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Vogtle Project

February 22, 1985

Director of Nuclear Reactor Regulation
Attention Ms. Elinor G. Adensam, Chief
Licensing Branch #4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

File: X6BB06
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NRC DOCKET NUMBERS 50-424 AND 50-425
CONSTRUCTION PERMIT NUMBERS CPPR-108 AND CPPR-109
VOGTLE ELECTRIC GENERATING PLANT - UNITS 1 AND 2
DRAFT SER OPEN ITEMS 73 THRU 85 AND 96 FIRE PROTECTION

Dear Mr. Denton:

Attached for your review are five (5) copies of information related to our draft open items 73 thru 85 and 96 concerning the VEGP Fire Protection Program. These items were discussed in the January 31, 1985, meeting with your staff. The information provided addresses the concerns expressed by the staff and will be incorporated into the upcoming amendments to the FSAR.

If your staff requires any additional information, please do not hesitate to contact me.

Sincerely,

J. A. Bailey
Project Licensing Manager

JAB/RLK/caa
Attachment
xc: D. O. Foster
R. A. Thomas
G. F. Trowbridge, Esquire
J. E. Joiner, Esquire
C. A. Stangler
L. Fowler
M. A. Miller
L. T. Gucwa
G. Bockhold, Jr.

B002
1/5

Open Item: 73 Fire Hazards Analysis

SER Section: 9.5.2, C.1.b.

NRC Branch: CMEB (Fire Protection)

Description:

1. GDC 3 (Appendix A to 10 CFR Part 50) requires that "Fire fighting system shall be designed to assure that rupture or inadvertent operation does not significantly impair the safety capability of those structures, systems and components." To satisfy this requirement, the applicant has designed the components required for hot shutdown so that the rupture or inadvertent operation fire suppression systems will not adversely affect the operability of these components. Where necessary, appropriate protection is provided to prevent impingement of water spray on components that are required for hot shutdown. Redundant trains of components that are susceptible to damage from water spray are physically separated so that manual fire suppression activities will not adversely affect the operability of components not involved in the postulated fire. However, the staff is concerned that the mechanism by which fire and firefighting systems may cause the simultaneous failure of redundant or diverse trains has been adequately considered in the design. The staff will require that the applicant identify such mechanisms that were considered in its fire hazards analysis and the measures taken to preclude the fire or fire suppressant induced failure of redundant or diverse safety trains. This an open item.

Response:

As part of our fire hazards analysis (FHA), we evaluated the potential effects of inadvertent operation of suppression systems in each fire area. The results of our analyses indicate that inadvertant operation of any single suppression system within a fire area will not impact safe shutdown since there are no redundant safe shutdown components within a given fire area. In addition, we have attempted to minimize the occurrences of inadvertent operation through the following design features:

- All suppression systems in safety-related areas are either Halon or pre-action sprinkler systems
- All sprinkler system piping in category I structures is designed for SSE loads
- Redundant safe shutdown equipment is located in separate fire areas

With regard to the use of fire hose streams, since redundant safe shutdown components are separated by fire barriers, it is not possible to wet down redundant components with a single hose stream.

"Area Turnover Procedure" will require a walkdown of all plant areas with acceptance criteria designed to ensure sealing of equipment enclosure and conduit openings, splash guards where required, etc.

Open Item: 74 Fire Doors

SER Section: 9.5.1, C.5.a

NRC Branch CMEB (Fire Protection)

Description:

1. Door openings in fire barriers will be protected with equivalently rated doors, frames, and hardware except for watertight doors (which are not fire rated by UL), pressure-retaining doors (which will have a certificate of UL label construction applied by the vendor), and security doors (which will have a certificate of UL label construction applied by the vendor). The applicant also states that only those fire doors that serve a security function are electrically supervised and monitored in the main control room. Doors designed to remain open to maintain post-accident (pipe break) pressures within design limits are normally held open and released only when smoke is detected. Other doors are kept closed. On the basis of its review, the staff will require the applicant to indicate the type of door and the method of supervision provided for each door opening in the plant that is not of a labeled fire door assembly. The applicant should also justify the adequacy of the special-purpose doors when used in rated fire barriers. This information is needed for the staff to independently determine that door openings in fire barriers satisfy the guidelines of BTP CMEB 9.5-1, Section C.5.a(5). This is an open item.

Response:

There are door openings that are required to be designed for pressure loads, bullet resistance, and the combined requirement of pressure and bullet resistance. The doors are specially designed to meet the Vogtle criteria and therefore never generically tested, as are typically fire rated hollow metal doors. Each door has been fabricated to listed UL label procedures for a UL 3-hour rating and the NFPA 80 and 252 standards. The construction of each door is certified by a certificate of fire label construction by the manufacturer. The manufacturer cannot affix a label to these doors and frames because they are a special design for the Vogtle project and have not been subjected to an actual physical UL fire test. In each case the thickness of the metal used to construct the door frame, door skin, stiffeners, strike and butt reinforcements exceed the thickness of metal used in standard fire-rated doors and frames.

In the case of the security doors, all doors that do not fall into the categories mentioned above are labeled class A fire doors.

A fire analysis of adjacent fire areas separated by the unlabeled doors and metal hatches is provided below:

Results of Fire Analysis for Unlabeled Doors

A. Unrated Fire Door 105 - Auxiliary

Application Watertight

Fire Area Separation 1-AB-LD-B & 1-AB-L1-E

Item	Fire Area 1-AB-LD-B		Fire Area 1-AB-L1-E
	Cable Chase	Balance of Area	
Fire load, lb cable insulation	2,913	78,962	17,636
Fire severity, min	6.2 hrs.	73	62

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Although train A and B VCT isolation valves, of the same safety system, are located within fire area 1-AB-LD-B, an alternate means via administrative action is available such that safe shutdown is not precluded.

