



**Wisconsin Electric** POWER COMPANY  
231 WEST MICHIGAN, MILWAUKEE, WISCONSIN 53201

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October 2, 1981  
P2 NRC 1 (FP)

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

Dear Mr. Denton:

DOCKET NOS. 50-266 AND 50-301  
FIRE PROTECTION MODIFICATIONS  
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

This letter is to provide the current status of fire protection items for the Point Beach Nuclear Plant.

Our March 18, 1981 letter pursuant to 10 CFR Part 50.12(a) requested extension of certain of the schedule dates in Paragraph (c) of the fire protection regulations in 10 CFR Part 50.48. In particular we requested:

1. That the date in Paragraph (c)(5) for submitting plans and schedules for meeting the provisions of Paragraph (c)(2), (c)(3), and (c)(4) with respect to the requirements of Section III.G of Appendix R to Part 50 be extended from March 19, 1981 to September 30, 1981, and with respect to the requirements of Section III.O of Appendix R to Part 50 be extended to June 30, 1981.
2. That the date in Paragraph (c)(5) for submitting design descriptions of modifications needed to satisfy Section III.G.3 of Appendix R be extended from March 19, 1981 to December 31, 1981.
3. That the implementation date in Paragraph (c)(2) for installation of modifications that do not require prior NRC approval or plant shutdown be extended from nine months after February 17, 1981 to nine months after September 30, 1981 for modifications required by Section III.G, and to nine months after June 30, 1981 for modifications required by Section III.O.
4. That the implementation date in Paragraph (c)(3) for the installation of modifications that do not require prior NRC approval but require plant shutdown be extended from before startup after the earliest of the specified events commencing 180 days or more after February 17, 1981 to before startup after the earliest of the specified events commencing 180 days or more after September 30, 1981 for modifications required by Section III.G, and to before startup after the earliest of the specified events commencing 180 days or more after June 30, 1981 for modifications required by Section III.O.

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Our letter also provided the basis for the listed schedule extension requests. Although the requested extension dates appeared to be reasonable at the time of our request, our subsequent efforts to satisfy these dates have proven them to be optimistic and unachievable. Our basis addressed the problem of coordinating the design and implementation of fire protection features with the many other tasks required by the Commission. The availability of cognizant personnel to perform fire protection tasks in addition to the other necessary safety-related tasks was also a recognized problem. We did not anticipate the significant impact of the large work force necessary to implement the many required modifications in an operating nuclear power plant.

Engineering and implementation are proceeding within the limits of our personnel availability and at a work pace which can be accommodated safely at the plant. The following itemized information is provided:

Reassessment of Plant Design Features For Meeting the Requirements of Sections III.G, III.J, and III.O of Appendix R.

Our March 18 letter described the reassessment in accordance with Section III.G as a five step evaluation which we expected to complete by September 30, 1981. To date, all necessary shutdown equipment and cables have been identified. We are currently in the process of evaluating each plant area for the purpose of developing suitable plans to comply with Section III.G. We believe that this work can be completed by December 31, 1981 and that plans and schedules for implementation can be submitted by January 31, 1982.

All modification work necessary to meet the requirements of Section III.G is not being delayed until completion of the reassessment. A specification for automatic suppression systems in the cable spreading, switchgear, and auxiliary feedwater pump rooms will be issued shortly. Contractor selection is expected by October 31, 1981 and implementation will proceed when system components have been procured. We have developed an equipment barrier design and fabrication details are presently being prepared. We will proceed to implement these barriers as the reassessment evaluation indicates their necessity. We will also proceed with implementation of additional fire suppression systems in the auxiliary building if our plant area evaluation indicates their necessity.

Our March 18 letter stated that a plant inspection was required to determine the plans necessary to comply with Section III.O. The inspection was performed as scheduled. However, the development of plans and schedules could not be completed by June 30, 1981. A design has been developed for reactor coolant pump oil collection including the high pressure lift pump and piping. The design is presently undergoing final plant staff review. We presently plan to have one pump collection system fabricated following plant approval. The assembly will require plant fit-up and perhaps modification before all reactor coolant pump oil collection systems can be fabricated. Because of the heavy work load during the approaching Unit 1 refueling outage including containment fire detector installation, we are not confident that the Unit 1 reactor coolant pump oil collection systems can be installed during this outage. We

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do believe that sufficient work can be accomplished to facilitate implementation of this modification within the period of our original request for a time extension.

We submitted plans and schedules for implementing modifications required by 10 CFR Part 50.48 (c) which were not specifically required to satisfy Sections III.G and III.O in a separate March 18, 1981 letter. The following significant status changes are noted for modifications as identified in the Fire Protection Evaluation Report:

1. Item 3.1.5 - Water Damage Protection

This item covered the requirement for floor drains in the cable spreading room. A closed head sprinkler system was initially considered to provide automatic fire suppression. Modifications necessary to accommodate water protection would include the floor drains, MCC spray shields, and transformer dikes for PCB containment. The cable spreading room automatic fire suppression will be a gaseous suppression system. Floor drains, spray shields, and transformer dikes will not be required. Floor drains would in fact be detrimental as they would have to be provided with locked closed isolation valves to assure containment of an adequate concentration of suppressant, as well as for PCB containment. Manual water suppression capability is provided with the water source located outside of the cable spreading room. Water suppressant can only be introduced through an open entrance door which thereby also provides drainage capability. Overall fire protection of the cable spreading room is more suitably provided without floor drains which, therefore, will not be installed.

2. Item 3.1.9 - Fire Barriers

All fire barrier penetration seal work except for the west wall of the auxiliary feedwater pump room and approximately four floor penetrations is complete. Approximately six weeks of work remains to be done. The auxiliary feedwater pump room seal work is interfaced with masonry wall requirements and post-TMI shielding requirements. It has not been possible to accomplish the necessary work prior to the approaching Unit 1 refueling. The multitude of tasks which must be accomplished during a refueling outage, supervisory personnel availability, and the physical capacity limitations of the plant dictate that unnecessary contract personnel be excluded from the plant during the refueling outage. Therefore, the remaining seal installation work has been postponed until the outage completion. Seal installation work is expected to be completed by March 1, 1982.

3. Item 3.1.24 - Diesel Generator Air Intake

This modification has been completed.

4. Item 3.1.31 - Emergency Diesel Generators - Remote Panel

This modification is being implemented by plant personnel because of the safety significance of the diesel generators. The installation

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of necessary equipment is essentially complete. However, electrical checkout and operating procedures have not been fully developed. The plant personnel responsible for developing the necessary procedures will be fully occupied with Unit 1 refueling outage activities between October 9 and December 5, 1981. Therefore, this modification cannot be completed by November 17, 1981. We expect to have this modification completed by January 31, 1982.

Your February 13, 1981 letter stated that the installation of fire detectors in Unit 1 containment was required during the fall 1981 refueling outage, in Unit 2 containment during the spring 1982 refueling outage, and in all plant areas which did not require an outage by October 21, 1981. Contractor availability and material delivery problems delayed initiation of this installation. At the present time, fire detector installation is one of the many modifications being implemented expeditiously at Point Beach Nuclear Plant. Detectors will be installed in Unit 1 containment during the refueling outage which begins October 9, 1981. Detectors will be installed in Unit 2 containment during the spring 1982 refueling outage. The balance of plant fire detector installation cannot be completed by October 21, 1981 but will be completed prior to the Unit 2 containment installation.

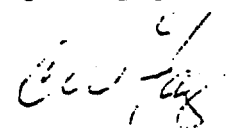
Enclosure 3 to your May 4, 1981 letter lists the following unresolved fire protection issues for Point Beach Nuclear Plant:

1. Item 3.1.14 - Cable Separation
2. Item 3.1.17 - Hydrogen Hazard Fire Protection
3. Item 3.2.1 - Safe Shutdown Capability
4. Item 3.2.2 - Circulating Water Pumphouse Fire Protection
5. Item 3.2.6 - Reactor Coolant Pump Lube Oil Collection

Plans and schedules for Issues 1, 2, and 3 will be covered by the plans and schedules which we will develop at the completion of our plant reassessment to meet the requirements of Section III.G of Appendix R. Our June 23, 1981 letter committed to the installation of a fire barrier wall to provide separation of the service water pumps in accordance with Section III.G to resolve Issue 4. The fabrication details for this barrier are in the process of preparation. We expect implementation of this modification to be completed by March 1, 1982. Our plans and schedules for Issue 5 are stated in our status description of plans necessary to comply with Section III.O.

Please advise us if you have any questions or require any additional information at this time.

Very truly yours,

  
C. W. Fay, Director  
Nuclear Power Department





UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

July 27, 1988

Docket Nos. 50-266  
and 50-301

Mr. C. W. Fay, Vice President  
Nuclear Power Department  
Wisconsin Electric Power Company  
231 W. Michigan Street, Room 308  
Milwaukee, Wisconsin 53201

Dear Mr. Fay:

SUBJECT: 4160 VOLT SWITCHGEAR ROOM - TACS 60839 AND 60840

In a letter dated February 7, 1986, you proposed a conceptual design for the addition of a dedicated 13,800 volt bus that would provide the capability to achieve safe shutdown independent of the 4160 volt switchgear room. We approved this conceptual design in a letter to you dated July 30, 1986. You provided additional design details of the new switchgear room in your letter dated February 29, 1988.

With the aid of our consultant, Science Applications International Corporation (SAIC), we have completed our review of the new switchgear room. We conclude that the design of the new switchgear room conforms with the fire protection requirements of Sections III.G and III.L of Appendix R to 10 CFR Part 50 and the guidelines in Generic Letter 85-12.

Our Safety Evaluation with the attached Technical Evaluation Report prepared by SAIC is enclosed. Please contact us if you have any questions concerning our review.

Sincerely,

David H. Wagner, Project Manager  
Project Directorate III-3  
Division of Reactor Projects - III,  
IV, V and Special Projects

Enclosure:  
As stated

cc: See next page

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Mr. C. W. Fay  
Wisconsin Electric Power Company

Point Beach Nuclear Plant  
Units 1 and 2

cc:  
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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

WISCONSIN ELECTRIC POWER COMPANY  
POINT BEACH NUCLEAR PLANT, UNIT NOS. 1 AND 2  
DOCKET NOS. 50-266 AND 50-301

INTRODUCTION

During our initial review of the Point Beach Fire Protection Program to the requirements of Appendix R to 10 CFR Part 50, we determined that the 4160 Volt Switchgear Room did not meet the technical requirements of Section III.G of the rule. The licensee requested approval of an exemption from these requirements. This exemption was denied.

By letter dated February 7, 1986 the licensee proposed a design for the addition of a dedicated 13,800 volt bus that would provide the capability to achieve safe shutdown independent of the 4160 Volt Switchgear Room. We approved the conceptual design of the new switchgear room in a letter dated July 30, 1986. The licensee provided additional design details of the new switchgear room in a letter dated February 29, 1988.

DISCUSSION

A complete discussion is included in the attached Technical Evaluation Report (TER) prepared by our contractor, Science Applications International Corporation (SAIC).

CONCLUSION

The staff concurs with the attached TER and concludes that the design of the new switchgear room conforms with fire protection requirements of Sections III.G and III.L of Appendix R to 10 CFR Part 50 and the guidelines of Generic Letter 85-12.

Attachment: SAIC-88/3028

Principal contributor: David Wagner

Date

REVIEW OF THE  
POINT BEACH NUCLEAR PLANT, UNIT 1 and 2  
ALTERNATE SHUTDOWN CAPABILITY

TAC No. 60839/40

June 14, 1988



Science Applications International Corporation

Prepared for

U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Contract NRC-03-87-029

Task Order 003

## REVIEW OF THE POINT BEACH NUCLEAR PLANT UNITS 1 AND 2 ALTERNATE SHUTDOWN CAPABILITY

### 1.0 Introduction

The primary objective of the 10 CFR 50 Appendix R requirements is safe plant shutdown following any fire. Upon review of the Point Beach Nuclear Unit 1 and 2 against the 10 CFR 50 Appendix R requirements on fire protection, it was determined that 4160 volt switchgear room does not meet the Appendix R requirements regarding separation of redundant 4160 volt buses. The Wisconsin Electric Power Company requested an exemption from this requirement. This request was denied by the NRC.

In response, Wisconsin Electric Power Company proposed a design for addition of a dedicated 13,800 volt bus that would provide the capability for safety plant shutdown independent of the 4160 volt switchgear room (1,2). This report provides a summary discussion and evaluation of the proposed design.

### 2.0 Discussion

Following a fire in the 4160 V switchgear room without a fire barrier, it is assumed that all electric power to the plant equipment would be lost. The licensee-proposed alternate shutdown capability following a fire in the 4160 volt switchgear room is based on addition of an independent 13,800 volt bus powered by the on-site gas turbine. The gas turbine and the associated output breakers are located in the gas turbine building away from the 4160 volt switchgear room. The turbine and breakers are contained in a room constructed of walls and floor/ceiling assembly that are three-hour fire rated. An independent source of 125 V DC power is also provided for operation of the breakers to load the gas turbine. Control and monitoring instrumentation for the gas turbine is provided in the control room independent of the 4160 volt switchgear room cables.

The source of power for the safe shutdown systems is two 480 V buses supplied by the 13,800 V bus through a step-down transformer. These buses also provide power to a distribution panel for battery chargers, lighting, and communication.

The safe shutdown functions that must be performed following a fire are:

1. Reactor Reactivity Control Function
2. Reactor Coolant Make-up Control Function
3. Reactor Coolant Pressure Control Function
4. Reactor Heat Removal Function
5. Process Monitoring Function
6. Miscellaneous Supporting Functions

The reactor reactivity control function is provided by the reactor protection system that would function independent of a fire in the 4160 V switchgear room. This system will keep the reactor subcritical for the first 24 hours after reactor trip. Due to xenon decay and negative moderator coefficient during cooldown from hot shutdown to cold shutdown, after the first 26 hours, addition of borated water to the primary system would be needed. This requirement will be provided by the Chemical Volume and Control System (CVCS) which also provides the requirement of the reactor coolant make-up control function. The CVCS charging pumps would take suction from Refueling Water Storage Tank (RWST) and inject the coolant through reactor coolant pump seal injection path or auxiliary charging path.

The initial reactor coolant pressure (overpressure) control function is provided by pressurizer safety valves. Once the reactor is depressurized to approximately 425 psig and Residual Heat Removal System (RHRS) is in operation, RHR safety valves provide this function. The reactor heat removal function is provided by establishment of natural circulation in the primary system, and operation of Auxiliary Feedwater System (AFWS) to remove heat through at least one steam generator. Both atmospheric steam dump valves and main steam system code safety valves can be used to dump the decay heat.

The process monitoring function is provided by the instrumentation necessary to monitor (a) pressurizer pressure, (b) pressurizer level, (c) primary coolant hot and cold leg temperatures, (d) steam generator level, (e) steam generator pressure, and (f) neutron flux.

The miscellaneous supporting functions are provided by systems required in support of functions discussed so far. The systems required to provide the support function include: Component Cooling Water System (CCWS), Service Water System (SWS), and emergency power system. The proposed independent switchgear room will provide power to all these support systems. A fire in the 4160 V switchgear room will not damage any of the front line or support systems necessary for safe shutdown of the plant by the proposed alternate shutdown system.

### 3.0 Evaluation

In a letter dated July 30, 1986, the NRC had accepted the conceptual design of the switchgear room dedicated shutdown system (3). However, the final approval of the system was postponed until the detailed design of the system is reviewed against the criteria of 10 CFR 50 Appendix R, Section III.L on "Alternative and dedicated shutdown capability." Because the 4160 V switchgear room is protected by automatic fire detection and suppression systems, the fire protection requirements of Section III.G.3 have been met. The purpose of this review is to confirm that the proposed alternative shutdown design meets the requirement of 10 CFR 50 Appendix R, Section III.L, and the guidelines issued in Generic Letter 81-12 (4).

To satisfy the criteria for electrical isolation discussed in Generic Letter 81-12, the Licensee's proposed independent AC power source consists of a gas turbine, a 13.8 KV bus, 13.8 KV to 480 V transformer, 480 V bus and the associated power supply breakers. This new system connects to the existing power supply system below the new 480 V bus through a class 1E breaker panel. As will be mentioned later, one of the earliest actions by the control room operators in response to a fire in the switchgear room is to connect the 480 V buses to the alternate power source and isolate them from the 4160 switchgear room. This design and procedure satisfies the electrical isolation criteria of the Generic Letter 81-12.

The licensee has identified the functions and systems required for safe shutdown of the plant and has developed a set of procedures for the operators to deal with a fire in the switchgear room. These procedures consist of a series of actions by three control room operators outside the control room during the first hour after the initiation of the fire. The

major elements of these actions include proper line-up of the 480 V breakers to connect the 480 V buses to the alternate power source and isolate these buses from the 4160 V switchgear room in conformance with the criteria for electrical isolation of Generic Letter 81-12, manual initiation and control of AFWS, CVCS charging pumps, and startup of the gas turbine. During the first 30 minutes all control actions will be taken on local stations. After about 30 minutes one of the operators would go back to the control room and the other two would stay at the AFWS and charging pump local stations for local control and monitoring of these systems.

Following a fire in the 4160 V switchgear room, the following indications would be available in the control room without interruption: pressurizer pressure and level, primary hot and cold leg temperatures, steam generator pressure and level. In addition, the neutron flux would be available at a local position. No direct indication of the status of the AFWS, CVCS, RHRS, CCWS, and SWS pumps or valves would be available in the control room. The licensee indicates that the operators at local stations will monitor the status of these systems. The adequacy of licensee's procedures, communication and lighting associated with the proposed design will be verified during future regional inspection.

Overall, it appears that the proposed design will provide power to the equipment necessary for safe shutdown of the plant. As described earlier, information about the primary plant parameters is provided in the control room without interruption. Even though direct indication on status of systems discussed earlier are not provided in the control room, local monitoring of these systems by operators is available.

#### 4.0 Conclusion

Based on the above evaluation, the staff concludes that, subject to verification of the adequacy of the safe shutdown procedures, communications, and lighting associated with a fire in the 4160 V switchgear room, the licensee's proposed design conforms with Section III.G.3 and III.L of Appendix R to 10 CFR 50 and the guidelines issued in Generic Letter 81-12.



## REFERENCES

1. Letter from C.W. Fay, Vice President Nuclear Power, Wisconsin Electric Power Company to H.R. Denton, Director, Nuclear Regulatory Commission, Dated February 7, 1986.
2. Letter from C.W. Fay, Vice President Nuclear Power, Wisconsin Electric Power Company to Mr. David H. Wagner, Project Manager, Project Directorate III-3 USNRC, Dated February 29, 1988.
3. Letter from Timothy G. Colburn, Project Manager, Project Directorate #1, Division of PWR Licensing-A, USNRC, to C.W. Fay, Vice President, Wisconsin Electric Company, Dated July 30, 1986.
4. "Fire Protection Rule (45 FR 76602, November 19, 1980) - Generic Letter 81-12," USNRC, February 20, 1981.

