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10 CFR 50.4  
10 CFR 52.79

March 12, 2010

UN#10-062

ATTN: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Subject: UniStar Nuclear Energy, NRC Docket No. 52-016  
Response to Request for Additional Information for the  
Calvert Cliffs Nuclear Power Plant, Unit 3,  
RAI No. 182, System Quality Group Classification

References: 1) Surinder Arora (NRC) to Robert Poche (UniStar Nuclear Energy), "FINAL  
RAI No. 182 EMB2 2247" email dated October 2, 2009  
2) UniStar Nuclear Energy Letter UN#10-058, from Greg Gibson to Document  
Control Desk, U.S. NRC, Response to RAI No. 182, System Quality Group  
Classification, dated March 5, 2010

The purpose of this letter is to respond to the request for additional information (RAI) identified in the NRC e-mail correspondence to UniStar Nuclear Energy, dated October 2, 2009 (Reference 1). This RAI addresses System Quality Group Classification, as discussed in Section 3.2.2 of the Final Safety Analysis Report (FSAR), as submitted in Part 2 of the Calvert Cliffs Nuclear Power Plant (CCNPP) Unit 3 Combined License Application (COLA), Revision 6.

Reference 2 provided a March 12, 2010 schedule for the responses for RAI 182, Questions 03.02.02-1 through 03.02.02-6. The enclosure provides our responses to RAI 182, Questions 03.02.02-1 and 03.02.02-3 through 03.02.02-6. Our responses include revised COLA content and do not include any new regulatory commitments. A Licensing Basis Document Change Request has been initiated to incorporate these changes into a future revision of the COLA.

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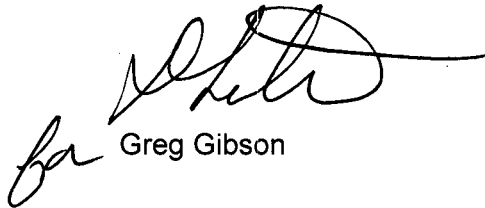
UniStar Nuclear Energy requires additional time to finalize the response to Question 03.02.02-2. The response to this question will be provided to the NRC by March 26, 2010.

This letter does not contain any sensitive or proprietary information.

If there are any questions regarding this transmittal, please contact me at (410) 470-4205, or Mr. Wayne A. Massie at (410) 470-5503.

*I declare under penalty of perjury that the foregoing is true and correct.*

Executed on March 12, 2010



Greg Gibson

Enclosure: Response to NRC Request for Additional Information, RAI No. 182, Questions 03.02.02-1 and 03.02.02-3 through 03.02.02-6, System Quality Group Classification, Calvert Cliffs Nuclear Power Plant, Unit 3

cc: Surinder Arora, NRC Project Manager, U.S. EPR Projects Branch  
Laura Quinn, NRC Environmental Project Manager, U.S. EPR COL Application  
Getachew Tesfaye, NRC Project Manager, U.S. EPR DC Application (w/o enclosure)  
Loren Plisco, Deputy Regional Administrator, NRC Region II (w/o enclosure)  
Silas Kennedy, U.S. NRC Resident Inspector, CCNPP, Units 1 and 2  
U.S. NRC Region I Office

**Enclosure**

**Response to NRC Request for Additional Information  
RAI No. 182, Questions 03.02.02-1 and 03.02.02-3 through 03.02.02-6,  
System Quality Group Classification,  
Calvert Cliffs Nuclear Power Plant, Unit 3**

**RAI No 182**

**Question 03.02.02-1**

SRP 3.2.2 identifies that consistent with SECY-93-087 the staff should review applications using the newest codes and standards that have been endorsed by the NRC and unapproved editions will be reviewed on a case by case basis. FSAR Table 3.2-1 and Subsection 3.2.3 do not define editions for codes and standards or applicable codes and standards for certain SSCs, such as the Traveling Screens. Clarify which editions of codes and standards apply to the SSCs included in Table 3.2-1 and, for SSCs with no commercial codes and standards shown, identify which commercial codes and standards apply. If this information is to be determined later, advise when this information will be available.

**Response**

FSAR Table 3.2-1, Classification Summary for Site-Specific SSCs, identifies codes and standards. This table will be revised to identify the code editions in a future revision of the COLA. In FSAR Table 3.2-1, the Traveling Screens, Removable Screens, Removable Trash Screen / Drive, Aeration Blower and Aeration Chamber contain numerous commercial design codes. The components will be designed to the manufacturer's standard of design.

Additionally, the quality group classification for electrical equipment listed in FSAR Table 3.2-1 will be revised in a future revision of the COLA. As stated in U.S. EPR FSAR Section 3.2.2, System Quality Group Classification, the requirements of 10 CFR 50.55a and the guidelines of RG 1.26 define the quality group classifications and the relevant quality standards applicable to safety-related structures, systems, and components (SSC) containing water, steam, or radioactive material in light-water-cooled nuclear power plants. Since this does not apply to electrical equipment, 'N/A' has been placed in the quality group classification column. This is consistent with U.S. EPR FSAR Table 3.2.2-1, Classification Summary, for electrical equipment. The applicable codes and standards for electrical equipment are listed in U.S. EPR FSAR Section 8.1.4.3, Criteria, Regulatory Guides, Standards, and Technical Positions.

Since the questions identified in RAI 182 are related and the responses affected the same portions of the COLA, the proposed COLA revision markups for the responses to RAI Questions 03.02.02-1, 03.02.02-3, 03.02.02-4, and 03.02.02-6 have been consolidated into this response for clarity.

**COLA Impact**

FSAR Table 3.2-1 will be updated as shown below in a future COLA revision:

**Table 3.2-1—{Classification Summary for Site-Specific SSCs}**  
(Page 1 of 8)

KKS System or Component Code	SSC Description	Safety Classification (Note 1)	Quality Group Classification	Seismic Category (Note 2)	10CFR50 Appendix B Program	Location (Note 3)	Comments/Commercial Code (Note 10)
Table 3.2.2-1 of the U.S. EPR FSAR contains the following conceptual design information for the SM, SN, Cranes, Hoists, and Elevators category for: UKE, Access Building, and UBZ, Buried Conduit Duct Bank.							
[[UKE	Access Building	NS-AQ	N/A	CS	No	UKE	
UBZ	Buried Conduit Duct Bank	S	N/A	I	Yes	UBZ]]	
The U.S. EPR FSAR descriptions provided in U.S. EPR FSAR Table 3.2.2-1 regarding the SM, SN, Cranes, Hoists, and Elevators category for: UKE, Access Building, and UBZ, Buried Conduit Duct Bank are applicable to CCNPP Unit 3, and are incorporated by reference.							
<b>PED UHS Makeup Water System</b>							
30PED 10/20/30/40/AP 001	UHS Makeup Water Pumps	S	C	I	Yes	UPB_UPF	ASME III ANSI/HI 2.3
30PED 10/20/30/40/AH 001	UHS Makeup Water Pump Motors (30 PED 10/20/30/40/ AH001)	S	<del>E</del> N/A	I	Yes	UPB_UPF	IEEE/NEMA (Note 8)
PED	Piping (30PED 10/20/30/40) to Cooling Tower	S	C	I	Yes	UPB_UPF/ UZT	ASME III
30PED 10/20/30/40/AT 001/AT002	Discharge Strainer	S	C	I	Yes	UPB_UPF	ASME III
30PED 10/20/30/40/ AA001, 30 PED 10/20/30/40/ AA005	Isolation Valves	S	C	I	Yes	UPB_UPF/ UZT	ASME III/IEEE (Note 8)
PED	Ventilation Equipment Piping	S	C	I	Yes	UPBUPF	ASME III
PED	Ventilation Equipment	S	C	I	Yes	UPBUPF	ASME III / ASME AG- 1
30 PED 11/21/31/41/AC 001	Isolation Valves for Equipment	S	C	I	Yes	UPBUPF	ASME III
PED	Piping and Valves	S	C	I	Yes	UPBUPF/U ZT	ASME III / ASCE 4
30UPBUPF10 01/02/03/04	UHS Makeup Water Intake Structure, UHS Makeup Pump Rooms	S	<del>E</del> N/A	I	Yes	UPBUPF	ANSI/HI 9.8/ACI 349/ ANSI/AISC N690
PED	Instrument and Controls in the UHS Makeup Water Intake Structure	S	C	I	Yes	UPBUPF	ASME III/IEEE (Note 8)
PED	UHS Makeup Water System Electrical Distribution System Equipment	S	<del>E</del> N/A	I	Yes	UPBUPF	IEEE/NEMA (Note 8)
UPB_UPF	UHS Electrical Building	S	<del>E</del> N/A	I	Yes	UPBUPF	ACI 349/ ANSI/AISC N690
PED	Miscellaneous piping and valves	NS-AQ	D	II	No Yes		ASME B31.1
PED	Traveling Screens	NS-AQ	<del>D</del> N/A	II (Note 9)	No Yes	UPBUPF	(Note 6)
PED	Screen Wash Pumps	NS-AQ	D	II	Yes	UPE/UPF	ASME B31.1/ANSI/HI 2.3
PED	Bar Screens	NS-AQ	N/A	II	Yes	UPE/UPF	(Note 6)
PED	Buried Intake Pipes	S	C	I	Yes	UPE/ UPB_UPF	ASME III/ASCE 4-98/ ASME B31.1, App. VII

**Table 3.2-1—{Classification Summary for Site-Specific SSCs}**  
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KKS System or Component Code	SSC Description	Safety Classification (Note 1)	Quality Group Classification	Seismic Category (Note 2)	10CFR50 Appendix B Program	Location (Note 3)	Comments/ Commercial Code (Note 10)
PED	Forebay	NS-AQ S	E N/A	II	No	UPE/ UPB UPE	ACI 349 / ASCE 43-05
PED	Sheet Pile Wall	NS-AQ	E N/A	CS	No		IBC / AISC N690
PED	Electrical Duct Banks traversing from the UHS Makeup Water Intake Structure and the UHS Electrical Building	S	E N/A	I	Yes	UPB UPE/ UZT	IEEE/ACI 349/NEC (Note 8)
PED	Electrical Duct Banks traversing from each Essential Service Water Building to the UHS Electrical Building	S	E N/A	I	Yes	UPB UPE/ UQB/ UZT	IEEE/ACI 349/NEC (Note 8)
<b>PA, PAA, PAB, PAC Circulating Water System</b>							
URA	Circulating Water Cooling Tower and Basin	NS	E N/A	CS	No	URA	IBC
UPE	Circulating Water System Makeup Intake Structure	NS-AQ	E	CS II	No	UPE	IBC / ACI 349
30 PAC10/20/30 AP 001	Circ Water Pumps	NS	E	NSC	No	UQA	ASME B31.1/ANSI/HI 2.3
PAC	Circ Water Pump Fans	NS	E N/A	NSC	No	UQA	IEEE (Note 8)
30 PAC10/20/30 AH 001	Circ Water Pump Motors	NS	E N/A	NSC	No	UQA	IEEE/NEMA (Note 8)
30PAA10/20/30 AT001	Removable Screens	NS	E	NSC	No	UQA	(Note 6)
PAB	Circ Water Piping	NS	E	NSC	No	UQA	ASME B31.1/AWWA
PAB	Circ Water Valves	NS	E	NSC	No	UQA	AWWA/ASME B31.1/IEEE
PAB	Instrumentation and Controls in Circ Water Piping	NS	E	NSC	No	UQA/UZT	AWWA/ASME B31.1
URA	Cooling Tower Basin		E	CS	No	URA	IBC
30 PAC10/20/30 AP 001	Circ Water Makeup Pumps	NS	E	NSC	No	UPE	ASME B31.1/ANSI/HI 2.3
UQA	Circ Water Pump Bldg	NS	E N/A	CS	No	UQA	IBC
30 PAC10/20/30 AH 001	Circ Water Makeup Pump Motors	NS	E N/A	NSC	No	UPE	IEEE/NEMA (Note 8)
PAB	Circ Water Makeup Piping	NS	E	NSC	No	UPE/ UZT	AWWA/ ASME B31.1
PAB	Circ Water Chemical Treatment Piping	NS	E	NSC	No	UZT/UPE/ UQA	ASME B31.1
PAB	Circ Water Cooling Tower Blowdown Piping	NS	E	NSC	No	UQA/ UZT	AWWA/ ASME B31.1
PAB	Circ Water Bypass Piping	NS	E	NSC	No	UQA/ UZT	AWWA/ASME B31.1
PAA	Traveling Screens	NS	E	NSC	No	UPE	
PAB	Makeup piping Valves	NS	E	NSC	No	UPE	AWWA/ASME B31.1
PAB	Instrumentation and Controls in Makeup Piping	NS	E	NSC	No	UQA/UZT	AWWA/ASME B31.1
PAA	Removable Trash Screen / Drive	NS	E	NSC	No	UPE	(Note 6)
PA	Circ Water System Electrical Distribution Equipment	NS	E N/A	NSC	No	UQA	IEEE/NEMA (Note 8)