   Although train A and B valves, of the same safety system located between the boric acid tank and charging pumps are located within fire are 1-AB-LD-B, an alternate means via the RWST is available to deliver borated water to the reactor coolant system.

   Although train A and B valves, of the same safety system, located between the AFW pumps and the steam generators are located within fire are 1-AB-LD-B, an alternate means is available such that safe shutdown is not precluded. There are a total of 8 train A and B valves, but only two are required to bring the plant to a safe shutdown condition.

2. The cable chase in fire area 1-AB-LD-B is equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

B. Unrated Fire Door 106 - Auxiliary

Application Watertight

Fire Area Separation 1-AB-LD-B & 1-AB-L1-D

Item	Fire Area 1-AB-LD-B		Fire Area 1-AB-L1-D
	Cable Chase	Balance of Area	
Fire load, lb cable insulation	2,913	78,962	17,636
Fire severity, min	6.2 hrs.	73	62

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in both areas does not produce any redundant safety-related trains of the same safety system.

2. The cable chase in fire area 1-AB-L1-D as well as fire area 1-AB-L1-D is equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

C. Unrated Fire Door D36 - Auxiliary

Application Watertight

Fire Area Separation -AB-LD-B & 1-AB-LD-A

Item	Fire Area 1-AB-LD-B			Fire Area 1-AB-LD-A	
	Cable Chase	Balance of Area	Elect Chase	RHR Pump	Wing Area
Fire load, lb cable insulation	2,913	78,962	12,850	1,143	2,244
Hydraulic Fluid	-	-	-	-	894
Fire Severity, min	6.2 hrs.	73	109	41	3

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Although train A and B VCT isolation valves, of the same safety system, are located within fire are 1-AB-LD-B, an alternate means via administrative action is available such that safe shutdown is not precluded.

   Although train A and B valves, of the same safety system, located between the boric acid tank and charging pumps are located within fire area 1-AB-LD-B, an alternate means via the RWST is available to deliver borated water to the reactor coolant system.

   Although train A and B valves, of the same safety system, located between the AFW pumps and the steam generators are located within fire are 1-AB-LD-B, an alternate means is available such that safe shutdown is not precluded. There are a total of 8 train A and B valves, but only two are required to bring the plant to a safe shutdown condition.

2. The cable chase in fire area 1-4B-LD-B as well as fire area 1-AB-LD-A are equipped with automatic sprinkler protection

3. Each fire are has been provided with early warning detection features.

D. Unrated Fire Door — C56 - Auxiliary

Application — Watertight

Fire Area Separation — 1-AB-LC-D & 1-AB-LC-G

Item	Fire Area 1-AB-LC-D	Fire Area 1-AB-LC-G
Fire Load, lb cable insulation	1,189	11,811
Fire severity, min	25	18

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in both areas does not produce any redundant safety-related trains of the same safety system.

2. Both fire areas are equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

E. Unrated Fire Door — 123 - Auxiliary

Application — Watertight

Fire Area Separation 1-AB-L1-A & 1-AB-LD-B

Item	Fire Area 1-AB-L1-A		Fire Area 1-AB-LD-B	
	Aux Bldg	Fuel Bldg	Cable Chase	Balance of Area
Fire load, lb cable insulation	1,386	1,470	2,913	78,962
Fire severity, min	3	1	6.2 hrs	73

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Although train A and B VCT isolation valves, of the same safety system, are located within fire area 1-AB-LD-B, an alternate means via administrative action is available such that safe shutdown is not precluded.

   Although train A and B valves, of the same safety system, located between the boric acid tank and charging pumps are located within fire area 1-AB-LD-B, an alternate means via the RWST is available to deliver borated water to the reactor coolant system.

   Although train A and B valves, of the same safety system, located between the boric acid tank and charging pumps are located within fire area 1-AB-LD-B, an alternate means is available such that safe shutdown is not precluded. There are a total of 8 train A and B valves, but only two are required to bring the plant to a safe shutdown condition.

2. The cable chase in fire area 1-AB-LD-B is equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

F. Unrated Fire Door D49 - Auxiliary

Application Watertight

Fire Area Separation 1-AB-LD-J & 1-AB-LD-G

Item	Fire Area 1-AB-LD-J	Fire Area 1-AB-LD-G
Fire load, lb cable insulation	14	4,042
Fire severity, min	2	16

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in both areas does not produce any redundant safety-related trains of the same safety system.

2. Fire area 1-AB-LD-G is equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

G. Unrated Fire Door — D34 - Auxiliary

Application — Watertight

Fire Area Separation — 1-AB-LD-B & 1-AB-LD-D

Item	Fire Area 1-AB-LD-B		Fire Area 1-AB-LD-D
	Cable Chase	Balance of Area	
Fire load, lb cable insulation	2,913	78,962	2,216
Fire severity, min	6.2 hrs	73	35

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Although train A and B VCT isolation valves, of the same safety system, are located within fire area 1-AB-LD-B, an alternate means via administrative action is available such that safe shutdown is not precluded.

   Although train A and B valves, of the same safety system, located between the boric acid tank and charging pumps are located within fire area 1-AB-LD-B, an alternate means via the RWST is available to deliver borated water to the reactor coolant system.

   Although train A and B Valves, of the same safety system located between the AFW pumps and the steam generators are located within fire area 1-AB-LD-B, an alternate means is available such that safe shutdown is not precluded. There are a total of 8 train A and B valves, but only two are required to bring the plant to a safe shutdown condition.

