQUIPMENT: Loop 4 Safety Injection Valve

16103 - Reference Dwg(s): 34018, Sh. 1, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		Fire Zone	REMARKS
		Inside	Outside		Misc.
VV 861D	Valve Motor	x		R-4	El. 17' 9"
135PL 102	cable		x	S-8 R-1 R-2	12 Triplex nna
135PL 103	cable	x		R-2 R-4	12 Triplex nna
135PL 104	cable		x	S-8 S-1	7/C-12 nhd
135PL 105	cable		x	S-8 R-1 R-2	7/C-12 nhd
135PL 106	cable	x		R-2 R-4	7/C-12 nhd
RCP 16A	cntmt. penet.	x		R-2 R-1	
RCP 16D	cntmt. penet.	x		R-2 R-1	
MCC 5-1	motor cntl. center		x	S-8	compt. 11 FM
cntl. board	cntl. board		x	S-1	Sec. C

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 8 Cont. on 9

SYSTEM: Emergency Core Cooling - HP Safety Injection

EQUIPMENT: Loop 1 Fill Valve Operators

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
VV 578	Valve Motor	x		R-4	El. 18' 0"	
129PL 41	cable		x	S-8 R-1 R-2	12 Triplex nna	
129PL 42	cable	x		R-2 R-4	12 Triplex nna	
129PL 43	cable		x	S-8 R-1 R-2	7/C-12 nhd	
129PL 44	cable		x	S-8 R-1 R-2	7/C-12 nhd	
129PL 45	cable	x		R-2 R-4	7/C-12 nhd	
RCP 22A	cntmt. penet.	x		R-2 R-1		
RCP 22D	cntmt. penet.	x		R-2 R-1		
MCC 5-1	motor cntl. center		x	S-8	compt. 4 FC	
cntl. board	cntl. board		x	S-1	Sec. F	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Core Cooling - HP Safety Injection

EQUIPMENT: Loop 2 Fill Valve Operators

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
VV 535	Valve Motor	x		R-4	El. 10' 0"
129PL 95	cable		x	S-8 R-1 R-2	12 Triplex nna
129PL 96	cable	x		R-2 R-4	12 Triplex nna
129PL 97	cable		x	S-8 S-1	7/C-12 nhd
129PL 98	cable		x	S-8 R-1 R-2	7/C-12 nhd
129PL 99	cable	x		R-2 R-4	7/C-12 nhd
RCP 20A	cntmt. penet.	x		R-2 R-1	
RCP 20D	cntmt. penet.	x		R-2 R-1	
MCC 5-1	motor cntl. center		x	S-8	compt. 6 FC
cntl. board	cntl. board		x	S-1	Sec. E

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 10 Cont. on 11

SYSTEM: Emergency Core Cooling - HP Safety Injection

EQUIPMENT: Loop 3 Fill Valve Operators

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
VV 522	Valve Motor	x		R-4	El. 18' 0"
129PL 48	cable		x	S-8 R-1 R-2	12 Triplex nna
129PL 49	cable	x		R-2 R-3 R-4	12 Triplex nna
129PL 50	cable		x	S-8 R-1	7/C-12 nhd
129PL 51	cable		x	S-8 R-1 R-2	7/C-12 nhd
129PL 52	cable	x		R-2 R-3 R-4	7/C-12 nhd
RCP 18A	cntmt. penet.	x		R-2 R-1	
RCP 18D	cntmt. penet.	x		R-2 R-1	
MCC 5-1	motor cntl. center		x	S-8	compt. 10 FC
cntl. board	cntl. board		x	S-1	Sec. E

SYSTEM: Emergency Core Cooling - HP Safety Injection

EQUIPMENT: Loop 4 Fill Valve Operators

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
VV 508	Valve Motor	x		R-4	El. 18' 0"
135PL 109	cable		x	S-8 R-1 R-2	12 Triplex nna
135PL 110	cable	x		R-2 R-3 R-4	12 Triplex nna
135PL 111	cable		x	S-8 S-1	7/C-12 nhd
135PL 112	cable		x	S-8 R-1 R-2	7/C-12 nhd
135PL 113	cable	x		R-2 R-3 R-4	7/C-12 nhd
RCP 16A	cntmt. penet.	x		R-2 R-1	
RCP 16D	cntmt. penet.	x		R-2 R-1	
MCC 5-1	motor cntl. center		x	S-8	compt. 12 FC
cntl. board	cntl. board		x	S-1	Sec. E

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

EMERGENCY CORE COOLING

LOW PRESSURE SAFETY INJECTION

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 1 Cont. on 2

SYSTEM: Emergency Core Cooling - LP Safety Injection

EQUIPMENT: Pump Motor

16103 - Reference Dwg(s): 34024, 37005, Sh. 11

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
P-92A	Pump Motor - LP Injection		x		
154PH 1	cable		x		Triplex 250 MCM
4160V Bus 9	switchgear		x		
154PH 2	cable		x		2/C-10
154PH 3	cable		x		7/C-12
Sec. C panel	main cntl. board		x		
154PH 4	cable		x		5/C-12
panel A8	aux. cntl. panel		x		

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 2 Cont. on 3

SYSTEM: Emergency Core Cooling - LP Safety Injection

EQUIPMENT: Pump Motor

16103 - Reference Dwg(s): 34024, 37005, Sh. 9

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
P-92-B	Pump Motor - LP injection		x		El. 15' 6"
144PH 1	cable		x		Triplex 250 MCM
4160V Bus 8	switchgear		x		
144PH 2	cable		x		2/C-10
144PH 3	cable		x		7/C-12
Sec. C	main cntl. board		x		
144PH 4	cable		x		5/C-12
panel A7	aux. cntl. panel		x		

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 3 Cont. on 4

SYSTEM: Emergency Core Cooling - LP Safety Injection

EQUIPMENT: Core Deluge Valve Operator VV 871A

16103 - Reference Dwg(s): 34016, Sh. 1, Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
VV 871A	Valve Motor	x		R-4	
129PL 201	cable		x	S-8 R-1 R-2	12 Triplex nna
129PL 202	cable	x		R-2 R-4	12 Triplex nna
129PL 203	cable		x	S-8 S-1	9/C-12 nhe
129PL 204	cable		x	S-8 R-1 R-2	9/C-12 nhe
129PL 205	cable	x		R-2 R-4	9/C-12 nhe
RCP 20A	cntmt. penet.	x		R-2 R-1	
RCP 20C	cntmt. penet.	x		R-2 R-1	
MCC 5-1	motor cntl. center		x	S-8	compt. 6 RM
cntl. board	cntl. board		x	S-1	Sec. C

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 4 Cont. on

SYSTEM: Emergency Core Cooling - LP Safety Injection

EQUIPMENT: Core Deluge Valve Operator 871B

16103 - Reference Dwg(s): 34016, Sh. 2, Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
VV 871B	Valve Motor	x		R-4	
135PL 189	cable		x	S-8 R-1 R-2	12 Triplex nna
135PL 190	cable	x		R-2 R-4	12 Triplex nna
135PL 191	cable		x	S-8 S-1	7/C-12 nhd
135PL 192	cable		x	S-8 R-1 R-2	7/C-12 nhd
135PL 193	cable	x		S-8 R-1 R-2	7/C-12 nhd
RCP 16A	cntmt. penet.	x		R-2 R-1	
RCP 16C	cntmt. penet.	x		R-2 R-1	
MCC 5-1	motor cntl. center		x	S-8	compt. 12 RM
cntl. board	cntl. board		x	S-1	Sec.

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

EMERGENCY CORE COOLING

CHARGING PUMPS

HADDAM NECK PLANT

MASTER CAT. 3 ELECTRICAL EQUIPMENT

Page: 1 Cont. on 2

SYSTEM: Emergency Core Cooling - Charging System

EQUIPMENT: Charging Pump

16103 - Reference Dwg(s): 34024, Sh. 1, 37030, Sh. 1

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
P-18-1A	charging pump motor		x	A-4	PAB El. 21' 6"
153PH 1	cable		x	A-4	3/C-1 nsn ARM
P-10-1A	pump for P-18-1A lube		x	A-4	
126PL 77	cable		x	A-4	2/C-12 nhc
126PL 75	cable		x	A-4	12 Triplex nna
P553 P18-1A	low pressure lube oil alarm		x	A-4	for charging pump P-18-1A
MCC 8-1 Comp. 6	motor control		x	A-1B	
FlA-601A	flow alarm		x	A-4	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 2 Cont. on 3

SYSTEM: Emergency Core Cooling - Charging System

EQUIPMENT: Charging Pump

16103 - Reference Dwg(s): 37011, Sh. 14, 37005, Sh. 8, 34024, Sh. 1

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
P-18-1B	charging pump motor		x	A-3	PAB El. 21' 6"	
143PH 1	cable			A-3	2/0-3/C Triplex	
4160V Bus B Cub. 3	switchgear		x	S-8		
P-10-1B	pump for lube oil		x	A-3	for P-18-1B	
140PL 83	cable		x	A-3	12 Triplex	
140PL 85	cable		x	A-3	2/C-12 nha	
P563 for P-18-1B	lube oil low pres. alarm		x	A-3		
FlA-601B	flow alarm		x	A-3		

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 3 Cont. on 4

SYSTEM: Emergency Core Cooling - Charging System

EQUIPMENT: Valves

16103 - Reference Dwg(s): 37011, Sh. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
VV 386 Charging PP	valve		x		Refuel water to meter in charging pump	
129PL 246	cable		x		motor leads	
MCC 5-1 comp. 4RV	motor control ctr.		x		comp. 4RV	
control board sec. CR	cntl. panel		x			
129PL 247	cable		x		7/C-12 nhd cntl. leads	
129PL 248	cable		x		7/C-12 nhd cntl. leads	
VV 349 charging PP	valve		x		control leads	
129PL 251	cable		x		12 motor leads nna Triplex	
MCC 5-1 comp. 4RM	motor control ctr.		x			
129PL 252	cable		x		7/C-12 nhd	
129PL 253	cable		x		7/D 12 nhd	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 4 Cont. on 5

SYSTEM: Emergency Core Cooling - Charging System

EQUIPMENT: Valves

16103 - Reference Dwg(s): 37011, Sh. 14

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
VV 336	valve		x		Mtr. leads from Borate to charging pump	
135PL 236	cable		x		12 Triplex nna	
MCC 5-1 comp. 10 RM	motor control ctr.		x			
135PL 237	cable		x		7/C-12 nhd	
control panel sec. CR	control board		x			
135PL 238	cable		x		7/C-12 nhd	
VV 373	valve		x		refueling water to charging pump	
MCC 5-1 comp. 10RJ	motor control ctr.		x			
135PL 231	cable		x		12 Triplex nna	
135PL 232	cable		x		9/C-12 nhe	
Panel sec. C	control board		x			
135PL 233	cable		x		9/C-12 nhe	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 5 Cont. on 6

SYSTEM: Emergency Core Cooling - Charging System

EQUIPMENT: Control Valves

16103 - Reference Dwg(s): 34024, 37049

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
FCV 110	valve - flow cntl.		x			
1M 677	cable		x		9/C-12 control	
Panel sec. B	main control board		x			
1M 676	cable		x		9/C-12 control	
FCV 110A	valve - flow cntl.		x			
1M 678	cable		x		2/C-16 STP	
1M 675	cable		x		9/C-12 control	

NOTE: 1E electrical equipment associated with charging and located within the containment is listed under high/low pressure safety injection.

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 6 Cont. on

SYSTEM: Emergency Core Cooling - Charging System

EQUIPMENT: Charging Flow Stop Valves (292 B & C)

i6103 - Reference Dwg(s): 37011, Sh. 3, Rev. 7
37011, Sh. 12, Rev. 10

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
VV292 B	Valve motor	x		R-4		loop 4
VV292 C	Valve motor	x		R-4		loop 4
129PL 114	cable	x		R-1, R-2, R-4		3/C-12
129PL 115	cable		x	R-1, S-8		12 Triplex nna
129PL 117	cable		x	S-8, S-1		9/C-12 nhe
129PL 118	cable		x	S-8, S-1		9/C-12 nhe
129PL 120	cable	x		R-1, R-2, R-4		9/C-12 nhe
135PL 134	cable	x		R-1, R-2, R-4		3/C-12
135PL 135	cable		x	R-1, S-8		12 Triplex nna
135PL 137	cable		x	S-1, S-8		9/C-12 nhe
135PL 138	cable		x	R-1, S-8		9/C-12 nhe
135PL 140	cable	x		R-1, R-2, R-4		9/C-12 nhe
RCP 16A & B	cntmt. penet.	x		R-1, R-2		
RCP 20A & B	cntmt. penet.	x		R-1, R-2		
MCC 5-1	motor control ctr.		x	S-8		Compt. 6FM-12FM
cntl. board	cntl. board		x	S-1		

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

EMERGENCY CORE COOLING

RESIDUAL HEAT REMOVAL SYSTEM

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 1 Cont. on 2

SYSTEM: Emergency Core Cooling - Res. Heat Removal System

EQUIPMENT: Pump Motor

16103 - Reference Dwg(s): 34021, 27006, Sh. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
P-14-A	Pump Motor		x	A-14		motor
125PL 1	cable		x	A-14 S-8		Triplex 500 MCM nnh
480V Bus 5 Comp. 8C	switchgear		x			
125PL 2	cable		x	S-8 S-1		12/C-12 nhf
125PL 3	cable		x	S-8 S-1		2/C-9 nhj
Sec. C panel	main cntl. board		x	S-1		
125PL 4	cable		x	S-8 S-1		9/C-12 nhc
2/C-14	cable		x	A-14		from JB hbb to switch
TS at P-14-1A	temp. switch		x	A-14		

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 2 Cont. on 3

SYSTEM: Emergency Core Cooling - Res. Heat Removal System

EQUIPMENT: Pump Motor

16103 - Reference Dwg(s):

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
P-14-1B	Pump Motor		x	A-15	motor El. -19' -0"
139PL 1	cable		x	A-15 S-8	Triplex 500 MCM nnh
480V Bus 6 Comp. 12C	switchgear		x		
139PL 2	cable		x		12/C-12 nhf
139PL 3	cable		x	S-8 S-1	2/C-9 nhj
139PL 4	cable		x	S-8 S-1	5/C-12 nhc 1/C-12 nhg Spare
2/C-14	cable		x	A-15	from JB hbb to switch TS at pump
TS at P-14-1B	temp. switch		x	A-15	
LAN 11	cable		x	A-14	3/C-14 nhi from P-14-1A + 1B pump switches to MCC-8. Comp. 3 RC

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 3 Cont. on 4

SYSTEM: Emergency Core Cooling - Res. Heat Removal System

EQUIPMENT: Heat Exchangers, Pumps & Related

16103 - Reference Dwg(s): 34024, 37031

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
E-5-1A	heat exchanger		x	A-18	El. -19'-0" for ref.
2/C-12	cable		x	A-18	To FCV-602 position sw
SOV-FCV-602	valve solenoid		x	A-18	
2/C-12	cable		x	A-18	To FCV-602
FCV-602	position switch		x	A-18	
1M-268	cable		x	S-1 A-18	3/C-12 nhb
Sec. E panel	main cntl. board		x	S-1	
P-14-MOV-22	cntl. valve		x	A-18	to sump for P-14-1A
135PL 206	cable		x	A-18	to MOV-22
135PL 208	cable		x	A-18	to MOV-22
FCV-796	position switch		x	A-19	
2/C-12	cable		x	A-19	to FCV-796
E-5-1B	heat exchanger		x	A-19	El. -19' -0" for ref.
SOV-FCV-796	valve solenoid		x	A-15	
2/C-12	cable		x	A-15	to SOV-FCV-796

SYSTEM: Emergency Core Cooling - Res. Heat Removal System

EQUIPMENT: Valves & Related

16103 - Reference Dwg(s):

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
1M 279	cable		x	S-1	3/C-12 nhb
Panel B	main cntl. board		x	S-1	
129PL 215	cable		x	S-1	12 Triplex nna
MCC 5-1 Comp. 5 RF	motor cntl. center		x		
P14-MOV-21	motor oper. valve		x	A-1C	refueling cavity water
129PL 216	cable		x	S-1	7/C-12 nhd
129PL 217	cable		x	A-1C	5/C-12 nhc
VV 874	valve		x	A-1C	return to refuel cavit water tank
VV-MOV-6	motor oper. valve		x		El. 21' 6"
135PL 256	cable		x		12 Triplex nna
135PL 257	cable		x		7/C-12 nhd
Panel E	main cntl. board		x		
135PL 258	cable		x		control leads

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 5 Cont. on 6

SYSTEM: Emergency Core Cooling - Res. Heat Removal System

EQUIPMENT: Loop 1 Inboard Residual Heat Removal Isolation Valve - VV 780

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
VV 780	Valve Motor	x		R-4	El. 16' 5"
129PL 168	cable		x	S-8 R-1 R-2	12 Triplex nna
129PL 169	cable	x		R-2 R-4	12 Triplex nna
129PL 170	cable		x	S-8 S-1	7/C-12 nhd
129PL 171	cable		x	S-8 R-1 R-2	7/C-12 nhd
129PL 172	cable	x		R-2 R-4	7/C-12 nhd
RCP 22A	cntmt penet.	x	R	R-2 R-1	
RCP 22D	cntmt penet.	x		R-2 R-1	
MCC 5-1	motor cntl. center		x	S-8	compt. 7 RJ
cntl. board	cntl. board		x	S-1	Sec. C