**Table 3.2-1—{Classification Summary for Site-Specific SSCs}**  
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KKS System or Component Code	SSC Description	Safety Classification (Note 1)	Quality Group Classification	Seismic Category (Note 2)	10CFR50 Appendix B Program	Location (Note 3)	Comments/ Commercial Code (Note 10)
<b>GW Raw Water System, includes Essential Service Water Normal Makeup Supply</b>							
GW	Desalinization Transfer Pumps/ Motors	NS	E	NSC	No	UPQ	ASME B31.1/ <del>NEMA</del> /ANSI (Note 8)
<u>GW</u>	<u>Desalinization Transfer Pump Motors</u>	<u>NS</u>	<u>N/A</u>	<u>NSC</u>	<u>No</u>	<u>UPQ</u>	(Note 8)
GW	Desalinization Water Storage Tank	NS	E	CS	No	UPQ	AWWA D100/IBC
GW	Recirculation Valves	NS	E	NSC	No	UPQ	ASME B31.1
GW	Raw Water System Piping	NS	E	NSC	No	UPQ	ASME B31.1
GW	Water Heaters	NS	E	NSC	No	UPQ	ASME Section VIII
UPQ	Desalinization/Water Treatment Building	NS	<del>E</del> <u>N/A</u>	CS	No	UPQ	IBC
GW	Piping	NS	E	NSC	No	UPQ/ UZT	ASME B31.1
GW	Valves	NS	E	NSC	No	UPQ	ASME B31.1/ <del>IEEE</del> (Note 8)
GW	RO Equipment	NS	E	NSC	No	UPQ	<u>ASME B31.1</u>
GW	Tanks	NS	E	CS	No	UPQ	AWWA D100/IBC
GW	Filters	NS	E	NSC	No	UPQ	<u>ASME B31.1</u>
GW	Pumps/ <del>Motors</del>	NS	E	NSC	No	UPQ	ASME B31.1/ANSI/NEMA
<u>GW</u>	<u>Motors</u>	<u>NS</u>	<u>N/A</u>	<u>NSC</u>	<u>No</u>	<u>UPQ</u>	(Note 8)
GW	Blowers	NS	E	NSC	No	UPQ	<u>ASME B31.1</u>
GW	System Electrical Distribution Equipment	NS	<del>E</del> <u>N/A</u>	NSC	No	UPQ	<del>IEEE</del> /NEMA (Note 8)
<b>GR Sewage Water Treatment System</b>							
GR	Waste Water Treatment Facility	NS	<del>E</del> <u>N/A</u>	CS	No	UGU/UZT	IBC
GR	Debris Tank	NS	E	CS	No	UGU/UZT	AWWA D100/IBC
GR	Macerating Pumps/ <del>Motors</del>	NS	E	NSC	No	UGU/UZT	ASME B31.1/ANSI/NEMA
<u>GR</u>	<u>Macerating Pump Motors</u>	<u>NS</u>	<u>N/A</u>	<u>NSC</u>	<u>No</u>	<u>UZT</u>	(Note 8)
GR	Aeration Chamber	NS	E	NSC	No	UGU/UZT	(Note 6)
GR	Aeration Blower	NS	E	NSC	No	UGU/UZT	(Note 6)
GR	Underground Piping	NS	E	NSC	No	UGU/UZT	ASME B31.1
GR	Sewage Treatment System Piping	NS	E	NSC	No	UGU/UZT	ASME B31.1
GR	Sewage System Electrical Distribution Equipment	NS	<del>E</del> <u>N/A</u>	NSC	No	UGU/UZT	<del>IEEE</del> /NEMA (Note 8)
<b>UYF, USU Security Access Facility, including Warehouse</b>							
USU	Storage / Warehouse	NS	<del>E</del> <u>N/A</u>	CS	No	USU	IBC
UYF	Security Access Building	NS	<del>E</del> <u>N/A</u>	CS	No	UYF	IBC
<u>UYF</u>	<u>Security Access Electrical Distribution Equipment</u>	<u>NS</u>	<del>E</del> <u>N/A</u>	<u>NSC</u>	<u>No</u>	<u>UYF</u>	<del>IEEE</del> /NEMA (Note 8)
<b>QJ Central Gas Distribution System</b>							
UTG	Central Gas Supply Bldg	NS	<del>E</del> <u>N/A</u>	CS	No	UTG	IBC
QJ	Piping	NS	E	NSC	No	UTG	ASME B31.1
QJ	Valves	NS	E	NSC	No	UTG	ASME B31.1
QJ	Compressed Gas Tanks	NS	E	NSC	No	UTG	DOT Standards

**Table 3.2-1—{Classification Summary for Site-Specific SSCs}**  
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KKS System or Component Code	SSC Description	Safety Classification (Note 1)	Quality Group Classification	Seismic Category (Note 2)	10CFR50 Appendix B Program	Location (Note 3)	Comments/ Commercial Code (Note 10)
QJ	Central Gas Supply Electrical Distribution Equipment	NS	E N/A	NSC	No	UTG	IEEE/NEMA (Note 8)
<b>GK, Potable and Sanitary Water Systems</b>							
GK	Piping	NS	E	NSC	No		ASME B31.1
GK	Valves	NS	E	NSC	No		ASME B31.1
GK	Tanks	NS	E	CS	No		AWWA D100/ASME VIII/IBC
GK	Pump/Motors	NS	E	NSC	No		ASME B31.1/ANSI/NEMA (Note 8)
GK	Motors	NS	N/A	NSC	No		(Note 8)
GK	Potable Water System Electrical Distribution Equipment	NS	E N/A	NSC	No		IEEE/NEMA (Note 8)
<b>SG, SGA, SGAO, SGM Fire Water Supply System</b>							
SGA	Fire Water Distribution System, including valves and hydrants, Balance of Plant (Not providing Safe Shutdown Earthquake Protection)	NS-AQ	D	NSC	No		NFPA 24, 2007 ed. NFPA 25, 2002 ed. NFPA 214, 2005 ed. NFPA 804, 2006 ed. (Note 8)
SGA	Fire Water Distribution System, including valves and hydrants, Balance of Plant (Safe Shutdown Equipment Protection following SSE)	NS-AQ	D	II-SSE	Yes		NFPA 24, 2007 ed. NFPA 25, 2002 ed. NFPA 804, 2006 ed. ANSI/ASME B31.1, 2004 ed. (Note 8)
USG	Fire Water Storage Tanks and Fire Protection Building	NS-AQ	D	II-SSE	Yes	USG/ UZT	NFPA 20, 2007 ed. NFPA 22, 2003 ed. NFPA 25, 2002 ed. AWWA D100, 2005 ed. ASCE 43, 2005 ed. ANSI/ASME B31.1, 2004 ed. ASCE 4 (Note 8)
USQ	Fire Protection Building	NS-AQ	N/A	II-SSE	Yes	USG/UZT	ASCE 43
SGM	Diesel Engine Driven Pumps and Drivers and subsystems, including diesel fuel oil supply	NS-AQ	D	II-SSE	Yes	USG	NFPA 20, 2007 ed. NFPA 25, 2002 ed. NFPA 804, 2006 ed. ASCE 43, 2005 ed. ANSI/ASME B31.1, 2004 ed. (Note 8)
SGM	Electric Motor Driven Pump and Driver	NS-AQ	D	NSC	No	USG	NFPA 20, 2007 ed. NFPA 25, 2002 ed. NFPA 804, 2006 ed. (Note 8)



**Table 3.2-1—{Classification Summary for Site-Specific SSCs}**  
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KKS System or Component Code	SSC Description	Safety Classification (Note 1)	Quality Group Classification	Seismic Category (Note 2)	10CFR50 Appendix B Program	Location (Note 3)	Comments/ Commercial Code (Note 10)
SA	Ventilation Equipment	NS-AQ	D	II-SSE	Yes	USG	NFPA 20, 2007 ed.; NFPA 90A, 2002 ed.; Including 2003 & 2005 Errata ASME AG-1, 2003 ed.; Including 2004 Addenda ASME N-509, 2002 ed.; ASCE 43, 2005 ed.; (Note 8)
SGM	Jockey Pump and driver	NS-AQ	D	NSC	No	USG	NFPA 20, 2007 ed.; NFPA 25, 2002 ed.; NFPA 804, 2006 ed.; (Note 8)
SG	Fire Protection Makeup Piping and Valves From Raw (Desalinated) Water Supply System	NS-AQ	D	NSC	No	UZF	NFPA 22, 2003 ed.; NFPA 25, 2002 ed.; (Note 8)
<b>Fire Suppression Systems</b>							
	Fire Suppression Systems for Site - Specific Buildings other than UHS Makeup Water Intake Structure, UHS Electrical Building, and Fire Protection Building	NS-AQ	D	NSC	No	UST UTG UYF UPQ	NFPA 13, 2007 ed.; NFPA 14, 2007 ed.; NFPA 25, 2002 ed.; NFPA 804, 2006 ed.; (Note 8)
	Fire Suppression Systems for UHS Makeup Water Intake Structure, UHS Electrical Building, and Fire Protection Building	NS-AQ	D	II-SSE	Yes	UPB, UPE, USG	NFPA 13, 2007 ed.; NFPA 14, 2007 ed.; NFPA 25, 2002 ed.; NFPA 804, 2006 ed.; ANSI/ASME B31.1, 2004 ed.; (Note 8)
<b>Other Site-Specific Structures</b>							
UBA	Switchgear Building	NS	E	CS	No	UBA	IBC
UMA	Turbine Building	NS	E	CS	No	UMA	IBC
UAC	Grid Systems Control Building	NS	E N/A	CS	No	UAC	IBC
UQZ	Electrical Duct Banks traversing from the Safeguards Buildings to the Four Essential Service Water Buildings and Both Emergency Power Generating Buildings	S	E N/A	I	Yes	UJK/ UZF/ UQB/ UBP	IEEE/ACI-349/NEC
UQZ	Electrical Duct Banks traversing from the Safeguards Buildings to the Switchgear Building	NS	E N/A	CS	No	UJK/ UZF/ UBA	IEEE/NEC IBC
	Electrical Duct Banks traversing from the Emergency Auxiliary Transformers to the Safeguard Buildings	NS	E N/A	CS	No	UBE/ UZF/ UJK	IEEE/NEC IBC

**Table 3.2-1—{Classification Summary for Site-Specific SSCs}**  
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KKS System or Component Code	SSC Description	Safety Classification (Note 1)	Quality Group Classification	Seismic Category (Note 2)	10CFR50 Appendix B Program	Location (Note 3)	Comments/ Commercial Code (Note 10)
UBZ	Electrical Duct Banks traversing from the Switchgear Building to the Desalination Plant, Circulating Water Pump Building, Cooling Tower, Switchyard Control House, Site Specific Auxiliary Transformer, Sewage Treatment Plant, and CW Makeup Water Intake Structure	NS	E N/A	CS	No	UBA/ UZT/ UPQ/ UQA/ URA/ UAC/ UAA/ UGV/ UPE	IEEE/NEC IBC
	Electrical Duct Banks traversing between miscellaneous conventional seismic category buildings	NS	E N/A	CS	No	UZT	IEEE/NEC IBC
	Electrical Duct Banks traversing between miscellaneous buildings	NS	E	CS	No	UZT	IEEE/NEC

Notes:

- As defined in U.S. EPR FSAR Section 3.2.1, the US EPR safety classifications, as supplemented by the UniStar Quality Assurance Program Description (QAPD) classifications, are:  
S- Safety-related (UniStar QAPD classification - QA Level 1)  
NS- Non-safety-related (UniStar QAPD classification - QA Level 3)  
NS-AQ- Supplemented Grade (UniStar QAPD classification - QA Level 2)
- As defined in Section 3.2.1 and U.S. EPR FSAR Section 3.2.1, the Seismic Classifications are:  
I – Seismic Category I  
II – Seismic Category II  
II-SSE – Seismic Category II Fire Protection structures, systems, and components that are required to remain functional during and following a safe shutdown earthquake to support equipment required to achieve safe shutdown. The following Fire Protection structures, systems, and components are required to remain functional during and after a seismic event: 1) Fire Water Storage Tanks; 2) Fire Protection Building; 3) Diesel driven fire pumps and their associated subsystems and components, including the diesel fuel oil system; 4) Critical support systems for the Fire Protection Building, i.e., ventilation; and 5) The portions of the fire water piping system and components (including isolation valves) which supply water to the stand pipes in buildings that house the equipment required for safe shutdown of the plant following an SSE. Manual actions may be required to isolate the portion of the Fire Protection piping system that is not qualified as Seismic Category II-SSE.  
CS – Conventional Seismic  
NSC – Non-seismic

**Table 3.2-1—{Classification Summary for Site-Specific SSCs}**  
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KKS System or Component Code	SSC Description	Safety Classification (Note 1)	Quality Group Classification	Seismic Category (Note 2)	10CFR50 Appendix B Program	Location (Note 3)	Comments/ Commercial Code (Note 10)
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3. Locations are defined in the table that follows:

KKS Designator	Location
UAA	Switchyard
UAC	Grid System Control Building
UBA	Switchgear Building
UBE	Auxiliary Power Transformers
UBP	Emergency Power Generating Building
UGV	Sewage Treatment Plant Building
UJK	Safeguard Buildings Electrical
UMA	Turbine Building
UPB UPE	UHS Makeup Water Intake Structure
UPE	Circulating Water Makeup Intake Structure
UQB	Essential Service Water Pump Building
UQA	Circulating Water Pump Building
URA	Cooling Tower Structure
USG	Fire Water Storage Tanks and Fire Protection Building
UST	Workshop & Warehouse Building
USU	Storage / Warehouse
UTG	Central Gas Supply Building
UYF	Security Access Building
UZT	Outdoor Area
UPQ	Water Treatment Building
UQZ	Buried piping and pipe ducts for service water systems and cables
UBZ	Buried conduit duct bank from Switchgear building to transformers
UGU	Wastewater discharge structure