10.11.12

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

January 11, 1989

Docket Nos. 50-266  
and 50-301



Mr. C.W. Fay, Vice President  
Nuclear Power Department  
Wisconsin Electric Power Company  
231 W. Michigan Street, Room 308  
Milwaukee, Wisconsin 53201

T4.5.1

Dear Mr. Fay:

SUBJECT: 4160 VOLT SWITCHGEAR ROOM - TACS 60839 AND 60840

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With the aid of our consultant, Science Applications International Corporation (SAIC), we have completed our review of the new switchgear room. We conclude that the design of the new switchgear room conforms with the fire protection requirements of Sections III.G and III.L of Appendix R to 10 CFR Part 50 and the guidelines in Generic Letter 85-12.

Our revised Safety Evaluation is enclosed. This Safety Evaluation supersedes that of July 27, 1988. Please contact us if you have any questions concerning our review.

Sincerely,

A handwritten signature in cursive script that reads "Warren H. Swenson".

Warren H. Swenson, Project Manager  
Project Directorate III-3  
Division of Reactor Projects - III,  
IV, V and Special Projects  
Office of Nuclear Reactor Regulation

Enclosure:  
As stated

cc: See next page

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JAN 17 1989

FROM EACH

Mr. C. W. Fay  
Wisconsin Electric Power Company

Point Beach Nuclear Plant  
Units 1 and 2

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

WISCONSIN ELECTRIC POWER COMPANY  
POINT BEACH NUCLEAR PLANT, UNIT NOS. 1 AND 2  
DOCKET NOS. 50-266 AND 50-301

INTRODUCTION

During our initial review of the Point Beach Fire Protection Program to the requirements of Appendix R to 10 CFR Part 50, we determined that the 4160 Volt Switchgear Room did not meet the technical requirements of Section III.G of the rule. The licensee requested approval of an exemption from these requirements. This exemption was denied.

By letter dated February 7, 1986 the licensee proposed a design for the addition of a dedicated 13,800 volt bus that would provide the capability to achieve safe shutdown independent of the 4160 Volt Switchgear Room. We approved the conceptual design of the new switchgear room in a letter dated July 30, 1986. The licensee provided additional design details of the new switchgear room in a letter dated February 29, 1988.

DISCUSSION

On July 27, 1988, the Nuclear Regulatory Commission issued a Safety Evaluation concluding that the design of the new switchgear room conforms with the fire protection requirements of Sections III.G and III.L of Appendix R to 10 CFR Part 50 and the guidelines of Generic Letter 85-12. The Safety Evaluation concurred with the findings of a Technical Evaluation Report (TER) prepared by our contractor, Science Applications International Corporation (SAIC). By letter dated November 1, 1988, Wisconsin Electric Power Company (WEPCO) noted an apparent error in the TER. Specifically, WEPCO provided the following corrected information:

The gas turbine building is not a three-hour fire rated structure. It is a separate building of metal panel and steel frame construction which is located more than 75 feet west of the main plant buildings. The 4160V switchgear is located in a three hour fire rated enclosure within the main plant building.

The staff has reviewed the information provided and concurs with the licensee that the TER describes the gas turbine building configuration incorrectly. Because the gas turbine building is a separate structure, a single fire will not cause damage to safety systems such that safe plant shutdown could not be achieved and maintained. Therefore, the original conclusions of the safety evaluation remain valid.

CONCLUSION

The staff concludes that the actual configuration meets the requirements of Appendix R and does not invalidate the conclusions of our July 27, 1988 safety evaluation. As a result, the staff concludes that the design of the new switchgear room conforms with the fire protection requirements of Sections III.G and III.L of Appendix R to 10 CFR Part 50 and the guidelines of Generic Letter 85-12.

Principal contributor: Warren H. Swenson

Date January 11, 1989

**FPER  
CHAPTER 10.0  
INDEX  
FIRE PROTECTION PROGRAM REFERENCES**

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**Tab No.    Title/Description**

**III.            Summary of Modifications, Commitments and Calculations Associated with  
NRC Fire Protection Regulations**

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1.            List of Fire Protection Related Calculations (see Calc. File for complete list).
2.            Listing of Fire Protection Specifications (see Spec. File for complete list).
3.            Summary of Physical Plant Fire Protection Modifications, 1975-1987.
4.            Listing of Fire Protection Modifications, as of June 1, 1993.
5.            Summary of Fire Protection Modifications proposed in Fire Protection SERs.
6.            Summary of Fire Protection Commitments, July 18, 1985.
7.            NRC Fire Protection Commitment Punchlist with Description, Status and Responsible Person, September 18, 1985.
8.            NRC Fire Protection Commitment Summary and Description, March 18, 1986.
9.            Summary, Description and Status of 1977 PBNP Fire Protection Review Commitments, October 31, 1986.
10.           NRC Fire Protection Commitment List Description and Status, February 3, 1987.
11.           Additional Fire Protection Commitments (from the Brown Book on Safe Shutdown Capability), February 19, 1987.
12.           WE ltr to NRC, RE: Conditions Discovered during the Appendix R Safe Shutdown Reverification Program, February 25, 1987.
13.           WE ltr to NRC, RE: Proposed Modification to Install an Instrument Air Header Valved Vent Connection Outside Containment in Units 1 and 2, June 9, 1987.

**FOR INFORMATION ONLY**

August 2001

### Sample Fire Protection Related Calculations

See Calculation File (or Search on NIMs) for Complete List of Controlled Calculations

Also See Calculation Summaries in Fire Protection DBD

Calculation No.	Description	Date
P-92-007	Total Heat in SFP after U1R19 Core Unload	
P-91-020	Total Heat Rate in SFP after U2R17 Core Unload	
P-89-022	Fire Test Header Calc 3	
P-89-021	Fire Test Header Calc 2	
P-89-020	Fire Test Header Calc 1	
N-94-082	SERVICE WATER FLOW BALANCE TO MEET APPENDIX R SAFE-SHUTDOWN	7/22/94
N-09334-007-2	FOR FIRESTOP AMPACITY DERATING FACTORS	4/7/94
N-94-022	APPENDIX R REACTIVITY ANALYSIS	2/28/94
N-93-91	THRUST RESTRAINT CALCULATION FOR WHSE 4 FIRE PROTECTION PIPE	8/23/93
N-93-117	SUBJECT: APPENDIX R THERMAL HYDRAULICS ANALYSIS	1/11/94
6704.001-C-014	FIRE PROT. OCCUPANCY CLASSIFICATION AND PIPE SIZE	5/7/92
6704.001-C-012	WAREHOUSE FIRE PROTECTION	5/29/92
30C-AN-001	FIRE PROTECTION PIPING IN THE NEW EMERGENCY DIESEL GENERATOR	
N-91-073	Panels D11, D13 Fuse & Breaker Coordination	
N-91-070	SUPPORT LOAD GENERATION FOR THE FOPH FIRE PROTECTION HEADER	7/18/91
N-91-068	Cards - Basic Cable Designation Caloric Values	
N-91-055	EQ of Rockbestos Firewall III Cable	
N-91-044	Alt. Shutdown Mod B08/B09 Coordination Calc	
N-91-043	Alt. Shutdown Mod Battery D-105/D-106 Sizing	
N-91-021	Battery Room Cooling Coil HX Transfer Rate	
N-91-019	Ventilation for Alternate Shutdown Equipment	
N-91-018	Temporary Dike for SWGR Room Bypass	
N-91-012	Allowable Ampacities for Cables Identified for Replacement in NCR # N-90-056 (Cancelled)	
N-91-006	AVAILABILITY OF SERVICE WATER FOR FIRE PROTECTION LOADS	2/8/91
N-91-006	Service Water Availability for Diesel Room Sprinklers	
N-90-054	SWGR Room Bypass Modification	
N-90-014	BREAK FLOW RATE FROM SCREEN WASH PUMP DISCHARGE LINE AND FRO	3/23/90
N-89-080	FIRE WALL FOR AUX STATION TRANSFORMERS	10/10/89
N-89-036	Alt. Shutdown AC Loading Analysis	
N-89-035	Alt. Shutdown Supply 480V Fault Study	
N-89-034	Alt. Shutdown Supply AC Loading Analysis	
N-89-010	Determine Time when one train of decay heat removal can remove decay heat following a reactor shutdown	
N-88-042	H2 Removal from D05 & D06	
N-88-040	DG Ventilation	
N-88-038	Battery Sizing For Computer Room Halon System Backup Power Supply	

FOR INFORMATION ONLY

Calculation No.	Description	Date
N-88-036	DG Day Tank Gravity Fill	
N-88-034	EDG Room Ventilation Test Evaluation	
N-88-033	Battery Room Temp. Requirement	
N-88-029	DG Room Drainage Calc	
N-88-010	Halon Support Qualification	
N-88-008	Smoke Detector Seismic Analysis	
N-88-001	CCW HX Performance Data Evaluation	
N-87-008	Acceptability of Fire Wrapped 2 in. Conduits with 3M Fire Wrap	
N-87-007	Acceptability of Fire Wrapped 1-1/2 in. Conduit	
N-87-005	Appendix R Cold Shutdown Heat Removal Addendum to 87-004, Comparison of Old and New CCW HX	
N-87-004	Appendix R Cold Shutdown Heat Removal Calc for Old CCW HX	
N-87-001	Loss of Spent Fuel Pool Cooling	
N-86-036	Spent Fuel Pit Heat Load	
N-86-018	Requalification of S&W Designed Conduit Supports when Fire Wrap is added	





NUCLEAR POWER DEPARTMENT  
SPECIFICATIONS BY TECHNICAL FILE INDEX

10.III.2

Revision 1  
August 6, 1992

T6.10 Plant-Specific Simulator

- WE PB-382 Labels & Demarcation for Control Boards & Simulator
- WE PB-394 HVAC Design Work - Point Beach Simulator Facility
- WE PB-395 Electrical Service Design Work - Point Beach Simulator Facility
- WE PB-419 Generation of QA Retran Input Deck and Calculation Notebook
- WE PB-440 Engineering Support for Development & Implementation of a Simulator Configuration Management System
- WE PB-459 Installation of Gai-Tronics Phones for the Simulator Complex at PBNP
- WE PB-460 Installation of an Audio/Visual System for the Simulator at PBNP

T7 INTEGRATED FILES

T7.1 Valves

- WE PB-449 Service Air Containment Isolation Valves (SA-17)
- WE PB-530 Specification for Procurement of Throttle Valves for MSR 4th Pass Drain Lines

T7.1.1 Limitorque Operators

T7.1.2 Check Valves

T7.1.3 Safety/Relief Valves

T7.2 Engineering Projects

T7.2.1 Control Room Design Review (CRDR)

- WE PB-382 Labels & Demarcation for Control Boards & Simulator
- WE PB-403 Background Shading for Control Boards
- WE PB-427 Control Board Meter Face Modifications

T7.2.2 Fire Protection

- WE PB-270 Furnishing, Installing & Testing Fire Protection Piping
- WE PB-381 Furnishing & Installing a Gas Turbine Building Sprinkler System
- WE PB-479 Replacement of Fire Doors at PBNP

T7.2.3 Environmental Qualification (EQ)

- WE PB-476 Contractor Evaluations of Environmental Qualification Program

T7.2.4 Individual Plant Evaluation

- WE PB-354 Probabilistic Risk Assessment of PBNP U1&2
- WE PB-481 Specification for an Individual Plant Examination of External Events for Severe Accident Vulnerabilities

T7.2.5 Design Basis Reconstitution

- WE PB-411 Design Basis Documentation Program Plan Development
- WE PB-458 Preparation of Pilot Design Basis Documents

05110200 Instrument Air (IA)

BECH M- 26 Instrument Air Dryer  
WE PB-134 Instrument Air Dryer  
WE PB-256 Instrument Air Dryer  
WE PB-265 Instrument Air Modifications Installation  
WE PB-267 Instrument Air Compressor

05110300 Hydrogen & Inert

WE PB- 8 Compressed Gases  
WE PB- 99 Hydrogen Storage Area Construction  
(cr 09030000)

05120000 Fire Protection (FP) & Detection Systems (Original to 1976)

BECH M- 9 Fire Pumps  
BECH M- 10 Jockey Pump & Accumulator  
BECH M- 66 Fire Protection System  
BECH M- 67 Fire System Specialists  
BECH M- 68 Pumphouse Fire Equipment Accessories  
WE PB- 7 Warehouse Building Fire Protection System Installation

05120100 FP Appendix "R" Modifications

ICMS No # Civil  
ICMS No # Electrical  
ICMS No # General  
ICMS No # HVAC  
ICMS No # Mechanical  
ICMS No # Structural  
WE PB- 75 Fire System Header Valves Installation  
WE PB- 78 Seal Well Pumper Connection Fire System (M -544)  
WE PB- 81 Safety-Related Fire Barrier Penetration Seals  
WE PB- 81A Safety-Related Fire Barrier Penetration Seals  
Installation  
WE PB- 82 Mechanical Erection  
WE PB- 83 Sprinkler Systems Installation  
WE PB- 83A Halon Fire Protection System Installation  
WE PB- 83B Warehouse #3 Automatic Sprinkler System  
Installation  
WE PB- 85 Concrete Cutting & Door Installation  
WE PB- 86 Control Building Smoke & Heat Vent Systems  
Installation  
WE PB- 87 Dikes Around Lube Oil Storage Tank &  
Reservoirs Installation (NO APPROVED COPY)

05120100 FP Appendix "R" Modifications (Continued)

WE PB- 88	Fire & Smoke Detection System Installation & Testing
WE PB-128	Tri-Annual Fire Protection Audit (cr 11100301)
WE PB-160	Electical Equipment Room Halon Fire Suppression System Installation
WE PB-164	Security & Fire Protection System Modification
WE PB-170	4160 V Switchgear Cabinet Halon Fire Suppression System Installation (cr 06050100)
WE PB-175	Fire Protection Sprinkler Systems Installation
WE PB-176	Safety-Related Fire Barrier Penetration Seals . Installation & Repair
WE PB-221	Appendix R Fire Barriers
WE PB-239	Appendix R Fire Barriers Installation
WE PB-241	Fire Protection Piping Installation
WE PB-270	Fire Protection Piping Installation & Testing
WE PB-284	Computer & Instrument Rack Room Halon Fire Suppresion System Installation
WE PB-321	Inspection, Installation, & Repair of Safety-Related Fire Barrier Penetration Seals
WE PB-331	Requirements for Replacement of Pneumatic Heat Actuated Devices for the Fire Detection/Suppression System

05130000 Service Water System (SW)

BECH M- 8	Service Water Pumps
WE PB- 55	Anti-Sweat Insulation

05140000 Secondary Water Sampling (SS), Water Chemistry, Chemical Cleaning

BECH M- 20	Common Chemical Feed System
BECH M-135	Secondary System Instruments & Controls
WE PB-167	Secondary System Sampling Panels (cr 08030000)
WE PB-186	Secondary System Sample Panels Installation (cr 08030000)
WEST No #	Steam Side Water Chemistry Control (NOT AVAILABLE)

**SUMMARY OF PHYSICAL PLANT MODIFICATIONS  
AND OTHER ACTIONS  
ASSOCIATED WITH FIRE PROTECTION ACTIVITIES**

<u>1975</u>	Minor modifications and repairs associated with responses to IEB 75-04, 75-04A, 75-04B.
<u>1976-1977</u>	Few physical modification activities. Primarily licensing activities related to defining required modifications.
<u>1978</u>	Purchase and installation of fire protection equipment. <b>8 Actions Completed</b>
<u>1979</u>	Modifications to ventilation systems, further purchase of equipment, additions to fire protection water systems, other miscellaneous modifications. <b>10 Actions Completed</b>
<u>1980</u>	Smoke exhaust systems, further additions to water protection systems, additions/modifications of curbs and drains, hydrogen system changes, implementation of QA program, other miscellaneous enhancements. <b>21 Actions Completed</b>
<u>1981</u>	Improvements in cable tray penetration seals, containment fire stops, cable separation modifications, diesel generator air supply modifications, improvements in fire brigade training frequency, other miscellaneous enhancements. <b>9 Actions Completed</b>
<u>1982</u>	Further improvements in fire barriers, major additions to fire detection systems, penetration seal qualification and installation, local control panel for diesel generators, additions to water suppression systems. <b>18 Actions Completed</b>
<u>1983</u>	Halon systems installation in progress.
<u>1984</u>	Halon systems installed in switchgear room, auxiliary feedwater pump room and cable spreading room. <b>3 Actions Completed</b>

1985

Redundant actuation of Halon systems, additional water suppression systems, fuel oil bypass, other miscellaneous modifications. **5 Actions Completed.** Penetration sealing in progress.

1986

Additional fire dampers, emergency lighting upgrade, cable relocations, charging pump crosstie, cable tray and conduit barrier upgrades, purchase of spare CCW motor, completion of major penetration seal upgrade, alternate shutdown instrumentation, other miscellaneous enhancements. **Approximately 30 Actions Completed**

1987

Spray shields for MCCs, additional fire dampers, other miscellaneous enhancements **6 Actions Completed**

Summary

Approximately 115 actions completed in response to regulatory requirements or general enhancement of fire protection systems.

Approximately 10 minor modifications remaining to be completed in 1987.

Major modification remaining for switchgear room bypass.