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 6 Cont. on 7

SYSTEM: Emergency Core Cooling - Res. Heat Removal System

EQUIPMENT: Loop 1 Outboard Residual Heat Removal Isolation Valve - VV 781

16103 - Reference Dwg(s): 34018, Sh. 1, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
VV 781	Valve Motor	x		R-4	El. 9' 0"	
135PL 151	cable		x	S-8 R-1 R-2	12 Triplex nna	
135PL 152	cable	x		R-2 R-4	12 Triplex nna	
135PL 153	cable		x	S-8 S-1	7/C-12 nhd	
135PL 154	cable		x	S-8 R-1 R-2	7/C-12 nhd	
135PL 155	cable	x		R-2 R-4	7/C-12 nhd	
RCP 22A	cntmt. penet.	x		R-2 R-1		
RCP 22D	cntmt. penet.	x		R-2 R-1		
MCC 5-1	motor cntl. center		x	S-8	compt. 13 RJ	
cntl. board	cntl. board		x	S-1	Sec. C	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 7 Cont. on 8

SYSTEM: Emergency Core Cooling - Res. Heat Removal System

EQUIPMENT: Loop 2 Outboard Residual Heat Removal Isolation Valve - VV 803

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		Fire Zone	REMARKS
		Inside	Outside		Misc.
VV 803	Valve Motor	x		R-4	El. 9' 0"
135PL 161	cable		x	S-8 R-1 R-2	12 Triplex nna
135PL 162	cable	x		R-2 R-4	12 Triplex nna
135PL 163	cable		x	S-8 S-1	7/C-12 nhd
135PL 164	cable		x	S-8 R-1 R-2	7/C-12 nhd
135PL 165	cable	x		R-2 R-4	7/C-12 nhd
RCP 20A	cntmt. penet.	x		R-2 R-1	
RCP 20D	cntmt. penet.	x		R-2 R-1	
MCC 5-1	motor cntl. center		x	S-8	compt. 13 RM
cntl. board	cntl. board		x	S-1	Sec. C

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 8 Cont. on 9

SYSTEM: Emergency Core Cooling - Res. Heat Removal System

EQUIPMENT: Load 2 Inboard Residual Heat Removal Isolation Valve - VV 804

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
VV 804	Valve Motor	x		R-4	El. 15' 5"	
129PL 175	cable		x	S-8 R-1 R-2	12 Triplex nna	
129PL 176	cable	x		R-2 R-4	12 Triplex nna	
129PL 177	cable		x	S-8 S-1	7/C-12 nhd	
129PL 178	cable		x	S-8 R-1 R-2	7/C-12 nhd	
129PL 179	cable	x		R-2 R-4	7/C-12 nhd	
RCP 20A	cntmt. penet.	x		R-2 R-1		
RCP 20D	cntmt. penet.	x		R-2 R-1		
MCC 5-1	motor cntl. center		x	S-8	compt.	
cntl. board	cntl. board		x	S-1	Sec.	

SYSTEM: Emergency Core Cooling - Residual Heat Removal System

EQUIPMENT: Level Transmitters

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7
37022, Sh. 5, Rev. 6COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
LT1803	Level Transmitter	X		R-4		Reactor Containment Sump
LT1804	Level Transmitter	X		R-4		Incore Instrumentation Sump
LT1805	Level Transmitter	X		R-4		Neutron Shield Surge Tank
1IT204	Cable	X		R-4 R-2		TWPR16 ngg
1IT205	Cable		X	R-2 R-1 S-1		TWPR16 ngg
1IT206	Cable	X		R-4 R-2		TWPR16 ngg
1IT207	Cable		X	R-2 R-1 S-1		TWPR16 ngg
1IT208	Cable	X		R-4 R-3 R-2		TWPR16 ngg
1IT209	Cable		X	R-2 R-1 S-1		TWPR16 ngg
RCP 7A, B, C	Containment Penetrations	X		R-2 R-1		
Cont Bd	Control Board		X	S-1		Section E

SYSTEM: Emergency Core Cooling - Residual Heat Removal System

EQUIPMENT: Containment Sump Pumps

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7
37013, Sh. 3 & 4, Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
P-16-1	Pump Motor	X		R-4		
P-16-2	Pump Motor	X		R-4		
151PL116	Cable		X	R-2 R-1 S-8	12 Triplexed	na
151PL117	Cable	X		R-1 R-2 R-4	12 Triplexed	na
151PL118	Cable		X	S-8 S-1	5/C-12	nhe
151PL119	Cable		X	S-1 A-9	2/C-12	nha
145PL216	Cable		X	R-1 R-2 S-8	12 Triplexed	na
145PL217	Cable	X		R-1 R-2 R-4	12 Triplexed	na
145PL218	Cable		X	S-8 S-1	5/C-12	nhe
145PL219	Cable		X	S-1 A-9	2/C-12	nha
H1CV1840	Valve Motor		X	A-9	EL 21' 6"	
IM338	Cable		X		2/C-12	nha
RCP 12C	Containment Penet.	X		R-1 R-2		
RCP 14C	Containment Penet.	X		R-1 R-2		
MCC7-1	Motor Control Center		X	S-8	Compt 3K & 4K	
Cont Bd	Control Board		X	S-1	Section E	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 11 Cont. on

SYSTEM: Emergency Core Cooling-Residual Heat Removal System

EQUIPMENT: InCore Sump Pump

16103 - Reference Dwg(s): 34016, Sh. 2, Rev. 7
37013, Sh. 5, Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
P-53-1A	Pump Motor	X		R-4	
151PL146	Cable		X	R-1 R-2 S-8	12 Triplexed nna
151PL147	Cable	X		R-2 R-4	12 Triplexed nna
151PL148	Cable		X	S-1 S-8	5/C-12 nhc
RCP 14C	Containment Penetration	X		R-1 R-2	
MCC7-1	Motor Control Center		X	S-8	Compt 5M
Cont Bd	Control Board		X	S-1	Section E

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

CONTAINMENT HEAT REMOVAL

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

CONTAINMENT HEAT REMOVAL

AIR RECIRCULATION SYSTEM

SYSTEM: Containment Heat Removal - Air Recirculation System

EQUIPMENT: Charcoal Filter Spray Valve (MOV 25)

16103 - Reference Dwg(s):

34018, Sh. 1

37015

37016 Sh. 2

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
MOV 25	Valve Motor	x		R-4		
135PL 281	cable	x		R-4 R-3 R-2 R-1	12 Triplex nna	
135PL 282	cable	x		R-4 R-3	2/C-12 nha	
135PL 283	cable	x		R-3 R-2 R-4	5/C-12 nhc	
135PL 284	cable	x		R-2 R-4	7/C-12 MI nta	
135PL 285	cable	x		R-2 R-3	2/C-12 MI ntf	
RCP 23A	cntmt. penet.	x		R-1 R-2		
Spray VV cntl. grp	cntl. panel	x		R-3	El. 41' 6"	
Spray VV cntl. grp	cntl. panel	x		R-3	El. 59' 6"	
JB at filter	junction box	x		R-3		
MCC S-1	motor cntl. center		x	S-8		
480V Dist. cab	dist. cab.		x	S-8		
Diesel eng. cont. PNL	cntl. panel		x	D-2	2B	
Elec. cntl. panel	cntl. panel		x		EGP-2B	
wall mtd. xfrm	transformer		x			
MCB	main cntl. board		x	S-1	sect. H DC	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Containment Heat Removal - Air Recirculation System

EQUIPMENT: Charcoal Filter Spray Valve (MOV 26)

16103 - Reference Dwg(s):

34018, Sh. 1

37015

37016, Sh. 2

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
MOV 26	Valve Motor	x		R-4	
135PL 288	cable	x		R-4 R-3 R-2 R-1	12 Triplex n/a
135PL 289	cable	x		R-4 R-3	2/C-12 nha
135PL 290	cable	x		R-3 R-2 R-4	5/C-12 nhc
135PL 291	cable	x		R-2 R-4	3/C-12 MI nts
135PL 292	cable	x		R-2 R-3	2/C-12 MI ntf
RCP 23A	cntmt. penet.	x		R-1 R-2	
Spray VV cont. grp	cntl. board	x			EL 41' 6"
Spray VV cont. grp	cntl. board	x			EL 59' 6"
JB at filter	junction box	x			
480V Dist. cab	cabinet				CRT 3
ltg. trans	transformer				2B
str. fuel oil transfer					PP 2B
diesel eng. cont. pnl	cntl. panel				2B

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 3 Cont. on 4

SYSTEM: Containment Heat Removal - Air Recirculation System

EQUIPMENT: Charcoal Filter Spray Valve (MOV 27)

16103 - Reference Dwg(s):
34018, Sh. 1

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
MOV 27	Valve Motor	x		R-4		
135PL 295	cable	x		R-4 R-3 R-2 R-1	12 Triplex nna	
135PL 296	cable	x		R-4 R-3	7/C-12 nha	
135PL 297	cable	x		R-3 R-2 R-4	5/C-12 nhc	
135PL 298	cable	x		R-2 R-4	7/C-12 MI nfs	
135PL 299	cable	x		R-2 R-3	2/ C-12 MI ntf	
RCP 23C	cntmt. penet.	x		R-1 R-2		
Spray VV cont. grp	cntl. panel	x			El. 41' 6"	
Spray VV cont. grp	cntl. panel	x			El. 59' 6"	
JB at filter						

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Containment Heat Removal - Air Recirculation System

EQUIPMENT: Charcoal Filter Spray Valve (MOV 28)

16103 - Reference Dw. (s):

34018, Sh. 1

37016, Sh. 2

37015

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
MOV	Valve Motor	x		R-4	
135PL 302	cable	x		R-4 R-3 R-2 R-1	12 Triplex nna
135PL 303	cable	x		R-4 R-3	7/C-12 nha
135PL 304	cable	x		R-3 R-2 R-4	5/C-12 nhc
135PL 305	cable	x		R-2 R-4	7/C-12 MI nts
135PL 306	cable	x		R-2 R-3	2/C-12 MI ntf
RCP 23C	cntmt. penet.	x		R-1 R-2	
Spray VV cont. grp	cntl. panel	x			El. 41' 6"
Spray VV cont. grp	cntl. panel	x			El. 59' 6"
JB at filter	junction box	x			
135PL 306	cable				3/C-12 nhb
135PL 307	cable				3/C-12 nhb
135PL 308	cable				3/C-12 nhb
str-gen rm exh fan	fan motor				EF-2B

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Containment Heat Removal - Air Recirculation System

EQUIPMENT: Charcoal Filter Spray Valve (MOV 29)

16103 - Reference Dwg(s):

- 34018, Sh. 1
- 37016, Sh. 2
- 37015

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
MOV 29	Valve Motor	x		R-4		
135PL 309	cable	x		R-4 R-3 R-2 R-1	12 Triplex	nna
135PL 310	cable	x		R-4 R-3	7/C-12	nha
135PL 311	cable	x		R-3 R-2 R-4	5/C-12	nhc
135PL 312	cable	x		R-2 R-4	7/C-12	MI nts
135PL 313	cable	x		R-2 R-3	2/C-12	MI ntf
RCP 23C	cntmt. penet.	x		R-1 R-2		
spray VV cont. grp	cntl. panel	x				El. 41' 6"
spray VV cont. grp	cntl. panel	x				El. 59' 6"
flow sw.	flow switch					
str-gen rm exh fan	fan motor	x				EF-2B
JB NR Thermostets	junction box					
elec. contl. PNL	cntl. panel					EGP-2B
disca dmpr.	damper					

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

CONTAINMENT HEAT REMOVAL

ADAMS FILTER

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 1 Cont. on

SYSTEM: Containment Heat Removal

EQUIPMENT: Adams Filters

16103 - Reference Dwg(s): 34024, Sh. 2; 37031, Sh. 3

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		Fire Zone	REMARKS
		Inside	Outside		Misc.
FL-53-1A	filter motor		x	A-11	
IM90	cable		x	A-11	filter leads lighting panel - circuit 13B
LP-P2-1	lighting panel		x	A-11	filter leads
XWC	manual starter		x	A-11	for FL-53-1A
IM91	cable		x	A-11	motor leads for FL-53-1
FL-53-1B	filter motor		x	A-11	
IM92	cable		x	A-11	2/C-12 nha
LP-P2-1	lighting panel		x	A-11	
XWC	manual starter		x	A-11	for FL-53-1B
IM93	cable		x	A-11	2/C-12 nha

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

CONTAINMENT HEAT REMOVAL

SPRAY SYSTEM

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 1 Cont. on 2

SYSTEM: Containment Heat Removal - Spray System

EQUIPMENT: Containment Spray Isolation Valve - MOV 34

16103 - Reference Dwg(s): 37011, Sh. 13, Rev. 5; 26045, Sh. 5, Rev. 2

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
MOV34	valve motor	x		R-4	
135PL173	cable		x	S-8 S-1	cable details not listed
135PL174	cable		x	S-8 R-1 R-2	cable details not listed
135PL175	cable	x		R-2 R-3 R-4	cable details not listed
135PL176	cable		x	S-8 R-1 R-2	cable details not listed
135PL177	cable	x		R-2 R-3 R-4	cable details not listed
RCP27D	containment penetration	x		R-1 R-2	
MCC5	motor cntl. center		x	S-8	RM
cont BD	cntl. board		x	S-1	38AK

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Containment Heat Removal - Spray System

EQUIPMENT: Containment Spray Isolation Valve - MOV 23

16103 - Reference Dwg(s):

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
MOV 23	Valve Motor	x		R-4		
135PL 201	cable		x	S-8 R-1 R-2	12 Triplex nna	
135PL 202	cable	x		R-2 R-3 R-4	12 Triplex nna	
135PL 203	cable		x	S-8 S-1	7/C-12 nha	
135PL 204	cable		x	S-8 R-1 R-2	5/C-12 nhc	
135PL 205	cable	x		R-2 R-3 R-4	5/C-12 nhc	
RCP 22A	cntmt. penet.	x				
RCP 22C	cntmt. penet.	x				
MCC 5-1	motor cntl. center		x	S-8		

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

CONTAINMENT VENTILATION SYSTEM

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 1 Cont. on 2

SYSTEM: Containment Ventilation - Air Recirculation System

EQUIPMENT: Humidity Monitors

16103 - Reference Dwg(s): 37019 Sheet 1 Rev. 6
 37031 Sheet 1 Rev. 8

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
MT 1801 1	Humidity Detector	x		R-4		
MT 1801 2		x		R-4		
IM 361	cable	x		R-3 R-4	2/C-12 nha	
IM 362	cable	x		R-3 R-4	2/C-12 nha	
Utility PNL U1-1	panel	x		R-3	El. 22' 0" CKT 36 Col. 10	
1 ID 23	cable	x		R-4 R-3 R-2	3/C-16 SH nsf	
1 ED 24	cable		x	R-1 S-1	3/C-16 SH nsf	
RCP 8D	cntmt. penet.	x		R-1 R-2		
Data Cab C	data cabinet		x	S-1	Chassis B	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 2 Cont. on 3

SYSTEM: Containment Ventilation - Air Recirculation System

EQUIPMENT: Iodine Removal Fan (F-18-1)

16103 - Reference Dwg(s): 34018 Sheet 1 Rev. 7
37013 Sheet 1 Rev. 4

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
F-18-1	Fan Motor	x		R-3		
145 PL 145	cable		x	R-1 R-2	12 triplexed nna	
145 PL 146	cable	x		R-3 R-2	12 triplexed nna	
145 PL 147	cable		x	R-1 S-1	5/C-12 nhc	
RCP 12C	cntmt. penet.	x		R-1 R-2		
MCC7-1	motor cntl. center		x	R-1	compt. 2D	
Cont. BD	cntl. board		x	S-1	Sect. E	

SYSTEM: Containment Ventilation - Air Recirculation System

EQUIPMENT: Recirculation Fan (F-17-1)

16103 - Reference Dwg(s): 34016 Sheet 2 Rev. 7
 34018 Sheet 2 Rev. 7
 37006 Sheet 2 Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
F-17-1	Fan Motor	x		R-3	El. 22' 0"	
108 PL 1	cable		x	S-8 R-1 R-2	500 MCM triplexed nhh	
108 PL 2	cable	x		R-2 R-3	500 MCM SR triplexed nhh	
108 PL 3	cable		x	S-8 S-1	12/C-12 nhf	
108 PL 4	cable		x	S-8 S-1	2/C-9 nhj	
108 PL 5	cable		x	S-8 S-1	5/C-12 nhc	
RCP 15A	cntmt. penet.	x		R-2 R-1		
480 SWGR	switchgear		x	S-8	Bus. 4 compt. 3B	
Aux. BD	cntl. board		x	S-1	panel A4	
cont. BD	cntl. board		x	S-1	Sec. E	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 4 Cont. on 5

SYSTEM: Containment Ventilation - Air Recirculation System

EQUIPMENT: Recirculation Fan (F-17-2)

16103 - Reference Dwg(s): 34016 Sheet 2 Rev. 7
 34018 Sheet 2 Rev. 7
 37006 Sheet 5 Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
F-17-2	Fan Motor	x		R-3	E1. 22' 0"	
124 PL 1	cable		x	S-8 R-1 R-2	500 MCM triplexed nnh	
124 PL 2	cable	x		R-2 R-3	500 MCM SR triplexed n	
124 PL 3	cable		x	S-8 S-1	12/C-12 nhf	
124 PL 4	cable		x	S-8 S-1	2/C-9 nhj	
124 PL 5	cable		x	S-8 S-1	5/C-12 nhc	
RCP 14A	cntmt. penet.	x		R-2 R-1		
480 SWGR	switchgear		x	S-8	Bus. 4 compt. 8B	
Aux. BD	cntl. board		x	S-1	panel A4	
cont. BD	cntl. board		x	S-1	Sec. E	