4. Acronyms are defined below:

KKS	Code Description
GW	Raw water supply system
GK	Potable and sanitary water systems
GKB	Potable and sanitary water distribution system
GR	Sewage water treatment system
PA	Circulating water supply system
PAA	Circulating water screening plant
PAB	Circulating water piping system
PAC	Circulating water pump system
PED	Essential service water recirculation cooling system
QJ	Central gas distribution system
SG	Stationary fire protection systems
SGA	Fire water distribution system, conventional area
SGA0	Fire water distribution system outside of buildings
SGM	Fire protection equipment

**Table 3.2-1—{Classification Summary for Site-Specific SSCs}**  
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KKS System or Component Code	SSC Description	Safety Classification (Note 1)	Quality Group Classification	Seismic Category (Note 2)	10CFR50 Appendix B Program	Location (Note 3)	Comments/ Commercial Code (Note 10)
5. Those SSCs classified as NS-AQ (for Safety Class) and classified as "Yes" for 10 CFR Appendix B will be subject only to those quality assurance requirements of Appendix B that are pertinent to that SSC based on the potential affect of the SSC on safety-related functions.							
6. These components will be designed to the Manufacturer's Standard of design.							
7. Quality group classification is applicable for pressure retaining and radioactive containing SSC's. This does not apply to electrical equipment, or component structures. The quality group classification of those components will be N/A.							
8. Applicable codes and standards for the electrical components in Table 3.2-1 are provided in U.S. EPR Section 8.1.4.3.							
9. The UHS Makeup dual-flow traveling screens are designed to withstand design basis seismic loads without a loss of their mechanical function and are designed to permit manual operator rotation and cleaning of the screen panels.							
10. Applicable Code Editions							
<b>Commercial Code</b>		<b>Edition</b>					
<u>ASME III</u>		<u>2004</u>					
<u>ANSI/HI 2.3</u>		<u>2000</u>					
<u>ANSI/HI 9.8</u>		<u>1998</u>					
<u>ACI 349</u>		<u>ACI 349-01/349R-01, 2001</u>					
<u>ANSI/AISC N690</u>		<u>1994 (R2004)s2</u>					
<u>IBC</u>		<u>2006 (w/ 2007 supplements)</u>					
<u>ASME B31.1</u>		<u>2004</u>					
<u>ASME Section VIII</u>		<u>2004</u>					
<u>DOT Standard</u>		<u>Latest editions endorsed by DOT regulations in 10 CFR Title 49</u>					
<u>NFPA 13</u>		<u>2007</u>					
<u>NFPA 14</u>		<u>2007</u>					
<u>NFPA 20</u>		<u>2007</u>					
<u>NFPA 22</u>		<u>2003</u>					
<u>NFPA 24</u>		<u>2007</u>					
<u>NFPA 25</u>		<u>2002</u>					
<u>NFPA 90A</u>		<u>2002 (with 2003 &amp; 2005 errata)</u>					
<u>NFPA 214</u>		<u>2005</u>					
<u>NFPA 804</u>		<u>2006</u>					
<u>ASME/ANSI N509</u>		<u>2002 (w/ 2003, 2005 errata)</u>					
<u>ASME AG-1a</u>		<u>2003 w/ 2004 addenda</u>					
<u>ASCE 43</u>		<u>2005</u>					
<u>ASCE 4</u>		<u>1998, reprinted in 2000</u>					
<u>AWWA D100</u>		<u>2005</u>					
<u>AWWA</u>		<u>Latest editions issued as of detailed design</u>					
<u>ANSI/AISC 341</u>		<u>2005</u>					
<u>AISC 360</u>		<u>2005</u>					
<u>ACI 318-05/318R-05</u>		<u>2005</u>					

FSAR Section 9.2.5.2.3 will be revised as follows in a future COLA revision:

## **9.2.5 ULTIMATE HEAT SINK**

### **9.2.5.2 System Description**

#### **9.2.5.2.3 UHS Makeup Water System**

Emergency makeup water for the ESWS is provided by the site-specific, safety-related UHS Makeup Water System that draws water from the Chesapeake Bay. The common forebay is shared between the CWS makeup water system and UHS makeup water system. Two buried 60" safety-related pipes provide a flow path for Chesapeake Bay water to enter the common forebay. Both pipes are designed to account for head losses in the pipe and provide sufficient flow for the CWS makeup and UHS makeup. Both pipes are normally in operation, however, either pipe can be isolated for maintenance as the other pipe is capable of providing 100% flow for CWS makeup and UHS makeup. Due to the head loss through the pipes, the design low water level at the common forebay for the UHS makeup intake is at EL. -8 ft NGVD29, which is 2 feet lower than the design low water level in the Chesapeake Bay of -6 ft NGVD29. The common forebay invert elevation is at -22.5 ft NGVD29, which provides ample additional margin in pump submergence during UHS operation with one or two intake pipes. The UHS Makeup Water Intake Structure houses four bar screens and four dual-flow traveling screens that remove large debris and trash that may be entrained in the flow. Each traveling screen is located in a separate enclosure and provides the required flow to the associated UHS Makeup Water Pump. Each traveling screen is equipped with a screen wash system which provides a high pressure spray to remove debris from the traveling screens.

FSAR Section 9.2.5.3, Component Description, will be revised as follows in a future COLA revision:

#### **UHS Makeup Water Intake Structure Bar Screens and Traveling Screens**

~~The UHS Makeup Water Intake Structure houses four bar screens and four dual flow traveling screens. These screens and the screen wash system are designed to meet Seismic Category II requirements. The screens prevent debris from passing into the UHS Makeup Water System pumps, and subsequently into the Component Cooling Water System heat exchangers, as well as the heat exchangers for the intercoolers, lube oil coolers, and water jackets of the emergency diesel generators. A screen wash system consisting of two submersible screen wash pumps provides high pressure spray to remove debris. These traveling screens are non safety-related, but have a large enough face area that reduces potential blockage to maintain the minimum required flow through them under accident conditions. The UHS Makeup Water Intake Structure has four bar screens and four dual-flow traveling screens. The screens prevent debris from passing into the UHS Makeup Water System. The traveling screens are equipped with a Seismic Category II screen wash system that includes four screen wash pumps. The screen wash pumps provide a high pressure spray to remove debris from the traveling screens. These traveling screens are classified as NS-AQ and are designed to remain mechanically functional following an SSE. The~~

ability to manually rotate and clean the travelling screens to ensure adequate flow to the UHS makeup water pumps following a SSE is also provided. The structure housing the traveling screens will protect them from other natural phenomena, e.g. hurricane, tornado. The structure also provides separation between the screens for each of the four divisions. During normal operation, the traveling screens are powered from the Normal Power Supply System. Backup (Class 1E) power supply is provided to operate the traveling screens post-DBA through the Emergency Power Supply System, for convenience, if the electrical components of the traveling screens are functional post DBA.

### **UHS Makeup Water System Piping**

The UHS Makeup Water System piping and fittings that perform safety functions are designed to ASME Section III, Class 3 requirements, including normal operation and anticipated transient conditions. They are constructed of materials compatible with the brackish UHS makeup water.

### **Screen Wash System Components**

The screen wash system consists of one screen wash pump, associated piping, valves and instruments for each train. The screen wash system components are classified as NS-AQ, and are designed as Seismic Category II. All of these components are constructed of materials compatible with the brackish UHS makeup water.

FSAR Section 9.2.5.4.2, Abnormal Operating Conditions, will be revised as follows in a future COLA revision:

On receipt of an accident signal, the normal ESWS Makeup Water System isolation MOVs that are open will close; those that are closed will remain closed. In addition, the ESWS cooling tower blowdown isolation valves will close, and any open safety-related valves in the chemical treatment system will close. None of these safety-related valves can be opened until the accident signal is cleared. Subsequent action is manually initiated from the main control room or locally, based on operators' judgment resulting from prevailing conditions and indications. This includes initiating the UHS Makeup Water System to any and/or all ESWS cooling tower basins, as well as blowdown from any and/or all ESWS cooling tower basins, as well as manual rotation and cleaning of traveling screens if required.

FSAR Section 9.2.5.5, Safety Evaluation, will be revised as follows in a future COLA revision:

Normal ESWS makeup is a non-safety-related function, and thus requires no safety evaluation with respect to design basis events. Similarly, both cooling tower blowdown and chemical treatment are non-safety-related functions and require no safety evaluation. However, the connections to safety-related piping through which these functions are made and the accompanying isolation valves are safety-related, which ensures the integrity of the safety-related piping in the event of a DBA.

The UHS Makeup Water System function is to provide reliable makeup to the ESWs cooling tower basins, starting no later than 72 hours after receipt of an accident signal, to ensure that sufficient makeup flow is provided so the ESWs can fulfill its design requirement of shutdown decay heat removal for a minimum of 30 days following a DBA.

This function is assured because the UHS Makeup Water System:

- ◆ Is designed, procured, constructed and operated in accordance with the criteria for ASME Section III, Class 3 safety-related systems, structures and components, and Seismic Category 1 requirements, including the tie-in piping and isolation valves for normal makeup, and chemical addition and sampling.
- ◆ Has four equivalent and completely independent trains, any two of which are capable of providing the required worst case makeup flow.
- ◆ Has each UHS Makeup Water System pump and its associated valves, strainer, electrical switchgear, and local controls and instrumentation housed in watertight enclosures in the UHS Makeup Water Intake Structure for protection against worst case flooding at the Chesapeake Bay shoreline.
- ◆ Has an UHS Makeup Water Intake Structure which is designed and built for protection against seismic and missile hazards.
- ◆ Has each UHS Makeup Water System pump installed such that its function is protected against the worst case low water event.
- ◆ Has seismically qualified and installed (buried) piping runs from the UHS Makeup Water Intake Structure to the individual ESWs cooling tower basins.
- ◆ Is treated to meet specified limits on system water chemistry in order to prevent potentially detrimental fouling of stagnant piping sections and surfaces.
- ◆ Is periodically performance tested and sampled to confirm operability and verify system water chemistry requirements.
- ◆ ~~h~~Has a set of traveling screens for the UHS Makeup Water Intake Structure that, although not safety-related are designed and installed to meet Seismic Category II requirements, assuring that they will withstand a safe shutdown earthquake (SSE), and are provided with a large face area to preclude the occurrence of their being blocked to the extent that minimum required flow of makeup water cannot be maintained that remain mechanically functional following an SSE. The ability to manually rotate and clean the travelling screens to ensure adequate flow to the UHS makeup water pumps following a SSE is also provided.

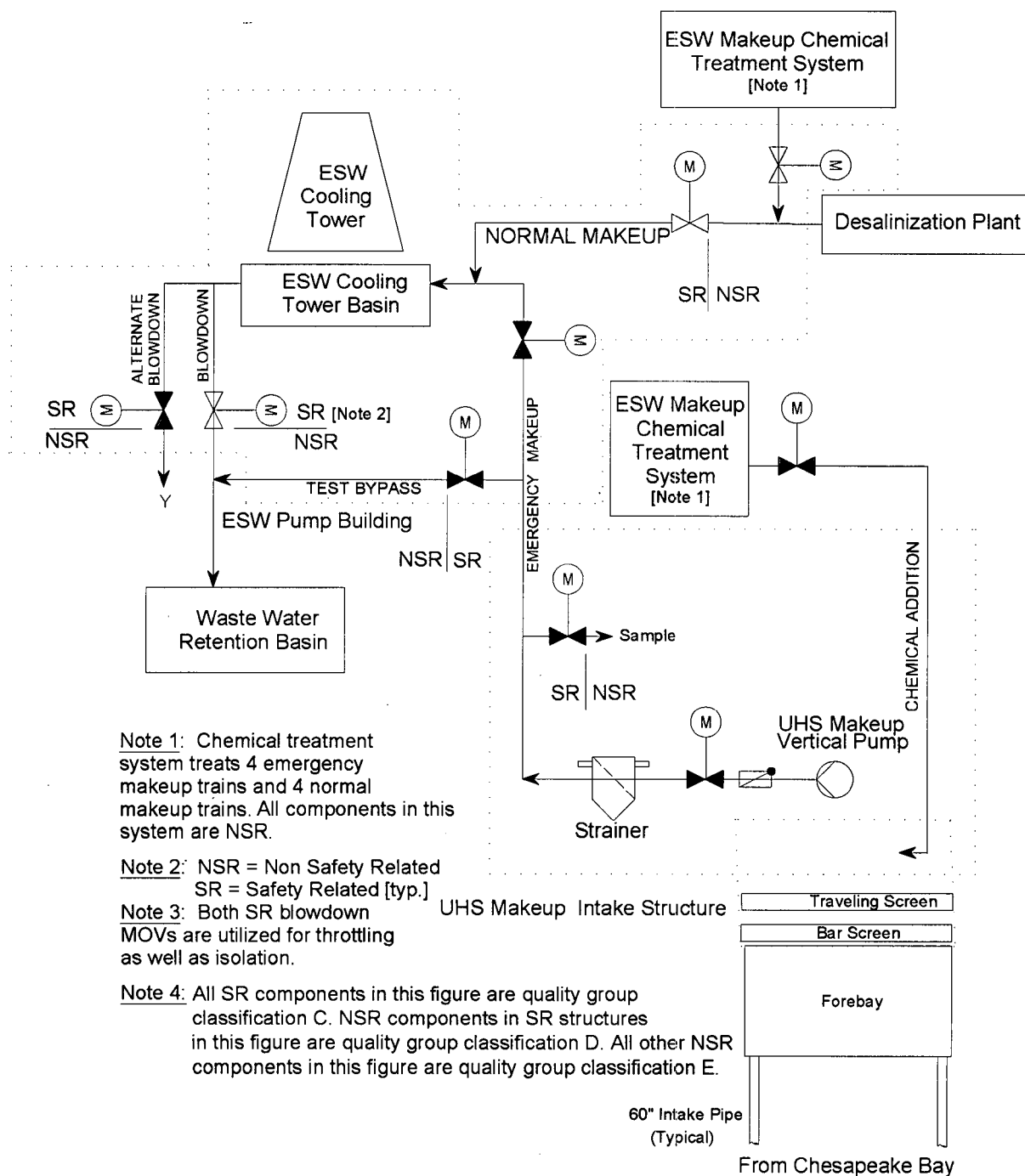
The following figures will be replaced in a future revision of the COLA:

- FSAR Figure 9.2-3, Normal Makeup, Emergency Makeup, Blowdown & Chemical Treatment
- FSAR Figure 9.2-4, General Area – UHS Makeup Water and CW Intake Structure
- FSAR Figure 9.2-5, UHS Makeup Water Intake Structure – Plan View
- FSAR Figure 9.2-6, UHS Makeup Water Intake Structure – Section View

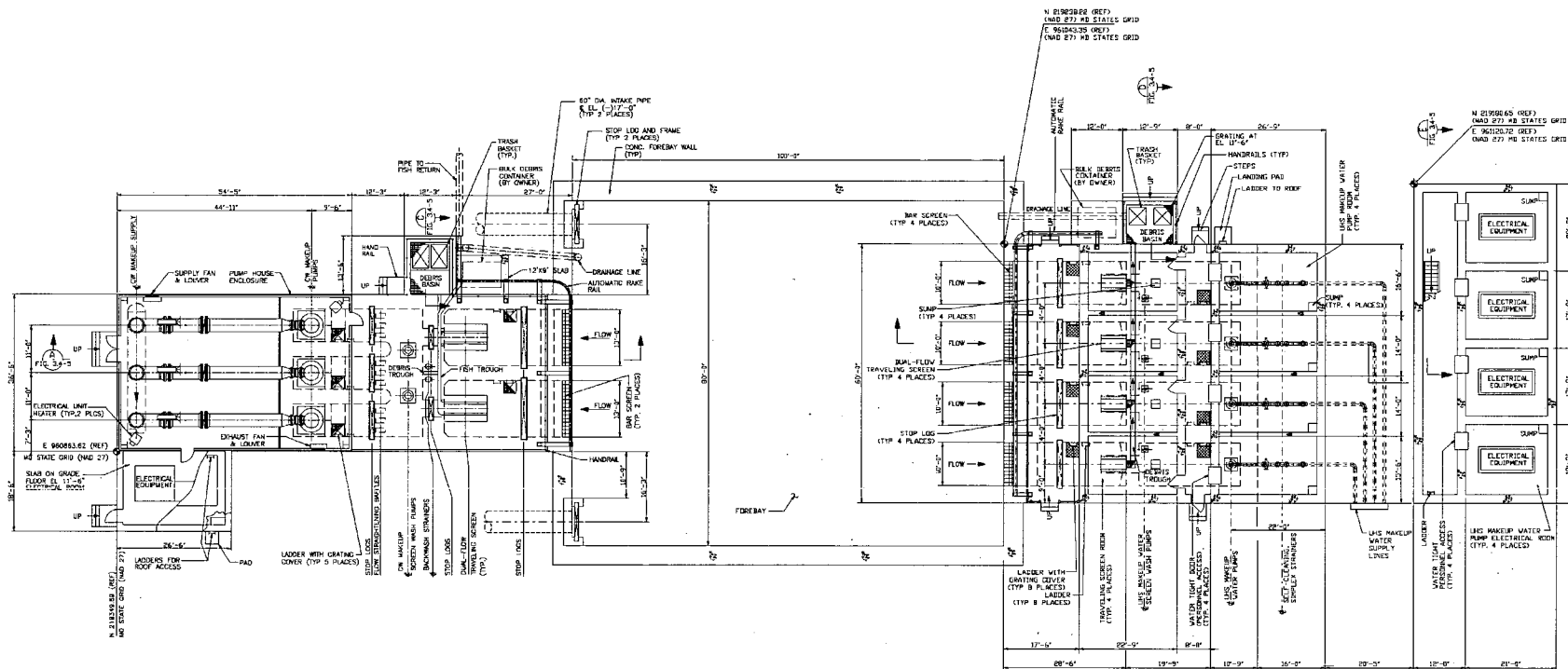
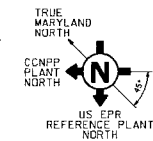
The replacements for these figures are provided below.



### Replacement for FSAR Figure 9.2-3, Normal Makeup, Emergency Makeup, Blowdown & Chemical Treatment



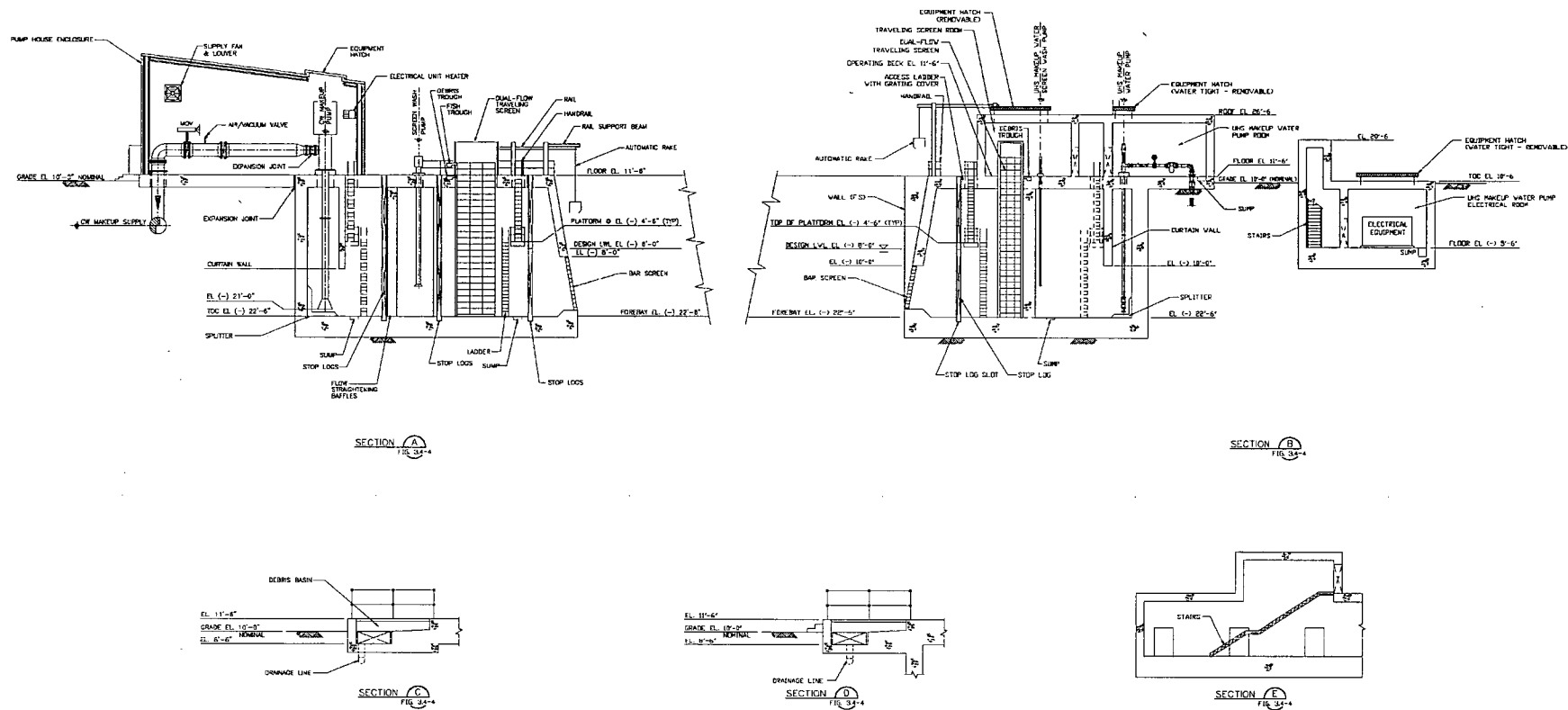
# Replacement for FSAR Figure 9.2-4, General Area – UHS Makeup Water and CW Intake Structure



NOTE:  
PIPING LAYOUT SHOWN IS CONCEPTUAL.



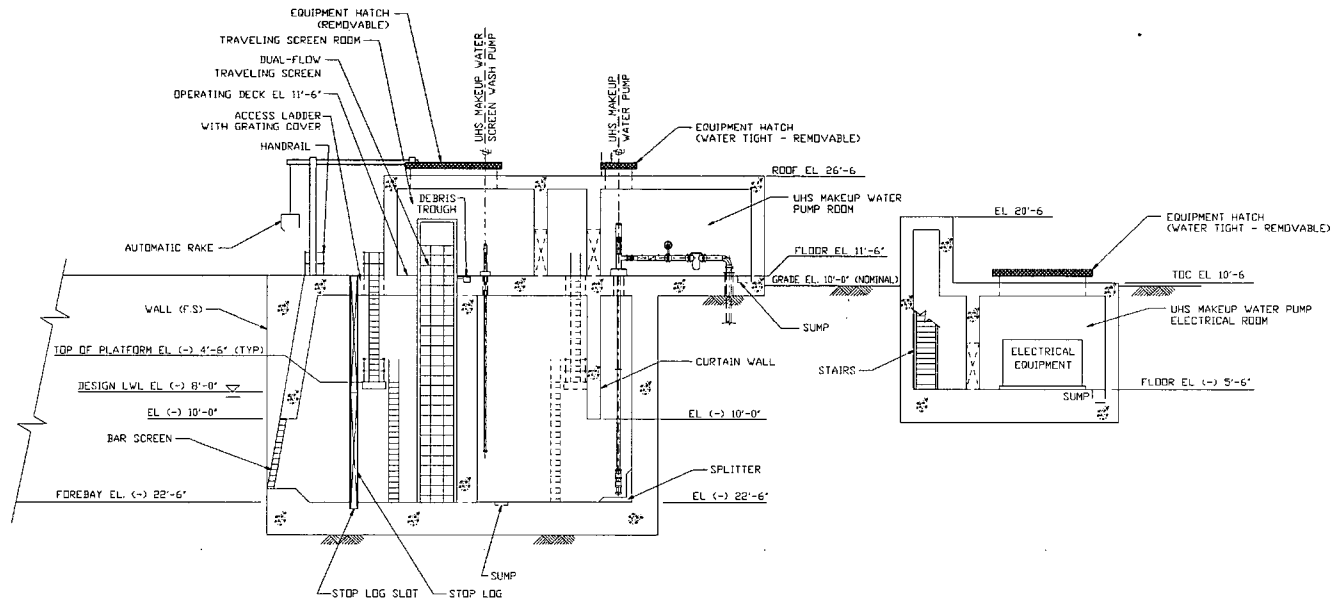
**Replacement for FSAR Figure 9.2-5, UHS Makeup Water Intake Structure – Plan View**



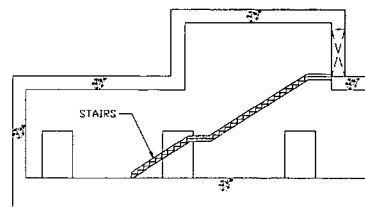
**NOTE:**  
PIPING LAYOUT SHOWN IS CONCEPTUAL.



# Replacement for FSAR Figure 9.2-6, UHS Makeup Water Intake Structure – Section View

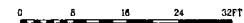


SECTION A  
FIG. 9.2-5



SECTION B  
FIG. 9.2-5

NOTE:  
PIPING LAYOUT SHOWN IS CONCEPTUAL.



FSAR Section 9B.3.12, Ultimate Heat Sink Makeup Water Intake Structure Including Associated UHS Electrical Building, will be updated as follows in a future COLA revision:

**9B.3.12.1 Fire Area FA-UPF-01 (Table 9B-2, Column 35)**

Fire area FA-UPF-01 is one of four electrical rooms, which serve the Ultimate Heat Sink Makeup Water System pumps, and is designated as UHS Makeup Water Intake Structure Electrical Room 1~~Makeup Water System Pump Electrical Room 1~~.

The adequacy of the fire protection features provided is sufficient to prevent a fire originating within fire area FA-UPF-01 from affecting adjacent fire areas.

This fire area is occasionally occupied during normal plant operations. The egress route from this area in the event of a fire is via a single exit ~~to the exterior~~through the building corridor.

**9B.3.12.2 Fire Area FA-UPF-02 (Table 9B-2, Column 36)**

Fire area FA-UPF-02 is the corridor which serves the Ultimate Heat Sink Makeup Water System pump electrical rooms.

The adequacy of the fire protection features provided is sufficient to prevent a fire originating within fire area FA-UPF-02 from affecting adjacent fire areas.

This fire area is occasionally occupied during normal plant operations. The egress route from this area in the event of a fire is via ~~a single exit~~redundant means of egress to the exterior.

**9B.3.12.3 Fire Area FA-UPF-03 (Table 9B-2, Column 37)**

Fire area FA-UPF-03 is one of the four Ultimate Heat Sink Makeup Water System pump rooms and is designated as UHS Makeup Water Intake Structure Pump Room 1~~Ultimate Heat Sink Makeup Water System Pump Room 1~~.