2. The cable chase in fire area 1-AB-LD-B as well as fire area 1-AB-LD-D are provided with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

H. Unrated Fire Door — D47 - Auxiliary

Application — Watertight

Fire Area Separation — 1-AB-LD-I & 1-AB-LD-G

Item	Fire Area 1-AB-LD-I		Fire Area 1-AB-LD-G
	Elect. Chase	Pipe & Pump Room	
Fire load, lb cable insulation	2,534	6,874	4,042
Fire severity, min	5.4 hrs.	29	16

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Although train A and B level transmitters of the same safety system are located within fire area 1-AB-LD-G, they are located in the boric acid storage tank room, which is bounded by a minimum of 3 feet of concrete, including the ceiling equipment hatch. There are no combustible materials in this room.

2. Both fire areas are equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

I. Unrated Fire Door — B69 - Control

Application — Airtight and pressure resistant

Fire Area Separation — 1-CB-LB-S & 1-CB-LC-B

Item	Fire Area 1-CB-LB-S	Fire Area 1-CB-LC-B
Fire load, lb cable insulation	None	24,959
Fire severity, min	None	22.2

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in both areas does not produce any redundant safety-related trains of the same safety system.

2. Fire area 1-CB-LC-B is equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

4. The pressure door has been certified by the manufacturer that the door's construction has been in accordance with the 3-hour U.L. approved procedures.

J. Unrated Fire Door — 253 - Control

Application — Airtight and pressure resistant

Fire Area Separation — 1-CB-LB-S & 1-CB-L2-E

Item		Fire Area 1-CB-LB-S	Fire Area 1-CB-L2-E
Fire load, lb			
1.	Cable insulation	None	6,859
2.	Cleaning fluid		67
3.	Paper product		550
4.	Hydrogen		Small quantity
Fire severity, min		None	10.6

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in both areas does not produce any redundant safety-related trains of the same safety system.

2. Fire area 1-CB-L2-E is equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

4. The pressure door has been certified by the manufacturer that the door's construction has been in accordance with the 3-hour U.L. approved procedures.

K. Unrated Fire Door — 104 - Diesel generator Bldg.

Application — Pressure resistant

Fire Area Separation — 1-CB-LB-A & 1-DB-L1-A

Item	Fire Area 1-CB-LB-A	Fire Area 1-DB-L1-A
Fire load, lb		
1. Cable insulation	75,670	10,030
2. oil		11,500
Fire severity, min	60.6	88

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in both areas does not produce any redundant safety-related trains of the same safety system.

2. Fire are 1-CB-LB-A is equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

4. The pressure door has been certified by the manufacturer that the door's construction has been in accordance with the 3-hour U.L. approved procedures.

L. Unrated Fire Door — C02 - Fuel

Application — Pressure resistant

Fire Area Separation — 1-CB-LC-A & 1-AB-LC-B

Item	Fire Area 1-CB-LC-A	Fire Area 1-AB-LC-B
Fire load, lb cable insulation	33,605	18.328
Fire severity, min	67	29 Hrs.

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in both areas does not produce any redundant safety-related trains of the same safety system.

2. Both fire areas are equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

4. The pressure door has been certified by the manufacturer that the door's construction has been in accordance with the 3-hour U.L. approved procedures.

M. Unrated Fire Door — 333 - Control.

Application — Airtight and pressure resistant

Fire Area Separation — 1-CB-LB-S & 1-CB-L3-K

Item	Fire Area 1-CB-LB-S	Fire Area 1-CB-L3-K
Fire load, lb		
1. Cable insulation	None	13,246
2. Charcoal		967
Fire severity, min	None	60

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in both areas does not produce any redundant safety-related trains of the same safety system.

2. Fire area 1-CB-L3-K is equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

4. The pressure door has been certified by the manufacturer that the door's construction has been in accordance with the 3-hour U.L. approved procedures.

5. The charcoal filtration unit is provided with a self-contained water spray system.

N. Unrated Fire Door — 182 - Control

Application — Airtight and pressure resistant

Fire Area Separation 1-CB-LB-S & 1-CB-L1-B

Item	Fire Area 1-CB-LB-S	Fire Area 1-CB-L1-B
Fire load, lb material cable insulation	None	6,868
Fire severity, min	None	158

Conclusion

Should a fire spread through both fire areas, a safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in both areas does not produce any redundant safety-related trains of the same safety system.

2. Fire area 1-CB-L1-B is equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

4. The pressure door has been certified by the manufacturer that the door's construction has been in accordance with the 3-hour U.L. approved procedures.

O. Unrated Fire Door A61 - Control

Application Pressure resistant

Fire Area Separation 1-CB-LA-N & Stairwell #3

Item	Fire Area 1-CB-LA-N	Fire Area N/A
Fire load, lb cable insulation	31,540	None
Fire severity, min	54	None

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in area 1-CB-LA-N does not produce any redundant safety-related trains of the same safety system.

2. Fire area 1-CB-LA-N is equipped with automatic sprinkler protection.

3. Fire are 1-CB-LA-N has been approved with early warning detection features.

4. The pressure door has been certified by the manufacturer that the door's construction has been in accordance with the 3-hour U.L. approved procedures.

P. Unrated Fire Door — 101 - Diesel generator bldg.

Application — Pressure resistant

Fire Area Separation — 1-CB-LB-D & 1-DB-L1-B

Item	Fire Area 1-CB-LB-D	Fire Area 1-DB-L1-B
Fire load, lb cable insulation	59,500	10,030
Oil		11,500
Fire severity, min	65.4	88

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in areas does not produce any redundant safety-related trains of the same safety system.

2. Both fire areas are equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

4. The pressure door has been certified by the manufacturer that the door's construction has been in accordance with the 3-hour U.L. approved procedures.