\*\*\*\*\* DATE: 87.01.30 \*\*\*\*\*

MR	RE	LE	DESCRIP	50.59	REQD BY	MSSM #	MGR APPL	UNIT PRI	STATUS	REASON
			DESN INST QA							
			REMARKS							

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M -015			FIRE SYS ACCUMULATOR CHECK VALVES M&C NON-QA NREQD		NREQD		71.08.02	1		COMPLETE BETTERMENT
M -179			1-X01 SOUTH WALL HEAT SENSORS M&C NON-QA NREQD		NREQD		74.06.28	1		COMPLETE BETTERMENT
M -279			RCP OIL SPILL PARTITIONS M&C NON-QA NREQD		NREQD		75.08.12	2		COMPLETE BETTERMENT
M -288			RCP MOTOR STAND OIL FIRE HAZARD M&C NON-QA NREQD		NREQD		75.08.12	2	R	COMPLETE BETTERMENT
M -526			1" HOSE REELS M&C QA NREQD		78-44		78.08.11	C	1	COMPLETE BETTERMENT
-535			POST-INDICATING VALVES EQRS QA NREQD		NREQD		78.08.23	C		COMPLETE REG REQMT
M -544			PUMPER TRUCK CONNECTION M&C QA NREQD		NREQD		78.09.20	C	3	COMPLETE BETTERMENT
M -545			ADDITIONAL CSR DOOR M&C QA NREQD		78-30		78.09.29	C	3	COMPLETE BETTERMENT
M -550			READY STORES AREA SPRINKLERS M&C QA NREQD		NREQD		79.04.03	C	3	COMPLETE BETTERMENT
M -589			CONTROL ROOM TO CSR DOOR SMOKE SEAL M&C QA NREQD		79-11		79.05.05	C	3	COMPLETE REG REQMT
M -594			CONTAINMENT HOSE REELS QA NREQD		79-40		79.10.06	2	2	COMPLETE BETTERMENT
M -595			CONTAINMENT HOSE REELS QA NREQD		79-40		79.10.06	1	2	COMPLETE BETTERMENT
M -597			UPGRADE NSR FIRE BARRIER'S SEALING DJB BRH NE M&C QA NREQD		79-40		79.10.06	C		COMPLETE REG REQMT

MR	RE	LE	DESCRIP	50.59	REQD BY	MSGM #	MGR APPL	UNIT PRI	STATUS	REASON
	REMARKS		DESN INST QA							
M -598			PAB PIPING & HOSE REELS M&C QA NREQD			79-40	79.10.06	C		COMPLETE REG REQMT
M -605			SPRINKLER SYSTEMS M&C QA NREQD			79-40	79.10.06	C	3	COMPLETE REG REQMT
M -613			FIRE DAMPER INSTALLATION M&C QA NREQD			NREQD	79.08.01	C	3	COMPLETE REG REQMT
M -620	DJB BRH	NE	CSR/CONTROL ROOM/COMPUTER ROOM SMOKE EXHAUST SYSTEM M&C NON-QA NREQD			80-09	80.07.15	C		COMPLETE REG REQMT
M -622			CONTROL ROOM HVAC ROOM FIRE DOORS & SHUTTERS M&C QA NREQD			NREQD	79.09.12	C		COMPLETE REG REQMT
M -649			TURBINE BEARING PULLBOXES M&C NON-QA NREQD			NREQD	80.01.02	1	3	COMPLET BETTER
M -650	MEC		TURBINE BEARING PULLBOXES M&C M&C NON-QA NREQD			NREQD	80.01.02	2	3	COMPLETE BETTERMENT
M -667			LUBE OIL STORAGE TANK DIKE M&C NON-QA NREQD			NREQD	80.07.09	C		COMPLETE REG REQMT
M -689			LUBE OIL RESERVOIR DIKE M&C NON-QA NREQD			NREQD	80.07.09	1		COMPLETE REG REQMT
M -690			LUBE OIL RESERVOIR DIKE M&C NON-QA NREQD			NREQD	80.07.09	2		COMPLETE REG REQMT
M -784-01	DJB BRH	NE	ADD HALON SYS TO NEW ELECTRICAL EQUIPMENT ROOMS M&C QA NREQD			83-21	83.10.14	C	3	APPROVED BETTERMENT
	FINAL DESIGN APPROVALS IN PROGRESS									
M -785-02	DJB	NE	HALON SYSTEM FOR THE PLANT COMPUTER ROOM M&C QA REQD			86-28	86.11.04	C	3	APPROVED REG REQMT
	ON HOLD DUE TO BUDGET CONCERNS									
M -797	MGK		FIRE HEADER (TO UNIT 1 TURBINE HALL) ISOLATION VALVE EQRS M&C QA NREQD			NREQD	81.09.30	C	3	COMPLETE BETTERMENT
	INSTALLED IN CONCERT WITH MR 85-048 WP1									

RE	LE	DESCRIP	50.59	REQD BY	MSSM #	MGR APPL	UNIT PRI	STATUS	REASON
REMARKS		DESN INST QA							
M -B03		RCP OIL COLLECTION SYSTEM NE M&C NON-QA NREQD			81-39	81.10.24	1	R	COMPLETE REG REQMT
M -B04		RCP OIL COLLECTION SYSTEM NE M&C NON-QA NREQD			81-39	81.10.29	2	R	COMPLETE REG REQMT
M -B21		HALON FIRE SUPPRESSION DJB BRH NE M&C QA NREQD WITH EQRS FOR DOCUMENTATION CLOSEOUT			82-04	82.01.26		2	INSTALLD REG REQMT
M -B21-01		ADD HEAT DETECTOR ACTUATION TO HALON SYSTEM DJB BRH NE M&C QA NREQD WITH EQRS FOR DOCUMENTATION CLOSEOUT			83-29	83.11.15	C	3	INSTALLD REG REQMT
E -122		RCP SMOKE DETECTORS M&C NON-QA NREQD			NREQD	76.02.18	1		COMPLETE BETTERMENT
-123		RCP SMOKE DETECTORS M&C NON-QA NREQD			NREQD	76.02.18	2		COMPLETE BETTERMENT
E -145		WAREHOUSE #2 DRY PIPE SYS. ALARM TO CONTROL ROOM M&C NON-QA NREQD			NREQD	76.12.28	C	3	COMPLETE BETTERMENT
E -194		56 GAS TURBINE CARDOX SYS. ALARM CUTOFF SWITCH M&C NON-QA NREQD			NREQD	79.02.26	C	3	COMPLETE BETTERMENT
E -255		FIRE DETECTION SYSTEM DJB BRH NE M&C QA NREQD RECREATED			81-39	81.10.01	C	2	INSTALLD REG REQMT
E -255-01		CHANGE OPERATION OF CONTROL ROOM ANNUNCIATION DJB BRH NE M&C NON-QA REQD TEMPORARY CONTROL BOARD WIRING TO BE RESOLVED			84-04	84.02.01	C	3	INSTALLD BETTERMENT
E -255-04		INSTALL AIR DEFLECTORS DJB BRH NE M&C NON-QA NREQD			81-39	84.04.23	C	3	COMPLETE BETTERMENT
82-066		FIRE DOOR SURVEILLANCE SYSTEM RK SEC M&C NON-QA NREQD			82-32	82.09.27	C	3	COMPLETE REG REQMT
82-067		EDG FIRE PROTECTION SYSTEM/VENTILATION FAN INTERLOCK VET EQRS M&C QA REQD FINAL DESIGN REVIEWS IN PROGRESS			NREQD	84.10.09	C	3	APPROVED BETTERMENT



LISTING OF ALL FIRE PROTECTION SYSTEM AND APPENDIX-R MODIFICATION REQUESTS PAGE NO. 4 OF 7  
 \*\*\*\*\* DATE: 87.01.30 \*\*\*\*\*  
 \*\*\*\*\*  
 MR                    DESCRIP                    UNIT PRI    STATUS  
 RE   LE    DESN INST QA                    50.59    REQD BY    MBSM #    MGR APPL                    REASON  
 REMARKS

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82-067-01	EDG 3D & 4D SPRINKLER & FAN CONTROLS					C	3	ISSUED BETTERMENT
VET	EQRS M&C QA	NREQD		NREQD	.			
FINAL DESIGN REVIEWS IN PROGRESS								
82-099	FIRE WATER SYSTEM ACCUMULATOR ISOLATION VALVE					C	2	COMPLETE BETTERMENT
	M&C M&C QA	NREQD		NREQD	82.10.19			
82-106	FIRE HEADER (TO UNIT 2 TURBINE HALL) ISOLATION VALVE					2	3	COMPLETE BETTERMENT
MGK	EQRS M&C QA	NREQD		82-39	82.12.15			
INSTALLED IN CONCERT WITH MR 85-048 WP1								
83-071	SW PUMPHOUSE FIRE WALL DOOR				***APPENDIX-R***C		2	COMPLETE REG REQMT
BDS	NE M&C QA	NREQD		83-14	83.06.20			
83-071-01	PERMANENT FIREWALL				***APPENDIX-R***C		2	COMPLETE REG REQMT
BDS	NE M&C QA	REQD		84-12	84.04.03			
83-091	FIRE WATER HEADER AIR PURGE					C	2	COMPLET BETTER
HLH	EQRS M&C QA	NREQD		NREQD	85.01.22			
83-150	BYPASS EMERGENCY FUEL TANK				***APPENDIX-R***C		2	COMPLETE REG REQMT
DJB BRH	NE M&C NON-QA	REQD		83-33	83.12.21			
83-151	INSTALL NEW FIRE DAMPERS (PAB)				***APPENDIX-R***C		2	COMPLETE REG REQMT
JFM BRH	NE M&C QA	NREQD		83-33	83.12.21			
83-151-01	ADDITIONAL FIRE DAMPERS (PAB)				***APPENDIX-R***C		2	COMPLETE REG REQMT
JFM BRH	NE M&C QA	REQD		NREQD	84.03.29			
83-151-02	ADDITIONAL FIRE DAMPERS (PAB)				***APPENDIX-R***C		2	COMPLETE REG REQMT
JFM BRH	NE M&C QA	NREQD		84-26	84.09.04			
83-152	ADD CAPABILITY TO POWER 1-P2A FROM 2B03				***APPENDIX-R***1		2	INSTALLD REG REQMT
JJH VET	NE M&C QA	REQD		84-29	84.10.22			
WITH EQRS FOR DOCUMENTATION CLOSEOUT								
83-152-01	ADD CAPABILITY TO POWER 1-P2B FROM 2B03				***APPENDIX-R***1		3	INSTALLD REG REQMT
JJH VET	M&C QA	REQD		85-22	85.08.21			
WITH EQRS FOR DOCUMENTATION CLOSEOUT								
83-153	ADD CAPABILITY TO POWER 2-P2A FROM 1B03				***APPENDIX-R***2		2	INSTALLD REG REQMT
JJH VET	NE M&C QA	REQD		84-29	84.10.22			
WITH EQRS FOR DOCUMENTATION CLOSEOUT								

YR	RE	LE	DESCRIP	50.59	REQD BY	MSSM #	MGR APPL	UNIT PRI	STATUS
	REMARKS		DESN INST QA						REASON
*****									
B3-153-01	JJH VET		ADD CAPABILITY TO POWER 2-P2B FROM 1B03 M&C QA REQD WITH EQRS FOR DOCUMENTATION CLOSEOUT			85-22	85.08.21	3	INSTALLD REG REQMT
*****									
B3-154	KVZ VET		EXCESS LD MOV-1299 CONTROL CIRCUIT NE M&C NON-QA REQD			84-24	84.08.06	2	COMPLETE REG REQMT
B3-155	KVZ VET		EXCESS LD MOV-1299 CONTROL CIRCUIT NE M&C NON-QA REQD			84-24	84.08.06	2	COMPLETE REG REQMT
B3-157	JJH VET		ALTERNATE RCS SHUTDOWN INST NE I&C QA REQD			84-22	84.07.17	2	COMPLETE REG REQMT
B3-158	JJH VET		ALTERNATE RCS SHUTDOWN INST NE I&C QA REQD WITH M&C FOR DOCUMENTATION OF INSTALLATION EFFORTS			84-22	84.07.17	2	INSTALLD REG REQMT
B3-159	JJH		INSTALL DC EMERGENCY LIGHTING NE M&C QA NREQD			83-33	83.12.21	2	INSTALLD REG REQMT
B3-160	JJH VET		REROUTE 1-P2C POWER AND CONTROL CABLES NE M&C QA REQD			84-03	84.01.20	2	COMPLETE REG REQMT
B3-161	JJH VET		REROUTE 2-P2A & 2-P2B POWER AND CONTROL CABLES NE M&C QA REQD			84-03	84.01.20	2	INSTALLD REG REQMT
B4-019	JJH VET		ALTERNATE DC CONTROL POWER TO EDG'S NES M&C QA REQD			NREQD	84.03.19	2	COMPLETE REG REQMT
B4-021	DJB BRH		PAB SEALS AND FIRE STOPS NES M&C QA REQD			84-10	84.03.19	2	COMPLETE REG REQMT
B4-022	DJB BRH		CHARGING PUMP CABLE WRAP FIRE BARRIER NES M&C QA REQD			84-10	84.03.19	2	COMPLETE REG REQMT
B4-023	DJB BRH		PZR PRESSURE CABLE WRAP FIRE BARRIER NES M&C QA REQD			84-10	84.03.19	2	COMPLETE REG REQMT
B4-024	DJB BRH		PZR PRESS CABLE WRAP FIRE BARRIER NES M&C QA REQD DOCUMENTATION CLOSEOUT IN PROGRESS			84-10	84.03.19	2	INSTALLD REG REQMT

LISTING OF ALL FIRE PROTECTION SYSTEM AND APPENDIX-R MODIFICATION REQUESTS PAGE NO. 6 OF 7  
 \*\*\*\*\* DATE: 87.01.30  
 \*\*\*\*\*  
 MR DESCRIP UNIT PRI STATUS  
 RE LE DESN INST QA 50.59 REQD BY MSSM # MGR APPL REASON  
 REMARKS

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84-025	CABLE TRAY AND CONDUIT FIRE BARRIER	***APPENDIX-R***C	2	COMPLETE
DJB BRH	NES M&C QA REQD	84-10 84.03.19		REG REQMT
84-034	CONTROL STAIRS FIRE RESISTANCE UPGRADE	***APPENDIX-R***C	2	COMPLETE
BOS	NES M&C QA NREQD	84-11 84.03.28		REG REQMT
84-083	PAB/WAREHOUSE #3/LOADING DOCK SPRINKLERS	***APPENDIX-R***C	2	COMPLETE
DJB BRH	NE M&C QA REQD	84-35 84.12.19		REG REQMT
84-083-01	PAB EL B' SPRINKLERS	***APPENDIX-R***C	3	COMPLETE
DJB BRH	NE M&C QA REQD	85-04 85.02.19		BETTERMENT
84-083-02	ADD ISOL. VALVE IN FIRE HEADER IN SI PUMP AREA SPRINKLERS	C	3	APPROVED
HLH DJB	EQRS M&C QA NREQD	NREQD 85.11.05		BETTERMENT
WITH M&C FOR INSTALLATION				
84-099	FIRE DETECTION INDEPENDENT OF HALON SYS	C	3	APPROVE
DJB BRH	NE M&C QA REQD	84-26 84.09.04		BETTER
FINAL DESIGN APPROVALS COMPLETE				
84-164	NEW NEUTRON FLUX DETECTOR	***APPENDIX-R***1	2	APPROVED
SFM RKS	NE M&C QA REQD	85-13 85.06.01		REG REQMT
INTERIM INSTALLATION FOR U1R13				
84-165	NEW NEUTRON FLUX DETECTOR	***APPENDIX-R***2	2	APPROVED
SFM RKS	NE M&C QA REQD	85-13 85.06.17		REG REQMT
INTERIM INSTALLATION FOR U2R12				
84-167	LOW PRESSURE ALARM TEST VALVE	C	3	COMPLETE
JPA	M&C M&C QA NREQD	NREQD 84.08.22		BETTERMENT
84-174	C-61 FIRE SYSTEM PRESSURE SWITCH TEST INDICATION LIGHT	C	3	COMPLETE
JAP	EQRS M&C NON-QA NREQD	NREQD 84.12.18		BETTERMENT
84-251	D400 RFI PROTECTION	C	2	COMPLETE
TRB	M&C M&C QA NREQD	NREQD 84.10.24		BETTERMENT
84-265	HALON PREDISCHARGE ALARMS	C	3	APPROVED
DJB BRH	NE M&C NON-QA NREQD	NREQD 84.12.01		SAFETY
84-267	"D" PANEL SCREEN MESH (RFI SHIELDING)	C	3	COMPLETE
TRB	M&C M&C NON-QA NREQD	NREQD 84.12.06		BETTERMENT

MR	DESCRIP	50.59	REQD BY	MSSM #	MGR APPL	UNIT PRI	STATUS
RE LE	DESN INST QA						REASON
REMARKS							
*****							
B4-287	ADD NEW EDG HOSE REELS					C 3	COMPLETE
HLH	EQRS M&C QA	NREQD			85.01.30		BETTERMENT
INSTALLED IN CONCERT WITH 85-048 WP-01							
B5-077	DISABLE THERMAL DETECTORS IN GAS TURB BLDG					C 3	COMPLETE
TRB	M&C M&C NON-QA	NREQD			85.05.03		BETTERMENT
B5-192	INCR FIRE RESIST. OF CABLE SPREADING RM N AND S DOOR OPENING					C 2	COMPLETE
BRH DJB	EQRS M&C QA	NREQD			85.08.15		REG REQMT
B5-201	REMOVE REDUCER ON DISCHARGE SIDE OF PCV-3726					C 3	COMPLETE
AGK	EQRS M&C NON-QA	NREQD			85.09.11		BETTERMENT
B5-225	REPLACE FOST FLUOROPROTEIN FOAM WITH AFFF					C 3	APPROVED
MJR	EQRS M&C QA	NREQD			86.04.29		BETTERMENT
WITH M&C FOR INSTALLATION							
6-015	CONT.ROOM HVAC FIRE RATED DAMPER REPLACE		***APPENDIX-R***			C 3	INSTALLD
JFM BRH	NE M&C QA	NREQD	B6-03		86.01.30		REG REQMT
AWAITING ADDENDUM RESOLUTION							
B6-015-01	CONT.ROOM HVAC FIRE RATED DAMPER INSTALL		***APPENDIX-R***			C 3	COMPLETE
JFM	NE M&C QA	NREQD			86.05.09		REG REQMT
B6-049	PRESSURE RESTRICTING DEVICE FOR STANDPIPE HOSE STATIONS					C 3	COMPLETE
RPW	EQRS OPS QA	REQD		B6-21	86.07.22		SAFETY
B6-051	WET PIPE SPRINKLER SYS. FOR FUEL OIL PUMPHOUSE					C 3	APPROVED
DJB	NE M&C QA	REQD		B6-16	86.06.17		BETTERMENT
TO INCLUDE SUMP PUMP							
B6-060	WAREHOUSE # 2 AND 5B ALARM TO D-400 PANEL					C 3	APPROVED
KPW	EQRS M&C QA	NREQD			86.05.15		BETTERMENT
B6-069	DEFEAT THERMAL PORTION OF AFP ROOM SMOKE DETECTORS					C 2	COMPLETE
KPW	EQRS M&C QA	NREQD			86.07.24		BETTERMENT
B6-097	FIRE WATER SPRAY SHIELD FOR MCC 1/2 B32					C 3	APPROVED
DJB	NE M&C NON-QA	NREQD			86.09.25		REG REQMT
(IEN RESPONSE) WITH M&C FOR INSTALLATION							
B6-140	CABLE WRAP EXPOSED CABLES IN THE CABLE SPREADING ROOM					C 3	APPROVED
DJB	NE M&C QA	NREQD			87.01.14		BETTERMENT
WITH M&C FOR INSTALLATION							

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Listing Of All Fire Protection  
Modification Requests  
Route To: G. A. Casadonte  
Judy Job, P377, Telephone Extension 2348