The adequacy of the fire protection features provided is sufficient to prevent a fire originating within fire area FA-UPF-03 from affecting adjacent fire areas.

This fire area is occasionally occupied during normal plant operations. The egress route from this area in the event of a fire is via a single grade level exit ~~to the exterior and via multiple ladders from below grade~~through the building corridor.

**9B.3.12.4 Fire Area FA-UPF-04 (Table 9B-2, Column 38)**

Fire area FA-UPF-04 is the corridor which serves the Ultimate Heat Sink Makeup Water System pump rooms.

The adequacy of the fire protection features provided is sufficient to prevent a fire originating within fire area FA-UPF-04 from affecting adjacent fire areas.

This fire area is occasionally occupied during normal plant operations. The egress route from this area in the event of a fire is via ~~a single exit~~ redundant means of egress to the exterior.

**9B.3.12.5 Fire Area FA-UPF-05 (Table 9B-2, Column 39)**

Fire area FA-UPF-05 is one of four electrical rooms which serve the Ultimate Heat Sink Makeup Water System pumps and is designated as UHS Makeup Water Intake Structure Electrical Room 2 ~~Ultimate Heat Sink Makeup Water System Pump Electrical Room 2~~.

The adequacy of the fire protection features provided is sufficient to prevent a fire originating within fire area FA-UPF-05 from affecting adjacent fire areas.

This fire area is occasionally occupied during normal plant operations. The egress route from this area in the event of a fire is via a single exit to the exterior.

**9B.3.12.6 Fire Area FA-UPF-06 (Table 9B-2, Column 40)**

Fire area FA-UPF-06 is one of the four Ultimate Heat Sink Makeup Water System pump rooms and is designated as UHS Makeup Water Intake Structure Pump Room 2 ~~Ultimate Heat Sink Makeup Water System Pump Room 2~~.

The adequacy of the fire protection features provided is sufficient to prevent a fire originating within fire area FA-UPF-06 from affecting adjacent fire areas.

This fire area is occasionally occupied during normal plant operations. The egress route from this area in the event of a fire is via a single grade level exit ~~to the exterior~~ and via multiple ladders from below grade through the building corridor.

**9B.3.12.7 Fire Area FA-UPF-07 (Table 9B-2, Column 41)**

Fire area FA-UPF-07 is one of four electrical rooms which serve the Ultimate Heat Sink Makeup Water System pumps and is designated as UHS Makeup Water Intake Structure Electrical Room 3 ~~Ultimate Heat Sink Makeup Water System Pump Electrical Room 3~~.

The adequacy of the fire protection features provided is sufficient to prevent a fire originating within fire area FA-UPF-07 from affecting adjacent fire areas.

This fire area is occasionally occupied during normal plant operations. The egress route from this area in the event of a fire is via a single exit ~~to the exterior~~ through the building corridor.

**9B.3.12.8 Fire Area FA-UPF-08 (Table 9B-2, Column 42)**

Fire area FA-UPF-08 is one of the four Ultimate Heat Sink Makeup Water System pump rooms and is designated as UHS Makeup Water Intake Structure Pump Room 3 ~~Ultimate Heat Sink Makeup Water System Pump Room 3~~.

The adequacy of the fire protection features provided is sufficient to prevent a fire originating within fire area FA-UPF-08 from affecting adjacent fire areas.

This fire area is occasionally occupied during normal plant operations. The egress route from this area in the event of a fire is via a single grade level exit ~~to the exterior~~ and via multiple ladders from below grade through the building corridor.

**9B.3.12.9 Fire Area FA-UPF-09 (Table 9B-2, Column 43)**

Fire area FA-UPF-09 is one of four electrical rooms which serve the Ultimate Heat Sink Makeup Water System pumps and is designated as UHS Makeup Water Intake Structure Electrical Room 4 ~~Ultimate Heat Sink Makeup Water System Pump Electrical Room 4.~~

The adequacy of the fire protection features provided is sufficient to prevent a fire originating within fire area FA-UPF-09 from affecting adjacent fire areas.

This fire area is occasionally occupied during normal plant operations. The egress route from this area in the event of a fire is via a single exit ~~to the exterior~~ through the building corridor.

**9B.3.12.10 Fire Area FA-UPF-10 (Table 9B-2, Column 44)**

Fire area FA-UPF-10 is one of the four Ultimate Heat Sink Makeup Water System pump rooms and is designated as UHS Makeup Water Intake Structure Pump Room 4 ~~Ultimate Heat Sink Makeup Water System Pump Room 4.~~

The adequacy of the fire protection features provided is sufficient to prevent a fire originating within fire area FA-UPF-10 from affecting adjacent fire areas.

This fire area is occasionally occupied during normal plant operations. The egress route from this area in the event of a fire is via a single grade level exit ~~to the exterior~~ and via multiple ladders from below grade through the building corridor.

**9B.3.12.11 Fire Area FA-UPF-11 (Table 9B-2, Column 45)**

Fire area FA-UPF-11 is one of four traveling screen rooms which serve the Ultimate Heat Sink Makeup Water System pumps and is designated as UHS Makeup Water Intake Structure Traveling Screen Room 1.

The adequacy of the fire protection features provided is sufficient to prevent a fire originating within fire area FA-UPF-11 from affecting adjacent fire areas.

This fire area is occasionally occupied during normal plant operations. The egress route from this area in the event of a fire is via a single grade level exit through the building corridor.

**9B.3.12.12 Fire Area FA-UPF-12 (Table 9B-2, Column 46)**

Fire area FA-UPF-12 is one of four traveling screen rooms which serve the Ultimate Heat Sink Makeup Water System pumps and is designated as UHS Makeup Water Intake Structure Traveling Screen Room 2.

The adequacy of the fire protection features provided is sufficient to prevent a fire originating within fire area FA-UPF-12 from affecting adjacent fire areas.

This fire area is occasionally occupied during normal plant operations. The egress route from this area in the event of a fire is via a single grade level exit through the building corridor.

**9B.3.12.13 Fire Area FA-UPF-13 (Table 9B-2, Column 47)**

Fire area FA-UPF-13 is one of four traveling screen rooms which serve the Ultimate Heat Sink Makeup Water System pumps and is designated as UHS Makeup Water Intake Structure Traveling Screen Room 3.

The adequacy of the fire protection features provided is sufficient to prevent a fire originating within fire area FA-UPF-13 from affecting adjacent fire areas.

This fire area is occasionally occupied during normal plant operations. The egress route from this area in the event of a fire is via a single grade level exit through the building corridor.

**9B.3.12.14 Fire Area FA-UPF-14 (Table 9B-2, Column 48)**

Fire area FA-UPF-14 is one of four traveling screen rooms which serve the Ultimate Heat Sink Makeup Water System pumps and is designated as UHS Makeup Water Intake Structure Traveling Screen Room 4.

The adequacy of the fire protection features provided is sufficient to prevent a fire originating within fire area FA-UPF-14 from affecting adjacent fire areas.

This fire area is occasionally occupied during normal plant operations. The egress route from this area in the event of a fire is via a single grade level exit through the building corridor.

The following section titles in FSAR Section 9B.3.13, Circulating Water System Makeup Intake Structure, will be updated as shown in a future COLA revision:

**9B.3.13.1 Fire Area FA-UPE-01 (Table 9B-2, Column 45 49)**

**9B.3.13.2 Fire Area FA-UPE-02 (Table 9B-2, Column 46 50)**



A section title in FSAR Section 9B.3.14, Desalination/Water Treatment Building, will be updated as follows in a future COLA revision:

**9B.3.14.1 Fire Area FA-UPQ-01 (Table 9B-2, Column 47 51)**

FSAR Table 9B-2 will be updated as shown below in a future COLA revision:

**Table 9B-2—{Fire Area Parameters}**

(Page 7 of 16)

Column	21	22	23	24	25
Fire Area	FA-UBF-04	FA-UST-01	FA-UYF-01	FA-UTG-01	FA-UTG-02
Building or Area	UBF	UST	UYF	UTG	UTG
Figures	Figure 9B-15	Figure 9B-16	Figure 9B-17	Figure 9B-18	Figure 9B-18
Fire Barriers (Notes 3,4,5,6)	See Figures	See Figures	See Figures	See Figures	See Figures
SSC: important to safety	None	None	None	None	None
SCC: post-fire safe shutdown	None	None	None	None	None
In situ Loading (Note 1)	a, e, g, l	a, b, c, d, r, s	a, b, c, r, s	a, c, g, j	a, c, g, j, u
Transient Fire Loading	THL-2	THL-3	THL-3	THL-1	THL-1
Common Ignition Source (Note 2a)	a, b, f	a, c	a	a, m	a, m
Atypical Ignition Sources (Note 2b)	aa, ee, ff	ee	None	None	None
Hazard Classification (Note 13)	EH Group-2	OH Group-2	Light Hazard	EH Group-2	OH Group-2
Automatic Fire Detection	Yes	No	Yes	No	No
Manual Fire Alarms	No	Yes	Yes	Yes	Yes
Automatic Fixed Fire Suppression	Yes	Yes	No	Yes	Yes
Manual Fixed Fire Suppression	No	No	No	No	No
Standpipe and Hose System (Note 7)	No	Yes (Note 7a)	No	No	No
Portable Fire Extinguishers (Note 8)	No	Yes	Yes	Yes	Yes
Suppression Affects	Note 14	Note 14	Note 14	Note 14	Note 14
Plant Drains	Note 9	Note 9	Note 9	Note 9	Note 9
Radiological Affects	None	None	None	None	None
HVAC	Note 10	Note 10	Note 10	Note 10	Note 10
Emergency Lighting (Note 11)	None	aa	aa	aa	aa
Communication (Note 12)	Yes	Yes	Yes	Yes	Yes
Engineering Evaluations	None	None	None	None	None

**Table 9B-2—(Fire Area Parameters)**

(Page 9 of 16)

Column	31	32	33	34	35
Fire Area	FA-USG-03	FA-URA-01	FA-UQA-01	FA-UQA-02	FA-UPF-01
Building or Area	USG	URA	UQA	UQA	UPF
Figures	Figure 9B-20	Figure 9B-21	Figure 9B-22	Figure 9B-22	Figure 9B-23
Fire Barriers (Notes 3,4,5,6)	See Figures	See Figures	See Figures	See Figures	See Figures
SSC: important to safety	None	None	None	None	None Yes
SCC: post-fire safe shutdown	None	None	None	None	None
In situ Loading (Note 1)	a, c, d, g, j	a, b, d, e, g, w	a, b, c, e, g	a, c, d, g	a, c, d, e, g, k
Transient Fire Loading	THL-2	THL-1	THL-2	THL-2	THL-2
Common Ignition Source (Note 2a)	a, b, c, d, m	a, c	a, b, m	a, b, c, d	a, b, m
Atypical Ignition Sources (Note 2b)	None	ee	None	None	None
Hazard Classification (Note 13)	OH Group-1	OH Group-2	OH Group-1	OH Group-1	OH Group-1
Automatic Fire Detection	Yes	Yes	Yes	Yes	Yes
Manual Fire Alarms	Yes	Yes	Yes	Yes	Yes
Automatic Fixed Fire Suppression	No	No	No	No	Yes
Manual Fixed Fire Suppression	No	No	No	No	No
Standpipe and Hose System (Note 7)	No	No	No	No	Yes
Portable Fire Extinguishers (Note 8)	Yes	Yes	Yes	Yes	Yes
Suppression Affects	Note 14	Note 14	Note 14	Note 14	Note 14
Plant Drains	Note 9	Note 9	Note 9	Note 9	Note 9
Radiological Affects	None	None	None	None	None
HVAC	Note 10	Note 10	Note 10	Note 10	Note 10
Emergency Lighting (Note 11)	aa	None	aa	aa	aa
Communication (Note 12)	Yes	Yes	Yes	Yes	Yes
Engineering Evaluations	None	None	None	None	None

**Table 9B-2—(Fire Area Parameters)**

(Page 10 of 16)

Column	36	37	38	39	40
Fire Area	FA-UPF-02	FA-UPF-03	FA-UPF-04	FA-UPF-05	FA-UPF-06
Building or Area	UPF	UPF	UPF	UPF	UPF
Figures	Figure 9B-23	Figure 9B-23	Figure 9B-23	Figure 9B-23	Figure 9B-23
Fire Barriers (Notes 3,4,5,6)	See Figures	See Figures	See Figures	See Figures	See Figures
SSC: important to safety	None	<del>None</del> Yes	None	<del>None</del> Yes	<del>None</del> Yes
SCC: post-fire safe shutdown	None	None	None	None	None
In situ Loading (Note 1)	a, c, g	a, c, d, g	a, c, g	a, c, d, e, g, k	a, c, d, g
Transient Fire Loading	THL-2	THL-2	THL-2	THL-2	THL-2
Common Ignition Source (Note 2a)	a	a, b, c, d	a	a, b	a, b, c, d
Atypical Ignition Sources (Note 2b)	None	<del>None</del> ee	None	None	<del>None</del> ee
Hazard Classification (Note 13)	<del>Light</del> OH Group-1	OH Group-1	<del>Light</del> OH Group-1	OH Group-1	OH Group-1
Automatic Fire Detection	Yes	<del>No</del> Yes	No	Yes	<del>No</del> Yes
Manual Fire Alarms	Yes	Yes	Yes	Yes	Yes
Automatic Fixed Fire Suppression	Yes	Yes	Yes	Yes	Yes
Manual Fixed Fire Suppression	No	No	No	No	No
Standpipe and Hose System (Note 7)	Yes	Yes	Yes	Yes	Yes
Portable Fire Extinguishers (Note 8)	Yes	Yes	Yes	Yes	Yes
Suppression Affects	Note 14	Note 14	Note 14	Note 14	Note 14
Plant Drains	Note 9	Note 9	Note 9	Note 9	Note 9
Radiological Affects	None	None	None	None	None
HVAC	Note 10	Note 10	Note 10	Note 10	Note 10
Emergency Lighting (Note 11)	aa	aa	aa	aa	aa
Communication (Note 12)	Yes	Yes	Yes	Yes	Yes
Engineering Evaluations	None	None	None	None	None