SYSTEM: Containment Ventilation - Air Recirculation System

EQUIPMENT: Recirculation Fan (F-17-3)

16103 - Reference Dwg(s): 34016 Sheet 2 Rev. 7
 34018 Sheet 2 Rev. 7
 37006 Sheet 7 Rev. 8

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
F-17-3	Fan Motor	x		R-3	El. 22' 0"
138 PL 1	cable		x	S-8 R-1 R-2	500 MCM triplexed nnh
138 PL 2	cable	x		R-2 R-3	500 MCM SR triplexed n
138 PL 3	cable		x	S-8 S-1	12/C-12 nhf
138 PL 4	cable		x	S-8 S-1	2/C-9 nhj
138 PL 5	cable		x	S-8 S-1	5/C-12 nhc
138 PL 6	cable		x	S-8 S-1	1/C-12 nhg (spare)
RCP 13A	cntmt. penet.	x		R-2 R-1	
480 SWGR	switchgear		x	S-8	Bus. 4 compt. 12B
Aux. BD	cntl. board		x	S-1	panel A4
cont. BD	cntl. board		x	S-1	Sec. E

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Containment Ventilation - Air Recirculation System

EQUIPMENT: Recirculation Fan (F-17-4)

16103 - Reference Dwg(s): 34016 Sheet 2 Rev. 7
 34018 Sheet 2 Rev. 7
 37006 Sheet 9 Rev. 8

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
F-17-4	Fan Motor	x		R-3	E1. 22' 0"
154 PL 1	cable		x	S-8 R-1 R-2	500 MCM triplexed nnh
154 PL 2	cable	x		R-2 R-3	500 MCM SR triplexed n;
154 PL 3	cable		x	S-8 S-1	12/C-12 nhf
154 PL 4	cable		x	S-8 S-1	2/C-9 nhj
154 PL 5	cable		x	S-8 S-1	5/C-12 nhc
RCP 12A	cntmt. penet.	x		R-2 R-1	
480 SWGR	switchgear		x	S-8	Bus. 4 compt. 17B
Aux. 3D	cntl. board		x	S-1	panel A4
cont. BD	cntl. board		x	S-1	Sec. E

SYSTEM: Containment Ventilation - Air Recirculation System

EQUIPMENT: Vibration Detectors

16103 - Reference Dwg(s): 34016 Sheet 2 Rev. 6
37030 Sheet 1 Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
VIB DET	Vibration Detector	x		R-3	AT F-17-1 + VIB Reset
VIB DET	Vibration Detector	x		R-3	AT F-17-1 + VIB Reset
VIB DET	Vibration Detector	x		R-3	AT F-17-1 + VIB Reset
VIB DET	Vibration Detector	x		R-3	AT F-17-1 + VIB Reset
1 AN 30	cable		x	S-1 R-1 R-2	7/C-14 nht
1 AN 31	cable	x		R-2 R-3	4/C-14 nhs
1 AN 32	cable	x		R-2 R-3	4/C-14 nhs
1 AN 33	cable	x		R-2 R-3	4/C-14 nhs
1 AN 34	cable	x		R-2 R-3	4/C-14 nhs
1 AN 36	cable		x	S-1 A-1B	2/C-14 nhp
RCP 23B	cntmt. penet.	x		R-1 R-2	
PRI AUX BLDG CONT BD	cntl. board		x	A-1B	
cont. BD	cntl. board		x	S-1	Sec. E

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

COMPONENT COOLING SYSTEM

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 1 Cont. on 2

SYSTEM: Component Cooling

EQUIPMENT: Pump Motor

16103 - Reference Dwg(s): 34024, 37006, Sh. 3

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
P-13-1A	Pump Motor		x	A-1A	PAB	
112PL 1	cable		x	A-1A	1/0 triplexed	
480V BUS 4	switchgear		x	S-8		
112PL 2	cable		x	S-8 S-1	12/C-12 nhf	
112PL 3	cable		x	S-8 S-1	2/C-9 nhj	
Panel E	main cntl. board		x	S-1		
112PL 4	cable		x	S-8 S-1	5/C-12 nhc	
Panel A4	aux. cntl. board		x	S-1		

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 2 Cont. on 3

SYSTEM: Component Cooling

EQUIPMENT: Pump Motor

16103 - Reference Dwg(s): 34024, 37006, Sh. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
P-i3-1B	Pump Motor		x	A-1A	PAB
144PL 1	cable		x	S-8 A-1A	1/0 triplexed
480V BUS 6	switchgear		x	S-8	
144PL 2	cable		x	S-1	12/C-12 nht
144PL 3	cable		x	S-1	2/C-9 nhj
Panel E	main cntl. board		x	S-1	
144PL 4	cable		x	S-8 S-1	5/C-12 nhc
Panel A4	aux. control board		x	S-1	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 3 Cont. on 4

SYSTEM: Component Cooling

EQUIPMENT: Pump Motor

16103 - Reference Dwg(s): 34024, 37006, Sh. 9

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
P-13-1C	Pump Motor		x	A-1A	PAB
152PL 1	cable		x	A-1A S-8	1/0 triplexed
480V BUS 7	switchgear		x	S-8	
152PL 2	cable		x	S-8 S-1	12/C-12 nhf
152PL 3	cable		x	S-8 S-1	2/C-9 nhj
Panel E	main cntl. board		x	S-1	
152PL 4	cable		x	S-8 S-1	5/C-12 nhc
Panel A4	aux. cntl. board		x	S-1	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 4 Cont. on 5

SYSTEM: Component Cooling

EQUIPMENT: Surge Tank Vent Electricals

16103 - Reference Dwg(s): 34024, Sh. 2

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		Fire Zone	REMARKS
		Inside	Outside		
SOV-RCV-605	solendid operated valve		x	A-11	Col. F/G 13½ El. 35' 6" in PAB
nbb	steel box 6" x 6" x 4"		x	A-11	
rbg	term. board 4P, 30 AMP		x	A-11	
IM271	cable		x	A-11	5/C-12 nhc
Panel E	main cntl. board		X	S-1	
TIA 605	annunciator		x	A-1B	PAB El. 31.9"
IAN 47	cable		x	A-9 A-1B	2/C-12 nha
hbb	steel box		x		6" x 6" x 4"
IM 270	cable		x	S-1 A-1A	2/C-12 nha
PC 605	pressure control		x	A-1A	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 5 Cont. on 6

SYSTEM: Component Cooling

EQUIPMENT: Valve Operator Electricians

16103 - Reference Dwg(s): 34024, Sh. 1, 37011, Sh. 15

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CONT. LOCATION		Fire Zone	REMARKS
		Inside	Outside		
MOV 4	Valve Motor		x	A-1A	PAB El. 21' 6"
135PL 248	cable		x	A-1A	12 triplexed
MCC5-1 compt. 9 RF	motor cntl. center		x		
135PL 249	cable		x	A-1A	9/C-12 nhe
135PL 250	cable		x	A-1A A-1A	7/C-12 nhd
135PL 251	cable		x	S-1	2/C-12 nha
Panel A5	aux. cntl. board		x	S-1	
135PL 252	cable		x	S-1	3/C-12 nhb
Panel B	main cntl. board		x	S-1	

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Component Cooling

EQUIPMENT: Valve Operator Electricals

16103 - Reference Dwg(s): 34024, Sh. 1, 26045, Sh. 9, 37022, Sh. 15

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
MOV 3	Valve Motor		x	A-1A	PAB El. 21' 6"
135PL 241	cable		x	A-1A	12 triplexed
MCC 5-1 Comp. 9 RC	motor cntl. center		x		
135PL 242	cable		x		9/C-12 nhe
135PL 243	cable		x	A-1A	7/C-12 nhd
135PL 244	cable		x	S-1	2/C-12 nha
Panel A5	aux. cntl. board		x	S-1	
135PL 245	cable		x	S-1	3/C-12 nhb
Panel B	main cntl. board		x	S-1	

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

EMERGENCY SHUTDOWN

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

EMERGENCY SHUTDOWN

PRESSURE CONTROL SYSTEM

HADDAM NECK PLANT

MASTER C.T. 1 ELECTRICAL EQUIPMENT

Page: 1 Cont. on 2

SYSTEM: Emergency Shutdown - Pressure Control System

EQUIPMENT: Steam Generator Pressure Transmitters

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7; 37022, Shs. 1 and 2, Rev. 4

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
PT 1201-1	pressure trans- mitter	x		R-4	STGEN E-G-1
PT 1201-2	pressure trans- mitter	x		R-4	STGEN E-G-2
PT 1201-3	pressure trans- mitter	x		R-4	STGEN E-G-3
PT 1201-4	pressure trans- mitter	x		R-4	STGEN E-G-4
1IT 73	cable	x		R-4 R-3 R-2	TWPR 16 ngg
1IT 74	cable		x	R-2 R-1 S-1	TWPR 16 ngg
1IT 75	cable	x		R-4 R-3 R-2	TWPR 16 ngg
1IT 76	cable		x	R-2 R-1 S-1	TWPR 16 ngg
1IT 77	cable	x		R-4 R-3 R-2	TWPR 16 ngg
1IT 78	cable		x	R-2 R-1 S-1	TWPR 16 ngg
1IT 81	cable	x		R-4 R-3 R-2	TWPR 16 ngg
1IT 82	cable		x	R-2 R-1 S-1	TWPR 16 ngg
RCP7 A-D	containment pene- tration	x		R-1 R-2	
Cont BD	cntl. board		x	S-1	section F

SYSTEM: Emergency Shutdown - Pressure Control

EQUIPMENT: Loop Flow Transmitters

16103 - Reference Dwg(s): 34018, Shs. 1 and 2, Rev. 7; 37022, Sh. 3, Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
FT 401	flow transmitter	x		R-4		loop 1 compt
FT 402	flow transmitter	x		R-4		loop 2 compt
FT 403	flow transmitter	x		R-4		loop 3 compt
FT 404	flow transmitter	x		R-4		loop 4 compt
1IT 123	cable	x		R-4 R-3 R-2 R-1		TWPR 16 SH nsd
1IT 124	cable		x	R-1 S-1		TWPR 16 SH nsd
1IT 125	cable	x		R-4 R-3 R-2 R-1		TWPR 16 SH nsd
1IT 126	cable		x	R-1 R-2		TWPR 16 SH nsd
1IT 127	cable	x		R-4 R-3 R-2 R-1		TWPR 16 SH nsd
1IT 128	cable		x	R-1 S-1		TWPR 16 SH nsd
1IT 129	cable	x		R-4 R-3 R-2 R-1		TWPR 16 SH nsd
1IT 130	cable		x	R-1 R-2		TWPR 16 SH nsd
RCP 7A-D	containment pene- trations	x		R-1 R-2		
Cont BD	cntl. board		x	S-1		section D

SYSTEM: Emergency Shutdown - Pressure Control System

EQUIPMENT: Loop Pressure Transmitters

16103 - Reference Dwg(s): 34016, Sh. 2, Rev. 7; 34018, Sh. 2, Rev. 7;
37022, Sh. 1, Rev. 4COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
PT 101	pressure trans- mitter	x		R-4	loop 1 compt
PT 102	pressure trans- mitter	x		R-4	loop 2 compt
PT 103	pressure trans- mitter	x		R-4	loop 3 compt
PT 104	pressure trans- mitter	x		R-4	loop 4 compt
IT 41	cable	x		R-4 R-3 R-2 R-1	TWPR 16 SH nsd
IT 42	cable		x	R-1 S-1	TWPR 16 SH nsd
IT 43	cable	x		R-4 R-3 R-2 R-1	TWPR 16 SH nsd
IT 44	cable		x	R-1 S-1	TWPR 16 SH nsd
IT 45	cable	x		R-4 R-3 R-2 R-1	TWPR 16 SH nsd
IT 46	cable		x	R-1 S-1	TWPR 16 SH nsd
IT 47	cable	x		R-4 R-3 R-2 R-1	TWPR 16 SH nsd
IT 48	cable		x	R-1 S-1	TWPR 16 SH nsd
RCP 7B,C,D	containment pene- tration	x		R-1 R-2	
RCP 8A	containment pene- tration	x		R-1 R-2	
cont BD	cntl. board		x	S-1	section C

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 4 Cont. on 5

SYSTEM: Emergency Shutdown - Pressure Control System

EQUIPMENT: Loop Pressure Transmitters

16103 - Reference Dwg(s): 34018, Shs. 1 & 2, Rev. 7; 37022, Sh. 1, Rev. 4

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
PT 403	pressure trans- mitter	x		R-4	loop 4 compt
PT 404	pressure trans- mitter	x		R-4	loop 4 compt
PT 406	pressure trans- mitter	x		R-4	loop 4 compt
1IT 66	cable	x		R-4 R-3 R-2	TWPR 16 ngg
1IT 67	cable		x	R-2 R-1 S-1	TWPR 16 ngg
1IT 68	cable	x		R-4 R-3 R-2	TWPR 16 SH nsd
1IT 69	cable		x	R-2 R-1 S-1	TWPR 16 SH nsd
1IT 71	cable	x		R-4 R-3 R-2	TWPR 16 ngg
1IT 72	cable		x	R-2 R-1 S-1	TWPR 16 ngg
RCP 7A, 7C	containment pene- tration	x		R-1 R-2	
cont BD	cntl. board		x	S-1	section C

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 5 Cont. on 6

SYSTEM: Emergency Shutdown - Pressure Control System

EQUIPMENT: Loop Pressure Transmitters

16103 - Reference Dwg(s): 34018, Shs. 1 & 2, Rev. 7; 37022, Sh. 1, Rev. 4

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
PT 108	pressure trans- mitter	x		R-4		
PT 109	pressure trans- mitter	x		R-4		
1IT 50	cable	x		R-4 R-3 R-2		TWPR 16 ngg
1IT 51	cable		x	R-2 R-1 S-1		TWPR 16 ngg
1IT 53	cable	x		R-4 R-3 R-2		TWPR 16 ngg
1IT 54	cable		x	R-2 R-1 S-1		TWPR 16 ngg
RCP 7D	containment pene- tration	x		R-1 R-2		
cont BD	cntl. board		x	S-1		section C

SYSTEM: Emergency Shutdown - Pressure Control System

EQUIPMENT: Instrument Rack Pressure Transmitters

16103 - Reference Dwg(s): 34018, Shs. 1 & 2, Rev. 7; 37022, Sh. 1, Rev. 4

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		Fire Zone	REMARKS
		Inside	Outside		Misc.
PT 401-1	pressure trans- mitter	x		R-4	instrument rack el. 1'6"
PT 401-2	pressure trans- mitter	x		R-4	instrument rack el. 1'6"
PT 401-3	pressure trans- mitter	x		R-4	instrument rack el. 1'6"
PT 402	pressure trans- mitter	x		R-4	instrument rack el. 1'6"
1IT 56	cable	x		R-2 R-4	TWPR 16 SH nsd
1IT 57	cable		x	R-2 R-1 S-1	TWPR 16 SH nsd
1IT 58	cable	x		R-4 R-2	TWPR 16 SH nsd
1IT 59	cable		x	R-2 R-1 S-1	TWPR 16 SH nsd
1IT 60	cable	x		R-2 R-4	TWPR 16 SH nsd
1IT 61	cable		x	R-2 R-1 S-1	TWPR 16 SH nsd
1IT 63	cable	x		R-4 R-2	TWPR 16 ngg
1IT 64	cable		x	R-2 R-1 S-1	TWPR 16 ngg
1IT 65	cable		x		TWPR 16 ngg
RCP 7B,C,D	containment pene- tration	x		R-1 R-2	
RCP 8A	containment pene- tration	x		R-1 R-2	
cont BD	cntl. board		x	S-1	section C
PI 402B	pressure indicator		x		sample room

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

EMERGENCY SHUTDOWN

REACTOR COOLANT SYSTEM

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 1 Cont. on 2

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer Heater Controller

16103 - Reference Dwg(s): 34018, Sh. 1, Rev. 7; 37022, Sh. 2, Rev. 4;
37006, Sh. 5, Rev. 6; 31054, Sh. 3

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
HTR PWR control	heater cntl.		x	R-1	pressurizer heater power controller
1IT 13	cable		x	S-1 R-1	TWPR 16 ngg
cont D	cntl. board		x	S-1	section C
127PL1	cable		x	S-8 R-1	4/0 triplexed nne
127PL3	cable		x	S-8 R-1	4/C-12 nhe
127PL4	cable		x	S-8 S-1	2/C-12 nha
480 V SWGR	switchgear		x	S-8	Bus 5 compt 9A
aux BD	auxiliary cntl. board		x		panel A4

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer Heater Controller ("A")