Mod Number	Engr.	Description	Status
M -015		FIRE SYS ACCUMULATOR CHECK VALVES	COMPLETE
M -093		DELUGE VALVE HEADER DRAINS	CANCELED
M -095		WAREHOUSE DRY PIPE SYS VALVES PRIMING HOSE	CANCELED
M -096		REPLACE FIRE SYSTEMS ACCUMULATOR CHECK VALVES	CANCELED
M -179		1-X01 SOUTH WALL HEAT SENSORS	COMPLETE
M -279		RCP OIL SPILL PARTITIONS P-001A,B	COMPLETE
M -288		RCP MOTOR STAND OIL FIRE HAZARD P-001A,B	COMPLETE
M -526		1" HOSE REELS	COMPLETE
M -535		POST-INDICATING VALVES	COMPLETE
M -544		PUMPER TRUCK CONNECTION	COMPLETE
M -545		ADDITIONAL CSR DOOR #28	COMPLETE
M -550		READY STORES AREA SPRINKLERS	COMPLETE
M -589		CONTROL ROOM TO CSR DOOR SMOKE SEAL	COMPLETE
M -594		CONTAINMENT HOSE REELS	COMPLETE
M -595		CONTAINMENT HOSE REELS	COMPLETE
M -596		FIRE PUMP FUEL OIL RETURN PIPING	CANCELED
M -597	DJB	UPGRADE NSR FIRE BARRIER'S SEALING	COMPLETE
M -598		PAB PIPING & HOSE REELS	COMPLETE
M -605		SPRINKLER SYSTEMS	COMPLETE
M -613		FIRE DAMPER INSTALLATION	COMPLETE
M -620	DJB	CSR/CONTROL ROOM/COMPUTER ROOM SMOKE EXHAUST SYSTEM W-013C	COMPLETE
M -622		CONTROL ROOM HVAC ROOM FIRE DOORS (#136,#137) & SHUTTERS	COMPLETE
M -641		ACCESS PLATFORMS FOR FUEL OIL STORAGE TANK'S FOAM CHAMBERS	COMPLETE
M -649		TURBINE BEARING PULLBOXES	COMPLETE
M -650	MEC	TURBINE BEARING PULLBOXES	COMPLETE
M -667		LUBE OIL STORAGE TANK DIKE	COMPLETE
M -678		CONTROL ROOM FIRE DAMPERS	CANCELED
M -679		CONTROL ROOM DOORS 136/137 FIRE CURTAINS	CANCELED
M -688		NO. 1 & 2 WAREHOUSE SPRINKLERS	CANCELED
M -689		LUBE OIL RESERVOIR DIKE TB-1	COMPLETE
M -690		LUBE OIL RESERVOIR DIKE TB-2	COMPLETE
M -711		FUEL OIL TANK'S FOAM LINE	CANCELED
M -784-01	DJB	ADD HALON SYS TO NEW ELECTRICAL EQUIPMENT ROOMS	CANCELED
M -785*B	BRH	SMOKE DETECTOR RELOCATION WITHIN COMPUTER ROOM	COMPLETE
M -785-02	DJB	HALON SYSTEM FOR THE PLANT COMPUTER ROOM	COMPLETE
M -785-02*A	KPW	COMPUTER ROOM HALON SYSTEM ELECTRICAL INSTALLATION	COMPLETE
M -785-02*B	DJB	COMPUTER ROOM HALON SYSTEM MECHANICAL INSTALLATIONS	COMPLETE
M -797	MGK	FIRE HEADER (TO U1 TURBINE HALL) ISOLATION VALVE (PPG KB-01)	COMPLETE
M -803		RCP OIL COLLECTION SYSTEM P-001A,B	COMPLETE
M -804		RCP OIL COLLECTION SYSTEM P-001A,B	COMPLETE
M -821	DJB	HALON FIRE SUPPRESSION	COMPLETE
M -821-01	DJB	ADD HEAT DETECTOR ACTUATION TO HALON SYSTEM	COMPLETE
E -051		DELUGE VALVE SWITCHES	CANCELED
E -122		RCP SMOKE DETECTORS 1-FP	COMPLETE
E -123		RCP SMOKE DETECTORS 2-FP	COMPLETE
E -145		WAREHOUSE #2 DRY PIPE SYS. ALARM TO CONTROL ROOM K-009	COMPLETE
E -194		5G GAS TURBINE CARDOX SYS. ALARM CUTOFF SWITCH Z-036	COMPLETE
E -228		TURBINE 'HAD' AUTOMATIC ACTUATION DEFEAT	CANCELED

\*\*\*APPENDIX-R\*\*\*

JUN 07 199

PRINT REA

Listing Of All Fire Protection  
Modification Requests  
Route To: G. A. Casadonte  
Judy Job, P377, Telephone Extension 2348

Mod Number	Engr.	Description	Status
E -229		TURBINE 'HAD' AUTOMATIC ACTUATION DEFEAT	CANCELED
E -255	DJB	FIRE DETECTION SYSTEM	COMPLETE
E -255-01	DJB	CHANGE OPERATION OF CONTROL ROOM ANNUNCIATION	COMPLETE
E -255-02	DJB	DRY CHEMICAL BEARING PROTECTION ALARM	CANCELED
E -255-03	DJB	HOOKUP #2 WAREHOUSE SPRINKLER ALARM	CANCELED
E -255-04	DJB	INSTALL AIR DEFLECTORS	COMPLETE
82-025	DJB	EDG HOSE REEL RELOCATION	CANCELED
82-048		HR-34 RELOCATION	CANCELED
82-057		TSC CHARCOAL FILTER SPRINKLER	CANCELED
82-066	RK	FIRE DOOR SURVEILLANCE SYSTEM	COMPLETE
82-067	MR	EDG FIRE PROTECTION SYSTEM/VENTILATION FAN INTERLOCK	CANCELED
82-067*A	MR	FUSIBLE LINKS FOR GENERATOR ROOM VENTILATION	COMPLETE
82-067-01	MR	RELOCATE EDG 3D & 4D SPRINKLER & FAN CONTROL OUTSIDE OF ROOM	CANCELED
82-071	DJB	TSC HALON SYSTEM	CANCELED
82-099		FIRE WATER SYSTEM ACCUMULATOR ISOLATION VALVE	COMPLETE
82-106	MGK	FIRE HEADER (TO UNIT 2 TURBINE HALL) ISOLATION VALVE	COMPLETE
83-023		LOADING DOCK SPRINKLER SYSTEM	CANCELED
83-054		WAREHOUSE #3 SPRINKLER SYSTEM	CANCELED
83-071	BOS	SW PUMPHOUSE FIRE WALL DOOR	***APPENDIX-R*** COMPLETE
83-071-01	BOS	PERMANENT FIREWALL	***APPENDIX-R*** COMPLETE
83-091	HLH	FIRE WATER HEADER AIR PURGE	COMPLETE
83-160	JJH	REROUTE 1-P2C POWER AND CONTROL CABLES	***APPENDIX-R*** COMPLETE
83-161	JJH	REROUTE 2-P2A & 2-P2B POWER AND CONTROL CABLES	**APP-R** COMPLETE
84-019	JJH	ALTERNATE DC CONTROL POWER TO EDG'S	***APPENDIX-R*** COMPLETE
84-020	DJB	SWITCHGEAR HALON SYSTEM	***APPENDIX-R*** CANCELED
84-021	DJB	PAB SEALS AND FIRE STOPS	***APPENDIX-R*** COMPLETE
84-022	DJB	CHARGING PUMP CABLE WRAP FIRE BARRIER	***APPENDIX-R*** COMPLETE
84-023	DJB	PZR PRESSURE CABLE WRAP FIRE BARRIER	***APPENDIX-R*** COMPLETE
84-024	DJB	PZR PRESS CABLE WRAP FIRE BARRIER	***APPENDIX-R*** COMPLETE
84-025	DJB	CABLE TRAY AND CONDUIT FIRE BARRIER	***APPENDIX-R*** COMPLETE
84-034	BOS	CONTROL STAIRS FIRE RESISTANCE UPGRADE	***APPENDIX-R*** COMPLETE
84-073	HLH	RELDATE FIRE HOSE REEL	COMPLETE
84-083	DJB	PAB/WAREHOUSE #3/LOADING DOCK SPRINKLERS	***APPENDIX-R*** COMPLETE
84-083-01	DJB	PAB EL 8' SPRINKLERS	***APPENDIX-R*** COMPLETE
84-083-02	HLH	ISOLATION VALVE IN FIRE HEADER IN SI PUMP AREA SPRINKLERS	COMPLETE
84-099	SB	FIRE DETECTION INDEPENDENT OF HALON SYS	COMPLETE
84-167	JPA	LOW PRESSURE ALARM TEST VALVE	COMPLETE
84-174	JAP	C-61 FIRE SYSTEM PRESSURE SWITCH TEST INDICATION LIGHT	COMPLETE
84-244	HLH	DIESEL FIRE PUMP DISCHARGE RELIEF VALVE	CANCELED
84-251	TB	D400 RFI PROTECTION	COMPLETE
84-265	SB	HALON PREDISCHARGE ALARMS	COMPLETE
84-267	TB	"D" PANEL SCREEN MESH (RFI SHIELDING)	COMPLETE
84-287	HLH	ADD NEW EDG HOSE REELS	COMPLETE
85-048*A	BOS	RING HEADER CHANGES, UNIT 1 / 2 CROSSTIE INSTALLATION	COMPLETE
85-048*K	BOS	RING HEADER RELOCATION TO ACCOMMODATE NORTH SERVICE BUILDING	COMPLETE
85-077	TB	DISABLE THERMAL DETECTORS IN GAS TURB BLDG	COMPLETE
85-192	BRH	INCR FIRE RESIST. OF CABLE SPREADING RM N AND S DOOR OPENING	COMPLETE
85-201	AGK	REMOVE REDUCER ON DISCHARGE SIDE OF PCV-3726	COMPLETE

Listing Of All Fire Protection  
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Mod Number	Engr.	Description	Status
85-202	AGK	REPLACE PI-3719 AND PI-3720 WITH 1 PSI GRADUATION GAGES	CANCELED
85-203	MJR	ADDITIONAL 10" FIRE PUMP TEST HEADER SUPPLY LINE	CANCELED
85-225	MJR	REPLACE FOST FLUOROPROTEIN FOAM WITH AFFF	COMPLETE
86-025	JPA	REPAIR DIESEL FIRE PUMP	COMPLETE
86-049	RPW	PRESSURE RESTRICTING DEVICE FOR STANDPIPE HOSE STATIONS	COMPLETE
86-051	DJB	WET PIPE SPRINKLER SYS. FOR FUEL OIL PUMPHOUSE	COMPLETE
86-060	KPW	WAREHOUSE # 2 AND 5G ALARM TO D-400 PANEL	CANCELED
86-069	KPW	DEFEAT THERMAL PORTION OF AFP ROOM SMOKE DETECTORS	COMPLETE
86-084*D	PJK	REPLACEMENT OF 2 X01 C-PHASE TRANSFORMER HADs	COMPLETE
86-097	DJB	FIRE WATER SPRAY SHIELD FOR MCC 1/2 B32	COMPLETE
86-140	DJB	CABLE WRAP EXPOSED CABLES IN THE CABLE SPREADING ROOM	COMPLETE
87-002*I	SRS	FIREWALL BETWEEN X-04 TRANSFORMERS	COMPLETE
87-016*E	SB	SIMULATOR FIRE DETECTION PANEL TIE-IN	COMPLETE
87-056	ARJ	REMOVE SOLENOID COOLING WATER VALVE, REVISE STARTING CIRCUIT	COMPLETE
87-061	DJB	CABLE WRAP FIRE BARRIER (RCS HOT & COLD LEG INSTs.)	COMPLETE
87-134	BRH	REPLACE HADs WITH THERMAL DETECTION SYSTEM	COMPLETE
87-134*A	BRH	REPLACE HADs (1-X01 AND 1-X02 TRANSFORMERS ONLY)	COMPLETE
87-134*B	BRH	REPLACEMENT OF DELUGE VALVE MANUAL OPERATION PANEL	COMPLETE
87-134*C	BRH	REPLACE HADs (ALL EXCEPT 1-X01 & 1-X02 TRANSFORMERS)	COMPLETE
87-134-01	BRH	DISCONNECT CARDOX SYSTEM WIRING TO ALLOW FOR WET-PIPE SYSTEM	CANCELED
87-144*A	MJS	CHEM. STORAGE CONTAINER'S SLAB AND FIRE PROTECTION	COMPLETE
87-168	BRH	MANUAL FIRE WATER VALVE FOR CONTROL ROOM CHARCOAL FILTER	COMPLETE
87-206	BPL	REPLACE CONTINUOUS FLOW FIRE HOSE REELS	CANCELED
87-235	DJA	D-400 ALARM RESET CAPABILITY IN CONTROL ROOM	COMPLETE
88-017*C	JJH	1-X01A TRANSFORMER SPRAY SYSTEM REPLACEMENT	COMPLETE
88-025	BRH	FAIL-CLOSED FIRE DOORS	COMPLETE
88-052	TDM	REPLACE FIRE SYSTEM TEST HEADER TO INCREASE FLOW CAPACITY	COMPLETE
88-082*B	BRH	COMPUTER AND BATTERY ROOM FIRE AND SMOKE DETECTION	COMPLETE
88-085	BRH	REROUTE SMOKE DETECTOR ALARM INDICATION TO 8' EL. TSC	CANCELED
88-183	DJB	ENHANCED SPRINKLER SYSTEM COVERAGE IN DIESEL GENERATOR ROOMS	COMPLETE
88-184	DJB	REPLACE 5G'S CO2 FIRE SUPPRESSION SYSTEM WITH WATER SYSTEM	COMPLETE
88-184*A	DJB	MECHANICAL PORTION OF 5G BUILDING FIRE SUPPRESSION SYSTEM	COMPLETE
88-184*B	BRH	G-05 FIRE PROTECTION ELECTRICAL INSTALLATION	COMPLETE
88-184-01	DJB	WALL SPRAY FOR GAS TURBINE BUILDING EXTERIOR WALLS	COMPLETE
89-016*B	ARB	RELOCATE SERVICE BUILDING SPRINKLER SYSTEM ISOLATION VALVE	ACCEPTED
89-103	JAS	LOCKABLE THROTTLE FOR THE DIESEL FIRE PUMP	CANCELED
89-110*C	TCM	FIRE PROTECTION TIE-IN FOR MAINTENANCE TRAINING FACILITY	COMPLETE
89-122	MJR	DISCHARGE PRESSURE GAUGE FOR THE ELECTRIC FIRE PUMP	COMPLETE
89-138	DJB	RELOCATE COMPUTER ROOM FIRE DETECTORS	COMPLETE
89-155	JRZ	FIRE HYDRANT NORTH OF PLANT	CANCELED
90-012*F	TCM	OPS SHOP - FIRE PROTECTION SPRINKLER TIE-IN	COMPLETE
90-084	DJA	REDUCE THE SIZE OF VARIOUS FIRE BARRIER SEALS	RELEASED
90-134*K	PLG	FIRE PROTECTION FOR NEW BATTERY ROOMS	COMPLETE
90-237	CAK	INCREASED FIRE PROTECTION COVERAGE FOR TURBINE-GENERATOR	CANCELED
92-010	SB	REWIRE D-417 PANEL TO ALLOW TESTING	COMPLETE
92-121		FIRE WATER CONNECTION FOR FILLING CSTs DURING ECA-0.2	CANCELED
92-142	PLB	STAINLESS STEEL REPLACEMENT FOR FIRE PROTECTION VALVE	ISSUED

ITEM	DESCRIPTION	REQUIREMENT			FIRE HAZARDS ANALYSIS			MOD. REQST.	COMPL. DATE
		SER.	S. POS.	APP. R	6-20-77	6-30-82	LETTER		
1.	EMERGENCY BREATHING EQUIPMENT								
	A. NEW EQUIPMENT	3.1.1	PF-3	III. H.	6.1.11		1-13-78	M-574	9-1-79
	B. RELOCATE CONTROL RM. EQUIPMENT	3.1.1	PF-3				1-13-78	M-606	4-1-80
	C. CERTIFY SERVICE AIR QUALITY	3.1.1						M-606	7-14-78
2.	SMOKE EXHAUST								
	A. CABLE SPREADING ROOM	3.1.2	PF-42		6.1.1	5.9	9-26-79	M-620	11-1-80
	B. CONTROL ROOM	3.1.2				5.10	9-26-79	M-620	11-1-80
	C. COMPUTER ROOM	3.1.2			6.1.1		9-26-79	M-620	11-1-80
	D. PORTABLE	3.1.2	PF-10,44	III. H			12-29-79	-	10-1-78
3.	FIRE HOSE STATIONS								
	A. TURBINE BUILDING	3.1.3		III. D	6.1.3	5.6-10		M-598	5-1-80
	B. AUXILIARY BUILDING	3.1.3	PF-12,25	III. D	6.1.3	5.2-5.	1-13-78	M-598	5-1-80
	C. CONTAINMENT 1	3.1.3	PF-26	III. D		5.11	3-15-78	M-595	12-1-79
	D. CONTAINMENT 2	3.1.3	PF-26	III. D		5.12	3-15-78	M-594	4-1-80
4.	FIXED WATER SUPPRESSION SYSTEMS								
	A. SERVICE WATER PUMPS	3.1.4	PF-8,46	III. G			6-23-80	M-605	8-1-82
	B. COMP. CLG WATER PUMPS	3.1.4	PF-9	III. G		5.4	6-23-80	M-605	8-1-82
	C. SAFETY INJECTION PUMPS	3.1.4	PF-7	III. G		5.3	6-23-80	M-605	8-1-82
	D. DIESEL GEN. ROOMS	3.1.4	PF-20	III. G			6-23-80	M-605	8-1-82
	E. AUX. FDWTR. PUMP ROOM			III. G		5.6		M-821	
	F. SWITCHGEAR ROOM			III. G		5.7		M-821	
	G. CABLE SPREADING ROOM		PF-42	III. G	6.1.4	5.9		M-821	
5.	WATER DAMAGE PROTECTION								
	A. CABLE SPREADING ROOM FLOOR DRAINS	3.1.5	PF-42				10-2-81		DELETED
	B. UPGRADE AUX. FDWTR. RM. ELECT. BOXES	3.1.5						-	11-1-80
6.	WATER PROOFING								
	A. CABLE SPREADING ROOM FLOOR	3.1.6			6.1.15 H		1-13-78	-	7-1-79
	B. NON-VITAL SWITCHGEAR FLOOR	3.1.6			6.1.15 H		1-13-78	-	7-1-79