**Table 9B-2—(Fire Area Parameters)**

(Page 11 of 16)

Column	41	42	43	44	45 49
Fire Area	FA-UPF-07	FA-UPF-08	FA-UPF-09	FA-UPF-10	FA-UPE-01
Building or Area	UPF	UPF	UPF	UPF	UPE
Figures	Figure 9B-23	Figure 9B-23	Figure 9B-23	Figure 9B-23	Figure 9B-24
Fire Barriers (Notes 3,4,5,6)	See Figures	See Figures	See Figures	See Figures	See Figures
SSC: important to safety	<del>None</del> Yes	<del>None</del> Yes	<del>None</del> Yes	<del>None</del> Yes	None
SCC: post-fire safe shutdown	None	None	None	None	None
In situ Loading (Note 1)	a, c, d, e, g, k	a, c, d, g	a, c, d, e, g, k	a, c, d, g	a, c, e, g
Transient Fire Loading	THL-2	THL-2	THL-2	THL-2	THL-2
Common Ignition Source (Note 2a)	a, b, <u>m</u>	a, b, c, d	a, b, <u>m</u>	a, b, c, d	a, b, m
Atypical Ignition Sources (Note 2b)	None	<del>None</del> ee	None	<del>None</del> ee	None
Hazard Classification (Note 13)	OH Group-1	OH Group-1	OH Group-1	OH Group-1	OH Group-1
Automatic Fire Detection	Yes	<del>No</del> Yes	<del>No</del> Yes	<del>No</del> Yes	Yes
Manual Fire Alarms	Yes	Yes	Yes	Yes	Yes
Automatic Fixed Fire Suppression	Yes	Yes	Yes	Yes	No
Manual Fixed Fire Suppression	No	No	No	No	No
Standpipe and Hose System (Note 7)	Yes	Yes	Yes	Yes	No
Portable Fire Extinguishers (Note 8)	Yes	Yes	Yes	Yes	Yes
Suppression Affects	Note 14	Note 14	Note 14	Note 14	Note 14
Plant Drains	Note 9	Note 9	Note 9	Note 9	Note 9
Radiological Affects	None	None	None	None	None
HVAC	Note 10	Note 10	Note 10	Note 10	Note 10
Emergency Lighting (Note 11)	aa	aa	aa	aa	aa
Communication (Note 12)	Yes	Yes	Yes	Yes	Yes
Engineering Evaluations	None	None	None	None	None

**Table 9B-2—(Fire Area Parameters)**

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Column	<del>46</del> 50	<del>47</del> 51			
Fire Area	FA-UPE-02	FA-UPQ-01			
Building or Area	UPE	UPQ			
Figures	Figure 9B-24	Figure 9B-25			
Fire Barriers (Notes 3,4,5,6)	See Figures	See Figures			
SSC: important to safety	None	None			
SCC: post-fire safe shutdown	None	None			
In situ Loading (Note 1)	a, c, d, g	a, c, d, e, g, k			
Transient Fire Loading	THL-2	THL-2			
Common Ignition Source (Note 2a)	a, b, c, d	a, b, c, d			
Atypical Ignition Sources (Note 2b)	<del>None</del> ee	None			
Hazard Classification (Note 13)	OH Group-1	OH Group-1			
Automatic Fire Detection	Yes	<del>No</del> Yes (Note 15)			
Manual Fire Alarms	Yes	Yes			
Automatic Fixed Fire Suppression	No	Yes (Note 15)			
Manual Fixed Fire Suppression	No	No			
Standpipe and Hose System (Note 7)	No	No			
Portable Fire Extinguishers (Note 8)	Yes	Yes			
Suppression Affects	Note 14	Note 14			
Plant Drains	Note 9	Note 9			
Radiological Affects	None	None			
HVAC	Note 10	Note 10			
Emergency Lighting (Note 11)	aa	aa			
Communication (Note 12)	Yes	Yes			
Engineering Evaluations	None	None			

**Table 9B-2—(Fire Area Parameters)**

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5.	<p>Dampers:</p> <ul style="list-style-type: none"><li>◆ For 1 hour fire rated barriers, minimum 1 hour fire rated dampers are provided, except where through duct configuration is suitable to satisfy NFPA 90A (NFPA, 2002) requirements to allow for dampers to be omitted.</li><li>◆ For 2-hour fire rated barriers, minimum 1.5-hour fire rated dampers are provided.</li><li>◆ For 3-hour fire rated barriers, minimum 3-hour fire rated dampers are provided.</li></ul>
6.	<p>Penetrations:</p> <p>Penetrations through fire rated walls, floors, and ceilings of each fire area are sealed or otherwise closed with rated penetration seal assemblies except where seal omission is permitted by NFPA code/standard. Any non-rated penetrations through rated barriers in this fire area will be justified by engineering evaluations.</p>
<del>7.</del>	<p><del>Standpipe and Hose Stations:</del></p> <p><del>A Class II hose and standpipe system is available.</del></p>
6a.	<p><u>During detailed design, engineering evaluations associated with the non-rated traveling screen penetrations through the rated floors of fire areas FA-UPF-11, FA-UPF-12, FA-UPF-13 and FA-UPF-14 shall be performed.</u></p>
7.	<p><u>Unless noted otherwise, a "Yes" indicates that Class III standpipes and hose stations are available for fire fighting use, but may not be located within the fire area.</u></p>
7a.	<p><u>One and a half inch hose connections shall be provided in lieu of the Class III standpipes and hose connections.</u></p>
8.	<p>Portable Fire Extinguishers:</p> <p><del>Portable fire extinguishers are available throughout the building to support manual fire fighting activities.</del></p> <p><u>Portable fire extinguishers may not necessarily be located in each individual fire area; however, they are available throughout each building to support manual fire fighting activities in accordance with NFPA requirements.</u></p>
9.	<p>Plant Drains:</p> <p>Drainage to be determined during detailed design. Drains will be provided except where storage of hazardous materials and/or radiological contamination imposes requirements for confinement and/or secondary containment.</p>

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**Table 9B-2—(Fire Area Parameters)**

(Page 16 of 16)

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10.	HVAC: Duct smoke detection and fan interlock will be provided when required by NFPA 90A.
11.	Emergency Lighting: aa. self-contained, battery backed fixtures installed throughout the fire area which provide minimum illumination for a 90 minute period to ensure a safe access/egress path in the event of a loss of the normal lighting system.

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12.	Communication: One or more of the following methods of communication are available: plant-wide public address/paging system, in-plant telephone system, external communication links to the outside world, and/or portable radio communications.
13.	Hazard Classification: See Section 9B.2.2 for definition of hazard classifications. <ul style="list-style-type: none"><li>◆ Light Hazard</li><li>◆ Ordinary Hazard (OH Group-1)</li><li>◆ Ordinary Hazard (OH Group-2)</li><li>◆ Extra Hazard (EH Group-1)</li><li>◆ Extra Hazard (EH Group-2)</li></ul>

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14.	Suppression Affects: No adverse affects from automatic suppression systems are anticipated based on selected suppression agents and systems, on the absence of important to safety SSCs in the area or room of concern, and/or on the absence of important to safety SSCs susceptible to damage in the area or room of concern. This will require confirmation after final room/area, suppression system and important to safety SSC configuration/layout.
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15.	<u>Water Reactive Chemicals</u>  <u>The Water Treatment Building will be provided with full area sprinkler protection, except for secondary containment areas associated with the tank storage of water reactive chemicals. These areas will be provided with automatic fire detection in accordance with the provisions of the IBC.</u>
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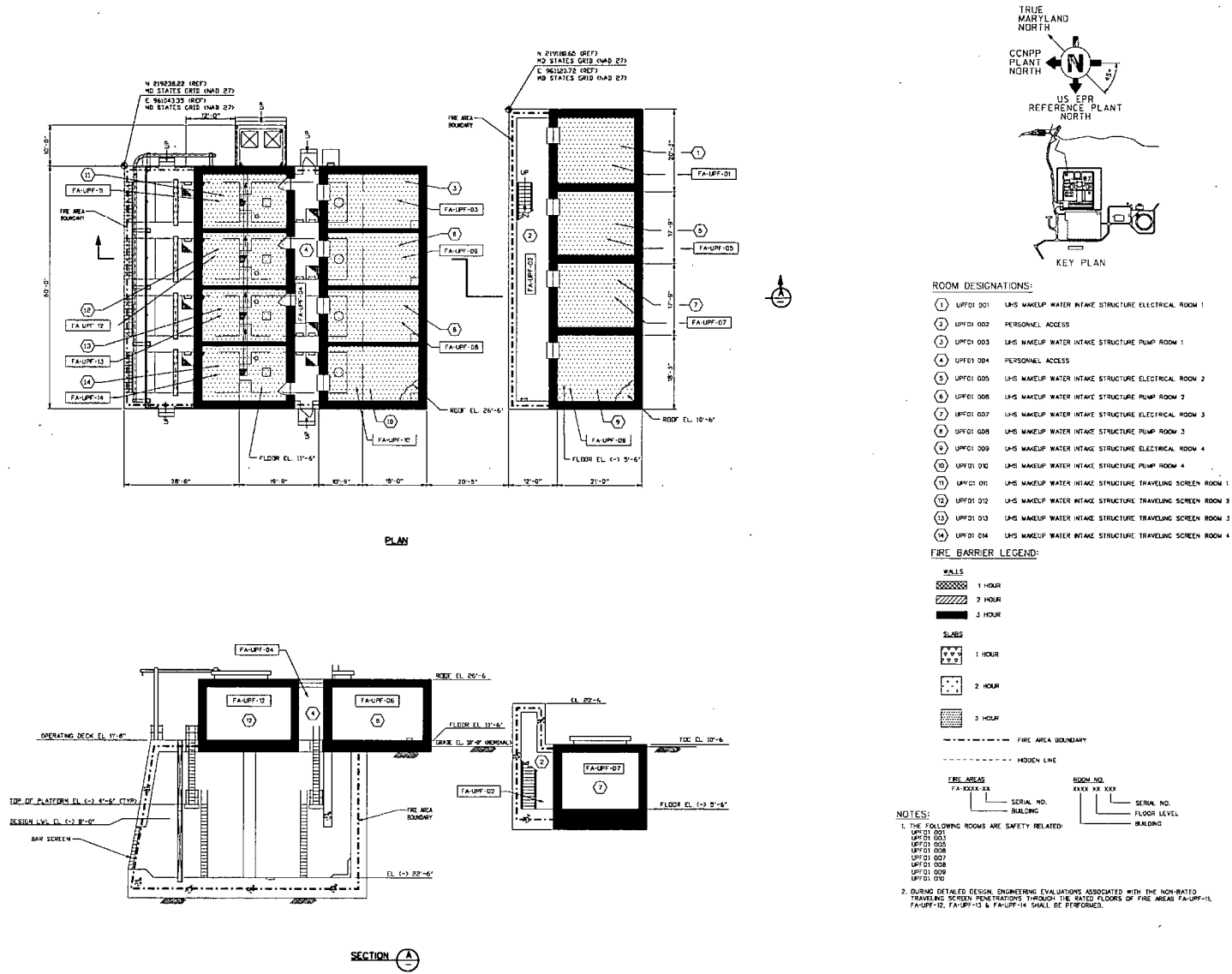


The following figures will be replaced in a future revision of the COLA:

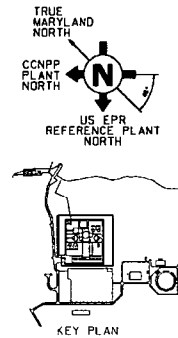
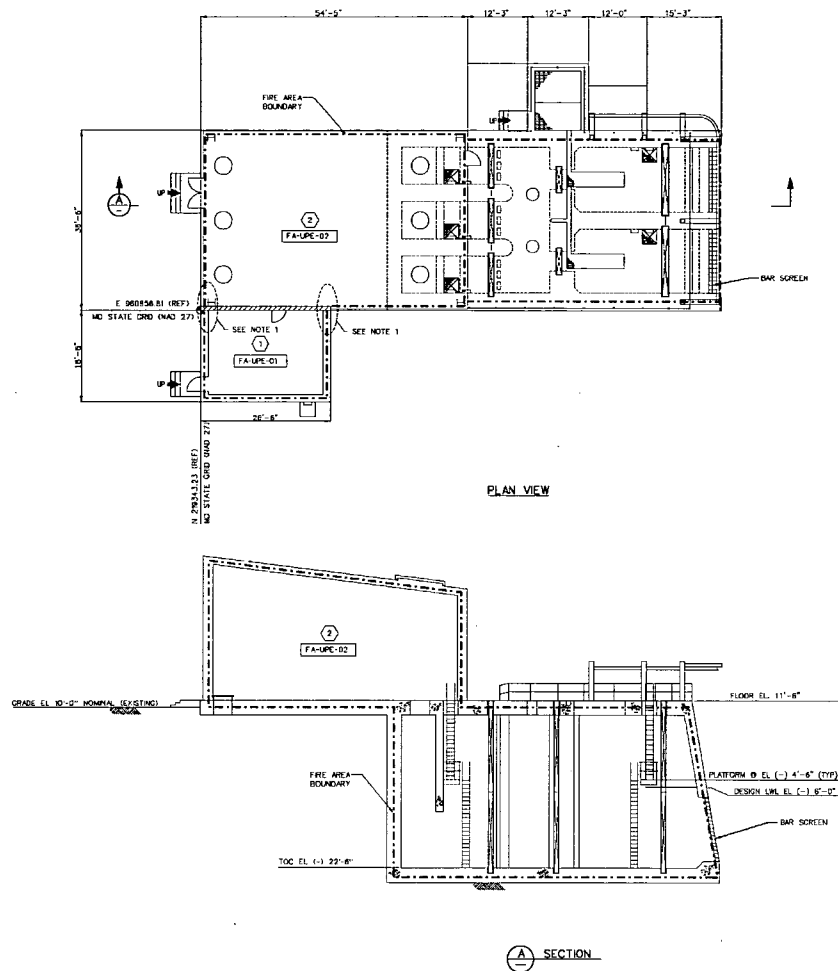
- FSAR Figure 9B-23, CCNPP Unit 3 Fire Barrier Location, UHS Makeup Water Intake Structure, Plan View and Section A-A
- FSAR Figure 9B-24, CCNPP Unit 3 Fire Barrier Location, CW Makeup Intake Structure, Plan View and Section A-A
- FSAR Figure 10.4-4, Circulating Water System Makeup Pump Intake Structure (Plan View)
- FSAR Figure 10.4-5, Circulating Water System Makeup Pump Intake Structure (Section View)
- ER Figure 3.4-1, General Cooling System Flow Diagram for CCNPP Unit 3
- ER Figure 3.4-4, Plan View of Chesapeake Bay Intake System for CCNPP Unit 3
- ER Figure 3.4-5, Section View of Chesapeake Bay Intake System for CCNPP Unit 3

The replacements for these figures are provided below.

# Replacement for FSAR Figure 9B-23, CCNPP Unit 3 Fire Barrier Location, UHS Makeup Water Intake Structure, Plan View and Section A-A



# Replacement for FSAR Figure 9B-24, CCNPP Unit 3 Fire Barrier Location, CW Makeup Intake Structure, Plan View and Section A-A



## ROOM DESIGNATIONS:

- ① UPCI 001 CW MAKEUP INTAKE STRUCTURE ELECTRICAL ROOM
- ② UPCI 002 CW MAKEUP STRUCTURE PUMP HOUSE

## FIRE BARRIER LEGEND:

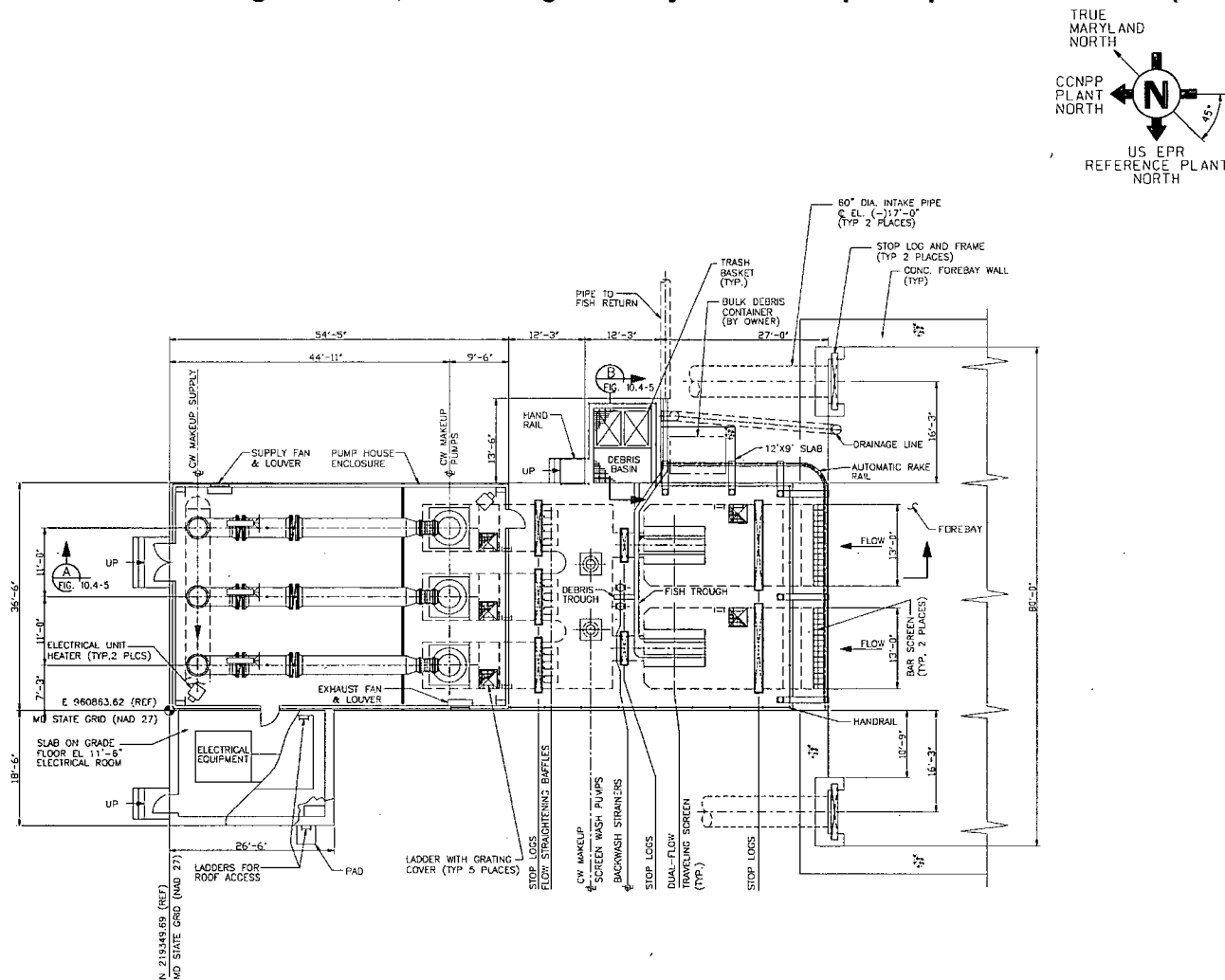
WALLS	
	1 HOUR
	2 HOUR
	3 HOUR
SLABS	
	1 HOUR
	2 HOUR
	3 HOUR
	FIRE AREA BOUNDARY
	HIDDEN LINE

FIRE AREAS		ROOM NO.	
FA-XXX-XX	SERIAL NO.	XXX-XX-XX	SERIAL NO.
BUILDING	BUILDING	FLOOR LEVEL	BUILDING

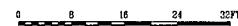
## NOTES:

1. THIS SECTION OF THE EXTERIOR WALL SHALL COMPLY WITH SECTION 705.8 OF IBC REQUIREMENTS FOR HORIZONTAL CONTINUITY.

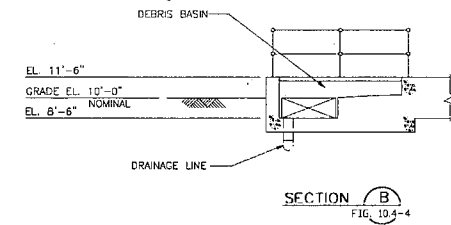
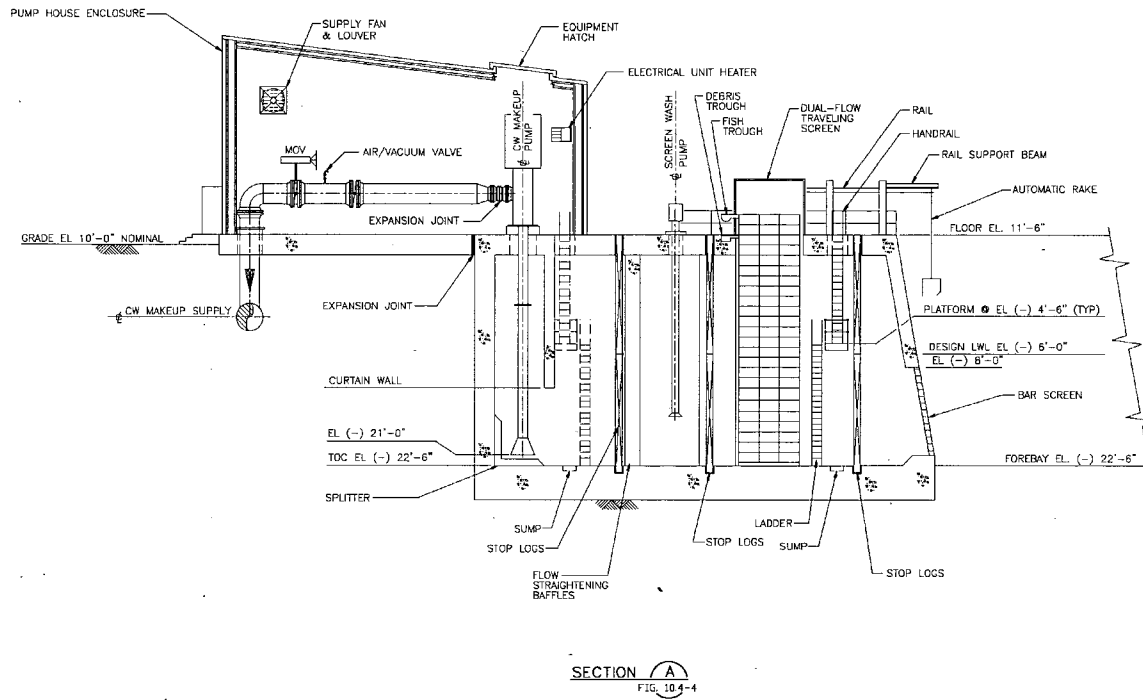
# Replacement for FSAR Figure 10.4-4, Circulating Water System Makeup Pump Intake Structure (Plan View)



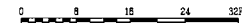
NOTE  
PIPING LAYOUT SHOWN IS CONCEPTUAL.



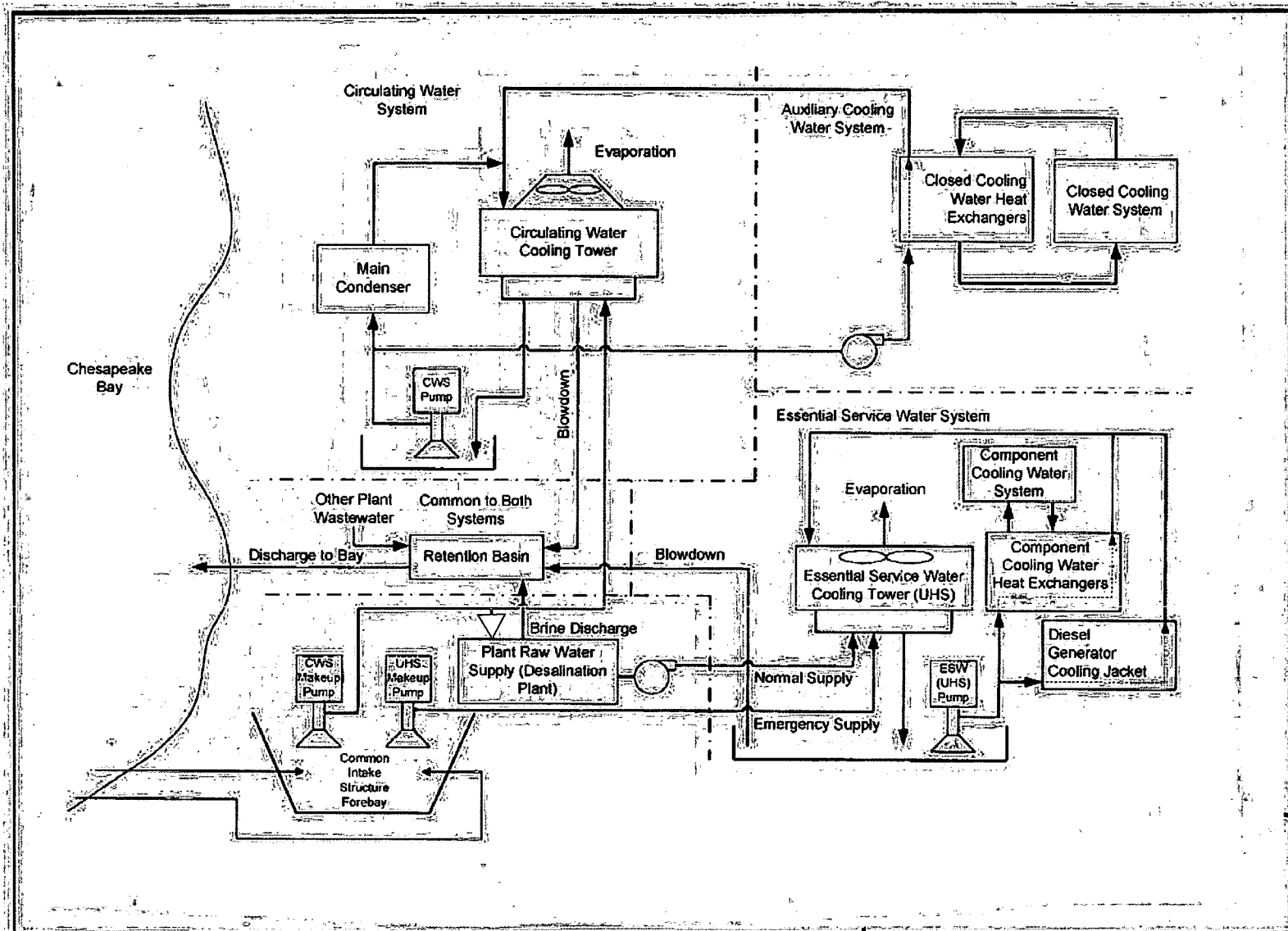
# Replacement for FSAR Figure 10.4-5, Circulating Water System Makeup Pump Intake Structure (Section View)