Q. Unrated Fire Door — B79 - Control

Application — Pressure resistant

Fire Area Separation — 1-CB-LB-A & Stairwell #3

Item	Fire Area 1-CB-LB-A	Fire Area N/A
Fire load, lb cable insulation	75,670	None

Fire severity, min	60.6	None

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in area 1-CB-LB-A does not produce any redundant safety-related trains of the same safety system.

2. Fire area 1-CB-LB-A is equipped with automatic sprinkler protection.

3. Fire area 1-CB-LB-A has been provided with early warning detection features.

4. The pressure door has been certified by the manufacturer that the door's construction has been in accordance with the 3-hour U.L. approved procedures.

R. Unrated Fire Door — B98 - Control

Application — Pressure resistant

Fire Area Separation — 1-CB-LC-A & 1-CB-LB-A

Item	Fire Area 1-CB-LC-A	Fire Area 1-CB-LB-A
Fire load, lb cable insulation	33,605	75,670
Fire severity, min	67	60.6

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in areas does not produce any redundant safety-related trains of the same safety system.

2. Both fire areas are equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

4. The pressure door has been certified by the manufacturer that the door's construction has been in accordance with the 3-hour U.L. approved procedures.

S. Unrated Fire Door — S75 - Control

Application — Pressure resistant

Fire Area Separation — 1-CB-LC-A & 1-CB-LA-F

Item	Fire Area 1-CB-LC-A	Fire Area 1-CB-LA-F
Fire load, lb cable insulation	33,605	8,250
Fire severity, min	67	17

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in both areas does not produce any redundant safety-related trains of the same safety system.

2. Both fire areas are equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

4. The pressure door has been certified by the manufacturer that the door's construction has been in accordance with the 3-hour U.L. approved procedures.

T. Unrated Fire Door — 199Q - Technical Support Center

Application — Airtight and pressure resistant

Fire Area Separation — 1-CB-L1-B & 1-CB-L1-TSC

Item		Fire Area 1-CB-L1-B	Fire Area 1-CB-L1-TSC
Fire load, lb			
1.	Cable insulation	821	1,278
2.	oil	67	0
3.	Paper product	1,850	200
4.	Charcoal	0	1,450
Fire severity, min		2.3	97.5

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in both areas does not produce any redundant safety-related trains of the same safety system.

2. The fire area 1-CB-L1-B is equipped with automatic sprinkler protection. The fire area (1-CB-L1-TSC) is equipped with Halon 1301 in computer and communication room and wet pipe sprinkler system in the balance of the area.

3. Each fire area has been provided with early warning detection features.

4. The pressure door has been certified by the manufacturer that the door's construction has been in accordance with the 3-hour U.L. approved procedures.

5. The charcoal filtration unit is provided with a self-contained water spray system.

Results of Fire Analysis for Unlabeled Metal Hatches

A. Unrated Hatch Cover — Auxiliary bldg. - Level 2 (wing)

Location — Col. A_{19} & A_G

Fire Area Separation — 1-AB-LD-D & 1-AB-L1-E

Item	Fire Area 1-AB-LD-D	Fire Area 1-AB-L1-E
Fire load, lb cable insulation	2,216	17,636
Fire severity, min	35	62

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in areas does not produce any redundant safety-related trains of the same safety system.

2. Both fire areas are equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

B. Unrated Hatch Cover — Auxiliary bldg. - Level 1 (wing)

Location — Col. A_{19} & A_{C3}

Fire Area Separation 1-AB-L1-D & 1-AB-LA-C

Item	Fire Area 1-AB-L1-D	Fire Area 1-AB-LA-C
Fire load, lb cable insulation	17,636	3,576
Fire severity, min	62	13

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in areas does not produce any redundant safety-related trains of the same safety system.

2. Both fire areas are equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

C. Unrated Hatch Cover Auxiliary bldg. - Level 1 (wing)

Location Col. A_{19} & A_G

Fire Area Separation 1-AB-L1-E & 1-AB-LA-B

Item	Fire Area 1-AB-L1-E	Fire Area 1-AB-LA-B
Fire load, lb cable insulation	17,636	3,576
Fire severity, min	62	13

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in areas does not produce any redundant safety-related trains of the same safety system.

2. Both fire areas are equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

D. Unrated Hatch Cover Auxiliary bldg. - Level A (wing)

Location Col. A_{19} & A_G

Fire Area Separation 1-AB-LA-B & 1-AB-LB-B

Item	Fire Area 1-AB-LA-B	Fire Area 1-AB-LB-B
Fire load, lb cable insulation	3,576	3,633
Fire severity, min	13	11

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in areas does not produce any redundant safety-related trains of the same safety system.

2. Both fire areas are equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

E. Unrated Hatch Cover Auxiliary bldg. - Level A (wing)

Location Col. A_{19} & A_{C3}

Fire Area Separation 1-AB-LA-C & 1-AB-LB-B

Item	Fire Area 1-AB-LA-C	Fire Area 1-AB-LB-B
Fire load, lb cable insulation	3,576	3,633
Fire severity, min	13	11

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in areas does not produce any redundant safety-related trains of the same safety system.

2. Both fire areas are equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

F. Unrated Hatch Cover — Auxiliary bldg. - Level B (wing)

Location — Col. A_{19} & A_{C2}

Fire Area Separation — 1-AB-LB-B & 1-AB-LC-G

Item	Fire Area 1-AB-LB-B	Fire Area 1-AB-LC-G
Fire load, lb cable insulation	3,633	11,811
Fire severity, min	11	18

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Although train A and B pressure transmitters of the same safety system are located within fire area 1-AB-LC-G, an alternate means of determining the pressure levels is available such that safe shutdown is not precluded.