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ITEM	DESCRIPTION	REQUIREMENT			FIRE HAZARDS ANALYSIS			MOD. REQST.	COMPL. DATE
		SER.	S. POS.	APP. R	6-20-77	6-30-82	LETTER		
7.	MODIFY DRAINS								
	A. SAFETY RELATED PUMPS	3.1.7			6.1.15 F		2-15-78	-	3-1-80
	B. L.O. RESERVOIRS	3.1.7			6.1.15 F		2-15-78	-	3-1-80
	C. OIL STORAGE ROOM	3.1.7					2-15-78	-	3-1-80
8.	CABLE SPREADING ROOM DOORS								
	A. NEW SE ENTRANCE	3.1.8	PF-42		6.1.9		1-13-78	M-545	4-1-80
	B. SEAL AT CONTROL RM. ENTRANCE	3.1.8	PF-30				1-13-78	M-589	9-1-79
9.	FIRE BARRIERS								
	A. CONTROL BUILDING	3.1.9		III. M.	6.1.14		3-18-81	M-597	3-15-82
	B. AUX. BLDG. FILTER ROOM	3.1.9	PF-11	III. M.			3-18-81	M-622	5-1-81
	C. CONTROL ROOM WINDOWS	3.1.9		III. M.	6.1.15 E		3-18-81	M-622	5-1-81
10.	REPLACE FIRE DAMPERS	3.1.10			6.1.8		1-13-78	M-613	9-1-79
11.	CURBS AND BARRIERS								
	A. OIL STORAGE TANK	3.1.11	PF-17		6.1.6		2-15-78	M-689	7-15-80
	B. L.O. RESERVOIRS	3.1.11	PF-17		6.1.6		2-15-78	M-690	7-15-80
	C. REACTOR COOLANT PUMPS	3.1.11		III. O	6.1.15 C			SUPERCEDED BY ITEM 39	
12.	FIRE DETECTORS								
	A. PUMPHOUSE	3.1.12		III. F.	6.1.2		12-20-79	E-255	7-1-82
	B. CONTROL ROOM CHARCOAL FILTER	3.1.12	PF-6	III. F.	6.1.2		12-20-79	E-255	7-1-82
	C. AIR COMPRESSOR ROOM	3.1.12	PF-19	III. F.	6.1.2		12-20-79	E-255	7-1-82
	D. MAIN CONTROL BOARDS	3.1.12		III. F.	6.1.2		12-20-79	E-255	7-1-82
	E. RADWASTE DRUMMING AREA		PF-15	III. F.	6.1.2		12-20-79	E-255	7-1-82
	F. PIPEWAYS		PF-16	III. F.	6.1.2		12-20-79	E-255	7-1-82
	G. SWITCHGEAR ROOM		PF-27	III. F.	6.1.2		12-20-79	E-255	7-1-82
	H. AUX. EDWTR PUMP ROOM		PF-28	III. F.	6.1.2		12-20-79	E-255	7-1-82
13.	PORTABLE LANTERNS	3.1.13		III. H, J			3-18-81	-	10-1-78
14.	CABLE SEPARATION	3.1.14	PF-31	III. G				M-597	6-1-81
15.	VENTILATION CONTROL CABLES	3.1.15					3-2-81		5-4-81

ITEM	DESCRIPTION	REQUIREMENT			FIRE HAZARDS ANALYSIS			MOD. REQST.	COMPL. DATE
		SER	S. POS.	APP. R	6-20-77	6-30-82	LETTER		
16.	HYDRANT HOSE HOUSE EQUIPMENT	3.1.16	PF-5		6.1.15D		2-15-78	-	10-1-78
17.	HYDROGEN HAZARD FIRE PROTECTION								
	A. ADD EXCESS FLOW VALVE	3.1.17	PF-13				3-18-81	M-593	4-1-80
	B. REROUTE TURBINE BUILDING HEADER	3.1.17	PF-13		6.1.15A		3-18-81	M-593	4-1-80
	C. ISOLATE FROM SAFE SHUTDOWN EQUIP	3.1.17	PF-13	III.G		5.13	EXEMPTION	GRANTED	4-28-83
18.	BATTERY ROOM VENTILATION	3.1.18	PF-2				1-13-78	E-189	9-1-79
19.	PORTABLE FIRE EXTINGUISHERS								
	A. SWITCHGEAR ROOM	3.1.19	PF-22				1-13-78	-	10-1-78
	B. BATTERY ROOM	3.1.19	PF-23				1-13-78	-	10-1-78
	C. CONTROL ROOM	3.1.19	PF-24				1-13-78	-	10-1-78
20.	POST INDICATOR VALVES	3.1.20	PF-4	III.C			1-13-78	M-535	6-1-79
21.	HOSE REEL NOZZLES	3.1.21	PF-14				1-13-78	-	11-1-80
22.	FIRE DEPT. PUMPER CONN.	3.1.22			6.1.10			M-544	8-1-79
23.	CO <sub>2</sub> HOSE REEL NOZZLES	3.1.23					9-26-79	-	7-15-80
24.	DIESEL ROOM AIR SUPPLY	3.1.24					8-18-81	M-722	7-1-81
25.	VENT DUCT PENETRATION SEALS	3.1.25		III.M			10-13-80	M-597	3-15-82
26.	AUX. BLDG CABLE TRAY PENET. SEALS	3.1.26		III.M	6.1.15G		3-18-81	M-597	7-1-81
27.	CONTAINMENT FIRE STOPS	3.1.27		III.M			3-18-81	M-597	6-1-81
28.	SERVICE BLDG. PENETRATION SEALS	3.1.28	PF-18	III.M	6.1.14		3-18-81	M-597	7-1-81
29.	PENETRATION SEAL QUALIFICATION	3.1.29	PF-32	III.M			10-13-80	M-597	3-15-82
30.	COMMUNICATIONS	3.1.30		III.H				EXISTING	12-31-1977
31.	DIESEL GEN. LOCAL PANEL	3.1.31					8-15-78	E-202	2-1-82
32.	FIRE HYDRANT INSPECTION	3.1.32					3-2-81	-	-
33.	CONTROL ROOM LIGHT FIXTURES	3.1.33					3-18-81	-	6-1-80
34.	SAFE SHUTDOWN CAPABILITY		PF-43		6.1.12,13				
	A. AUX. BLDG. FL. 8' SOUTH	3.2.1	PF-21	III.G		5.2			
	B. S.I. PUMP ROOM	3.2.1	PF-21	III.G		5.3			
	C. C.C.W. PUMP AREA	3.2.1	PF-21	III.G		5.4			



ITEM	DESCRIPTION	REQUIREMENT			COMMITMENT			MOD. REQST.	COMPL. DATE
		SER	S. POS.	APP. R					
4	FIXED SUPPRESSION SYSTEMS								
	E. AUX. FDWTR PUMP ROOM			III.G	6-30-82	REPORT		M-821	04-03-86
	F. VITAL SWGR. ROOM			III.G	6-30-82	REPORT		M-821	04-03-86
	G. CABLE SPREADING ROOM			III.G	6-30-82	REPORT		M-821	04-03-86
	H. REDUNDANT ACTUATION (E,F&G)	STAFF	POS.	3-22-83	4-28-83	LETTER		M-821	12-31-85
	J. 1A05-A06, 2A05-A06 CABINETS	STAFF	POS.	3-22-83	5-31-83	LETTER	02-07-86 LETTER	84-20	CANCELLED
	K. MCC 1B32 ROOM			III.G	4-28-83	LETTER		84-83	11-30-85
	L. MCC 2B32 ROOM			III.G	4-28-83	LETTER		84-83	11-30-85
	G. SAFETY INJECTION PUMPS	STAFF	POS.	7-14-83	7-20-83	LETTER		84-83	11-30-85
10	FIRE DAMPERS								
	A. AUXILIARY BUILDING	BTP 9.5-1			10-27-83	REPORT		83-151	05-30-86
	B. BATTERY ROOMS	BTP 9.5-1			10-27-83	REPORT		83-151	05-30-86
	C. CONTROL BUILDING	BTP 9.5-1			10-27-83	REPORT		86-015	SCHEDULED 01-31-87
13	EMERGENCY LIGHTING			III J					
	A. 1-RK 38 - PERMANENT			III J	10-27-83	REPORT		83-159	09-15-86
	B. 2-RK 38 - PERMANENT			III J	10-27-83	REPORT		83-159	09-15-86
	C. 1-N11 - PERMANENT			III J	10-27-83	REPORT		83-159	09-15-86
	D. 2-N04 - PERMANENT			III J	10-27-83	REPORT		83-159	SCHEDULED 01-31-87
	E. OPERATIONS - PORTABLE			III J	10-27-83	REPORT		-	EXISTING
34	SAFE SHUTDOWN CAPABILITY								
	A. CABLE RELOCATION								
	1. 1P-2C POWER & CONTROL	STAFF	POS.	3-22-83	4-28-83	LETTER		83-160	05-30-86
	2. 2P-2A,B POWER & CONTROL	STAFF	POS	3-22-83	4-28-83	LETTER		83-161	11-30-86
	B. ALTERNATE SHUTDOWN CABLE								
	1. UNIT 1 INSTRUMENTATION			III.G	4-28-83	LETTER		83-157	05-30-86

ITEM	DESCRIPTION	REQUIREMENT			COMMITMENT			MOD.	COMPL.
		SER	S. POS.	APP. R				REPST.	DATE
	2. UNIT 2 INSTRUMENTATION			III.G.	4-28-83	LETTER		83-158	11-30-86
	3. 1P-2A-2P-2A CROSS TIE	STAFF	POS.	3-22-83	4-28-83	LETTER		83-1523	04-03-86
	4. DEDICATED CCW PUMP CABLE			III.G.	6-30-82	REPORT		878510	04-03-86
	5. DEDICATED RHR PUMP CABLE			III.G.	6-30-82	REPORT		878510	04-03-86
	6. 125 VDC DIESEL GEN. CTL. PWR. SUPPLY			III.G.	10-27-83	REPORT		84-19	05-30-86
	7. EXCESS LETDOWN VALVE CONTROL				10-27-83	REPORT		83-159/85	05-30-86
	C. CABLE TRAY-CONDUIT BARRIERS								
	1. UNIT 1 CONTAINMENT			III.G.	6-30-82	REPORT		84-23	06-30-86
	2. MCC 1-B32 ROOM FIRE STOPS	STAFF	POS.	7-14-83	7-20-83	LETTER		84-21	03-31-86
	3. MCC 2-B32 ROOM FIRE STOPS	STAFF	POS.	7-14-83	7-20-83	LETTER		84-21	03-31-86
	4. CCWP ROOM CABLE WRAP	STAFF	POS.	7-14-83	7-20-83	LETTER		84-22	04-03-86
	5. CCWP ROOM FIRE STOPS	STAFF	POS	3-22-83	4-28-83	LETTER		84-21	03-31-86
	6. A.F.P. ROOM CABLE WRAP	STAFF	POS	3-22-83	4-28-83	LETTER		84-25	05-30-86
	7. SWITCHGEAR ROOM CABLE BARRIERS	STAFF	POS	3-22-83	4-28-83	LETTER	02-07-86 LETTER	84-25	CANCELLED
	8. UNIT 2 CONTAINMENT			III.G.	-	-		84-24	11-15-86
	D SPARE CCW PUMP MOTOR			III.G.	6-30-82	REPORT			08-31-86
	E FUEL OIL TRANSFER								
	1. T 72 BYPASS			III.G.	10-27-83	REPORT		83-150	12-31-85
	2. T 81A,B LEVEL INDICATION			III.G.	10-27-83	REPORT		83-150	12-31-85
	F PENETRATION SEALS								
	1. UNIT 1 CHARGING PUMP WALLS			III.G.	10-27-83	REPORT		84-21	03-31-86
	2. UNIT 2 CHARGING PUMP WALLS			III.G.	10-27-83	REPORT		84-21	03-31-86
	3. MCC 1-B32 ROOM			III.G.	10-27-83	REPORT		84-21	03-31-86
	4. AUX. BLDG. FLOOR EL. 26'-0"			III.G.	10-27-83	REPORT		84-21	03-31-86
	5. MCC 2-B32 ROOM			III.G.	10-27-83	REPORT		84-21	03-31-86

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	5. DEDICATED RHR PUMP CABLE			III.G.	6-30-82	REPORT		878510	04-03-86
	6. 12S VDC DIESEL GEN. CTL. PWR. SUPPLY			III.G.	10-27-83	REPORT		84-19	05-30-86
	7. EXCESS LETDOWN VALVE CONTROL				10-27-83	REPORT		83-159/165	05-30-86
	C. CABLE TRAY-CONDUIT BARRIERS								
	1. UNIT 1 CONTAINMENT			III.G.	6-30-82	REPORT		84-23	05-30-86
	2. MCC 1-B32 ROOM FIRE STOPS	STAFF	POS.	7-14-83	7-20-83	LETTER		84-21	03-31-86
	3. MCC 2-B32 ROOM FIRE STOPS	STAFF	POS.	7-14-83	7-20-83	LETTER		84-21	03-31-86
	4. CCWP ROOM CABLE WRAP	STAFF	POS.	7-14-83	7-20-83	LETTER		84-22	04-03-86
	5. CCWP ROOM FIRE STOPS	STAFF	POS	3-22-83	4-28-83	LETTER		84-21	03-31-86
	6. A.F.P. ROOM CABLE WRAP	STAFF	POS	3-22-83	4-28-83	LETTER		84-25	05-30-86
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	1. UNIT 1 CHARGING PUMP WALLS			III.G.	10-27-83	REPORT		84-21	03-31-86
	2. UNIT 2 CHARGING PUMP WALLS			III.G.	10-27-83	REPORT		84-21	03-31-86
	3. MCC 1-B32 ROOM			III.G.	10-27-83	REPORT		84-21	03-31-86
	4. AUX. BLDG. FLOOR EL. 26'-0"			III.G.	10-27-83	REPORT		84-21	03-31-86
	5. MCC 2-B32 ROOM			III.G.	10-27-83	REPORT		84-21	03-31-86

Kaminski

PSB 106

10.11.6

July 18, 1985

NEPB-85-295

Messrs: J. J. Zach  
R. A. Newton

FIRE PROTECTION COMMITMENTS

The NRC has conducted several audits of other licensees' implementation of Appendix R. Numerous findings have been found concerning the commitments licensees had made regarding their fire protection programs. With this in mind, I have completed a comprehensive review of previous correspondence with the NRC concerning fire protection. The purpose of this review was to compile a list of commitments made to and/or required by the NRC.

Please find attached a list of the commitments found. Included with each commitment is the reference in which the commitment was made. The implementation of these commitments should be reviewed to assure compliance.

If you have any questions, please call me.

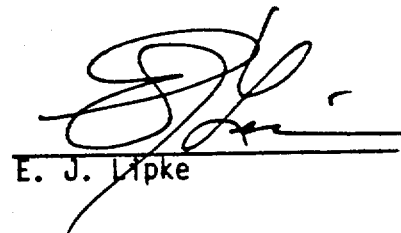


D. D. Schoon

/slk

Attachment

Approved:

  
E. J. Lipke

cc: D. J. Bell  
M. S. Kaminski ✓  
NE File PT 5.12.1

## ATTACHMENT

### FIRE PROTECTION COMMITMENTS

1. Fire Hydrant Inspections: We will develop administrative procedures to visually inspect each required yard fire hydrant to verify that the hydrant barrel is dry and that it is not damaged. This should be performed once per 6 months.

NRC Safety Evaluation 8/2/79

2. Emergency Lighting: We agreed to provide 11 portable, battery-powered hand-held lights for emergency use by the fire brigade. They will be designated for emergency purposes and their use and maintenance will be controlled through administrative procedures. (They will be placed on inventory checklists for the control room, the fire truck and the AO station at C-59.)

NRC Safety Evaluation 8/2/79

3. Communications: Two new FM tranceiver units will be purchased for improved emergency communications. This will increase the number of available units to 5.

WE to NRC Letter 11/1/76

4. Cable Spreading Room Door: A second doorway will be added to the floor elevation of the cable spreading room to facilitate entry for manual fire suppression. A 3-hour rated gas-tight door will be installed between the control room and the CSR.

NRC Safety evaluation 8/2/79

5. Cable Spreading Room Exhaust Fans: Exhaust fans for smoke venting to facilitate personnel entry for fire fighting purpose will be added for the cable spreading room.

WE to NRC Letter 11/1/76

6. CSR Smoke Exhaust Fans: The smoke exhaust system should exhaust products of combustion outside the building so as not to inadvertently actuate fire detectors in other plant areas or expose other safety-related areas to smoke damage. The exhaust fan motor cables and controls should be located outside the cable spreading room.

WE to NRC Letter 9/22/78

7. CSR Smoke Exhaust System: A manually-actuated smoke exhaust system will be installed for the CSR, control room, and computer room and additional portable equipment will be provided.

NRC Safety Evaluation 8/2/79

8. Breathing Apparatus: We did not have a 6-Hour reserve supply for SCBA's. WE committed to obtaining additional SCBA equipment to provide increased capacity.

WE to NRC Letter 11/1/76



9. Emergency Breathing Apparatus: We will relocate our EBA's from the control room instrument tunnel to provide for more protective storage facilities.

WE to NRC Letter 1/13/78

10. Emergency Breathing Apparatus: We have 6 EBA's with 2 spare bottles per unit. Each bottle will have a 3/4 hour capacity. These bottles will be recharged using a 6-hour reserve supply of hospital-grade oxygen.

WE to NRC Letter 3/2/78

11. Emergency Breathing Apparatus: We will provide 10 additional Biopak 60p breathing units with one spare bottle per unit. Each bottle will have a 1-hour capacity. These bottles will be recharged using a cascade oxygen bank which will provide more than 100 60-minute refills.

NRC Safety Evaluation 8/2/79

12. Combustible Materials (Wood): Wood Materials for scaffolding, etc., will be fire retardant material.

WE to NRC Letter 1/1/76

13. Combustible Materials: The existing permanent wood structures within the plant will be replaced with fire retardant structures.

NRC Safety Evaluation 8/2/79

14. Underground Fire Loop: An underground yard fire main loop is installed at PBNP in accordance with NFPA 24. The loop is independent of service or sanitary water requirements. The loop is made of cast iron pipe and fittings in accordance with ANSI A21.11 and is equipped with U.L. approved post indicator sectionalizing valves.

WE to NRC Letter 11/1/76

15. Fire Pumps: The fire pumps were purchased and installed to meet the requirements of NFPA 20 and suitable alarms are provided in the control room.

WE to NRC Letter 11/1/76

16. Flammable Liquid Storage: Flammable liquids storage is in accordance with NFPA 30.

WE to NRC Letter 11/1/76

17. Total Flooding Systems: A CO<sub>2</sub> System is installed in the combustion turbine building IAW NFPA 12. A Halon 1301 system is installed in the remotely located record storage vault IAW NFPA 12A.

WE to NRC Letter 11/1/76

18. Fire Detection Systems: Fire detection Systems at PBNP are IAW NFPA 72D.

All F. P. equipment and devices must be IAW NFPA standards and must be UL approved in order to obtain fire insurance carrier approval.

WE to NRC Letter 11/1/76

19. Outside Fire Protection: Fire hydrant and hose house installation at PBNP are IAW NFPA 24.

WE to NRC Letter 11/1/76

20. Supervised Values: The position of all automatic opening sprinkler valves and all critical manually operated valves is checked for correctness and documented on a monthly basis. This is IAW NFPA 26.

We to NRC Letter 11/1/76

21. Portable Extinguishers: Potable fire extinguishers meeting the guidelines of NFPA 10 and 10A are provided throughout PBNP.

WE to NRC Letter 11/1/76

22. Computer Room: Fire Protection for the computer room consists of portable extinguishers IAW the recommendations of NFPA 75.