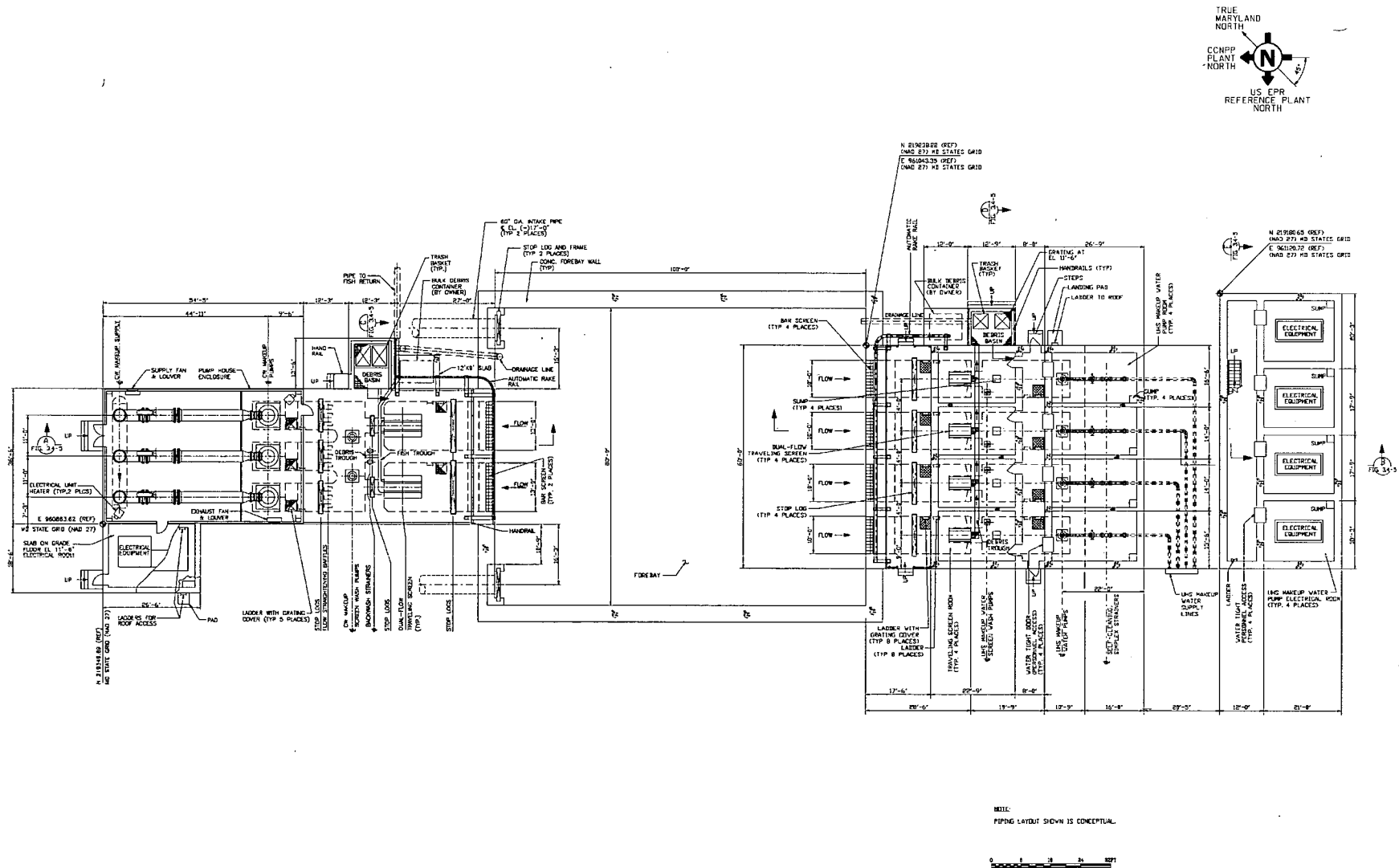
NOTE:  
PIPING LAYOUT SHOWN IS CONCEPTUAL.



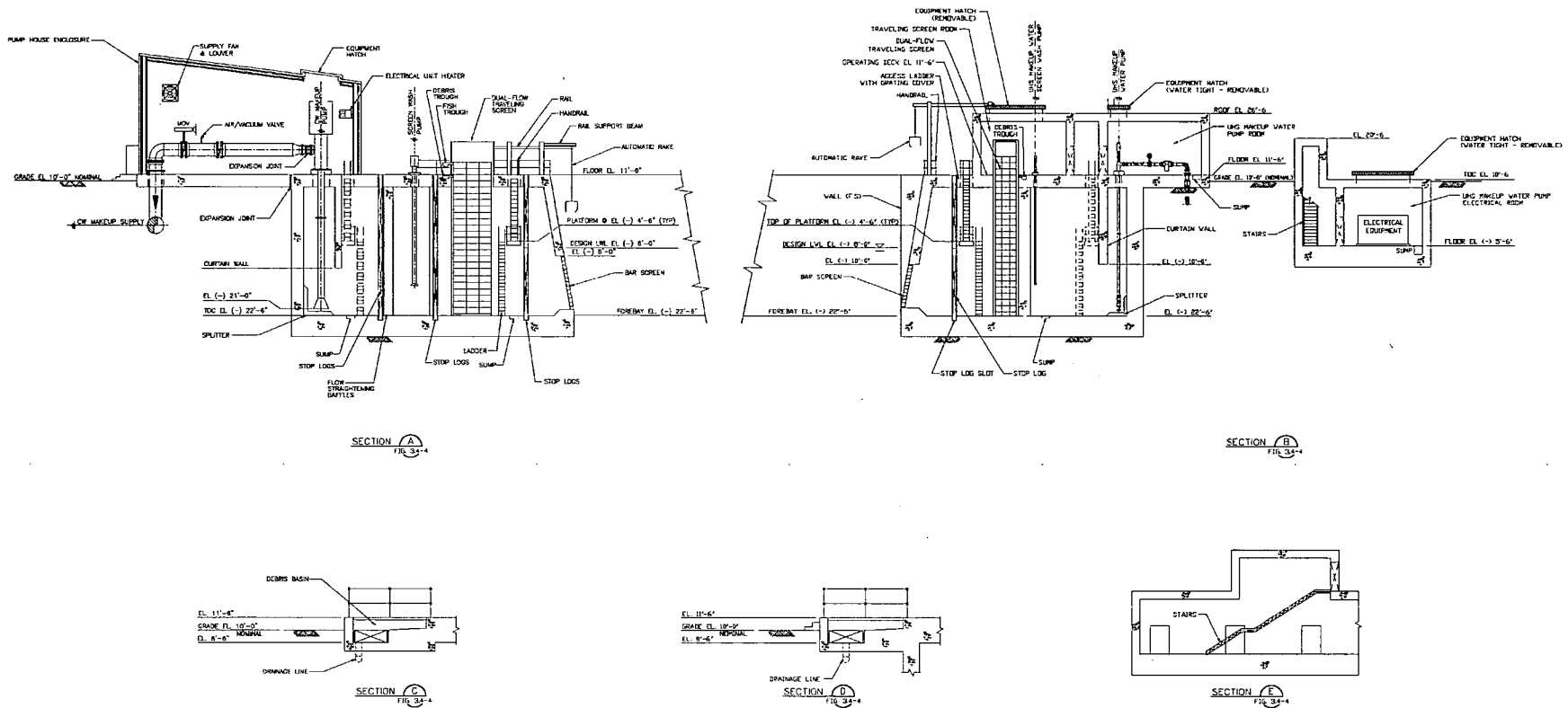
Replacement for ER Figure 3.4-1, General Cooling System Flow Diagram for CCNPP Unit 3



**Replacement for ER Figure 3.4-4, Plan View of Chesapeake Bay Intake System for CCNPP Unit 3**



# Replacement for ER Figure 3.4-5, Section View of Chesapeake Bay Intake System for CCNPP Unit 3



NOTE:  
Piping layout shown is conceptual.





**Question 03.02.02-3**

COL Item 3.2-2 identifies that the COL applicant will identify the quality group classification of applicable site-specific SSCs. Although SRP 3.2.2 specifically identifies that structures are excluded from the review, FSAR Table 3.2-1 identifies quality groups for site-specific SSCs, including structures. RG 1.26 and the DCD do not identify quality groups for certain non-pressure boundary items, such as structures or duct banks. In RG 1.26 and SRP 3.2.2, Quality Groups are only designated for pressure-retaining components within fluid systems or their supports. Clarify the basis for the quality group designation for structures, duct banks and other non-pressure boundary components not covered by RG 1.26 and what this means in terms of quality to satisfy GDC 1.

**Response**

FSAR Table 3.2-1, Classification Summary for Site-Specific SSCs, will be updated in a future revision of the COLA to delete quality groups for structures and appropriate non-pressure boundary items. They will be listed as "N/A" in FSAR Table 3.2-1 where applicable.

**COLA Impact**

FSAR Table 3.2-1 updates associated with the response to this question are included with the COLA impacts associated with the response to RAI 182, Question 03.02.02-01 (this enclosure).

**Question 03.02.02-4**

SRP 3.2.2 calls for review of the piping and instrumentation diagrams (P&IDs) to ensure that the applicant delineated the system quality group classification boundaries for systems important to safety. Drawings available in the FSAR, such as Figure 9.2-3 for the UHS makeup, do not show the system quality group classifications and appear to be conceptual. Clarify the quality group classifications on these figures and identify when the detailed P&IDs will be available for review.

**Response**

The Raw Water System and the UHS Makeup Water System are the only site-specific systems that are either important to safety or interface with systems important to safety. FSAR Figure 9.2-3, Normal Makeup, Emergency Makeup, Blowdown & Chemical Treatment, will be updated to include appropriate quality group classification. Detailed P&IDs of systems important to safety are currently scheduled to be available in 4<sup>th</sup> Quarter of 2012.

**COLA Impact**

FSAR Figure 9.2-3 updates associated with the response to this question are included with the COLA impacts associated with the response to RAI 182, Question 03.02.02-01 (this enclosure).

**Question 03.02.02-5**

10 CFR Part 52 requires, in part, that, prior to granting a combined license which references a standard design certification, that information normally contained in certain specifications be available for audit if such information is needed to make the determination that the application is consistent with the certified design. Confirm that design information contained in procurement specifications concerning the quality group classification of all important to safety SSCs and the basis for the classification is available for NRC audit or establish when such design information will be available. In addition, clarify what design basis classification information, such as design specifications, P&IDs, and Quality (Q) List, is available for audit.

**Response**

Procurement specifications for SSCs important to safety are currently being developed. The specifications for SSCs important to safety and related information will be available for audit prior to procurement of individual components. Detailed P&IDs will be available for audit when the P&IDs are issued for construction.

Equipment Lists, Valve Lists and Line Lists containing quality group classification and other design information as well as Specifications and P&IDs associated with SSCs important to safety are currently scheduled to be available in 4<sup>th</sup> Quarter of 2012.

**COLA Impact**

The COLA FSAR will not be revised as a result of this response.

**Question 03.02.02-6**

FSAR Table 3.2-1 for site-specific SSCs identifies that certain SSCs in important to safety systems, such as the Traveling Screens and miscellaneous piping in the UHS Makeup Water System, are classified as Safety Class Nonsafety-related (NS), Quality Group (QG) D and seismic Category II with no 10 CFR 50 Appendix B program applied. RG 1.26 does not assign system quality groups to SSCs such as the traveling screens that are not pressure-retaining components within fluid systems or their supports, but RG 1.29 position C.4 identifies that pertinent requirements of Appendix B apply to all activities affecting the safety-related functions of these SSCs. For SSCs in systems that are considered important to safety, such as risk-significant SSCs or those classified as seismic Category II, clarify the basis for the equipment classification as QG D with no augmented quality requirements rather than Safety Class Supplemented Grade NS-AQ with pertinent quality requirements of the 10 CFR Part 50 Appendix B program applied.

**Response**

UHS Makeup Water System miscellaneous piping (e.g., screen wash piping) does not perform a safety function. Safety classification for UHS Makeup Water System miscellaneous piping will be changed to NS-AQ with pertinent quality requirements of Appendix B for seismic classification II/I issues.

Similarly, safety classification of traveling screens will be changed to NS-AQ with pertinent quality requirements of Appendix B program. The dual flow traveling screens will be designed to remain mechanically functional following an SSE. Manual operator actions can be utilized to rotate and clean the screens if necessary following an SSE.

**COLA Impact**

FSAR Table 3.2-1, Classification Summary for Site-Specific SSCs, updates associated with the response to this question are included with the COLA impacts associated with the response to RAI 182, Question 03.02.02-01 (this enclosure).