2. Both fire areas are equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

G. Unrated Hatch Cover — Auxiliary bldg. - Level 2 (wing)

Location — Col. A_{19} & A_{C3}

Fire Area Separation — 1-AB-L2-F & 1-AB-L1-D

Item	Fire Area 1-AB-L2-F	Fire Area 1-AB-L1-D
Fire load, lb cable insulation	1,260	17,636
Fire severity, min	4	62

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in areas does not produce any redundant safety-related trains of the same safety system.

2. Both fire areas are equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

H. Unrated Hatch Cover — Auxiliary bldg. - Level B (wing)

Location — Col. A_{19} & A_G

Fire Area Separation — 1-AB-LB-B & 1-AB-LC-F

Item	Fire Area 1-AB-LB-B	Fire Area 1-AB-LC-F
Fire load, lb cable insulation	3,633	11,811
Fire severity, min	11	17

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in areas does not produce any redundant safety-related trains of the same safety system.

2. Both fire areas are equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

I. Unrated Hatch Cover — Auxiliary bldg. - Level C (wing)

Location — Col. A_{19} & A_{C2}, A_{19} & A_G

Fire Area Separation — 1-AB-LC-G & 1-AB-LD-G

Item	Fire Area 1-AB-LC-G	Fire Area 1-AB-LD-G
Fire load, lb cable insulation	11,811	4,042
Fire severity, min	18	16

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Although train A and B level transmitters of the same safety system are located within fire area 1-AB-LD-G, they are located in the boric acid storage tank room which is bounded by a minimum of 3 feet of concrete including the ceiling equipment hatch. There are no combustible materials in this room.

Although train A and B pressure transmitters of the same safety system are located within fire area 1-AB-LC-G, an alternate means of determining the pressure levels is available such that safe shutdown is not precluded.

2. Both fire areas are equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

Open Item: 75 Fire Dampers

SER Section: 9.5.1, C.5.a

NRC Branch CMEB (Fire Protection)

Description:

1. Ventilation ducts that penetrate fire barriers are provided with fire dampers. The applicant states that 17 oversize fire dampers are used that do not bear a UL label. This does not comply with Section C.5.a of BTP CMEB 9.5-1. The staff will require the applicant to provide fire dampers that are tested and approved by a nationally recognized testing laboratory for all HVAC penetrations of fire barriers. This is an open item.

Response:

As a result of fire barrier modifications, there are now ten (10) fire damper assemblies (Unit 1 and 2) installed in 3-hour barriers (6 vertically and 4 horizontally) that do not bare an approved U.L. Label as their size exceeds the manufacturer's U.L. test limitations.

Although the 3-hour barriers also make up adjacent fire area boundaries, none of the fire areas contiguous to the damper assemblies contain safety-related equipment of redundant trains that would jeopardize safe shutdown. Therefore, safe shutdown is not jeopardized should a damper assembly malfunction and fire spread throughout both fire areas. In spite of the fact that the damper assemblies are without an approved U.L. label, the manufacturer has certified that the fire dampers have been fabricated of the same material, with the same method, and to the same design and U.L. procedures as their standard U.L. approved 3-hour fire damper. The results of the fire hazards analysis as tabulated below, in addition to the above, is used to justify this deviation.

RESULTS OF UNIT 1 ANALYSIS

A. Unrated Fire Damper A-1551-S7-612 Auxiliary Building

Size, Inches 94 x 48

Fire Area Separation 1-AB-L2-A & 1-AB-L1-B

Item	Fire Area 1-AB-L2-A	Fire Area 1-AB-L1-B
Fire load, lb		
1. Cable insulation	3,569	6,868
2. Charcoal	21,000	
Fire severity, min	59	158

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in both areas does not produce any redundant safety-related trains of the same safety system.

2. Fire area 1-AB-L1-B is equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

4. The fire damper has been certified by the manufacturer that the damper construction has been in accordance with the 3-hour U.L. approved procedures.

5. The charcoal filtration unit is provided with a self-contained water spray system.

B. Unrated Fire Damper — A-1553-S7-603 Auxiliary Building

Size, Inches — 48 x 96

Fire Area Separation — 1-AB-L2-A & 1-AB-L2-B

Item	Fire Area 1-AB-L2-A	Fire Area 1-AB-L2-B
Fire load, lb		
1. Cable insulation	3,569	420
2. Charcoal	21,000	5,000
Fire severity, min	59	121

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in both areas does not produce any redundant safety-related trains of the same safety system.

2. Fire area 1-AB-L2-B is equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

4. The fire damper has been certified by the manufacturer that the damper construction has been in accordance with the 3-hour U.L. approved procedures.

5. The charcoal filtration unit is provided with a self-contained water spray system.

C. Unrated Fire Damper A-1553-S7-602 Auxiliary Building

Size, Inches 48 x 96

Fire Area Separation 1-AB-L2-B & 1-EB-A

Item	Fire Area 1-AB-L2-B	Fire Area 1-EB-A
Fire load, lb		
1. Cable insulation	420	0
2. Charcoal	5,000	3,553
Fire severity, min	121	29

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Combining the safe shutdown equipment in both areas does not produce any redundant safety-related trains of the same safety system.

2. Both areas are equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

4. The fire damper has been certified by the manufacturer that the damper construction has been in accordance with the 3-hour U.L. approved procedures.

D. Unrated Fire Damper A-1551-S7-602

Size, Inches 64 x 54

Fire Area Separation 1-AB-L1-B & 1-AB-LD-B

Item	Fire Area 1-AB-L1-B	Fire Area 1-AB-LD-B
Fire load, lb cable insulation	6,868	1. 12,850-cable chase 2. 78,962 Balance of area
Fire Severity, Min	158	1. 6-2 HR 2. 73 MIN

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Although train A and B VCT isolation valves of the same safety system are located within fire area 1-AB-LD-B, an alternate means via administrative action is available such that safe shutdown is not precluded.