WE to NRC Letter 11/1/76

24. Hazardous Chemical Storage: The limited quantity of hazardous chemicals utilized at PBNP are stored and protected IAW the recommendations of NFPA 49.

WE to NRC Letter 11/1/76

25. Welder Awareness of Fires: The NRC recommended that a fire watch be established wherein one person observes the welding being performed as his only functions.

Memo to File dated 1/12/77

26. Fire Drill Critiques: The plant F.P. supervisor will critique all inspector related drills and selected unannounced drills.

WE to NRC Letter 11/7/77

27. Fire Fighting Procedures: New fire fighting procedures will be developed for the control room, cable spreading room, 4160 volt switchgear room, and the emergency diesel generator rooms. Strategies will be established for fighting fires in all safety-related areas and areas presenting a hazard to safety-related equipment. They will identify combustibles in the area, methods of fighting a fire in the area, access, ventilation and smoke removal, radiation and toxic hazards, and systems or components which should be kept cool during the fire. A program to better coordinate and effectively use the assistance of the offsite fire departments will be developed and include security indoctrination, tours, and training in basic radiation hazards for members of the local fire department.

NRC Safety Evaluation 8/2/79

28. Fire Brigade Training: The organization, training and equipment of the fire brigade basically comply with NFPA 27-1975. The SFPO will specify additional training and equipment provisions which he considers necessary to provide a suitable fire protection program for PBNP.

WE to NRC Letter 11/7/77

29. Fire Brigade Training: The PBNP Training program will be expanded to include the toxic characteristics of products of combustion, the proper method for fighting fires inside buildings and tunnels, and a detailed review of fire fighting procedures and procedure changes.

WE to NRC Letter 11/7/77

30. Fire Brigade Training: The PBNP training program drill requirements will cover all fire fighting procedures during a two-year training cycle.

WE to NRC Letter 11/7/77

31. Fire Brigade Member Physical Exam: An examination of the respiratory and cardiovascular systems will be performed when an employee is assigned to PBNP.

WE to NRC Letter 2/1/78

32. Fire Brigade Drills: The schedule of drills for the fire brigade training program will be on a frequency of once every 3 months ( $\pm 25\%$ ). Each brigade will drill on a frequency of once yearly on backshifts ( $\pm 25\%$ ).

WE to NRC Letter 2/1/78

33. Fire Brigade Training: The fire brigade will be provided with and trained in the use of EBA's for manually fighting fires involving materials which require EBA's.

NRC Safety Evaluation 8/2/79

34. Posting: Other plant areas (in addition to safety-related areas) will be posted as "Ignition Source Control Permit Required" and "No Smoking Allowed." Also, the Fire Brigade Chief or Assistant Chief will authorize the issuance of an ignition control permit.

WE to NRC Letter 11/7/77

35. Ignition Source Control Permit: The responsible foreman or supervisor should survey the work area and insure that: (1) All movable combustible materials below and within a 35 foot radius of the work has been removed; (2) All immovable combustible material below and within a 35 foot radius has been protected and fire extinguisher, hose or other firefighting equipment are provided at the work site; (3) A properly trained fire watch should be present for any work where there is a potential for fire that might damage safety related equipment. A fire watch should be provided where the work is performed above or within a radius of 35 feet of combustible materials on the same elevation of the work or if combustible materials are below the work area where openings exist. A fire watch should be

provided for all ignition source work in the Control Room, the Cable Spreading Room, The D G rooms, and any other safety related areas that contain significant amount of cable or flammable liquid. Also, the fire watch should remain on the work site while the work is being performed and for at least 30 minutes after it a safe working condition. Oxyacetylene equipment must be checked for leaks before being moved to the work area.

WE to NRC Letter 11/7/77

36. Battery Room Ventilation: WE will provide loss of ventilation annunciation, in the control rooms.

WE to NRC Letter 1/13/78

37. Post-Indicating Valves: WE will install 4 new post-indicating valves to allow more remote isolation of the yard fire main. Their locations are:
- (1) Between FH-21 and the lateral to PIV-131
  - (2) Between FH-22 and the lateral to PIV-131
  - (3) Between FH-23 and the lateral to PIV-76
  - (4) Between FH-24 and FH-25

WE to NRC Letter 1/13/78

38. Hydrant Hose House Equipment: WE will add the following equipment to each of the four hydrant hose houses: (1) Two 2½-inch hydrant gate valves installed on the hydrant (2) 3-50 foot lengths of 1½ inch rubber-lined, mildew-proof jacketed fire hose (3) Two 1½ inch adjustable shutoff nozzles (4) One 2½ "x 1½" x 1½" gated wye (siamese) with a 2½" female connection and two 1½" male connections (5) One 2½" full stream nozzle with shutoff.

WE to NRC Letter 1/13/78

39. Fire Detector for Control Room Ventilation System: A fire detection device will be located inside the charcoal filter cabinet for the control room ventilation system.

WE to NRC Letter 1/13/78

40. Circ Water Pumphouse: WE will install a curb around the fire pump diesel to contain a fuel or lube oil leak. A 12 foot wall will be erected to separate the diesel driven fire pump from service water pumps and the other fire pump; WE will relocate the 6 fire detectors in the pump-house to facilitate more rapid response to a fire in the day tank/pump area.

WE to NRC Letter 1/13/78

41. Circ Water Pumphouse: In order to meet the requirements of III. G of Appendix R we should install 2 - 1½ hour fire rated barriers separating the service water pumps in the intake structure into three sections with a service water pump in each. Also, the diesel fire pump day tank should be relocated to the same side of the fire-rated barriers as the diesel fire pump. Any opening in the 1½ hour barrier should be properly protected including a curb installed at all door

openings to prevent a flammable liquid spill from reaching both sides of a barrier.

NRC to WE Letter 11/24/80

42. Circ Water Pumphouse: WE will add a wet-pipe automatic sprinkler system over the safety-related pump area and we will provide fire detection and a fire-rated barrier to divide the service water pumps into 2 groups of 3 pumps each and separate one group of 3 pumps from the diesel fire pump.

WE to NRC Letter 6/23/81

43. Fire Detectors: We will add detectors in the following specific locations:
- a) RHR pump cubicles and adjacent corridors (WE to NRC 1/13/78)
  - b) Boric acid tank area and adjacent electrics equipment areas (WE to NRC Letter 1/13/78)
  - c) Auxiliary boiler day tank room (WE to NRC 1/13/78)
  - d) Solid radwaste processing area (WE to NRC 1/13/78)
  - e) Air compressor room (WE to NRC 1/13/78)
  - f) Each control room cabinet containing redundant safe shutdown equipment and circuits will have ionization fire detectors located in the walk-through tunnel (WE to NRC 2/15/78)
  - g) Safety Injection pump area (WE to NRC 2/15/78)
  - h) Charging pump area (WE to NRC 2/15/78)
  - i) Auxiliary Building exhaust charcoal filter area (WE to NRC 2/15/78)
  - j) All pipeways (in accordance with NFPA-72) (WE to NRC 2/15/78)
  - k) Chemistry laboratory (WE to NRC 2/15/78)
  - l) 6 products of combustion detectors in the switchgear room (WE to NRC 2/15/78)
  - m) 2 products of combustion detectors in the battery rooms at the exhaust ventilation duct (WE to NRC 2/15/78)
  - n) 4 P. O. C. detectors for the AFW pump cubicles (WE to NRC 2/15/78)
  - o) 5 P. O. C. detectors in the remote shutdown cubicles (WE to NRC 2/15/78)
  - p) In the area of the service building exhaust system charcoal filters (WE to NRC 10/13/80)
  - q) In the control building charcoal filter cabinet (WE to NRC 10/13/80)
  - r) Additional fire detection system in the AFW pump room which uses rate compensating thermal detectors in order to provide redundant actuation for the Halon system (WE to NRC Letter 4/28/83)
  - s) Same as above for the switchgear room
  - t) Same as above for the cable spreading room
  - u) 3 fire detectors in each facade (WE to NRC 1/13/78)
44. Fire Hose Stations: The following hose stations will be added and will have 1½ inch hose:
- a) HR-35 Chemistry, Laundry, Day Tank Room #158
  - b) HR-36, HR-43 Component Cooling Water Pump Room #142
  - c) HR-37 Cryogenic decay tank room #168
  - d) HR-38 Containment Spray Addition pump and Monitor tank room #187
  - e) HR-39 Chemical Mixing tank room #185
  - f) HR-40, HR-41 Electrical equipment room #319
  - g) HR-42 Concentrates holdup tank and transfer pump room #215
  - h) HR-44 Auxiliary building room #190

- i) HR-45, HR-46 Outside the boric acid storage tank room
- j) HR-47 Auxiliary building room #251 (NRC Safety Evaluation 8/2/79)

45. Fire Hose Stations: 2 hose stations with 100 feet of 1" hose and ball shutoff variable fog nozzles will be placed outside the control room.

(NRC Safety Evaluation 8/2/79)

46. Fire Hose nozzles: Selected interior hose stations which could be used in areas of potential shock hazard will be provided with variable fog type nozzles.

WE to NRC Letter 9/26/79

47. Fire Hose stations: HR-13 and HR-16 will be modified to include a second hose reel provided with 100 ft. of 1" hose and an all fog nozzle with ball shutoff.

WE to NRC Letter 2/15/78

48. Containment Hose Reels: Hose reels in containment will be provided with 100 feet of 1" hose and a combination fog nozzle with ball shutoff. The water supply will be from the service water system. The following hose reels will be added:

- a) HR-48 on 8' elevation to provide coverage under each RCP
- b) HR-49 on 21' elevation to provide coverage for cable trays, the equipment laydown area, and neutilation units.
- c) HR-50, HR-51 on 46' elevation to provide coverage for cable trays and ventilation units.
- d) HR-52 on 66' elevation to provide coverage for each RCP and ventilation units.
- e) HR-53, 54, 55, 56, & 57 in similar locations within Unit 2 containment.

WE to NRC Letter 3/15/78

49. Hose stations: Outside the cable spreading room we will add 2 - 1½" hose stations with low velocity fog nozzles and 2 - 1" hose stations with ball shutoff variable fog nozzles.

WE to NRC Letter 12/29/78

50. Diesel Generator Rooms: The deluge water suppression system in the DG rooms will be upgraded. We proposed to convert these systems to wet-pipe sprinklers providing .3gpm/ft<sup>2</sup> coverage and annunciation in the control room.

WE to NRC Letter 1/13/78

51. Diesel Generator Room Walls: The DG room walls will be upgraded to a 3-hour fire rating.

WE to NRC Letter 3/2/81

52. Cable Separation: Cable or conduit that interconnects redundant safety-related cable trays will be rerouted or fire stops added

to remove the combustible pathway in various portions of the auxiliary and control buildings:

- a) Cable Spreading Room
- b) Switchgear Room
- c) Diesel Generator Rooms
- d) Auxiliary Building - 8 foot elevation
- e)       "       "       26       "       "
- f)       "       "       46       "       "
- g) AFW pump room and local control station
- h) Containment
- i) Yard area

WE to NRC Letter 10/13/80

53. Diesel Generator Air Intake: We initially committed to do various things concerning the DG air intake structure. This was changed to reversing the direction of air intake flow.

WE to NRC Letter 3/2/81

54. Diesel Generator Remote Panel: A remote panel will be provided in each DG room to permit startup and loading of the associated DG in the event of fire damage to the DG controls in the control room.

NRC Safety Evaluation 8/2/79

55. Portable Extinguishers: We will provide three 2½ gallon portable pressurized water extinguishers in the switchgear room: 1) adjacent to south entrance to the room 2) between the west entrance to the room and the entrance to battery room 306 3) adjacent to the entrance to battery room 307. They will have deflector type nozzles.

WE to NRC Letter 1/13/78

56. Portable extinguishers-Control room: We will provide 2 portable 2½ gallon pressurized water extinguishers inside control. They will have deflector type nozzles.

WE to NRC Letter 1/13/78

57. Outside fire department fire fighting activities: We will coordinate fire fighting activities with outside fire departments as follows:
- a) Two Creeks Fire Dept. members will receive a PBNP security orientation and will receive escort required badges. Orientation will be repeated every 2 years.
  - b) Plant tours will be given for the T. C. F. D.
  - c) Drills will be conducted with the T. C. F. D. once per year
  - d) Training will be provided by PBNP for T. C. F. D. members in basic radiation hazards every 2 years.

WE to NRC Letter 2/1/78

58. Fire Protection QA program: We will apply the present PBNP QA program to fire protection to the extent necessary to meet the requirements of the Reg. Guide.

WE to NRC Letter 2/1/78

59. Control Room Cabinet Fire Protection: Each safe shutdown component (identified in section 3.4.3.1, page 3-94 of the fire protection review) will be capable of being locally operated independent from the control room. Also, we will modify the discharge nozzle of the CO<sub>2</sub> extinguisher equipment in the control room.

WE to NRC Letter 2/15/78

60. Safety Injection Pump Area: Cable Tray penetrations in the safety injection pump compartment walls will be sealed to provide 2-hour fire resistance. The SI pump baseplate drains will be shut to confine pump lube oil leakage to the baseplate area. Cable interconnecting redundant safety-related cable trays will be rerouted. We will add an automatically actuated fixed water suppression system in this area. The suppression system individual nozzles will be oriented to minimize water spray to pumps/motors unaffected by the postulated fire. Cabling in this area will also be protected.

WE to NRC Letter 2/15/78

61. Component Cooling Water Pump Area: Cable that interconnects redundant safety-related cable trays will be rerouted. Also, the CCW pump area will be provided with an automatically actuated fixed water suppression system. Cabling in this area will also be protected.

WE to NRC Letter 2/15/78

62. Auxiliary Building Charcoal Filter Area: The north walls of room 160 and 161 will be upgraded to a 2-hour fire rating and the access doors will be upgraded to 1½ hour fire rating. All penetrations will be upgraded to provide a fire rating consistent with the fire-rating of walls.

WE to NRC Letter 2/15/78.

63. Hydrogen hazard fire protection: We will install excess flow and manual isolation valves in the Hydrogen supply header at its point of entry into the auxiliary building. Fire barriers will be installed between safety related and safe shutdown equipment or cable, and the hydrogen supply header where required to provide suitable separation. The ½" noble gas removal system regeneration piping would be used only during regeneration of low-temperature absorber beds. This piping is evacuated and isolated and will be administratively tagged in the isolated condition. Also, the hydrogen header will be rerouted in the turbine building to avoid passing over the turbine lube oil reservoir.

WE to NRC Letter 2/15/78  
NRC Safety Evaluation 8/2/79

64. Penetration Seals: Penetration seals will be upgraded to a 2-hour rating:
- a) Containment Spray and S. I. Pump room
  - b) CVCS Seal Water filter and heat exchanger room
  - c) Waste holdup tank room



- d) Component Cooling Water pump room
- e) HVAC equipment room
- f) Corridor and chemical mixing tank areas
- g) Auxiliary Building, Elevation 46 ft. (Facade interface)
- h) Boric acid tank area

WE to NRC Letter 3/15/78

- 65. Cable penetration seals: All Safety related fire barrier cable penetration seals will be upgraded to a 3-hour fire rating.

WE to NRC Letter 12/29/78

- 66. Fire Barriers: The control building walls adjacent to the turbine building will be upgraded to a 3-hour rating. Included are the AFW pump room, switchgear room, and diesel generator room. The cable spreading room and DG room walls will be upgraded to a 3-hour fire rating. The control room viewing window will be upgraded to a 2-hour fire rating. The barrier, including penetration seals, separating the service building and general auxiliary building ventilation exhaust filters from the remainder of the auxiliary building will be upgraded to a two-hour fire rating and the unrated doors will be replaced with 1½ hour fire rated doors.

NRC Safety Evaluation 8/2/79

- 67. Switchgear Room Ventilation: The lowered ventilation penetration seals will be upgraded to provide a 2-hour fire rated seal.

WE to NRC Letter 9/20/79

- 68. Auxiliary Building Cable Tray Penetration Seals: Cable tray penetration seals will be added at penetrations through auxiliary building cubicle walls to provide a 3-hour rated seal where fire could affect safety related cables or equipment in another area. Also, specifically, the cable tray penetration seals between the Boric acid tank area and the adjacent electrical equipment areas will be upgraded to 3-hours. Also, the penetration seals to the containment penetration area will be upgraded to 2-hour seals.

NRC Safety Evaluation 8/2/79

- 69. Containment Building Fire Stops: Fire stops will be added to certain cable trays that pass through containment building compartment walls to minimize combustible pathways between compartments.

NRC Safety Evaluation 8/2/79

- 70. Service Building Penetration Seals: The penetrations in barriers between the service building and safety-related areas will be sealed, or the seals upgraded, to provide 3-hour fire resistance.

NRC Safety Evaluation 8/2/79

- 71. Cable Tray Penetration Seal Qualification: Those seals in all safety-related fire barriers will be upgraded to provide 3-hour fire resistance.

The fire rating for those seals will be established by testing in accordance with ASTM E-119 standards. We will provide the test reports and data. (NRC Letter dated 11/24/80 requires the seals to be qualified by an independent testing laboratory.)

WE to NRC Letter 10/13/80

72. Pipeway fire protection: We will cover all cable trays in upper pipeways 2 & 3 and pipeway 4 with a fire retardent material to limit fire severity and to avoid fire propogation in the auxiliary building. Exposed cables will be covered with a Kaowool blanket.

WE to NRC Letter 2/15/78

73. Combustible liquid curbs: Oil drums will not be stored within the dike. The lube oil storage tank room will have a curb of 3 feet 10 inches. The lube oil reservoir area will have a curb height of 2 feet 8 inches. The curbs will be high enough to contain the full tank contents with an appropriate margin for fire suppression water.

WE to NRC Letter 2/15/78

74. Service Building fire barrier penetration seals: Existing 1½-hour rated dampers in 2-hour rated walls will be replaced with dampers consistent with the walls. All penetrations in the fire barrier between the service building and auxiliary building will be sealed to provide 2-hour fire rated resistance at the penetration.

WE to NRC Letter 2/15/78

75. Switchgear Room fire protection: Three 2½ gallon pressurized water fire extinguishers will be added in the switchgear room. Open cable trays will be covered with fire retardent material.

WE to NRC Letter 2/15/78.

76. AFW pump room: An 8 foot high security tunnel of 3-hour fire rated construction will be installed between the remote shutdown cabinet and the AFW pump areas. All open cable trays within the room will be covered with a fire retardent material. Conduit crossovers will be rerouted as required to provide suitable train separation.

WE to NRC Letter 2/15/78

77. Lube Oil Storage Tank Drains: The lube oil storage tank curbed area drain will remain plugged and the plugging of the containment spray and safety injection pump equipment drains will be done by 12/31/78.

WE to NRC Letter 3/2/78

78. Upgraded Ventilation Dampers: The installation of upgraded ventilation dampers (for consistency with walls) will be complete by 8/1/79.