16103 - Reference Dwg(s): 31054, Sh. 3; 37006, Sh. 1, Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
Press Htr Dist CAB	Distribution panel		x	R-1	cabinet A
104PL1	cable		x	S-8 R-1	4/0 triplexed nnc
104PL2	cable		x	S-8 R-1	4/0 triplexed nnc
104PL3	cable		x	S-8 R-1	4/C-12 nnc
104PL4	cable		x	S-8 R-1	3/C-12 nhb
104PL5	cable		x	R-1 R-2	6 triplexed nnc
104PL6	cable		x	R-2 R-3 R-4	6 triplexed nnc
104PL7	cable		x	R-1 R-2	6 triplexed nnc
104PL8	cable	x		R-2 R-3 R-4	6 triplexed nnc
104PL9	cable		x	R-1 R-2	6 triplexed nnc
104PL10	cable	x		R-2 R-3 R-4	6 triplexed nnc
104PL11	cable		x	R-1 R-2	6 triplexed nnc
104PL12	cable	x		R-2 R-3 R-4	6 triplexed nnc
104PL13	cable		x	R-1 R-2	6 triplexed nnc
104PL14	cable	x		R-2 R-3 R-4	6 triplexed nnc
104PL15	cable		x	R-1 R-2	6 triplexed nnc
104PL16	cable	x		R-2 R-3 R-4	6 triplexed nnc
104PL17	cable		x	R-1 R-2	6 triplexed nnc
104PL18	cable	x		R-2 R-3 R-4	6 triplexed nnc

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 3 Cont. on 4

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer Heater Controller ("A")

16103 - Reference Dwg(s): 31054, Sh. 3; 37006, Sh. 1, Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
104PL19	cable		x	R-1 R-2	6 triplexed nnc
104PL20	cable	x		R-2 R-3 R-4	6 triplexed nnc
RCP 19A 1-3	containment pene- trations	x		R-1 R-2	
RCP 19B 1-3	containment pene- trations	x		R-1 R-2	
RCP 19C 1&2	containment pene- trations	x		R-1 R-2	
480 SWGR	switchgear		x	S-8	bus 4 compt 2B
cont BD	cntl. board		x	S-1	section C
aux BD	cntl. panel		x	S-1	panel A4
TB "W"	terminal block	x		R-4	

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer Heater Controller ("B")

16103 - Reference Dwg(s): 31054, Sh. 3, 37006, Sh. 4, Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
Press Htr Dist CAB	distribution panel		x	R-1	cabinet B
118PL1	cable		x	S-8 R-1	4/0 triplexed nne
118PL2	cable		x	S-8 R-1	4/0 triplexed nne
118PL3	cable		x	S-8 R-1	4/C-12 nhe
118PL4	cable		x	S-8 R-1	3/C-12 nhb
118PL5	cable		x	R-1 R-2	6 triplexed nnc
118PL6	cable		x	R-2 R-3 R-4	6 triplexed nnc
118PL7	cable		x	R-1 R-2	6 triplexed nnc
118PL8	cable	x		R-2 R-3 R-4	6 triplexed nnc
118PL9	cable		x	R-1 R-2	6 triplexed nnc
118PL10	cable	x		R-2 R-3 R-4	6 triplexed nnc
118PL11	cable		x	R-1 R-2	6 triplexed nnc
118PL12	cable	x		R-2 R-3 R-4	6 triplexed nnc
118PL13	cable		x	R-1 R-2	6 triplexed nnc
118PL14	cable	x		R-2 R-3 R-4	6 triplexed nnc
118PL15	cable		x	R-1 R-2	6 triplexed nnc
118PL16	cable	x		R-2 R-3 R-4	6 triplexed nnc
118PL17	cable		x	R-1 R-2	6 triplexed nnc
118PL18	cable	x		R-2 R-3 R-4	6 triplexed nnc

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer Heater Controller ("B")

16103 - Reference Dwg(s): 31054, Sh. 3, 37006, Sh. 4, Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
118PL19	cable		x	R-1 R-2	6 triplexed nnc
118PL20	cable	x		R-2 R-3 R-4	6 triplexed nnc
RCP 19A 4-6	containment penetration	x		R-1 R-2	
RCP 19B 4-6	containment penetration	x		R-1 R-2	
RCP 19C 5&6	containment penetration	x		R-1 R-2	
480 SWGR	switchgear		x	S-8	bus 4 compt 2B
cont BD	cntl. board		x	S-1	section C
aux BD	cntl. board		x	S-1	panel A4
TB "W"	terminal block	x		R-4	

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer Heater Controller ("D")

16103 - Reference Dwg(s): 31054, Sh. 3; 37006, Sh. 6, Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
Press Htr Dist CAB	distribution panel		x	R-1	cabinet D	
134PL1	cable		x	S-8 R-1	4/0 triplexed nne	
134PL2	cable		x	S-8 R-1	4/0 triplexed nne	
134PL3	cable		x	S-8 R-1	4/C-12 nhe	
134PL4	cable		X	S-8 R-1	3/C-12 nhb	
134PL5	cable		x	R-1 R-2	6 triplexed nnc	
134PL6	cable		x	R-2 R-3 R-4	6 triplexed nnc	
134PL7	cable		x	R-1 R-2	6 triplexed nnc	
134PL8	cable	x		R-2 R-3 R-4	6 triplexed nnc	
134PL9	cable		x	R-1 R-2	6 triplexed nnc	
134PL10	cable	x		R-2 R-3 R-4	6 triplexed nnc	
134PL11	cable		x	R-1 R-2	6 triplexed nnc	
134PL12	cable	x		R-2 R-3 R-4	6 triplexed nnc	
134PL13	cable		x	R-1 R-2	6 triplexed nnc	
134PL14	cable	x		R-2 R-3 R-4	6 triplexed nnc	
134PL15	cable		x	R-1 R-2	6 triplexed nnc	
134PL16	cable	x		R-2 R-3 R-4	6 triplexed nnc	
134PL17	cable		x	R-1 R-2	6 triplexed nnc	
134PL18	cable	x		R-2 R-3 R-4	6 triplexed nnc	

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer Heater Controller ("D")

16103 - Reference Dwg(s): 31054, Sh. 3; 37006, Sh. 6, Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		Fire Zone	REMARKS
		Inside	Outside		Misc.
134PL19	cable		x	R-1 R-2	6 triplexed nnc
134PL20	cable	x		R-2 R-3 R-4	6 triplexed nnc
RCP 17A 1-3	containment pene- trations	x		R-1 R-2	
RCP 17B 1-3	containment pene- trations	x		R-1 R-2	
RCP 17C 1&2	containment pene- trations	x		R-1 R-2	
480 SWGR	switchgear		x	S-8	bus 4 compt 2B
cont BD	cntl. board		x	S-1	section C
aux BD	cntl. panel		x	S-1	panel A4
TB "E"	terminal block	x		R-4	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 8 Cont. on 9

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer Heater Controller ("E")

16103 - Reference Dwg(s): 31054, Sh. 3, 37006, Sh. 8, Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
Press Htr Dist CAB	distribution panel		x	R-1	cabinet E	
150PL1	cable		x	S-8 R-1	4/0 triplexed nne	
150PL2	cable		x	S-8 R-1	4/0 triplexed nne	
150PL3	cable		x	S-8 R-1	4/C-12 nhe	
150PL4	cable		x	S-8 R-1	3/C-12 nhb	
150PL5	cable		x	R-1 R-2	6 triplexed nnc	
150PL6	cable		x	R-2 R-3 R-4	6 triplexed nnc	
150PL7	cable		x	R-1 R-2	6 triplexed nnc	
150PL8	cable	x		R-2 R-3 R-4	6 triplexed nnc	
150PL9	cable		x	R-1 R-2	6 triplexed nnc	
150PL10	cable	x		R-2 R-3 R-4	6 triplexed nnc	
150PL11	cable		x	R-1 R-2	6 triplexed nnc	
150PL12	cable	x		R-2 R-3 R-4	6 triplexed nnc	
150PL13	cable		x	R-1 R-2	6 triplexed nnc	
150PL14	cable	x		R-2 R-3 R-4	6 triplexed nnc	
150PL15	cable		x	R-1 R-2	6 triplexed nnc	
150PL16	cable	x		R-2 R-3 R-4	6 triplexed nnc	
150PL17	cable		x	R-1 R-2	6 triplexed nnc	
150PL18	cable	x		R-2 R-3 R-4	6 triplexed nnc	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 9 Cont. on 10

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer Heater Controller ("E")

16103 - Reference Dwg(s): 31054, Sh. 3; 37006, Sh. 8, Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		Fire Zone	REMARKS
		Inside	Outside		
150PL19	cable		x	R-1 R-2	6 triplexed nnc
150PL20	cable	x		R-2 R-3 R-4	6 triplexed nnc
RCP 17A 4-6	containment pene- trations	x		R-1 R-2	
RCP 17B 4-6	containment pene- trations	x		R-1 R-2	
RCP 17C 6	containment pene- trations	x		R-1 R-2	
480 SWGR	switchgear		x	S-8	bus 4 compt 2B
cont BD	cntl. board		x	S-1	section C
aux BD	cntl. board		x	S-1	panel A4
TB "E"	terminal block	x		R-4	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 10 Cont. on 11

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Top Pressurizer Heater Thermocouples

16103 - Reference Dwg(s): 34016, Sh. 1, Rev. 6; 37024, Sh. 1, Rev. 3

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
TE407	temp. element	x		R-4	el. 63'6"
TE408	temp. element	x		R-4	el. 63'6"
TE409	temp. element	x		R-4	el. 63'6"
TE410	temp. element	x		R-4	el. 63'6"
ITC1	cable	x		R-2 R-3 R-4	TWPR 16 CCTC SH nvf
ITC2	cable		x	R-2 S-1	TWPR 16 CCTC SH nvf
ITC3	cable	x		R-2 R-3 R-4	TWPR 16 CCTC SH nvf
ITC4	cable		x	R-5 S-1	TWPR 16 CCTC SH nvf
ITC5	cable	x		R-2 R-3 R-4	TPPR 16 CCTC SH nvf
ITC6	cable		x	R-2 S-1	TWPR 16 CCTC SH nvf
ITC7	cable	x		R-2 R-3 R-4	TWPR 16 CCTC SH nvf
ITC8	cable		x	R-2 S-1	TWPR 16 CCTC SH nvf
RCP 10C	containment pene- tration	x		R-1 R-2	TWPR 16 CCTC SH nvf
cont BD	cntl. board		x	S-1	section CR

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 11 Cont. on 12

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Loop Thermocouple

16103 - Reference Dwg(s):

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
TE-416	temp. element	x		R-4	loop 4 compt
1TC19	cable	x		R-2 R-3 R-4	TWPR 16 CCTC SH nvf
1TC20	cable		x	R-2 S-1	TWPR 16 CCTC SH nvf
RCP 10B	containment penetration	x		R-1 R-2	
cont BD	cntl. board		x	S-1	section CR

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 12 Cont. on 13

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Loop Level Transmitter

16103 - Reference Dwg(s): 34018, Shs. 1 & 2, Rev. 7; 37022, Sh. 4, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
LT406	level transmitter	x		R-4	loop 4 quadrant
1IT181	cable	x		R-2 R-3 R-4	TWPR 16 ngg
1IT182	cable		x	R-2 R-1 S-1	TWPR 16 ngg
RCP 7A	containment penetration	x		R-1 R-2	
cont BD	cntl. board		x	S-1	section C

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 13 Cont. on 14

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer Relief Tank Resistance Temperature Detectors

16103 - Reference Dwg(s): 34016, Sh. 1, Rev. 6; 37023, Sh. 2, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
TE406	temp. element	x		R-4		
1TD41	cable	x		R-4 R-3 R-2 R-1	3/C-16 SH nsf	
1TD42	cable		x	R-1 S-1	3/C-16 SH nsf	
RCP 8A	containment pene- tration	x		R-1 R-2		
cont BD	cntl. board		x	S-1		

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Steam Generator Resistance Temperature Detectors (E-G-1)

16103 - Reference Dwg's): 34018, Sh. 2, Rev. 7; 37023, Sh. 2, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
TE411A	temp. element	x		R-4		
RE411B	temp. element	x		R-4		
RE412A	temp. element	x		R-4		
RE412B	temp. element	x		R-4		
TE413	temp. element	x		R-4		
1TD44	cable	x		R-4 R-3 R-2 R-1	4/C-16 SH nsj	
1TD45	cable		x	R-2 R-1 S-1	4/C-16 SH nsj	
1TD46	cable	x		R-4 R-3 R-2 R-1	4/C-16 SH nsj	
1TD47	cable		x	R-2 R-1 S-1	4/C-16 SH nsj	
1TD48	cable	x		R-4 R-3 R-2 R-1	3/C-16 SH nsf	
1TD49	cable		x	R-2 R-1 S-1	3/C-16 SH nsf	
1TD50	cable	x		R-4 R-3 R-2 R-1	3/C-16 SH nsf	
1TD51	cable		x	R-2 R-1 S-1	3/C-16 SH nsf	
1TD52	cable	x		R-4 R-3 R-2	3/C-16 SH nsf	
1TD53	cable		x	R-2 R-1 S-1	3/C-16 SH nsf	
RCP 9A-9B	containment penetration	x		R-1 R-2		
Cont BD	cntl. board		x	S-1		section CR (Foxboro)

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 15 Cont. on 16

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Steam Generator Resistance Temperature Detectors (E-G-2)

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7; 37023, Sh. 2, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CONTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
TE421A	temp. element	x		R-4		
TE421B	temp. element	x		R-4		
TE422A	temp. element	x		R-4		
TE422B	temp. element	x		R-4		
TE423	temp. element	x		R-4		
1TD55	cable	x		R-4 R-3 R-2 R-1	4/C-16 SH nsj	
1TD56	cable		x	R-2 R-1 S-1	4/C-16 SH nsj	
1TD57	cable	x		R-4 R-3 R-2 R-1	4/C-16 SH nsj	
1TD58	cable		x	R-2 R-1 S-1	4/C-1 SH nsj	
1TD59	cable	x		R-4 R-3 R-2 R-1	3/C-16 SH nsf	
1TD60	cable		x	R-2 R-1 S-1	3/C-16 SH nsf	
1TD61	cable	x		R-4 R-3 R-2 R-1	3/C-16 SH nsf	
1TD62	cable		x	R-2 R-1 S-1	3/C-16 SH nsf	
1TD63	cable	x		R-4 R-3 R-2	3/C-16 SH nsf	
1TD64	cable		x	R-2 R-1 S-1	3/C-16 SH nsf	
RCP 9A-9B	containment penetration	x		R-1 R-2		
cont BD	cntl. board		x	S-1	section CR (Foxboro)	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Steam Generator Resistance Temperature Detectors (E-G-3)

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7; 37023, Sh. 2, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
TE431A	temp. element	x		R-4	
TE431B	temp. element	x		R-4	
TE432A	temp. element	x		R-4	
TE432B	temp. element	x		R-4	
TE433	temp. element	x		R-4	
1TD66	cable	x		R-4 R-3 R-2 R-1	4/C-16 SH nsj
1TD67	cable		x	R-2 R-1 S-1	4/C-16 SH nsj
1TD68	cable	x		R-4 R-3 R-2 R-1	4/C-16 SH nsj
1TD69	cable		x	R-2 R-1 S-1	4/C-16 SH nsj
1TD70	cable	x		R-4 R-3 R-2 R-1	3/C-16 SH nsf
1TD71	cable		x	R-2 R-1 S-1	3/C-16 SH nsf
1TD72	cable	x		R-4 R-3 R-2 R-1	3/C-16 SH nsf
1TD73	cable		x	R-2 R-1 S-1	3/C-16 SH nsf
1TD74	cable	x		R-4 R-3 R-2	3/C-16 SH nsf
1TD75	cable		x	R-2 R-1 S-1	3/C-16 SH nsf
RCP 8A-8B	containment penetration	x		R-1 R-2	
cont BD	cont'l. board		x	S-1	section CR (Foxboro)

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 17 Cont. on 18

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Steam Generator Resistance Temperature Detectors (E-G-4)

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7, 37023, Sh. 2&3, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
TE441A	temp. element	x		R-4	
TE441B	temp. element	x		R-4	
TE442A	temp. element	x		R-4	
TE442B	temp. element	x		R-4	
RE443	temp. element	x		R-4	
1TD77	cable	x		R-4 R-3 R-2 R-1	4/C-16 SH nsj
1TD78	cable		x	R-2 R-1 S-1	4/C-16 SH nsj
1TD79	cable	x		R-4 R-3 R-2 R-1	4/C-16 SH nsj
1TD80	cable		x	R-2 R-1 S-1	4/C-16 SH nsj
1TD81	cable	x		R-4 R-3 R-2 R-1	3/C-16 SH nsf
1TD82	cable		x	R-2 R-1 S-1	3/C-16 SH nsf
1TD83	cable	x		R-4 R-3 R-2 R-1	3/C-16 SH nsf
1TD84	cable		x	R-2 R-1 S-1	3/C-16 SH nsf
1TD85	cable	x		R-4 R-3 R-2	3/C-16 SH nsf
1TD86	cable		x	R-2 R-1 S-1	3/C-16 SH nsf
RCP 8A-8B	containment penetration	x		R-1 R-2	
cont BD	cntl. board		x	S-1	section CR (Foxboro)

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Auxiliary Pressurizer Spray Valve (VW 298)

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7; 37011, Sh. 6, Rev. 5;
26045, Sh. 7, Rev. 1

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
VV 298	valve motor	x		R-4	el. 5'6"
129PL208	cable		x	S-8 R-1 R-2	triplexed 12 nna
129PL209	cable	x		R-2 R-4	triplexed 12 nna
129PL210	cable		x	S-8 S-1	7/C-12 nhd
129PL211	cable		x	S-8 R-1 R-2	7/C-12 nhd
129PL212	cable	x		R-2 R-4	7/C-12 nhd
RCP16A	containment penetration	x		R-1 R-2	
RCP16D	containment penetration	x		R-1 R-2	
MCC5-1	motor cntl. center		x	S-8	compt 5RC
Cont BD	cntl. board		x	S-1	section C

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 19 Cont. on 20

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer Drain Valve (VV 562)