   Although train A and B valves of the same safety system, located between the boric acid tank and charging pumps, are located within fire area 1-AB-LD-B, an alternate means via the RWST is available to deliver borated water to the reactor coolant system.

   Although train A and B valves, of the same safety system, located between the AFW pumps and the steam generators are located within fire area 1-AB-LD-B, an alternate means is available such that safe shutdown is not precluded. There are a total of 8 train A and B valves, but only two are required to bring the plant to a safe shutdown condition.

2. The cable chase in fire area 1-AB-LD-B as well as area 1-AB-L1-B are equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

4. The fire damper has been certified by the manufacturer that the damper construction has been in accordance with the 3-hour U.L. approved procedures.

E. Unrated Fire Damper A-1551-S7-523

Size, Inches 52 x 44

Fire Area Separation 1-AB-LD-B & 1-AB-LD-A

Item	Fire Area 1-AB-LD-B	Fire Area 1-AB-LD-A
Fire load, lb cable insulation	1. 2,913 cable chase 2. 78,962 balance of area	1. 12,850-cable chase 2. 1,143 pump room 2,244-Wing Area and 894 lb of hydraulic fluid
Fire Severity, Min	1. 6.2 hr. 2. 73	1. 109 2. 41 3. 3

Conclusion

Should a fire spread through both fire areas, safe shutdown of the plant is not compromised due to the following reasons:

1. Although train A and B VCT isolation valves of the same safety system are located within fire area 1-AB-LD-B, an alternate means via administrative action is available such that safe shutdown is not precluded.

   Although train A and B valves of the same safety system, located between the boric acid tank and charging pumps, are located within fire area 1-AB-LD-B, an alternate means via the RWST is available to deliver borated water to the reactor coolant system.

   Although train A and B valves, of the same safety system, located between the AFW pumps and the steam generators are located within fire area 1-AB-LD-B, and 1-AB-LD-A, an alternate means is available such that safe shutdown is not precluded. There are a total of 8 train A and B valves, but only two are required to bring the plant to a safe shutdown condition.

2. The cable chase in fire area 1-AB-LD-A as well as area 1-AB-LD-B are equipped with automatic sprinkler protection.

3. Each fire area has been provided with early warning detection features.

4. The fire damper has been certified by the manufacturer that the damper construction has been in accordance with the 3-hour U.L. approved procedures.

Open Item: 76 Sound Proofing Materials

SER Section: 9.5.1, C.5.a

NRC Branch: CMEB (Fire Protection)

Description:

1. Interior wall and structural components, thermal insulation and radiation shielding materials are noncombustible. The FSAR indicates that interior finish materials have flame-spread, fuel-contributed, and smoke-developed ratings of 25 or less. The applicant has not stated the qualifications of soundproofing materials. The staff will require the applicant to verify that soundproofing materials also conform to the guidelines of BTP CMEB 9.5.1, Section C.5.a(9). This is an open item.

Response:

The FSAR will be revised in the next amendment to reflect that soundproofing, including duct sound traps, are mineral wool with a flame-spread rating of 25 or less.

Open Item: 77 Safety Shutdown Capability
78 Alternative or Dedicated Shutdown Capability

SER Section: 9.5.1, C.5

NRC Branch: CMEB (Fire Protection)

Description:

1. The staff's review of safe shutdown capability is continuing and will be addressed in a supplement to this SER. It is an open item.

2. The staff's review of alternate or dedicated shutdown capability is continuing and will be addressed in a supplement to this SER. Therefore, this an open item.

Response:

Open items 77 and 78 are being addressed together because both are related to the capability to achieve and maintain safe shutdown. Where physically possible, the redundant equipment required to achieve and maintain safe shutdown will be separated in accordance with the criteria contained in CMEB 9.5.1, Section C.5.b. When separation is not possible, alternative or dedicated shutdown capability will be provided in accordance with CMEB 9.5-1 Section C.5.c. It is GPC's opinion that these items should be confirmatory instead of open items in the VEGP SER.

Open Item: 79 Power Supplies for Ventilation

SER Section: 9.5.1, C.5.f

NRC Branch: CMEB (Fire Protection)

Description:

1. Power supplies and controls for mechanical ventilation systems will be located outside the fire area served, where practical. This does not conform to the guidelines in Section C.5.f of BTP CMEB 9.5.1. The staff will require the applicant to demonstrate that a single fire will not disable both trains of ventilation needed for safety-related areas. This is an open item.

Response:

As part of the overall fire hazards analysis, we intend to perform a routing analysis to ensure (in part) that a single fire will not disable the ventilation systems required to be operable to support the operation of other safe shutdown equipment. In addition, we will review all ventilation system circuits, safety-related and non safety-related in order to support smoke venting capabilities.

Normal building exhaust ventilation systems can be utilized for smoke removal from the various plant fire areas in addition to their normal design function. The control room is provided with its own independent smoke removal fan. The normal building exhaust systems can serve a combination of fire areas, building floors and, in some cases, the entire building. Exclusion of their power cable from fire areas also served by the same exhaust system is not physically possible to accomplish in most cases. However, fire damage to such cable has been minimized to the extent practical by limiting the number of fire areas through which the cable must pass. It should be noted that the cable has been routed through areas that are equipped with early warning detection features such that imminent fire fighting activities can be established. Should the normal exhaust system become unavailable for smoke removal operations, as in the case of loss of offsite power, portable smoke removal fans are available as an alternate means to relieve an area of smoke.