WE to NRC Letter 3/2/78

79. Battery room loss of ventilation flow annunciators: They will be completed by 8/1/79.

WE to NRC Letter 3/2/78

80. Kaowool test report: We will submit to the NRC the final test report on the suitability of Kaowool for use as a fire retardant.

WE to NRC Letter 3/15/78

81. Auxiliary Building Cable Separation:
- a) In addition to the fire protection provision itemized in section 6.0 of the F. H. A., Table 31-2 of WE to NRC Letter 3/15/78 listed numerous additional locations where Marinite boards will be provided.
  - b) In the AFW pump area, the enclosures for safety related electrical boxes in the area will also be upgraded to NEMA-4 to assure that a water hose stream would not degrade proper functioning.
  - c) In the switchgear room, a conduit for MOV-2890 passing between the pull boxes will be rerouted to remove this combustible pathway.

WE to NRC Letter 3/15/78

82. Cable tray penetration fire stop tests: We will submit the test reports for the fire stop tests at the end of March 1978.

WE to NRC Letter 3/15/78

83. Cable Spreading Room spray shields: WE will install spray shields on top of the 480V switchgear cabinets. Also, spray deflectors will be provided on front and rear panel openings in accordance with manufacture's instructions.

WE to NRC Letter 12/29/78

84. Cable coverings: We will reference available test data in support of the basis for the cable coverings and barrier materials we will use. Also, barriers between crossing cable trays will be installed with a 6 inch minimum extension beyond the sides of both trays.

WE to NRC Letter 9/22/78

WE to NRC Letter 12/29/78

85. Cold shutdown: We will verify by analysis that cold shutdown can be attained within 72 hours of a fire in the auxiliary building, containments, facades, pipeways, AFW pump area, and switchgear room independent of cable damage from a fire in other areas.

WE to NRC Letter 9/22/78

86. RCP oil collection system: The existing deflector cones will be fitted with curbs and drain piping installed in a manner which will allow oil leakage to be collected in 4- 55 gallon drums located on elevation 10' of containment. The drums will be connected in parallel, will have closed tops and will be provided with vents.

WE to NRC 9/22/78

87. Pumphouse fire protection: We will install a sprinkler system for the diesel fire pump in place of the previously proposed barrier wall.

The curb to be installed around the fire pump will be designed to a height adequate to contain a 10-minute discharge of fire suppression water plus the contents of the diesel fuel oil tank. (This was subsequently changed to a small curbed area with a floor drain to the circ water pump pit area.) The barrier wall we previously committed to, will not be installed. We will also provide sprinkler protection for the sewer water pumps.

WE to NRC Letter 12/29/78

WE to NRC Letter 9/22/78

88. Water Damage Protection: Floor drains will be added in the cable spreading room. Enclosures for safety-related electrical boxes in the AFW pump area will be upgraded to assure that a water hose stream will not degrade proper functioning. (We subsequently cancelled the floor drain modification because we would use gaseous suppression instead of water.)

NRC Safety evaluation 8/2/79

89. Waterproofing: The cable spreading room and nonsafety-related electrical equipment room floors will have an application of water sealant to prevent any water seepage to the rooms below. (This was subsequently cancelled.)

NRC Safety evaluation 8/2/79

90. Water Supply: The fire department siamese pumper connection at the lakeside pump house will be provided with a sign to indicate the connection point.

NRC Safety Evaluation 8/2/79

91. Fire Hydrant Inspections: We committed to develop administrative procedures to implement fire hydrant inspections on a periodic basis. We stated that we would continue annual inspections but that the monthly fire protection equipment surveillance procedure will be expanded to include fire hydrant inspections for accessibility and condition.

WE to NRC Letter 3/2/81

92. Control Room Light Fixtures: We will verify that the control room fluorescent light fixture diffusers have a flame spread rating of 25 or less, replace the diffusers with materials having the appropriate rating or provide an evaluation of the hazard posed by the existing diffusers.

NRC Safety Evaluation 8/2/79

93. Fire Detectors: We were required to provide the NRC with the results of bench tests to verify that the detectors will promptly detect products of combustion from the materials in the areas where detectors are installed.

NRC to WE Letter 3/5/80

94. Fire Brigade Training frequency: We train on a 2 year cycle, but the NRC wanted an annual cycle. We committed to conduct practice sessions annually.

WE to NRC Letter 3/2/81

95. Fire Zone 1 Exemption Request (Unit 1 MCC room): In conjunction with the exemption request, we committed to do the following:
- a) Conduits 1P2C, 1P2C1 and 1N11 will be wrapped with a fire barrier
  - b) Cable tray PS will have a thermal shield beneath it the length of the tray
  - c) Cable tray JD will be protected so as not to contribute to the heat load generated by the initial fire
  - d) Cable trays PS and JD will have an appropriate fire stop in the tray to prevent fire propagation into the safe shutdown sections of the tray

WE to NRC Letter 6/30/82

96. Fire Zone 2 (SI and CS pump room) Exemption Request: In conjunction with the exemption request, cable trays PS and FR of division B will have a non-combustible thermal shield placed beneath the trays the entire length within the zone.

WE to NRC Letter 6/30/82

97. Fire Zone 3 (CCW pump room) Exemption Request: In conjunction with the exemption request we will do the following:
- a) All sections of Division-B cable trays which could be subject to direct fire plume impingement will have non-combustible thermal shields placed directly beneath them
  - b) All remaining horizontal portions of Division-B cable trays will be protected by thermal shields placed directly below the trays
  - c) Division-A trays will be provided with appropriate protection so they don't contribute to the initial fire's heat load
  - d) Vertical portions of trays FT and CK will be completely enclosed by a thermal shield
  - e) Trays FV and JE will have a fire stop placed to prevent propagation into safe shutdown sections.

WE to NRC Letter 6/30/82

98. Fire Zone 4 (Unit 2 MCC room) Exemption Request: In conjunction with the exemption request, all of the Division-B conduit in zone 4 will be completely covered with an appropriate fire barrier.

WE to NRC Letter 6/30/82

99. Fire Area 5 (AFW pump room) Exemption Request: Along with the exemption request, we will install a single-failure proof automatic Halon suppression system. Also:
- a) Conduit 1P2C1 will be wrapped with 1-hour barrier through the entire length of this area.
  - b) Cable tray FU will have a plume impingement barrier beneath it;
  - c) Cable tray FT will have a thermal shield beneath it.

WE to NRC Letter 6/30/82

100. Fire Area 6 (Switchgear Room) Exemption Request: In conjunction with the exemption request we committed to:
- a) Install a Halon System
  - b) Install non-combustible thermal shields in cable trays ET and EW in division A and EK in division B
  - c) Place thermal shields beneath redundant division in cable trays EC and FV until 12 feet horizontal separation is achieved
  - d) Completely enclose vertical cable trays EH and GE with a thermal shield protecting all exposed surfaces

WE to NRC Letter 6/30/82

101. Fire Zone 7 (Monitor Tank Room) exemption request: In addition to the exemption request, we will install radiant energy shields on all exposed surfaces of cable trays FL, CN, CK, and FX.

WE to NRC Letters 6/30/82 and 3/31/82

102. Cable Spreading Room: We will install a Halon system here.

WE to NRC Letters 6/30/82 and 3/31/82

103. Fire Zone 10 (Unit 1 Containment SouthEast Quadrant): In conjunction with the exemption request we committed to install the following:
- a) Conduit wrap on conduits 1C57A or 1C57B to achieve 20-foot separation
  - b) Plume impingement, non-combustible thermal shields outside the pressurizer cubicle beneath the common tray (VG01 to VG06, VA03-VA07, VB01 & VB02) to the riser tray (WY01) at which point adequate separation can be achieved by the placement of a non-combustible radiant energy shield between trays.
  - c) Fire stops in cable tray section WX02 and WY02 at the ceiling and in tray section VA03 at the connection to tray section VA02.
  - d) Radiant energy shields on WX02 and WY02 to the ceiling.

WE to NRC Letters 6/30/82 and 9/29/82

104. Fire Zone 11 (Unit 2 Containment S. E. quadrant): In conjunction with the exemption request, we will provide the following:
- a) Non-combustible radiant energy shields outside the pressurizer cubicle between the trays until adequate separation is achieved (VM01 and VM02 to the ceiling)
  - b) Plume impingement barriers on VL01, VL02 and VL03, VN01, VS01 above VL04, VU03 to the top of the rising section
  - c) Fire stops in VL01 and VU05 north of penetration 42, in VU03 at the top of rising section, and VM02 at the ceiling

WE to NRC Letter 6/30/82 and 9/29/82

105. Post-fire Plant Procedures: These procedures, in order to assure the availability and operability of the RHR and Component cooling water system for cold shutdown, will specifically address the following:
- a) Post-fire surveillance to determine fire damage to cold shutdown equipment and cables;

- b) Repair or replacement of fire damaged cold shutdown components;
- c) Installation and testing of temporary power cable;
- d) RHR and CCW system field alignment for manual and inoperable motor-operated and air-operated valves;
- e) System operation from local control stations, including use of local instrumentation and communications among local control stations

WE to NRC Letter 6/30/82

106. Repair Parts: In addition to the existing spare parts available at PBNP, we will provide a spare CCW pump motor and sufficient cable to allow temporary cable runs to be installed between the CCW and RHR pumps and their associated load center.

WE to NRC Letter 6/30/82

107. Fire Zone 10 (Unit 1 containment S. E. sector, 21'E1.): The redundant pressurizer pressure and level instruments conduit appeared to have a minimum horizontal separation of 16'. We committed to check this during the fall of 1983 outage. If not in compliance with Appendix R, we committed to protect one division of conduit with radiant energy shield for a sufficient length to achieve minimum separation.

WE to NRC Letter 4/28/83

108. Fire Area 5-AFW pump room: We will relocate one division of cables for each unit's CVCS charging pump power and local control cables to provide for a separation distance of 29 feet and 27 feet. The relocated cables will be IEEE-383 qualified and rerouted in conduit throughout. We also will wrap the entire length of conduit using a material such as a double wrap of 3M flexible fire barrier material. We will also provide an additional fire detection system using rate compensating thermal detectors in order to provide redundant actuation for the Halon system.

WE to NRC Letter 4/28/83

109. Fire Area 6 (Switchgear Room): The independent halon suppression system for A05 and A06 for each unit will be activated by smoke detectors inside the cabinet. The following guideline will be used for cable tray protection:
- a) All exposed trays less than 14 feet above the floor will be protected;
  - b) tray protection will extend a minimum of 12 inches inside the perimeter of switchgear cabinets;
  - c) The face of vertical riser trays exposed to the aisles will be protected;
  - d) Trays containing service water pump cables will be boxed in to the height of the adjoining horizontal tray barriers
  - e) We will wrap the conduits containing 4KV power feeds between the diesel generators and associated switchgear using a material such as a double wrap of 3M flexible fire barrier material.

WE to NRC Letter 4/28/83

Subsequent to this we stated that the Halon system would be enlarged to cover all cabinet sections of A05 and A06 for each unit. The

halon will be discharged into each cabinet and will be actuated by individual smoke detectors in each cabinet.

WE to NRL Letter 5/31/83

110. Fire Area 8 (Cable spreading Room): We will provide emergency power cross tie capability so that one charging pump for each unit will be available.

WE to NRC Letter 4/28/83

111. Fire Zone 1 (Unit 1 MCC room): We will relocate the division "B" charging pump power and control cables and local control panel in a manner which will provide greater than 30-foot horizontal separation between redundant cables. We will install a partial zone automatic fire suppression system to provide coverage for one train of redundant cables and intervening combustibles. The system will include specific doorway coverage to reduce the potential for fire propagation from an individual charging pump room. The coverage will be provided for the open archways to fire zone 2 on the north and to the HVAC room on the south as well as over the doorways to the charging pump cubicles. Also, fire stops will be installed in cable trays routed east-west which constitute intervening combustibles between redundant charging pump cables.

WE to NRC Letters 4/28/83 and 7/20/83

112. Fire Zone 2 (SI and CS pump room): We will relocate division-B charging pump power and control cable in a manner which will provide greater than 30 feet horizontal separation between redundant cables. The existing automatic suppression system will be modified to include specific coverage of open archways to fire zone 3 on the north and to fire zone 1 to the south. The system will also be expanded to the west to assure that one division of charging pump cables and intervening trays are protected.

WE to NRC Letters 4/28/83 and 7/20/83

113. Fire Zone 3 (CCW pump room): We will relocate charging pump power and control cables similar to that in Fire Zones 1 and 2. Fire stops will be installed in division-B cable trays for Unit 1 and division A for Unit 2 in order to maintain the necessary separation. The section of tray FV07 and conduits containing Unit 2 division-B charging pump cables which are located between the proposed fire stop and fire zone 3 walls will be enclosed with one hour rated material.

WE to NRC Letters 4/28/83 and 7/20/83

114. Fire Zone 4 (Unit 2 MCC):
- a) We will relocate division A unit 2 charging pump power and control cables to provide greater than 25 feet of horizontal separation.
  - b) We will install a partial zone automatic fire suppression system to provide coverage for one train of redundant cables and the intervening combustibles. The system will include special doorway coverage of the open archways to fire zone 3 on the south as well as coverage over the doorways to the charging pump cubicles.



- c) Fire stops will be installed in cable trays routed east-west which are intervening combustibles between redundant charging pump cables.

WE to NRC Letters 4/28/83 and 7/20/83

115. Fire Zone 7 (Containment spray additive and Monitor tank area): We will provide local necessary instrumentation capability for one instrument channel on the 8-foot elevation.

WE to NRC Letter 4/28/83

116. Auxiliary Building Fire Area Boundary: We will install 3-hour fire rated penetration seals around the primary instrumentation system cables at the 26-foot elevation floor and unguarded floor openings (Piping penetrations) which could present a hazard to redundant instrumentation cables.

WE to NRC Letter 4/28/83

117. Excess Letdown Isolation Valve: We will modify these valve control circuits on each unit so that a minimum of two separate shorts in 2 separate sets of cable would be required for spurious actuation.

WE to NRC Letter 4/4/84

118. AFW pump turbine lube oil cooling water: The AFW pump turbine L. O. cooling water will be supplied alternately by the diesel driven fire pump. This was expected to be completed during Unit 1 fall-83 outage and the Unit 2 fall-84 outage.

WE to NRC Letter 10/26/83

Note: The remaining commitments come from the NRC Inspection Report 82-17 dated 11/30/82 and WE to NRC Letter 1/21/83.

119. 82-17-01A, Fire Pump Testing: We will revise test TS-19 to include the following additional performance data: suction lift, diesel pump shutoff pressure, diesel engine speed, and electric pump motor current draw. Also, an additional section specifying proper analysis techniques will be included
120. 81-17-01B, Fire Signalling System Testing: A review of our fire protection tests will be done to identify informational alarms. Where informational alarms exist and can be expediently tested these alarms will be verified.
121. 82-17-01C, Fire Detection System Testing: The smoke detector system in operation is a fixed sensitivity photoelectric detector system which utilizes local zone panels and our indicating panel in the control room. Functional testing of this system will meet appropriate applicable NFPA codes

122. Violation 1, Item a(3), Operability Surveillance Testing/Inspection Procedure for Fire Doors: In response to this finding we prepared a semiannual maintenance procedure (PC-70, part I) to assure safe shutdown area fire door operability. The procedure documents a check for the defeat of the hold-open feature, verifies proper latch and closer operation, performs a general door hardware inspection, verifies freedom of operation, and verifies any associated computer alarms.
123. 82-17-01D, Test Acceptance Criteria: 1) The surveillance tests will be reviewed and portions of tests which apply to non-tech spec equipment and systems will be placed in non-tech spec tests. This will be accomplished following NRC approval of our proposed revised Fire Protection Technical Specifications, Sections 15.3.14 and 15.4.15. 2) We will review all F. P. tech spec test items to assure appropriate criteria or acceptability limits are present where they are required to satisfy the intent of the procedure and are consistent with both our accepted QA program and the Point Beach test procedure philosophy. To be completed by April 30, 1983.
124. 82-17-02, Fire Door Limiting Condition for Operation: In addition to 4 corrective actions which were completed at the time of our response, we committed to installing a modification to utilize the plant security computer to monitor the open/close status of all safe shutdown area fire doors. Most of these doors now have their status monitored but others required additional hardware and/or security computer software modification. Such changes will be accomplished in a timely manner.
125. 82-17-02, Facade Stairwell Door: Industrial safety fire doors will have a maintenance inspection performed annually in addition to the current system of priority attention when needed. The inspection will be identified on the operations computerized call-up program and will be completed by August 31, 1983.
126. 82-17-03, Fire Door Closure Devices: The following steps have been taken to assure that automatic fire doors will close in case of fire and to preclude the use of foreign materials on fusible links:
- 1) All safe shutdown area fire doors have had their fusible links removed thereby effectively defeating the hold-open feature.
  - 2) The semiannual maintenance surveillance procedure will ensure the fusible links are not inadvertently replaced on the safe shutdown area fire doors.
  - 3) The annual maintenance surveillance procedure on industrial safety fire doors will identify any unsatisfactory fusible links and facilitate their replacement with appropriately clean fusible links.
  - 4) A memorandum will be issued to all plant personnel explaining the problems caused by the use of fusible links which may have foreign material on them.
127. 82-17-07A, Contractor Training: In order to ensure contractor performance with respect to plant fire protection matters rather than just a fire emergency, we will prepare a more detailed training program for contractor supervisory personnel. This training will include indoctrination to administrative procedures regarding combustibles control, transient fire loadings, and ignition control permit authorization. The administrative procedures required as base documents for this training and the training itself shall be in place by 12/31/83.

128. 82-17-07B, Spill Training: In order to improve our fire protection program we will do the following:
- 1) Consolidate the information from several procedures in a single admin procedure governing handling of leaks and spills of flammable material.
  - 2) Review and modify as necessary EOP-12A to ensure it is appropriate for conditions presently existing at PBNP.
  - 3) Train and periodically retrain all fire brigade members, plant supervisory personnel, and contractor supervisory personnel on the procedure governing the handling of flammable materials leaks and spills.
  - 4) Document the training given on the procedure governing the handling of flammable materials leaks and spills. These will be completed by 12/31/83
129. 82-17-07C, Combustible Control Tours: By April 30, 1983 we committed to do the following:
- 1) The FPS and/or DSS will periodically conduct and document combustible control tours.
  - 2) Plant management will continue to conduct but not necessarily document, independent combustible control tours.
  - 3) An administrative procedure shall be prepared which reflects Items 1 and 2 above.
130. 82-17-07D, Combustible Controls: To ensure that trash combustibles are promptly removed from plant areas and to ensure that transient fire loading is not excessive, with special emphasis on safe shut-down areas, we will do the following:
- 1) Conduct combustible control tours as noted in item 82-17-07C above.
  - 2) Place in operation a transient fire loading evaluation program as described in response to item 82-17-07E below, with implementation by June 30, 1983.
  - 3) Provide training on the new fire protection admin and functional procedures to fire brigade members and plant work group supervisors, with completion by 12/31/83.
  - 4) (Item b) Electric heat tracing was being installed on the steam generator instrument lines. The wooden enclosure was to be removed.
  - 5) (Item c) When the work at the CCW heat exchanger was complete, we stated that all scaffold material would be removed.
  - 6) (Item h) When the work around the AFW pump room was complete, we committed to remove the combustible materials (e.g., scaffold, planks and ladder).
131. 82-17-07E, Work Review for Fire Hazards: To ensure the appropriate review with respect to transient fire loads, we will:
- 1) Initiate a change to the MR form and governing admin procedure to include checkoffs indicating the need to consider special fire hazards and precautions.
  - 2) Initiate changes to PBNP 3.5 and 3.6.2 explaining the roles of the Superintendents of Maintenance and Construction and I & C in maintenance request transient fire load assessment.
  - 3) Initiate a change to PBNP 3.31 clarifying the FPS's role in MR transient fire load assessment.
  - 4) Train appropriate personnel on these changes by 9/30/83
- Item 1, 2, and 3 were to be done by 3/31/83.