16103 - Reference Dwg(s): 34018, Sh. 1, Rkv. 7; 37011, Sh. 13, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
VV 562	valve motor	x		R-4		
135PL182	cable		x	S-8 R-1 R-2		triplexed 12 nna
135PL183	cable	x		R-2 R-4		triplexed 12 nna
135PL184	cable		x	S-8 S-1		7C-12 nhd
135PL185	cable		x	S-8 R-1 R-2		7C-12 nhd
135PL186	cable	x		R-2 R-4		
RCP16A	containment penetration	x		R-1 R-2		
RCP16C	containment penetration	x		R-1 R-2		
MCC5-1	motor cntl. center		x	S-8		compt 12RJ
cont BD	cntl. board		x	S-1		section E

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 20 Cont. on 21

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer Relief Isolation Valve (VV 567)

16103 - Reference Dwg(s): 34016, Sh. 2, Rev. 6; 37011, Sh. 5, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
VV 567	valve motor	x		R-4	el. above 48'6"	
129PL182	cable		x	S-8 R-1 R-2	triplexed 12 nna	
129PL183	cable	x		P-2 R-3 R-4	triplexed 12 nnc	
129PL184	cable		x	S-8 S-1		
129PL185	cable		x	S-8 R-1 R-2		
129PL186	cable	x		R-2 R-3 R-4		
RCPI8A	containment penetration	x		R-1 R-2		
RCPI8C	containment penetration	x		R-1 R-2		
MCC 5-1	motor cntl. center		x	S-8	compt GRC	
Cont BD	cntl. board		x	S-1	section CR	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 21 Cont. on 22

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer PWR Relief Valve (VV 568)

16103 - Reference Dwg(s): 26045, Sh. 4, Rev. 1; 37011, Sh. 7, Rev. 4

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
VV 568	solenoid valve	x		R-4		
129PL276	cable		x	S-8 R-1 R-2	1/C-12 nnm	
129PL277	cable	x		R-2 R-3 R-4	1/C-12 nnm	
129PL278	cable		x	S-8 S-1	5/C-12 nhc	
RCP23A	containment penetration	x		R-1 R-2		
MCC 5-1	motor cntl. center		x	S-8	compt 3RL	
Cont BD	cntl. board		x	S-1	section C	

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer Relief Isolation Valve (VV 569)

16103 - Reference Dwg(s): 34016, Sh. 2, Rev. 6; 37011, Sh. 5, Rev. 5;
37011, Sh. 13, Rev. 5COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
VV 569	valve motor	X		R-4	el. above 48'6"
135PL168	cable		x	S-8 R-1 R-2	triplexed 12 nna
135PL169	cable	x		R-2 R-3 R-4	triplexed 12 nna
135PL170	cable		x	S-8 S-1	7/C-12 nhc
135PL171	cable		X	S-8 R-1 R-2	7/C-12 nhc
135PL172	cable	x		R-2 R-3 R-4	7/C-12 nhc
RCP18A	containment penetration	x		R-1 R-2	
RCP18C	containment penetration	x		R-1 R-2	
MCC 5-1	motor cntl. center		x	S-8	compt 12RC
Cont BD	cntl. board		x	S-1	section C

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 23 Cont. on 24

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer PWR Relief Valve (VV 570)

16103 - Reference Dwg(s): 26045, Sh. 4, Rev. 1; 37011, Sh. 14, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
VV 570	solenoid valve	x		R-4		
135PL216	cable		x	S-8 R-1 R-2	1/C-12 nnm	
135PL217	cable	x		R-2 R-3 R-4	1/C-12 nnm	
135PL218	cable		x	S-8 S-1	5/C-12 nhc	
RCP23A	containment penetration	x		R-1 R-2		
MCC 5-1	motor cntl. center		x	S-8	compt 11RL	
Cont BD	cntl. board		x	S-1	section C	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 24 Cont. on 25

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer Spray Valves (VV 573 and 574)

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7; 37031, Sh. 6, Rev. 6;
37022, Sh. 2, REV. 4; 26045, Sh. 4, Rev. 1

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
VV 573	valve motor	x		R-4	el. 24'6"
VV 574	valve motor	x		R-4	el. 24'6"
2/C-12	cable	x			no cable schedule
3/C-12	cable	x			no cable schedule
1IT115	cable		x	S-1 R-1 R-2	TWPR16 ngg
1IT116	cable	x		R-2 R-3 R-4	TWPR16 ngg
1IT118	cable		x	S-1 R-1 R-2	TWPR16 ngg
1IT119	cable	x		R-2 R-3 R-4	TWPR16 ngg
1M213	cable		x	S-1 R-1 R-2	5/C-12 nhc
1M216	cable		x	S-1 R-1 R-2	5/C-12 nhc
1M214	cable	x		R-2 R-3 R-4	5/C-12 nhc
1M217	cable	x		R-2 R-3 R-4	5/C-12 nhc
RCP7A	containment penetration	x		R-1 R-2	
RCP7B	containment penetration	x		R-1 R-2	
RCP23A	containment penetration	x		R-1 R-2	
Cont BD	cntl. board		x	S-1	section C

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer Release Valves (MOV 597 and 599)

16103 - Reference Dwg(s): 34016, Sh. 1 and 2, Rev. 6; 37011, Sh. 8A, Rev. 2;
26045, Sh. 4, Rev. 1COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
MOV597	valve motor	x		R-4	
MOV599	valve motor	x		R-4	
129PL301	cable		x	S-8	3/C-12
129PL401	cable		x	S-8	3/C-12
129PL302	cable		x	S-8 R-1 R-2	3/C-12
129PL402	cable		x	S-8 R-1 R-2	3/C-12
129PL303	cable	x		R-2 R-3 R-4	
129PL403	cable	x		R-2 R-3 R-4	3/C-12
129PL304	cable		x	S-8 S-1	3/C-14
129PL404	cable		x	S-8 S-1	3/C-14
129PL305	cable		x	S-8 S-1	3/C-14
129PL405	cable		x	S-8 S-1	3/C-14
129PL308	cable		x	S-1 R-1 R-2	3/C-14
129PL408	cable		x	S-1 R-1 R-2	3/C-14
120PL309	cable		x	S-1 R-1 R-2	3/C-14
129PL409	cable		x	S-1 R-1 R-2	3/C-14
129PL310	cable		x	S-1 R-1 R-2	3/C-14
129PL410	cable		x	S-1 R-1 R-2	3/C-14
129PL312	cable	x		R-2 R-3 R-4	9/C-14

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer Release Valves (MOV 597 and 599)

16103 - Reference Dwg(s): 34016, Sh. 1 and 2, Rev. 6; 37011, Sh. 8A, Rev. 2;
26045, Sh. 4, Rev. 1

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
129PL412	cable	x		R-2 R-3 R-4	9/C-14	
RCPI7D	containment penetration	x		R-1 R-2		
starter MOV 597	switch		x	S-8	N Wall switchgear room	
starter MOV 599	switch		x	S-8	N Wall switchgear room	
MCC 5-1	motor cntl. center		x	S-8	Compt 3 RLA and RLB	
cntl. BD	cntl. board		x	S-1	section B	

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer Release Valves (MOV 596 and 598)

16103 - Reference Dwg(s): 34016, Sh. 1 and 2, Rev. 6; 37011, Sh. 8A, Rev. 2;
26045, Sh. 4, Rev. 1COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
MOV596	valve motor	x		R-4		
MOV598	valve motor	x		R-4		
135PL321	cable		x	S-8		3/C-12
135PL340	cable		x	S-8		3/C-12
135PL322	cable		x	S-8 R-1 R-2		3/C-12
135PL341	cable		x	S-8 R-1 R-2		3/C-12
135PL323	cable	x		R-2 R-3 R-4		3/C-12
135PL342	cable	x		R-2 R-3 R-4		3/C-12
135PL324	cable		x	S-8 S-1		3/C-14
135PL343	cable		x	S-8 S-1		3/C-14
135PL325	cable		x	S-8 S-1		3/C-14
135PL344	cable		x	S-8 S-1		3/C-14
135PL328	cable		x	S-1 R-1 R-2		3/C-14
135PL347	cable		x	S-1 R-1 R-2		3/C-14
135PL329	cable		x	S-1 R-1 R-2		3/C-14
135PL348	cable		x	S-1 R-1 R-2		3/C-14
135PL330	cable		x	S-1 R-1 R-2		3/C-14
135PL349	cable		x	S-1 R-1 R-2		3/C-14
135PL332	cable	x		R-2 R-3 R-4		9/C-14
135PL351	cable	x		R-2 R-3 R-4		9/C-14

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

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SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Pressurizer Release Valves (MOV 596 and 598)

16103 - Reference Dwg(s): 34016, Sh. 1 and 2, Rev. 6; 37011, Sh. 8A, Rev. 2;
26045, Sh. 4, Rev. 1

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
RCP19D	containment penetration	x		R-1 R-2		
starter MOV 596	switch		x	S-8	N Wali switchgear room	
starter MOV 598	switch		x	S-8	N Wall switchgear room	
MCC 5-1	motor cntl. center		x	S-8	Compt 11 RLA and RLB	
cntl BD	cntl. board		x	S-1	section B	

SYSTEM: Emergency Shutdown - Reactor Coolant Systems

EQUIPMENT: Reactor Coolant Pump Resistance Temperature Detectors (RTD's)

16103 - Reference Dwg(s):
 34018 Sheets 1&2 Rev. 7
 37023 Sheet 1 Rev. 4

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
TE 101	temp. element	x		R-4	coolant pump P-17-1
TE 102	temp. element	x		R-4	coolant pump P-17-2
TE 103	temp. element	x		R-4	coolant pump P-17-3
TE 104	temp. element	x		R-4	coolant pump P-17-4
TE 121	temp. element	x		R-4	coolant pump P-17-1
TE 122	temp. element	x		R-4	coolant pump P-17-2
TE 123	temp. element	x		R-4	coolant pump P-17-3
TE 124	temp. element	x		R-4	coolant pump P-17-4
1 TD 1	cable	x		R-2 R-3 R-4	3/C-16 SHD nsf
1 TD 3	cable	x		R-2 R-3 R-4	3/C-16 SHD nsf
1 TD 5	cable	x		R-2 R-3 R-4	3/C-16 SHD nsf
1 TD 7	cable	x		R-2 R-3 R-4	3/C-16 SHD nsf
1 TD 19	cable	x		R-2 R-3 R-4	3/C-16 SHD nsf
1 TD 21	cable	x		R-2 R-3 R-4	3/C-16 SHD nsf
1 TD 23	cable	x		R-2 R-3 R-4	3/C-16 SHD nsf
1 TD 25	cable	x		R-2 R-3 R-4	3/C-16 SHD nsf
1 TD 2	cable		x	R-2 R-1 A-9	3/C-16 SHD nsf
1 TD 4	cable		x	R-2 R-1 A-9	3/C-16 SHD nsf

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Shutdown - Reactor Coolant Systems

EQUIPMENT: Reactor Coolant Pump Resistance Temperature Detectors (RTD's)

16103 - Reference Dwg(s):
 34018 Sheets 1&2 Rev. 7
 37023 Sheet 1 Rev. 4

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
1 TD 6	cable		x	R-2 R-1 A-9	3/C-16 SHD nsf	
1 TD 8	cable		x	R-2 R-1 A-9	3/C-16 SHD nsf	
1 TD 20	cable		x	R-2 R-1 S-9	3/C-16 SHD nsf	
1 TD 22	cable		x	R-2 R-1 S-9	3/C-16 SHD nsf	
1 TD 24	cable		x	R-2 R-1 S-9	3/C-16 SHD nsf	
1 TD 26	cable		x	R-2 R-1 S-9	3/C-16 SHD nsf	
RCP 8A 8C	cntmt. penet.	x		R-1 R-2		
9A 9C	cntmt. penet.	x		R-1 R-2		
PAB Cont. BD	cntl. board		x	A-9		
Sec. C	cntl. board		x	S-1		

SYSTEM: Emergency Shutdown - Reactor Coolant Systems

EQUIPMENT: Hot Leg Isolation Valves

16103 - Reference Dwg(s):

34016 Sheets 1&2 Rev. 7

37011 Sheets 1,2,9,11

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
VV 538	Valve Motor	x		R-4	El. 24' 2" Loop 1	
VV 526	Valve Motor	x		R-4	El. 24' 2" Loop 2	
VV 513	Valve Motor	x		R-4	El. 24' 2" Loop 3	
VV 501	Valve Motor	x		R-4	El. 24' 2" Loop 4	
129 PL 11	cable		x	S-8 R-1 R-2	12 triplexed nna	
129 PL 67	cable		x	S-8 R-1 R-2	12 triplexed nna	
135 PL 20	cable		x	S-8 R-1 R-2	12 triplexed nna	
135 PL 81	cable		x	S-8 R-1 R-2	12 triplexed nna	
129 PL 12	cable	x		R-2 R-3 R-4	12 triplexed nna	
129 PL 68	cable	x		R-2 R-3 R-4	12 triplexed nna	
135 PL 21	cable	x		R-2 R-3 R-4	12 triplexed nna	
135 PL 82	cable	x		R-2 R-3 R-4	12 triplexed nna	
129 PL 13	cable		x	S-8 S-1	9/C-12 nhc	
129 PL 69	cable		x	S-8 S-1	9/C-12 nhc	
135 PL 22	cable		x	S-8 S-1	9/C-12 nhc	
135 PL 83	cable		x	S-8 S-1	9/C-12 nhc	
129 PL 14	cable		x	S-8 R-1 R-2	7/C-12 nhd	
129 PL 70	cable		x	S-8 R-1 R-2	7/C-12 nhd	
135 PL 23	cable		x	S-8 R-1 R-2	7/C-12 nhd	

SYSTEM: Emergency Shutdown - Reactor Coolant Systems

EQUIPMENT: Hot Leg Isolation Valves

16103 - Reference Dwg(s):
 34016 Sheets 1&2 Rev. 7
 37011 Sheets 1,2,9,11

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
135 PL 84	cable		x	S-8 R-1 R-2	7/C-12 nhd	
129 PL 15	cable	x		R-2 R-4	7/C-12 nhd	
129 PL 71	cable	x		R-2 R-4	7/C-12 nhd	
135 PL 24	cable	x		R-2 R-4	7/C-12 nhd	
135 PL 85	cable	x		R-2 R-4	7/C-12 nhd	
RCP 22A 22B	cntmt. penet.	x		R-1 R-2		
RCP 20A 20B	cntmt. penet.	x		R-1 R-2		
RCP 18A 18B	cntmt. penet.	x		R-1 R-2		
RCP 16A 16B	cntmt. penet.	x		R-1 R-2		
MCC 5-1	motor cntl. center		x	S-8	compt. 3,5,9,11 FC	
Sec. D	cntl. board		x	S-1		

SYSTEM: Emergency Shutdown - Reactor Coolant Systems

EQUIPMENT: Loop Resistance Temperature Detectors (RTD's)

16103 - Reference Dwg(s):
 34018 Rev. 7 Sheets 1&2
 37023 Rev. 4 Sheet 1

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
TE 108	temp. element	x		R-4	Loop 2 quadrant
TE 110	temp. element	x		R-4	Loop 2 quadrant
TE 111	temp. element	x		R-4	Loop 1 quadrant
TE 400	temp. element	x		R-4	Loop 3 quadrant
TE 401	temp. element	x		R-4	Bottom pressurizer
TE 402	temp. element	x		R-4	Top pressurizer
TE 403	temp. element	x		R-4	Loop 4
TE 404	temp. element	x		R-4	Loop 4
TE 405	temp. element	x		R-4	Loop 3
1 TD 10	cable	x		R-4 R-3 R-2	B/C-16 SHD nsf
1 TD 13	cable	x		R-4 R-3 R-2	B/C-16 SHD nsf
1 TD 16	cable	x		R-4 R-3 R-2	B/C-16 SHD nsf
1 TD 28	cable	x		R-4 R-3 R-2	B/C-16 SHD nsf
1 TD 31	cable	x		R-4 R-3 R-2	3/C-16 SHD nsf
1 TD 33	cable	x		R-4 R-3 R-2	3/C-16 SHD nsf
1 TD 35	cable	x		R-4 R-3 R-2	3/C-16 SHD nsf
1 TD 37	cable	x		R-4 R-3 R-2	3/C-16 SHD nsf
1 TD 39	cable	x		R-4 R-3 R-2	3/C-16 SHD nsf

SYSTEM: Emergency Shutdown - Reactor Coolant Systems

EQUIPMENT: Loop Resistance Temperature Detectors (RTD's)

16103 - Reference Dwg(s):

34018 Rev. 7 Sheets 1&2

37023 Rev. 4 Sheet 1

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
1 TD 11	cable		x	R-2 R-1 S-1	3/C-16 SHD nsf	
1 TD 14	cable		x	R-2 R-1 S-1	3/C-16 SHD nsf	
1 TD 17	cable		x	R-2 R-1 S-1	3/C-16 SHD nsf	
1 TD 29	cable		x	R-2 R-1 S-1	3/C-16 SHD nsf	
1 TD 32	cable		x	R-2 R-1 S-1	3/C-16 SHD nsf	
1 TD 34	cable		x	R-2 R-1 S-1	3/C-16 SHD nsf	
1 TD 36	cable		x	R-2 R-1 S-1	3/C-16 SHD nsf	
1 TD 38	cable		x	R-2 R-1 S-1	3/C-16 SHD nsf	
1 TD 40	cable		x	R-2 R-1 S-1	3/C-16 SHD nsf	
RCP A8 8D	cntmt. penet.	x		R-1 R-2		
RCP 9A 9B	cntmt. penet.	x		R-1 R-2		
Sec. C	cntl. board		x	S-1		