Open Item: 80 Fire Detection

SER Section: 9.5.1, C.6.a

NRC Branch: CMEB (Fire Protection)

Description:

1. A backup power supply exists for the fire detection system with access to the Class 1E diesel, switching manually, and a 4-hr battery backup power supply for the suppression actuation system with no access to the Class 1E diesels.

   The applicant did not provide enough information for the staff to verify that this is in accordance with staff guidelines. The staff will require the applicant to confirm that primary and secondary power supplies for the fire detection system and for electrically operated control valves for automatic suppression systems conform to the guidelines of BTP CMEB 9.5-1, Section C.6.a(6). This is an open item.

2. The applicant states that it will be guided by NFPA Std. 72E for selecting fire detectors and installing them in the plant, but does not indicate how the detectors might deviate from NFPA Std., 72E. The staff will require the applicant to confirm that the fire detectors meet the guidelines of BTP CMEB 9.5-1, Section C.6.a(3).

Response:

1. The VEGP complies with NFPA 72D, 1975, Section 2220 in the following manner:

   a. Fire detection system - Power, via battery charges, is supplied from at least one Class 1E diesel generator with isolation provided per R.G. 1.75. A second Non-Class 1E diesel generator provides primary power to an inverter which provides uninterruptible power to the detection system. An inverter secondary power source is provided from a two-hour battery system deriving power from the above indicated battery charges.

      Alternately, fire detection panels located remotely from the above power system are provided with 24-hour backup batteries. The above backup power sources are provided in addition to normal system power which is derived from offsite sources.

   b. Fire suppression system and fire alarm signaling systems - these systems are powered from normal power sources and are provided with 24-hour battery backup.

2. It is the responsibility of the detector supplier to supply and locate detectors in accordance with NFPA 72E. Where it is physically impossible to do this, the detector locations will be evaluated and accepted by a registered professional fire protection engineer.

Open Item: 81 Valve Supervision

SER Section: 9.5.1, C.6.c

NRC Branch: CMEB (Fire Protection)

Description:

1. Not all valves in the fire protection water-supply system are supervised in accordance with staff guidelines and NFPA Std. 26. The staff will require the applicant to conform to the guideline in Section C.6.c of BTP CMEB 9.5-1. This is an open item.

Response:

All fire protection valves are supervised, either by being locked in the proper position or electrically supervised and indicated in the main control room.

Open Item: 82 Sprinkler Systems

SER Section: 9.5.1, C.6.c

NRC Branch: CMEB (Fire Protection)

Description:

1. The applicant states that NFPA Stds. 13 and 15 have been used as guidance in the design of wet pipe sprinkler systems, deluge systems, and pre-action systems, but has not indicated how these systems might vary from the applicable standards. The staff will require that the applicant conform to NFPA Stds. 13 and 15 or identify and justify any deviations from Section C.6.c of staff guidelines. This is an open item.

Response:

Except for the following chapters, sections, subsections, and their applicable appendix items, VEGP compliance with NFPA 13-1983 "Sprinkler Systems" and NFPA 15-1982 "Water Spray Fixed Systems" is assured during the design process through compliance with approved design criteria and procedures.

NFPA 13-1983

Subsections C-11.1, "Flushing of Underground Connections," the underground main and lead-in piping will not be flushed before connection is made to the sprinkler piping. However, measures will be taken and controlled via the flush procedure to prohibit the introduction of foreign material into the sprinkler piping during main and lead-in flushing.

Subsection 1-11-2.5, "Test Blanks," Test blanks will not be painted or numbered, however, they will be strictly controlled by procedure which requires removal verification.

Subsection 2-2.1.2.4, "Water Supply Requirements Tables," water allowance for outside hose not added to sprinkler and inside hose requirements for all buildings since some buildings are not accessible for outside hose usage, i.e., Auxiliary Control Fuel Handling & Containment buildings.

Subsection 2-6, "Pressure Tanks," is not applicable because pressure tanks are not used at VEGP.

Subsection 2-7, "Fire Department Connections," are not provided at VEGP. The local fire department will be used for additional fire brigade members only. The plant fire protection systems consist of redundant fire water pump and water supply, and the yard network is a loop providing water supply even if any one section is out of service. In addition, each fire hydrant at VEGP is equipped with a pumper connection.

Subsection 3-14.2.7, "Valves Controlling Sprinkler Systems," is not applicable because a city connection is not provided at VEGP.

Subsection 4-4.17, "Fur Vaults," is not applicable because vaults are not provide at VEGP.

Subsection 4-4.21, "Theater Stages," is not applicable because theater staged not provided at VEGP.

Subsection 5-5, "Antifreeze Systems," is not applicable due to heat tracing of piping subject to freezing.

Chapter 8, "High-Rise Buildings," not applicable to VEGP because none provided at VEGP.

NFPA 15-1982

Subsection 2-12, "Fire Department Connections," is not applicable because fire department connections are not provided at VEGP as licensed in NFPA 13 Subsection 2-7 above.

Subsection 3.3.2, "Fire Department Connections," is not applicable as stated above.

Subsection 4-4.3.5, "Belt Conveyors," is not applicable because none provided at VEGP.

Subsection G-11, "General Periodic Testing and Maintenance," the testing and maintenance of water spray systems will be under the control of VEGP and will be done by qualified VEGP testing personnel.

Open Item: 83 Standpipes

SER Section: 9.5.1, C.6.c

NRC Branch: CMEB (Fire Protection)

Description:

11 The applicant states that NFPA Std. 14 was used for guidance on manual hose stations located throughout the plant, but has not indicated how the standpipes and hose stations might vary from NFPA Std. 14. The staff will require the applicant to comply with NFPA Std. 14 or to identify and justify any deviation from Section C.6.c of BTP CMEB 9.5-1. This is an open item.