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Shutdown - Reactor Coolant Systems

EQUIPMENT: Main Coolant By-Pass Valves

16103 - Reference Dwg(s):
 34016 Sheets 1&2 Rev. 7
 37011 Sheets 1,3,9,11

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
VV 577	Valve Motor	x		R-4	El. 24' 11" Loop 1
VV 528	Valve Motor	x		R-4	El. 24' 11" Loop 2
VV 515	Valve Motor	x		R-4	El. 24' 11" Loop 3
VV 510	Valve Motor	x		R-4	El. 24' 11" Loop 4
129 PL 25	cable		x	S-8 R-1 R-2	12 triplexed nna
129 PL 81	cable		x	S-8 R-1 R-2	12 triplexed nna
135 PL 34	cable		x	S-8 R-1 R-2	12 triplexed nna
135 PL 95	cable		x	S-8 R-1 R-2	12 triplexed nna
129 PL 26	cable	x		R-2 R-3 R-4	12 triplexed nna
129 PL 82	cable	x		R-2 R-3 R-4	12 triplexed nna
135 PL 35	cable	x		R-2 R-3 R-4	12 triplexed nna
135 PL 96	cable	x		R-2 R-3 R-4	12 triplexed nna
129 PL 27	cable		x	S-8 S-1	7/C-12 nhd
129 PL 83	cable		x	S-8 S-1	7/C-12 nhd
135 PL 36	cable		x	S-8 S-1	7/C-12 nhd
135 PL 97	cable		x	S-8 S-1	7/C-12 nhd
129 PL 28	cable		x	S-8 R-1 R-2	7/C-12 nhd
129 PL 84	cable		x	S-8 R-1 R-2	7/C-12 nhd
135 PL 37	cable		x	S-8 R-1 R-2	7/C-12 nhd
135 PL 98	cable		x	S-8 R-1 R-2	7/C-12 nhd

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Shutdown - Reactor Coolant Systems

EQUIPMENT: Main Coolant By-Pass Valves

16103 - Reference Dwg(s):
 34016 Sheets 1&2 Rev. 7
 37011 Sheets 1,3,9,11

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
129 PL 29	cable	x		R-2 R-4	9/C-12 nhc	
129 PL 85	cable	x		R-2 R-4	9/C-12 nhc	
135 PL 38	cable	x		R-2 R-4	9/C-12 nhc	
135 PL 99	cable	x		R-2 R-4	9/C-12 nhc	
RCP 22A 22C	cntmt. penet.	x		R-1 R-2		
RCP 20A 20C	cntmt. penet.	x		R-1 R-2		
RCP 18A 18C	cntmt. penet.	x		R-1 R-2		
RCP 16A 16C	cntmt. penet.	x		R-1 R-2		
MCC 5-1	motor cntl. center		x	S-8	compt. 3,5,9,11 FJ	
Sec. D	cntl. board		x	S-1		

SYSTEM: Emergency Shutdown - Reactor Coolant Systems

EQUIPMENT: Cold Leg Isolation Valves

16103 - Reference Dwg(s):
 34016 Sheets 1&2 Rev. 7
 37011 Sheets 1,2,9,11

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
VV 546	Valve Motor	x		R-4	El. 24' 2" Loop 1
VV 537	Valve Motor	x		R-4	El. 24' 2" Loop 2
VV 524	Valve Motor	x		R-4	El. 24' 2" Loop 3
VV 512	Valve Motor	x		R-4	El. 24' 2" Loop 4
129 PL 18	cable		x	S-8 R-1 R-2	12 triplexed nna
129 PL 74	cable		x	S-8 R-1 R-2	12 triplexed nna
135 PL 27	cable		x	S-8 R-1 R-2	12 triplexed nna
135 PL 88	cable		x	S-8 R-1 R-2	12 triplexed nna
129 PL 19	cable	x		R-2 R-3 R-4	12 triplexed nna
129 PL 75	cable	x		R-2 R-3 R-4	12 triplexed nna
135 PL 28	cable	x		R-2 R-3 R-4	12 triplexed nna
135 PL 89	cable	x		R-2 R-3 R-4	12 triplexed nna
129 PL 20	cable		x	S-8 S-1	9/C-12 nhc
129 PL 76	cable		x	S-8 S-1	9/C-12 nhc
135 PL 29	cable		x	S-8 S-1	9/C-12 nhc
135 PL 90	cable		x	S-8 S-1	9/C-12 nhc

SYSTEM: Emergency Shutdown - Reactor Coolant Systems

EQUIPMENT: Cold Leg Isolation Valves

16103 - Reference Dwg(s):
 34016 Sheets 1&2 Rev. 7
 37011 Sheets 1,2,9,11

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
129 PL 21	cable		x	S-8 R-1 R-2	7/C-12 nhd	
129 PL 77	cable		x	S-8 R-1 R-2	7/C-12 nhd	
135 PL 30	cable		x	S-8 R-1 R-2	7/C-12 nhd	
135 PL 91	cable		x	S-8 R-1 R-2	7/C-12 nhd	
129 PL 22	cable	x		R-2 R-4	7/C-12 nhd	
129 PL 78	cable	x		R-2 R-4	7/C-12 nhd	
135 PL 31	cable	x		R-2 R-4	7/C-12 nhd	
135 PL 92	cable	x		R-2 R-4	7/C-12 nhd	
RCP 22A 22B	cntmt. penet.	x		R-1 R-2		
RCP 20A 20B	cntmt. penet.	x		R-1 R-2		
RCP 18A 18B	cntmt. penet.	x		R-1 R-2		
RCP 16A 16B	cntmt. penet.	x		R-1 R-2		
MCC 5-1	motor cntl. center		x	S-8	compt. 3,5,9,11 FF	
Sec. D	cntl. board		x	S-1		

SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Temperature Recorders

16103 - Reference Dwg(s):
34018 Sheet 2COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
TR 1801 1	temp. recorder	x		R-4	El. 85' 0" Loop 1 quad.
TR 1801 2	temp. recorder	x		R-4	El. 85' 0" Loop 4 quad.
TR 1801 3	temp. recorder	x		R-4	El. 85' 0" Loop 3 quad.
TK 1801 4	temp. recorder	x		R-4	El. 85' 0" Loop 2 quad.
TR 1801 5	temp. recorder	x		R-4	El. 25' 0" Loop 1 quad.
TR 1801 6	temp. recorder	x		R-4	El. 25' 0" Loop 4 quad.
TR 1801 7	temp. recorder	x		R-4	El. 25' 0" Loop 3 quad.
TR 1801 8	temp. recorder	x		R-4	El. 25' 0" Loop 2 quad.
TR 1801 9	temp. recorder	x		R-4	El. 35' Hatch set
TR 1801 10	temp. recorder	x		R-4	El. 145' Below top of dome
TR 1801 11	temp. recorder	x		R-4	El. 55' Col 16
TR 1801 12	temp. recorder	x		R-4	El. 21' Loop 1
ITD 10-14	cable	x		R-4 R-3 R-2	3/C-16 SH nsf
ITD 16-20	cable	x		R-4 R-3 R-2	3/C-16 SH nsf
ITD 97-99	cable	x		R-4 R-3 R-2	3/C-16 SH nsf
1 UD 15	cable		x	R-1 S-1	3/C-16 SH nsh
1 ID 21	cable		x	R-1 S-1	4-3C-16 SH nsh
1 ID 100	cable		x	R-1 S-1	4-3C-16 SH nsh

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

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SYSTEM: Emergency Shutdown - Reactor Coolant System

EQUIPMENT: Temperature Recorders

16103 - Reference Dwg(s):
34018

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
RCP 9D	cntmt. penet.	x		R-2 R-1		
Data Cab C	data cabinet		x	S-1	Sec. C	
Cont. BD	cntl. board		x	S-1	Sec. E	

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

EMERGENCY SHUTDOWN

CHEMICAL AND VOLUME CONTROL SYSTEM

SYSTEM: Emergency Shutdown - Chemical & Volume Control System

EQUIPMENT: Letdown Isolation Valve (VV200)

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7; 37011, Sh. 15, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CONTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
VV200	valve motor	x		R-4	el. 17'6"
135PL260	cable		x	S-8 R-1 R-2	12 triplexed nna
135PL261	cable	x		R-2 R-4	12 triplexed nna
135PL262	cable		x	S-8 S-1	7/C-12 nhd
135PL263	cable		x	S-8 R-1 R-2	7/C-12 nhd
135PL264	cable	x		R-4 R-4	7/C-12 nhd
RCP22A	containment penetration	x		R-1 R-2	
RCP22B	containment penetration	x		R-1 R-2	
MCC5-1	motor cntl. center		x	S-8	compt 9RM
cont BD	cntl. board		x	S-1	section C

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 2 Cont. on 3

SYSTEM: Emergency Shutdown - Chemical & Volume Control System

EQUIPMENT: Drain Valve (VV507) Loop 4

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7; 37011, Sh. 12, Rev. 4

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
VV507	valve motor	x		R-4	el. 18'0"
135PL121	cable		x	S-8 R-1 R-2	12 triplexed nna
135PL122	cable	x		R-2 R-4	12 triplexed nna
135PL123	cable		x	S-8 S-1	7/C-12 nhd
135PL124	cable		x	S-8 R-1 R-2	7/C-12 nhd
135PL125	cable	x		R-2 R-4	7/C-12 nhd
RCP16A	containment penetration	x		R-1 R-2	
RCP16D	containment penetration	x		R-1 R-2	
MCC5-1	motor cntl. center		x	S-8	compt 12FF
cont BD	cntl. board		x	S-1	section E

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 3 Cont. on 4

SYSTEM: Emergency Shutdown - Chemical & Volume Control System

EQUIPMENT: Drain valve (VV521) Loop 3

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7; 37011, Sh. 10, Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
VV521	valve motor	x		R-4	el. 16'0"	
135PL55	cable		x	S-8 R-1 R-2	12 triplexed nna	
135PL56	cable	x		R-2 R-4	12 triplexed nna	
135PL57	cable		x	S-8 S-1	7/C-12 nhd	
135PL58	cable		x	S-8 R-1 R-2	7/C-12 nhd	
135PL59	cable	x		R-2 R-4	7/C-12 nhd	
RCP18A	containment penetration	x		R-1 R-2		
RCP18D	containment penetration	x		R-1 R-2		
MCC5-1	motor cntl. center		x	S-8	compt 10FF	
cont BD	cntl. board		x	S-1	section E	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 4 Cont. on 5

SYSTEM: Emergency Shutdown - Chemical & Volume Control System

EQUIPMENT: Drain Valve (VV534) Loop 2

16103 - Reference Dwg(s): 34018, Sh. 2, Re. 7; 37011, Sh. 3, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
VV534	valve motor	x		R-4	el. 16'0"
129PL102	cable		x	S-8 R-1 R-2	12 triplexed nna
129PL103	cable	x		R-2 R-4	12 triplexed nna
129PL104	cable		x	S-8 S-1	7/C-12 nhd
129PL105	cable		x	S-8 R-1 R-2	7/C-12 nhd
129PL106	cable	x		R-2 R-4	7/C-12 nhd
RCP20A	containment penetration	x		R-1 R-2	
RCP20D	containment penetration	x		R-1 P-2	
MCC5-1	motor cntl. center		x	S-8	compt 6FF
cont BD	cntl. board		x	S-1	section E

HADDAM NECK PLANT

MASTER CAT. i ELECTRICAL EQUIPMENT

Page: 5 Cont. on 6

SYSTEM: Emergency Shutdown - Chemical & Volume Control System

EQUIPMENT: Drain Valve (VV544) Loop 1

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7; 37011, Sh. 2, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
VV544	valve motor	x		R-4	el. 16'0"	
129PL48	cable		x	S-8 R-1 R-2	12 triplexed nna	
129PL49	cable	x		R-2 R-4	12 triplexed nna	
129PL50	cable		x	S-8 S-1	7/C-12 nhd	
129PL51	cable		x	S-8 R-1 R-2	7/C-12 nhd	
129PL52	cable	x		R-2 R-4	7/C-12 nhd	
RCP22A	containment penetration	x		R-1 R-2		
RCP22D	containment penetration	x		R-1 R-2		
MCC5-1	motor cntl. center		x	S-8	compt 4FF	
cont BD	cntl. board		x	S-1	section E	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 6 Cont. on 7

SYSTEM: Emergency Shutdown - Chemical & Volume Control System

EQUIPMENT: Seal Water Return Valve (VV314) Loop 4

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7; 37011, Sh. 12, Rev. 9

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
VV314	valve motor	x		R-4	el. 18'0"	
135PL128	cable		x	S-8 R-1 R-2	12 triplexed nna	
135PL129	cable	x		R-2 R-4	12 triplexed nna	
135PL130	cable		x	S-8 S-1	9/C-12 nhe	
135PL131	cable		x	S-8 R-1 R-2	7/C-12 nhd	
135PL132	cable	x		R-2 R-4	7/C-12 nhd	
RCP16A	containment penetration	x		R-1 R-2		
RCP16B	containment penetration	x		R-1 R-2		
MCC5-1	motor cntl. center		x	S-8	compt 12FJ	
cont BD	cntl. board		x	S-1	section C	

SYSTEM: Emergency Shutdown - Chemical & Volume Control System

EQUIPMENT: Seal Water Return Valve (VV313) Loop 3

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7; 37011, Sh. 10, Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
VV313	valve motor	x		R-4	el. 18'11"
135PL62	cable		x	S-8 R-1 R-2	12 triplexed nna
135PL63	cable	x		R-2 R-4	12 triplexed nna
135PL64	cable		x	S-8 S-1	9/C-12 nhe
135PL65	cable		x	S-8 R-1 R-2	7/C-12 nhd
135PL66	cable	x		R-2 R-4	7/C-12 nhd
RCP18A	containment penetration	x		R-1 R-2	
RCP18B	containment penetration	x		R-1 R-2	
MCC5-1	motor cntl. center		x	S-8	compt 10FJ
cont BD	cntl. board		x	S-1	section C

SYSTEM: Emergency Shutdown - Chemical & Volume Control System

EQUIPMENT: Seal Water Return Valve (VV312) Loop 2

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7; 37011, Sh. 3, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
VV312	valve motor	x		R-4	el. 19'6"
129PL109	cable		x	S-8 R-1 R-2	12 triplexed nna
129PL110	cable	x		R-2 R-4	12 triplexed nna
129PL111	cable		x	S-8 S-1	9/C-12 nhe
129PL112	cable		x	S-8 R-1 R-2	7/C-12 nhd
129PL113	cable	x		R-2 R-4	7/C-12 nhd
RCP20A	containment penetration	x		R-1 R-2	
RCP20B	containment penetration	x		R-1 R-2	
MCC5-1	motor cntl. center		x	S-8	compt 6FJ
cont BD	cntl. board		x	S-1	section C

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Shutdown - Chemical & Volume Control System

EQUIPMENT: Seal Water Return Valve (VV311) Loop 1

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7; 37011, Sh. 2, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
VV311	valve motor	x		R-4	sl. 18'0"
129PL55	cable		x	S-8 R-1 R-2	12 triplexed nna
129PL56	cable	x		R-2 R-4	12 triplexed nna
129PL57	cable		x	S-8 S-1	9/C-12 nhe
129PL58	cable		x	S-8 R-1 R-2	7/C-12 nhd
129PL59	cable	x		R-2 R-4	7/C-12 nhd
RCP22A	containment penetration	x		R-1 R-2	
RCP22B	containment penetration	x		R-1 R-2	
MCC5-1	motor cntl. center		x	S-8	compt 4FJ
cont BD	cntl. board		x	S-1	section C

SYSTEM: Emergency Shutdown - Chemical & Volume Control System

EQUIPMENT: Drain Cooler Outlet Valve (VV310)

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7; 37011, Sh. 6, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		Fire Zone	REMARKS
		Inside	Outside		Misc.
VV310	valve motor	x		R-4	el. 5'6"
129PL220	cable		x	S-8 R-1 R-2	12 triplexed nna
129PL221	cable	x		R-2 R-4	12 triplexed nna
129PL222	cable		x	S-8 S-1	7/C-12 nhd
129PL223	cable		x	S-8 R-1 R-2	5/C-12 nhc
129PL224	cable	x		R-2 R-4	5/C-12 nhc
RCP18A	containment penetration	x		R-1 R-2	
RCP18B	containment penetration	x		R-1 R-2	
MCC5-1	motor cntl. center		x	S-8	compt 5RJ
cont BD	cntl. board		x	S-1	section C

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

EMERGENCY SHUTDOWN

MAIN STEAM SYSTEM

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 1 Cont. on 2

SYSTEM: Emergency Shutdown - Main Steam System

EQUIPMENT: Level Transmitters

16103 - Reference Dwg(s): 34018, Sh. 1 & 2, Rev. .
37022, Sh. 4 & 5, Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	Misc.
LT-1302-1	Level Transmitter	X		R-4	Steam Gen E-G-1
LT-1302-2	Level Transmitter	X		R-4	Steam Gen E-G-2
LT-1302-3	Level Transmitter	X		R-4	Steam Gen E-G-3
LT-1302-4	Level Transmitter	X		R-4	Steam Gen E-G-4
1IT-195	Cable	X		R-4 R-2	TWPR16 ngg
1IT-196	Cable		X	R-2 R-1 S-1	TWPR16 ngg
1IT-197	Cable	X		R-4 R-2	TWPR16 ngg
1IT-198	Cable		X	R-2 R-1 S-1	TWPR16 ngg
1IT-199	Cable	X		R-4 R-2	TWPR16 ngg
1IT-200	Cable		X	R-2 R-1 S-1	TWPR16 ngg
1IT-201	Cable	X		R-4 R-2	TWPR16 ngg
1IT-202	Cable		X	R-2 R-1 S-1	TWPR16 ngg
RCP 7A-D	Containment Penetrations	X		R-2 R-1	
Cont Bd	Control Board		X	S-1	Sect DR (Hagan)

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 2 Cont. on 3

SYSTEM: Emergency Shutdown - Main Steam System

EQUIPMENT: Level Transmitters

16103 - Reference Dwg(s): 34018, Sh. 1 & 2, Rev. 7
37022, Sh. 4, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
LT1301-1	Level Transmitter	X		R-4	Loop 1 quadrant EL 29'0	
LT1301-2	Level Transmitter	X		R-4	Loop 2 quadrant EL 29'0	
LT1301-3	Level Transmitter	X		R-4	Loop 3 quadrant EL 29'0	
LT1301-4	Level Transmitter	X		R-4	Loop 4 quadrant EL 29'0	
1IT-186	Cable	X		R-4 R-3 R-2	TWPR16 ngg	
1IT-187	Cable		X	R-2 R-1 S-1	TWPR16 ngg	
1IT-188	Cable	X		R-4 R-3 R-2	TWPR16 ngg	
1IT-189	Cable		X	R-2 R-1 S-1	TWPR16 ngg	
1IT-190	Cable	X		R-4 R-3 R-2	TWPR16 ngg	
1IT-191	Cable		X	R-2 R-1 S-1	TWPR16 ngg	
1IT-192	Cable	X		R-4 R-3 R-2	TWPR16 ngg	
1IT-193	Cable		X	R-2 R-1 S-1	TWPR16 ngg	
RCP 7A-D	Containment Penetrations	X		R-1 R-2		
Cont BD	Control Board		X	S-1	Section DR (Hagan)	

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

EMERGENCY SHUTDOWN

NUCLEAR INSTRUMENTATION SYSTEM

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 1 Cont. on 2

SYSTEM: EMERGENCY SHUTDOWN - NUCLEAR INSTRUMENTATION SYSTEM

EQUIPMENT: NEUTRON DETECTORS

16103 - Reference Dwg(s): 34018 Sh. 1 & 2, Rev. 7
37025 Sh. 2, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CONTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
DET NE-31A	Neutron Detector	X		R-4	Thimble 2A UIC Power Range ³
1 ND 41	Cable	X		R-4 R-3	RG-216/U nya
1 ND 42	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 43	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 44	Cable		X	R-1 S-1	RG-216/U nya
1 ND 45	Cable		X	R-1 S-1	RG-216/U nya
JCT Point South		X		R-3	
RCP 5B-4	Containment Penetrations	X		R-1 R-2	
RCP 6B-3	Containment Penetrations	X		R-1 R-2	
Cont BD	Control Board		X	S-1	Section A-2 (Rack P-1)

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 2 Cont. on 3

SYSTEM: EMERGENCY SHUTDOWN - NUCLEAR INSTRUMENTATION SYSTEM

EQUIPMENT: NEUTRON DETECTORS

16103 - Reference Dwg(s): 34018 Sh. 1 & 2, Rev. 7
37025 Sh. 2, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CN'TMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
DET NE-32A	Neutron Detector	X		R-4	Thimble 4-A UIC Power Range 1
1 ND 49	Cable	X		R-4 R-3	RG-216/U nya
1 ND 50	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 51	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 52	Cable		X	R-1 S-1	RG 216/U nya
1 ND 53	Cable		X	R-1 S-1	RG 216/U nya
JCT Point South		X		R-3	
RCP 5C-4	Containment Penetrations	X		R-1 R-2	
RCP 6C-3	Containment Penetrations	X		R-1 R-2	
Cont BD	Control Board		X	S-1	Section A-2 (Rack R-1)

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 3 Cont. on 4

SYSTEM: EMERGENCY SHUTDOWN - NUCLEAR INSTRUMENTATION SYSTEM

EQUIPMENT: NEUTRON DETECTORS

16103 - Reference Dwg(s): 34018 Sh. 1 & 2, Rev. 7
37025 Sh. 2, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CN'TMT LOCATION		Fire Zone	REMARKS
		Inside	Outside		
DET NE-33A	Neutron Detector	X		R-4	Thimble 6-A UIC Power Range 4
1 ND 57	Cable	X		R-4 R-3	RG-216/U nya
1 ND 58	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 59	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 60	Cable		X	R-1 S-1	RG-216/U nya
1 ND 61	Cable		X	R-1 S-1	RG-216/U nya
JCT Point North		X		R-3	
RCP 5D-4	Containment Penetrations	X		R-1 R-2	
RCP 6D-3	Containment Penetrations	X		R-1 R-2	
Cont BD	Control Board		X	S-1	Section A-2 (Rack R-1)

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 4 Cont. on 5

SYSTEM: EMERGENCY SHUTDOWN - NUCLEAR INSTRUMENTATION SYSTEM

EQUIPMENT: NEUTRON DETECTORS

16103 - Reference Dwg(s): 34018 Sh. 1 & 2, Rev. 7
37025 Sh. 2, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
DET NE-34A	Neutron Detector	X		R-4	Thimble 8-A UIC Power Range 2
1 ND 65	Cable	X		R-4 R-3	RG-216/U nya
1 ND 66	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 67	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 68	Cable		X	R-1 S-1	RG-216/U nya
1 ND 69	Cable		X	R-1 S-1	RG-216/U nya
JCT Point East		X		R-3	
RCP 5A-4	Containment Penetrations	X		R-1 R-2	
RCP 6A-3	Containment Penetrations	X		R-1 R-2	
Cont BD	Control Board		X	S-1	Section A-2 (Rack R-1)

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 5 Cont. on 6

SYSTEM: EMERGENCY SHUTDOWN - NUCLEAR INSTRUMENTATION SYSTEM

EQUIPMENT: NEUTRON DETECTORS

16103 - Reference Dwg(s): 34018 Sh. 1 & 2, Rev. 7
37025 Sh. 2, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
DET NE 31B	Neutron Detector	X		R-4	Thimble 2-B CIC Power Range 3
1 ND 73	Cable	X		R-4 R-3	RG-216/U nya
1 ND 74	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 75	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 76	Cable		X	R-1 S-1	RG-216/U nya
1 ND 77	Cable		X	R-1 S-1	RG-216/U nya
1 ND 78	Cable		X	R-1 S-1	RG-216/U nya
1 ND 79	Cable		X	R-1 S-1	RG-216/U nya
JCT Point South				R-3	
RCP 5A-2&3	Containment Penetrations	X		R-1 R-2	
RCP 6A-2	Containment Penetrations	X		R-1 R-2	
Cont BD	Control Board		X	S-1	Section A-2 (Rack R-1 & R-2)

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: EMERGENCY SHUTDOWN - NUCLEAR INSTRUMENTATION SYSTEM

EQUIPMENT: NEUTRON DETECTORS

16103 - Reference Dwg(s): 34018 Sh. 1 & 2, Rev. 7
37025 Sh. 3, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
DET NE-32B	Neutron Detector	X		R-4	Thimble 4-B CIC Power Range 1
1 ND 83	Cable	X		R-4 R-3	RG-216/U nya
1 ND 84	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 85	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 86	Cable		X	R-1 S-1	RG-216/U nya
1 ND 87	Cable		X	R-1 S-1	RG-216/U nya
1 ND 88	Cable		X	R-1 S-1	RG-216/U nya
1 ND 89	Cable		X	R-1 S-1	RG-216/U nya
JCT Point West				R-3	
RCP 5B-2&3	Containment Penetrations	X		R-1 R-2	
RCP 6B-2&5	Containment Penetrations	X		R-1 R-2	
Cont BD	Control Board		X	S-1	Section A-2 (Rack R-1 & R-2)

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

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SYSTEM: EMERGENCY SHUTDOWN - NUCLEAR INSTRUMENTATION SYSTEM

EQUIPMENT: NEUTRON DETECTORS

16103 - Reference Dwg(s): 34018 Sh. 1 & 2, Rev. 7
37025 Sh. 3, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
DET NE-33B	Neutron Detector	X		R-4	Thimble 6-B CIC Power Range 4
1 ND 91	Cable	X		R-4 R-3	RG-216/U nya
1 ND 92	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 93	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 94	Cable		X	R-1 S-1	RG-216/U nya
1 ND 95	Cable		X	R-1 S-1	RG-216/U nya
1 ND 96	Cable		X	R-1 S-1	RG-216/U nya
1 ND 97	Cable		X	R-1 S-1	RG-216/U nya
JCT Point North				R-3	
RCP 5C-2&3	Containment Penetrations	X		R-1 R-2	
RCP 6C-2	Containment Penetrations	X		R-1 R-2	
Cont BD	Control Board		X	S-1	Section A-2 (Rack R-1 & R-2)

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 8 Cont. on 9

SYSTEM: EMERGENCY SHUTDOWN - NUCLEAR INSTRUMENTATION SYSTEM

EQUIPMENT: NEUTRON DETECTORS

16103 - Reference Dwg(s): 34018 Sh. 1 & 2, Rev. 7
37025 Sh. 3, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
DET NE-34B	Neutron Detector	X		R-4	Thimble 8-B CIC Power Range 2
1 ND 99	Cable	X		R-4 R-3	RG-216/U nya
1 ND 100	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 101	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 102	Cable		X	R-1 S-1	RG-216/U nya
1 ND 103	Cable		X	R-1 S-1	RG-216/U nya
1 ND 104	Cable		X	R-1 S-1	RG-216/U nya
1 ND 105	Cable		X	R-1 S-1	RG-216/U nya
JCT Point East				R-3	
RCP 5D-2&3	Containment Penetrations	X		R-1 R-2	
RCP 6D-2	Containment Penetrations	X		R-1 R-2	
Cont BD	Control Board		X	S-1	Section A-2 (Rack R-1 & R-2)

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 9 Cont. on 10

SYSTEM: EMERGENCY SHUTDOWN - NUCLEAR INSTRUMENTATION SYSTEM

EQUIPMENT: NEUTRON DETECTORS

16103 - Reference Dwg(s): 34018 Sh. 1 & 2, Rev. 7
37025 Sh. 1, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
DET NE-12	Neutron Detector	X		R-4	Thimble 3C BF ₃ Source Range 2
1 ND 1	Cable	X		R-4 R-3	RG-11/U Triax hyd
1 ND 2	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 3	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 4	Cable		X	R-1 S-1	TWPR 16 ngg
1 ND 5	Cable		X	R-1 S-1	RG-216/U nya
1 ND 6	Cable		X	R-1 S-1	RG-216/U nya
1 ND 7	Cable		X	R-1 S-1	TWPR 16 ngg
Preamp JB North	Junction Box	X		R-3	
RCP 5A-1	Containment Penetrations	X		R-1 R-2	
RCP 6A-1	Containment Penetrations	X		R-1 R-2	
RCP 3A-6	Containment Penetrations	X		R-1 R-2	
Cont BD	Control Board		X	S-1	Section A-2 (Rack 2)

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 10 Cont. on 11

SYSTEM: EMERGENCY SHUTDOWN - NUCLEAR INSTRUMENTATION SYSTEM

EQUIPMENT: NEUTRON DETECTORS

16103 - Reference Dwg(s): 34018 Sh. 1 & 2, Rev. 7
37025 Sh. 1, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	Misc.
DET NE-14	Neutron Detector	X		R-4	Thimble 1-c BF ₃ Source Range 3
1 ND 11	Cable	X		R-4 R-3	RG-11/U Triax hyd
1 ND 12	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 13	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 14	Cable		X	R-1 S-1	TWPR 16 ngg
1 ND 15	Cable		X	R-1 S-1	RG-216/U nya
1 ND 16	Cable		X	R-1 S-1	RG-216/U nya
1 ND 17	Cable		X	R-1 S-1	TWPR 16 ngg
Preamp JB West	Junction Box	X		R-3	
RCP 5B-1	Containment Penetrations	X		R-1 R-2	
RCP 6B-6	Containment Penetrations	X		R-1 R-2	
RCP 4A	Containment Penetrations	X		R-1 R-2	
Cont BD	Control Board		X	S-1	Section A-2 (Rack 2)

SYSTEM: EMERGENCY SHUTDOWN - NUCLEAR INSTRUMENTATION SYSTEM

EQUIPMENT: NEUTRON DETECTORS

16103 - Reference Dwg(s): 34018 Sh. 1 & 2, Rev. 7
37025 Sh. 1, Rev. 7COMPONENTS

PLANT I.D. No.	GENERIC NAME	CONTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
DET NE-11	Neutron Detector	X		R-4	Thimble 5-C BF ₃ Source Range 4
1 ND 21	Cable	X		R-4 R-3	Special
1 ND 22	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 23	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 24	Cable		X	R-1 S-1	TWPR 16 ngg
1 ND 25	Cable		X	R-1 S-1	RG-216/U nya
1 ND 26	Cable		X	R-1 S-1	RG-216/U nya
1 ND 27	Cable		X	R-1 S-1	TWPR 16 ngg
Preamp JB East	Junction Box	X		R-3	
RCP 5C-1	Containment Penetrations	X		R-1 R-2	
RCP 6C-1	Containment Penetrations	X		R-1 R-2	
RCP 3B-6	Containment Penetrations			R-1 R-2	
Cont BD	Control Board		X	S-1	Section A-2 (Rack 3)

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 12 Cont. on

SYSTEM: EMERGENCY SHUTDOWN - NUCLEAR INSTRUMENTATION SYSTEM

EQUIPMENT: NEUTRON DETECTORS

16103 - Reference Dwg(s): 34018 Sh. 1 & 2, Rev. 7
37025 Sh. 1, Rev. 7

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
DET NE-13	Neutron Detector	X		R-4	Thimble 7-C BF ₃ Source Range 1
1 ND 31	Cable	X		R-4 R-3	Special
1 ND 32	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 33	Cable	X		R-3 R-2 R-1	RG-216/U nya
1 ND 34	Cable		X	R-1 S-1	TWPR 16 ngg
1 ND 35	Cable		X	R-1 S-1	RG-216/U nya
1 ND 36	Cable		X	R-1 S-1	RG-216/U nya
1 ND 37	Cable		X	R-1 S-1	TWPR 16 ngg
Preamp JB South	Junction Box	X		R-3	
RCP 5D-1	Containment Penetrations	X		R-1 R-2	
RCP 6D-1	Containment Penetrations	X		R-1 R-2	
RCP 4B-1	Containment Penetrations	X		R-1 R-2	
Cont BD	Control Board		X	S-1	Section A-2 (Rack 2)

DOCKET NO. 50-213

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

EMERGENCY SHUTDOWN

AUXILIARY FEEDWATER SYSTEM

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 1 Cont. on

SYSTEM: Emergency Shutdown-Auxiliary Feedwater System

EQUIPMENT: Pressurizer Relief Tank Fill Valve (VV555)

16103 - Reference Dwg(s): 34018, Sh. 2, Rev. 7
37011, Sh. 5, Rev. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
VV-555	Valve Motor	X		R-4	EL 1'6"	
129PL195	Cable		X	R-1 R-2 S-8	12 Triplexed nna	
129PL196	Cable	X		R-2 R-4	12 Triplexed nna	
129PL197	Cable		X	S-8 S-1	7/C-12 nhd	
129PL198	Cable		X	S-8 R-1 R-2	5/C-12 nhc	
129PL199	Cable	X		R-2 R-4	5/C-12 nhc	
RCP 18A&B	Containment Penetration	X		R-1 R-2		
MCC5-1	Motor Control Center		X	S-8	Compt 6RJ	
Cont BD	Control Board		X	S-1	Section C	

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

EMERGENCY SHUTDOWN

RESIDUAL HEAT REMOVAL SYSTEM

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 1 Cont. on 2

SYSTEM: EMERGENCY SHUTDOWN - RESIDUAL HEAT REMOVAL SYSTEM

EQUIPMENT: REACTOR NEUTRON SHIELD TANK THERMOCOUPLES

16103 - Reference Dwg(s): 34018 Sh. 1 & 2, Rev. 7
37024 Sh. 2, Rev. 2

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
TE 1000-16	Thermocouple	X		R-4	Inlet
TE 1000-17	Thermocouple	X		R-4	Outlet
1 TC-66	Cable	X		R-4 R-3 R-2	TWPR 16 CCTC SH
1 TC-67	Cable		X	R-2 R-1 A-9	TWPR 16 nvf SH
1 TC-68	Cable	X		R-4 R-3 R-2	TWPR 16 nvf SH
1 TC-69	Cable		X	R-2 R-1 A-9	TWPR 16 CCTC nvf SH
RCP 10 A&B	Containment Penetrations	X		R-1 R-2	
PAB Cont BD	Control Board		X	A-9	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 2 Cont. on

SYSTEM: Emergency Shutdown - Residual Heat Removal System

EQUIPMENT: Reactor Vessel Flange Leakoff Valves (SOV547 & 548)

16103 - Reference Dwg(s):