Response:

Except for the following chapters, sections, subsections, and their applicable appendix items, VEGP compliance with NFPA 14-1983 "Standpipe and Hose Systems" is assured during the design process through compliance with approved design criteria and procedures.

Subsection 1-6, "Class of Service", the standpipe and hose system is a Class II system, so all subsections relating to Class I or Class III systems are not applicable.

Subsection 1-7, "Type of System", "Wet Standpipe" systems are used throughout the plant, so all subsections related to "Dry Standpipe" systems are not applicable.

Subsection 2-1.2, "Class I and Class III", is not applicable. See reason stated above.

Subsection 2-1.4, dealing with standpipe height limitation and required zoning for structure heights in excess of 275-ft. This subsection and all subsections dealing with the same issue are not applicable. The lowest elevation for a hose connection is approximately 123-ft and the highest elevation for a hose connection is approximately 285-ft giving a difference of 162-ft which is less than 275-ft, so vertical zoning is not required.

Subsections 2-16; 2-17; 2-1.9 and 2-1.10 dealing with vertical zoning are not applicable. See reason stated above.

Subsection 4-3, "Hose Connections for Class I Service", is not applicable. See reason stated above.

Subsection 4-5, "Hose Connections for Class III Service", is not applicable. See reason stated above.

Subsection 6-6, "Hose Connections for Dry Standpipe", is not applicable. See reason stated above.

Subsection 5-3, "Minimum Supply for Class I Service", is not applicable. See reason stated above.

Subsection 5-5, "Minimum Supply for Class III Service", is not applicable. See reason stated above.

Subsection 5-6, "Fire Department Connection", is not applicable. Dry standpipe systems are not used, and all wet standpipe systems have redundant fire water pump and water supply, and the yard network is a loop-providing water supply even if any one section is out of service.

Subsection 7-1.1 "Connections from gravity tanks," is not applicable because gravity tanks not used at VEGP.

Subsection 7-1.2 "Gravity tank connection testing," is not applicable. See reason stated above.

Subsection 8-1.2 "Piping testing," is not applicable because fire department connections not provided at VEGP.

Subsection 8-1.2.1 "Pipe flushing," is not applicable. See reason stated above.

Subsection 8-2.5 "Local fire department notification," the local fire department will be notified of system impairments by the fire team captain upon their arrival at the scene if the impairment may impact their operations. This method will ensure adequate notice to the local fire department.

Chapter 9, "Building Under Construction", is not applicable from the time of fuel load and on.

Open Item: 84 Halon 1301 Systems

SER Section: 9.5.1, C.6.d

NRC Branch: CMEB (Fire Protection)

Description:

1. The applicant states that the use of Halon systems is guided by NFPA Std. 12A, but has not indicated how it might vary from NFPA Std. 12A. The staff will require the applicant to comply with NFPA Std. 12A or to identify and justify any deviations from Section C.6d of BTP CMEB 9.5-1. This is an open item.

Response:

VEGP intends to comply with the requirements of NFPA 12A. It is the responsibility of the suppression system contractor to comply with the code in its entirety. If any deviations due to physical limitations are identified by the contractor, they will be evaluated for acceptability by a registered professional fire protection engineer.

Open Item: 85 Control Room Complex

SER Section: 9.5.1, C.7.b

NRC Branch: CMEB (Fire Protection)

Description:

1. The Control room complex is separated from all other areas of the plant by 3-hr-rated assemblies. Peripheral rooms are separated from the main control room by 3-hr-rated barriers. Automatic suppression has not been provided in all peripheral rooms. This does not comply with staff guidelines. The staff will require these rooms to be provided with automatic suppression and detection in accordance with Section C.7.b of BTP CMEB 9.5-1. This an open item.

2. Ionization smoke detectors have been installed in the control room but not inside the individual cabinets and consoles within the control room. This does not comply with staff guidelines. The staff will require the applicant to provide smoke detectors in the control room cabinets and consoles in accordance with the guidelines in Section C.7.b of BTP CMEB 9.5-1. This an open item.

Response:

1. The peripheral rooms of the control room, i.e., the conference, emergency storage, kitchen, and toilet rooms are not provided with automatic suppression capability for the following reasons:

   a. Estimated Combustible load in each room as shown below:

	Fire Load	Fire Severity
Conference room	60 lb paper	2 min
Emergency storage	1300 lb paper	86 min
Kitchen	10 lb paper	0.1 min
Toilet	Negligible	Negligible

   b. The fire barriers separating the peripheral rooms from the control room are rated 2-hours and those separating the rooms from other plant fire areas are 3-hour rated.

   c. A water suppression system is not used in the control room peripheral rooms due to possible inadvertant actuation of the system causing damage to electrical equipment. A gaseous suppression system is not used due to the personnel hazard presented by the system.

2. The use of smoke detectors inside the individual control room cabinets and consoles is still under review and will be addressed later.

Open Item: 96 Brigade Training

SER Section: 9.5.1, C.3

NRC Branch: CMEB (Fire Protection)

Description:

1. The fire brigade leader is the only person identified as being knowledgeable about safety-related systems. This does not meet staff guidelines. The staff will require the applicant to provide training in accordance with Section C.3 of BTP CMEB 9.5-1 which states that the fire brigade leader and at least two other brigade members should have sufficient training in or knowledge of plant safety-related systems to understand the effects of fire and fire suppressants on safe shutdown capability. This item has been discussed and identified as open in Section 13.2.2.1.

Response:

The VEGP fire training program will conform to the guidelines of CMEB 9.5-1, Section C.3. For each shift, the brigade leader and at least two of the other four brigade members will have sufficient training in, or knowledge of, plant safety related systems to understand the effects of fire and fire suppressants on safe shutdown capability.