PLANT I.D. No.	GENERIC NAME	COMPONENTS			REMARKS	
		CNTMT LOCATION		Fire Zone	Misc.	
		Inside	Outside			
SOV547	Solenoid Operator	X		R-4		
SOV548	Solenoid Operator	X		R-4		
1M201	Cable		X	R-1 R-2 S-1	1/C-12 nrm	
1M202	Cable			R-2 R-4	1/C-12 nrm	
1M204	Cable		X	R-1 R-2 S-1	1/C-12 nrm	
1M205	Cable	X		R-2 R-4	1/C-12 nrm	
RCP 23A	Containment Penetration	X		R-2 R-1		
Cont Bd	Control Board		X	S-1	Section E	

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

EMERGENCY SHUTDOWN

SERVICE WATER SYSTEM

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 1 Cont. on 2

SYSTEM: Emergency Shutdown - Service Water System

EQUIPMENT: Valve Operators, Controls, Indicators, or Alarms

16103 - Reference Dwg(s): 32001, Sh. 11B, 27014, Sh. 5

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
AOV-8	solenoid		x	A-1B	el. 21'6"
ytd	selector switch		x	A-1B	"open"/"close" with indicating lights
4/C-12	cable		x	A-1B	to ytd
IM239	cable		x	A-1B	5/C-12 nhc
panel F	main cntl. board		x	S-1	ADV-8 cntl. leads
hbb	junction box		x	A-1B	also see on 1089 ESK 11B and 11F
2/C-12	cable		x	A-1B	to AOV-8

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 2 Cont. on 3

SYSTEM: Emergency Shutdown - Service Water System

EQUIPMENT: Valve Operators, Controls, Indicators, or Alarms

16103 - Reference Dwg(s): 34024, Sh. 1, 37031, Sh. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
AOV-9	solenoid		x	A-1C	PAB, el. 21'6"	
ytd	selector switch		x	A-1C	"open"/"close" with indicating lights	
4/C-12	cable		x	A-1C	to ytd	
IM240	cable		x	A-1C	5/C-12 nhc	
panel F	main cntl. board		x	S-1	AOV-9 cntl. leads	
hbb	junction box		x	A-1C	6"x6"x4" steel box	
2/C-12	cable		x	A-1C	to AOV-8	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 3 Cont. on 4

SYSTEM: Emergency Shutdown - Service Water System

EQUIPMENT: Water Level/Flow/Pressure/Indicating Devices

16103 - Reference Dwg(s): 34024, Sh. 1, 37030

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Ins. de	Outside	Fire Zone	Misc.	
IM300	cable		x		2/C-12 nha	
panel E	main cntl. board		x	S-1		
IAN53	cable		x		2/C-14 nhp	
hbn	junction box		x			
PD1429 1-4	pressure diff. switch		x		service water cont. coolers	
IAN54	cable		x		2/C-14 nhp	

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 4 Cont. on 5

SYSTEM: Emergency Shutdown - Service Water System

EQUIPMENT: Pump Motors/Controls

16103 - Reference Dwg(s): 37014 Sh. 4, 7, 34024 Sh. 1

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS
		Inside	Outside	Fire Zone	
P-46-1A	pump motor		x		shipping container dewatering pump
126PL83	cable		x		triplexed 12 nna
NCC8-1	motor cntl. center		x	A-1B	compartment 6RH
126PL84	cable		x		3/C-12 nhb
P-63-1A	pump motor		x		ion exchanger pit sump for P-63-1A
pushbutton	switch		x		at P-63-1A
140PL123	cable		x		triplexed 12 nna
MCC8-1	motor cntl. cable		x		compartment 1RH

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

SYSTEM: Emergency Shutdown - Service Water System

EQUIPMENT: Pump Motors, Controls

16103 - Reference Dwg(s): 37014, Sh. 4&5; 32001, Sh. 11B

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION			REMARKS	
		Inside	Outside	Fire Zone	Misc.	
140PL124	cable		x	A-1B		2/C-12 nha
140PL125	cable		x			2/C-12 nha
MCC8-1	motor cntl. center		x	A-1B		compartment 1RH
IAN221	cable		x			2/C-14 nhp
LC1845	level cntl.		x			ion exchange sump
126PL22	cable		x			2 triplexed nnd
MCC8-1	motor cntl. center		x	A-1B		compartment 6FBL
480V receptacle	power receptacle		x			near ion exchanger
<p>NOTE: Other items of potential IE electrical equipment that interact with systems in addition to the service water system may be found listed in other sections of this listing. Examples are motor operated valves (MOV's) 3, 4, 5, and 6. These are located in the "Component Cooling System" section. The Adams filters (FL-53-1A and FL-53-1B) will be found in the section on "Containment Heat Removal."</p>						

HADDAM NECK PLANT

ENVIRONMENTAL QUALIFICATION OF ELECTRICAL EQUIPMENT

EMERGENCY SHUTDOWN

RADIATION MONITORING SYSTEM

HADDAM NECK PLANT

MASTER CAT. 1 ELECTRICAL EQUIPMENT

Page: 1 Cont. on

SYSTEM: RADIATION MONITORING

EQUIPMENT: RADIATION DETECTORS

16103 - Reference Dwg(s): 34016 Sh. 2, Rev. 6
37026 Rev. 6

COMPONENTS

PLANT I.D. No.	GENERIC NAME	CNTMT LOCATION		REMARKS	
		Inside	Outside	Fire Zone	Misc.
DET R-31	Radiation Detector	X		R-4	Reac Cont EL 48'6"
DET R-32	Radiation Detector	X		R-4	Manip Crane
1 RMS 26	Cable	X		R-2 R-3 R-4	8/C Special nsy
1 RMS 27	Cable		X	R-2 R-1 S-1	8/C Special nsy
1 RMS 33	Cable	X		R-2 R-3 R-4	8/C Special nsy
1 RMS 34	Cable		X	R-2 R-1 S-1	8/C Special nsy
RCP 3B-5	Containment Penetrations	X		R-1 R-2	
RCP 4B-2	Containment Penetrations	X		R-1 R-2	
CONT BD	Control Board		X	S-1	Section A1 Rack Rm 1-1

HADDAM NECK PLANT

RESPONSES TO ENCLOSURE 3

OF MARCH 28, 1980

LETTER TO W. G. COUNCIL FROM D. L. ZIEMANN

JUNE, 1980

Question (1)

Reactor rated power.

Response

1825 MWT

Question (2)

Steam flow rate per steam generator at full speed.

Response

1.9175×10^6 lb/hr.

Question (3)

Fluid mass in each steam generator at full power and hot shutdown.

Response

36058 lb at full power (total)
33117 lb at full power (liquid)
2941 lb at full power (steam)

70760 lb at hot shutdown (total)
68488 lb at hot shutdown (liquid)
2272 lb at hot shutdown (steam)

Question (4)

Fluid energy in each steam generator at full power and hot shutdown.

Response

1.903×10^7 BTU at full power
 3.879×10^7 BTU at hot shutdown

Question (5)

Steam line flow area.

Response

2.655 ft²

Question (6)

Time when steam isolation valves will close following a main steam line break.

Response

Ten (10) seconds -- Note: Non-return valves prevent backflow into the containment.

Question (7)

Mass of unisolated steam between a steam generator and the isolation valve following closure of main steam isolation valves.

Response

312 lb at full power
409 lb at hot shutdown

Question (8)

Additional mass of unisolated steam if the main steam isolation valve nearest the break fails to close.

Response

Not applicable to CY. Non-return check valves will prevent additional backflow. Non-return valves are upstream of MSIV's.

Mass of steam between MSIV and non-return valves are as follows:

15 lb at full power
20 lb at hot shutdown

Question (9)

Main feedwater line flow area.

Response

0.706 ft²

Question (10)

Main feedwater enthalpy.

Response

410.4 BTU/lb

Question (11)

Time when main feedwater isolation valves will close following a main steam line break.

Response

Feedwater isolation manual at CY. Feedwater reg. valves fully closed at 31 seconds following MSLR.

Question (12)

Mass and temperature of feedwater between a steam generator and the feedwater isolation valve.

Response

16203 lb
432°F

Question (13)

Mass and temperature of feedwater above 240°F between a steam generator and any redundant feedwater isolation valve.

Response

17434 lb
432°F

Question (14)

Mass and temperature of all feedwater above 240°F.

Response

2.336 x 10⁴ LBM @ 242°F
3.337 x 10⁴ LBM @ 289°F
5.273 x 10⁴ LBM @ 366°F
5.467 x 10⁴ LBM @ 432°F
2.889 x 10⁴ LBM @ 436°F

Question (15)

Time when auxiliary feedwater injection will begin following a main steam line break.

Response

Six (6) seconds.

Question (16)

Auxiliary feedwater flow rate and enthalpy.

Response

666 gpm
88.0 BTU/lb

Question (17)

Time when core flooding system will begin injection following a LOCA.

Response

22.2 seconds.

Question (18)

Fluid mass in the reactor system at full power and hot shutdown.

Response

Full power - 366171 lb
Hot Shutdown - 361773 lb

Question (19)

Fluid energy in the reactor system at full power and hot shutdown.

Response

Hot full power = 1.9665×10^8 BTU
Hot zero power = 1.9468×10^8 BTU

Question (20)

Hot and cold leg line flow areas.

Response

Hot leg = 4.125 ft²
Cold leg = 4.125 ft²
Cold leg PS = 4.587 ft²

Question (21)

Core flooding system flow rate and temperature.

Response

Flow rates - Figures 1 and 2
Temperature = 100°F

Question (22)

Sensible heat in the core and reactor system metal that is above 240°F at full power operation.

Response

1.002×10^8 BTU

Question (23)

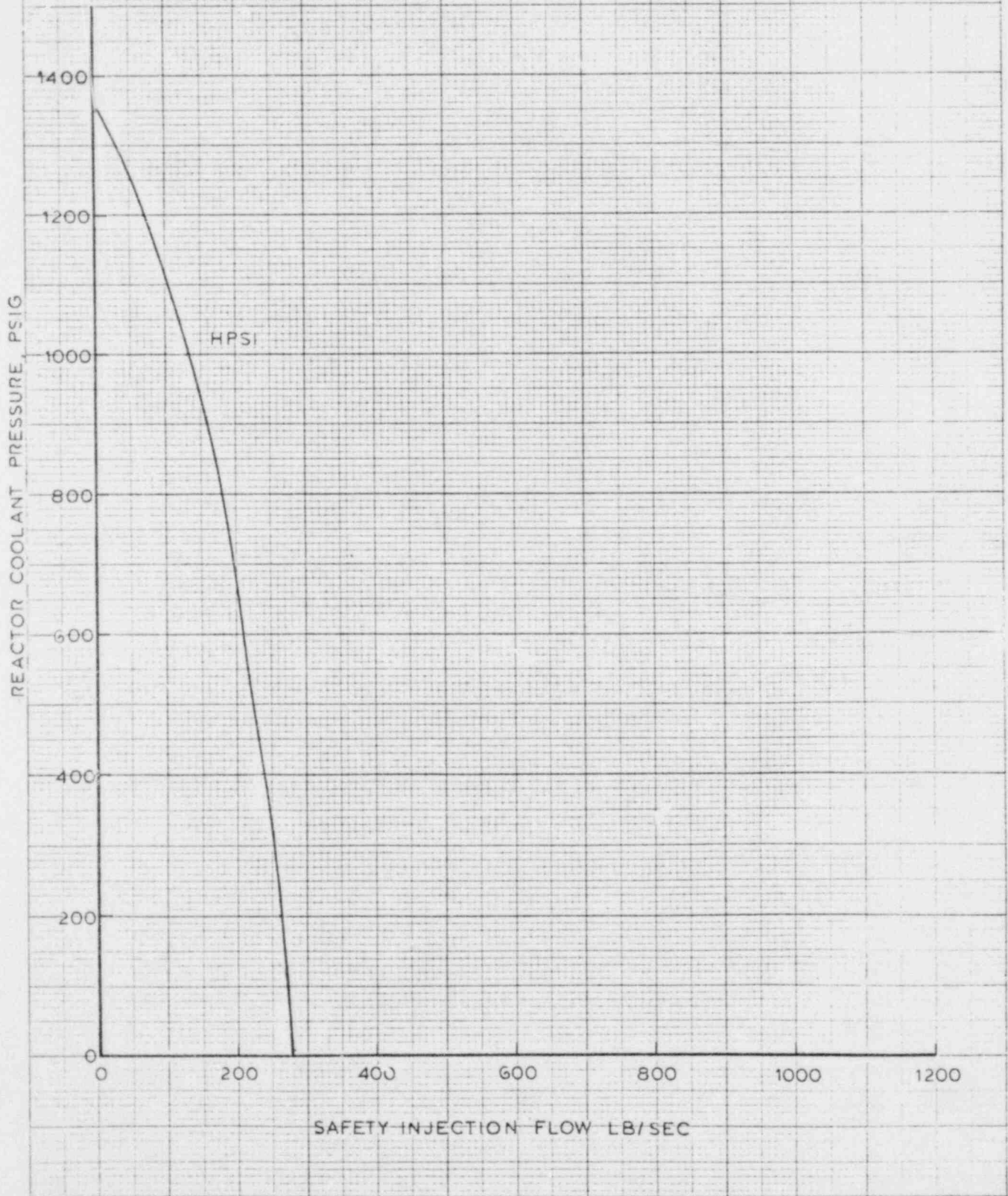
Initial hot and cold leg temperatures.

Response

T_{hot} = 579°F
T_{cold} = 529°F

FIGURE 1

Reactor Coolant Pressure
VS
Safety Injection Flow



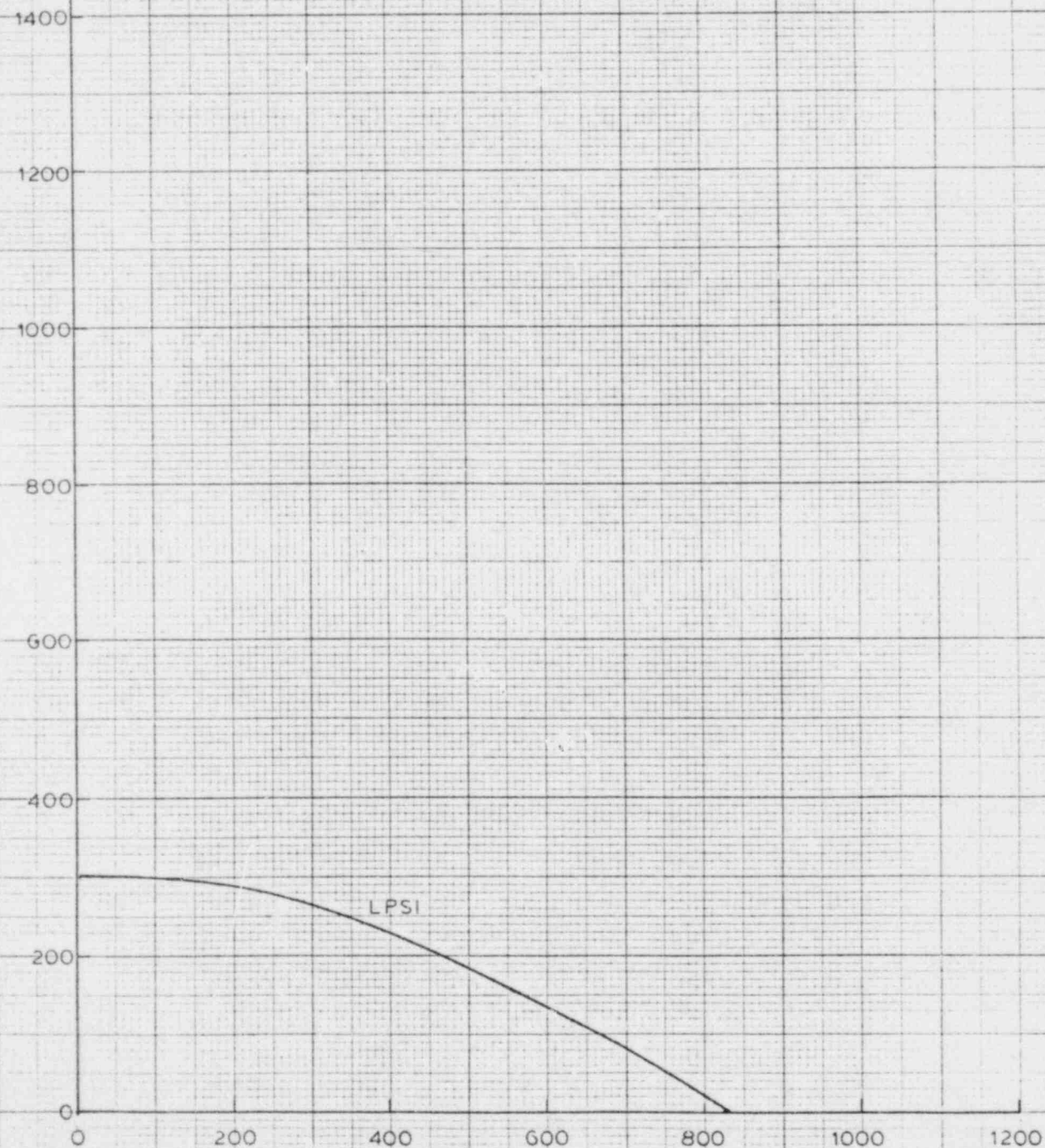
46 1240

McE 20 X 20 TO THE INCH • F X 10 INCHES
KLEPPER ASSOCIATES CO. MADE IN U.S.A.

FIGURE 2

Reactor Coolant Pressure
vs
Safety Injection Flow

REACTOR COOLANT PRESSURE PSIG



SAFETY INJECTION FLOW LB/SEC

46 1240

30 X 20 TO THE INCH • X 10-1000-11
KEUFFEL & ESSER CO. NEW YORK