132. 87-17-07E, Modifications Review for Fire Hazards: In order to ensure modification work is properly evaluated with respect to transient fire loads, we will:
- 1) Use transient fire load procedures, combustibles control procedures, ignition control procedures, and other admin fire procedures to ensure modification work is being properly evaluated, monitored, and performed with respect to fire protection.
  - 2) Train work group supervisors and WEPCO liaison personnel on the administrative procedures referred to above. (By 10/30/83)
133. 82-17-07F, Hot Work Authorization: Supervisory personnel who have received appropriate fire protection training and have been approved by the FPS may authorize the issuance of an ignition control permit. A fire chief or assistant fire chief must approve the ignition control permit prior to commencement of work. The appropriate FP Training referred to above will be:
- 1) Completion of the contractor supervisory personnel training referred to in 82-17-07A.
  - 2) Completion of training regarding general and plant specific basic fire prevention and extinguishment.
134. 82-17-07G, Fire Fighting Strategies: We will prepare specific fire fighting strategies (FEP's) for plant safe shutdown areas which do not have FEP's. In addition, existing FEP's will be reviewed and updated if necessary. We will complete these actions by June 30, 1984. All fire brigade members will receive training on new/updated FEP's when they become available.
135. 82-17-07H, Valve Position Control: TS-23 was reviewed, and modified as required to include a verification that red locks are installed on all critical valves in the fire protection system.
136. 82-17-07 I & J, Drills and Training: We will do the following:
- 1) Adjust the fire protection calendar to coincide with the calendar year. (Already complete)
  - 2) Prepare a computer program to tabulate and review individual and crew fire training records. The system will record training, drills, and fire brigade meeting attendance for individual brigade members, compare it with requirements and uniquely identify incomplete or tardy items (complete)
  - 3) Computerize fire brigade records, and requirements. This will encompass drills with the Two Creeks Volunteer F. D. and will be complete by 8/31/83.
137. 82-17-08, Quality Assurance Audits:
- 1) Future annual audits will be conducted on a joint basis by QAD and SFPO.
  - 2) The QA auditor will be a qualified lead auditor. The SFPO will be familiar with technical requirements of the fire protection program and meet the requirements of membership for the Society of Fire Protection Engineers.
- The Triennial audit by an outside consultant accompanied by the SFPO and QAD representative will verify this approach.



INTERNAL  
CORRESPONDENCE



PBPB 85-263

10.III.7

GAC

TO: R. J. Bruno  
T. L. Fredrichs  
M. S. Kaminski/P. W. Glessner

E. J. Lipke/C. W. Krause  
R. A. Newton/D. J. Bell  
J. J. Zach/12.1.1 FPP, 11.10.3

FROM: G. J. Maxfield

DATE: September 18, 1985

SUBJECT: NRC FIRE PROTECTION COMMITMENTS - PUNCHLIST

COPY TO: T. J. Koehler  
G. J. Maxfield (2)/G. A. Casadonte

On August 27, 1985, Messrs. G. J. Maxfield, T. G. Staskal, P. W. Glessner, and G. A. Casadonte met to discuss the Mr. D. D. Schoon memo, dated July 18, 1985, on "Fire Protection Commitments." As a result of that discussion a punchlist was generated listing each commitment in that memo. Many items were easily identified as being completed and/or suitably addressed. If an administrative control was developed to address the commitment, it was included in the punchlist status column.

However, there were many items related to Appendix R, proposed modifications, and completed modifications where we were unable to accurately determine their status. In those instances we tentatively identified that individual we felt was most appropriate to determine the status of our commitment.

Please review the punchlist and provide the current status of those items you have been assigned. If an item is complete, include the administrative control, modifications, letter, etc. that satisfied the commitment. Include a completion target date for those items not completed. If you believe someone else is better qualified to evaluate the items you have been assigned, indicate so on the punchlist.

Please provide comments to G. A. Casadonte by October 18, 1985.

*Maxfield*

dmf

Attachment

NRC FIRE PROTECTION COMMITMENTS

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Target Date</u>	<u>Status</u>	<u>Resp. Ongoing</u>
1.	<u>Fire Hydrant Inspections:</u> We will develop administrative procedures to visually inspect each required yard fire hydrant to verify that the hydrant barrel is dry and this it is not damaged. This should be performed once per 6 months.	NRC Safety Evaluation 08-02-79	GAC		PC-73, Part 2 Monthly DONE	GAC
2.	<u>Emergency Lighting:</u> We agreed to provide 11 portable, battery-powered hand-held lights for emergency use by the fire brigade. They will be controlled through administrative procedures. (They will be placed on inventory checklists for the control room, the fire truck, and the AO station at C-59.)	NRC Safety Evaluation 08-02-79	GAC		Need Change to PC-73, Part 4 <b>DONE</b> 9-15-85 CHAINED + REDUCED	GAC
3.	<u>Communications:</u> Two new FM tranceiver units will be purchased for improved emergency communications. This will increase the number of available units to 5.	WE to NRC Letter 11-01-76			DONE	
4.	<u>Cable Spreading Room Door:</u> A second doorway will be added to the floor elevation of the cable spreading room to facilitate entry for manual fire suppression. A 3-hour rated <u>gas-tight</u> door will be installed between the control room and the CSR.	NRC Safety Evaluation 08-02-79	DJB		<b>DONE</b> GAS TIGHT 2 PER DJB New door 5-1-80 m2 545 gas tight m2 589 9-1-79	DJB
5.	<u>Cable Spreading Room Exhaust Fans:</u> Exhaust fans for smoke venting to facilitate personnel entry for fire fighting purpose will be added for the cable spreading room.	WE to NRC Letter 11-01-76			DONE	
6.	<u>CSR Smoke Exhaust Fans:</u> The smoke exhaust system should exhaust products of combustion outside the building so as not to inadvertently actuate fire detectors in other plant areas or expose other safety-related areas to smoke damage. The exhaust fan motor cables and controls should be located outside the cable spreading room.	WE to NRC Letter 09-22-78			DONE	
7.	<u>CSR Smoke Exhaust System:</u> A manually actuated smoke exhaust system will be installed for the CSR, control room, and computer room and additional portable equipment will be provided.	NRC Safety Evaluation 08-02-79			DONE	
8.	<u>Breathing Apparatus:</u> We did not have a 6-hour reserve supply for SCBA's. WE committed to obtaining additional SCBA equipment to provide increased capacity.	WE to NRC Letter 11-01-76			DONE	

NRC FIRE PROTECTION COMMITMENTS

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Target Date</u>	<u>Status</u>	<u>Resp. Ongoing</u>
9.	<u>Emergency Breathing Apparatus:</u> We will relocate our EBA's from the control room instrument tunnel to provide for more protective storage facilities.	WE to NRC Letter 01-13-78			DONE	
10.	<u>Emergency Breathing Apparatus:</u> We have 6 EBA's with 2 spare bottles per unit. Each bottle will have a 3/4 hour capacity. These bottles will be recharged using a 6-hour reserve supply of hospital-grade oxygen.	WE to NRC Letter 03-02-78	GAC		(14 TOTAL FOR FIRE) 4-19-78 10 ORDERED 6-16-83 1 ORDERED	GAC
11.	<u>Emergency Breathing Apparatus:</u> We will provide 10 additional Biopak 60p breathing units with one spare bottle per unit. Each bottle will have a 1-hour capacity. These bottles will be recharged using a cascade oxygen bank which will provide more than 100 60-minute refills.	NRC Safety Evaluation 08-02-79			DONE	
12.	<u>Combustible Materials (Wood):</u> Wood materials for scaffolding, etc., will be fire retardant material.	WE to NRC Letter 01-01-76			DONE	
13.	<u>Combustible Materials:</u> The existing permanent wood structures within the plant will be replaced with fire retardant structures.	NRC Safety Evaluation 08-02-79	PWG		When replaced use fire retardant materials - MOD REQUEST PROCEDURE	
14.	<u>Underground Fire Loop:</u> An underground yard fire main loop is installed at PBNP in accordance with NFPA 24. The loop is independent of service or sanitary water requirements. The loop is made of cast iron pipe and fittings in accordance with ANSI A21.11 and is equipped with U.L. approved post indicator sectionalizing valves.	WE to NRC Letter 11-01-76	DJB		Held	DJB
15.	<u>Fire Pumps:</u> The fires pumps were purchased and installed to meet the requirements of NFPA 20 and suitable alarms are provided in the control room.	WE to NRC Letter 11-01-76			DONE	
16.	<u>Flammable Liquid Storage:</u> Flammable liquids storage is in accordance with NFPA 30.	WE to NRC Letter 11-01-76			DONE	
17.	<u>Total Flooding Systems:</u> A CO <sub>2</sub> system is installed in the combustion turbine building IAW NEPA 12. A Halon 1301 system is installed in the remotely located record storage vault IAW NFPA 12A.	WE to NRC Letter 11-01-76			DONE	

NRC FIRE PROTECTION COMMITMENTS

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Target Date</u>	<u>Status</u>	<u>Resp. Ongoing</u>
18.	<u>Fire Detection Systems:</u> Fire detection systems at PBNP are IAW NFPA 72D. All fire protection equipment and devices must be IAW NFPA standards and must be UL approved in order to obtain fire insurance carrier approval.	WE to NRC Letter 11-01-76			DONE	
19.	<u>Outside Fire Protection:</u> Fire hydrant and hose house installation at PBNP are IAW NFPA 24.	WE to NRC Letter 11-01-76			DONE PC-73, Part 2	GAC
20.	<u>Supervised Values:</u> The position of all automatic opening sprinkler valves is checked for correctness and documented on a monthly basis. This is IAW NFPA 26.	WE to NRC Letter 11-01-76			DONE PC-73, Part 4 TS-73	GAC
21.	<u>Portable Extinguishers:</u> Portable fire extinguishers meeting the guidelines of NFPA 10 and 10A are provided throughout PBNP.	WE to NRC Letter 11-01-76			DONE	
22.	<u>Computer Room:</u> Fire protection for the computer room consists of portable extinguishers IAW, the recommendations of NFPA 75.	WE to NRC Letter 11-01-76			DONE	
23.						
24.	<u>Hazardous Chemical Storage:</u> The limited quantity of hazardous chemicals utilized at PBNP are stored and protected IAW, the recommendations of NFPA 49.	WE to NRC Letter 11-01-76	TLF		<i>CAG/GJM GAC CONVERSATION DONE</i>	TLF
25.	<u>Welder Awareness of Fires:</u> The NRC recommended that a fire watch be established wherein one person observes the welding being performed as his only function.	Memo to File Dated 01-12-77	PWG		<i>In great need no CP. May have a fire function in the area</i>	PWG
26.	<u>Fire Drill Critiques:</u> The Plant Fire Protection Supervisor will critique all inspector related drills and selected unannounced drills.	WE to NRC Letter 11-07-77			DONE	



NRC FIRE PROTECTION COMMITMENTS

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Target Date</u>	<u>Status</u>	<u>Resp. Ongoing</u>
27.	<p><u>Fire Fighting Procedures:</u> New fire fighting procedures will be developed for the control room, cable spreading room, 4160 V switchgear room, and the emergency diesel generator rooms. Strategies will be established for fighting fires in all safety-related areas and areas presenting a hazard to safety-related equipment. They will identify combustibles in the area, methods of fighting a fire in the area, access, ventilation and smoke removal, radiation and toxic hazards, and systems or components which should be kept cool during the fire.</p> <p>A program to better coordinate and effectively use the assistance of the offsite fire departments will be developed and include security indoctrination, tours, and training in basic radiation hazards for members of the local fire department.</p>	NRC Safety Evaluation 08-02-79	<div style="border: 1px solid black; border-radius: 50%; padding: 2px; display: inline-block;">           RK RJB         </div>		Security & Health Physics being revised	RK RJB
28.	<u>Fire Brigade Training:</u> The organization, training and equipment of the fire brigade basically comply with NFPA 27-1975. The SFPO will specify additional training and equipment provisions which he considers necessary to provide a suitable fire protection program for PBNP.	WE to NRC Letter 11-07-77			DONE	
29.	<u>Fire Brigade Training:</u> The PBNP training program will be expanded to include the toxic characteristics of products of combustion, the proper method for fighting fires inside buildings and tunnels, and a detailed review of fire fighting procedures and procedure changes.	WE to NRC Letter 11-07-77			DONE	
30.	<u>Fire Brigade Training:</u> The PBNP training program drill requirements will cover all fire fighting procedures during a 2-year training cycle.	WE to NRC Letter 11-07-77			DONE	
31.	<u>Fire Brigade Member Physical Exam:</u> An examination of the respiratory and cardiovascular systems will be performed when an employee is assigned to PBNP.	WE to NRC Letter 02-01-78	PWG		<p><i>True</i></p> <p><i>Letter to Houston</i></p> <p><i>Chest X-ray, biennial physical, spirometer tests and normal return to work</i></p> <p><i>Physicians.</i></p>	PWG
32.	<u>Fire Brigade Drills:</u> The schedule of drills for the fire brigade training program will be on a frequency of once every 3 months ( $\pm 25\%$ ). Each brigade will drill on a frequency of once yearly on backshifts ( $\pm 25\%$ ).	WE to NRC Letter 02-01-78			DONE	

*Done*

*Done on last drill  
10/85*

NRC FIRE PROTECTION COMMITMENTS

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Target Date</u>	<u>Status</u>	<u>Resp. Ongoing</u>
33.	<u>Fire Brigade Training:</u> The fire brigade will be provided with and trained in the use of EBA's for manually fighting fires involving materials which require EBA's.	NRC Safety Evaluation 08-02-79			DONE	
34.	<u>Posting:</u> Other plant areas (in addition to safety-related areas) will be posted as "Ignition Source Control Permit Required" and "No Smoking Allowed." Also, the Fire Brigade Chief or Assistant Chief will authorize the issuance of an ignition control permit.	WE to NRC Letter 11-07-77			DONE Exceptions Noted	
35.	<u>Ignition Source Control Permit:</u> The responsible foreman or supervisor should survey the work area and insure that: (1) All movable combustible materials below and within a 35' radius of the work has been removed; (2) All immovable combustible material below and within a 35' radius has been protected and fire extinguisher, hose, or other firefighting equipment are provided at the work site; and (3) A properly trained fire watch should be present for any work where there is a potential for fire that might damage safety-related equipment. A fire watch should be provided where the work is performed above or within a radius of 35' of combustible materials on the same elevation of the work or if combustible materials are below the work area where openings exist. A fire watch should be provided for all ignition source work in the control room, the cable spreading room, the diesel generator rooms, and any other safety-related areas that contain significant amounts of cable or flammable liquid. Also, the fire watch should remain on the work site while the work is being performed and for at least <u>thirty</u> minutes after it is a safe working condition. Oxyacetylene equipment must be checked for leaks before being moved to the work area.	WE to NRC Letter 11-07-77	GAC		<del>NOT DONE</del> GAC to develop fire watch program ICP to verify post-work inspection	GAC
36.	<u>Battery Room Ventilation:</u> WE will provide loss of ventilation annunciation in the control rooms.	WE to NRC Letter 01-13-78			DONE	

NRC FIRE PROTECTION COMMITMENTS

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37.	<u>Post-Indicating Valves:</u> WE will install 4 new post-indicating valves to allow more remote isolation of the yard fire main. Their locations are: (1) Between FH-21 and the lateral to PIV-131; (2) Between FH-22 and the lateral to PIV-131; (3) Between FH-23 and the lateral to PIV-76; and (4) Between FH-24 and FH-25.	WE to NRC Letter 01-13-78			DONE	
38.	<u>Hydrant Hose House Equipment:</u> WE will add the following equipment to each of the 4 hydrant hose houses: (1) Two 2½" hydrant gate valves installed on the hydrant; (2) Three 50' lengths of 1½" rubber-lined, mildew-proof jacketed fire hose; (3) Two 1½" adjustable shut-off nozzles; (4) One 2½"x1½"x1½" gated wye (siamese) with a 2½" female connection and two 1½" male connections; and (5) One 2½" full stream nozzle with shutoff.	WE to NRC Letter 01-13-78			DONE PC-73, Part 2	GAC
39.	<u>Fire Detector for Control Room Ventilation System:</u> A fire detection device will be located inside the charcoal filter cabinet for the control room ventilation system.	WE to NRC Letter 01-13-78			DONE	
40.	<u>Circ Water Pumphouse:</u> WE will install a curb around the fire pump diesel to contain a fuel or lube oil leak. A 12' wall will be erected to separate the diesel-driven fire pump from service water pumps and the other fire pump; WE will relocate the 6 fire detectors in the pumphouse to facilitate more rapid response to a fire in the day tank/pump area.	WE to NRC Letter 01-13-78	DJB		<i>DJB 26 yrs partial Final proposal (attached) for service water separator protection - Attachment App R attached in request. also 87</i>	DJB
41.	<u>Circ Water Pumphouse:</u> In order to meet the requirements of III.G of Appendix R we should install two 1½ hour fire-rated barriers separating the service water pumps in the intake structure into 3 sections with a service water pump for each. Also, the diesel fire pump day tank should be relocated to the same side of the fire-rated barriers as the diesel fire pump. Any opening in the 1½ hour barrier should be properly protected, including a curb installed at all door openings to prevent a flammable liquid spill from reaching both sides of a barrier.	NRC to WE Letter 11-24-80	DJB		<i>See item 41 also 87.</i>	DJB

NRC FIRE PROTECTION COMMITMENTS

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42.	<u>Circ Water Pumphouse:</u> WE will add a wet-pipe automatic sprinkler system over the safety-related pump area and we will provide fire detection and a fire-rated barrier to divide the service water pumps into 2 groups of 3 pumps each and separate one group of 3 pumps from the diesel fire pump.	WE to NRC Letter 06-23-81	DJB	06-23-81		DJB
		M2605 8-1-82 also idea 87 E-255 7-1-82				
43.	<u>Fire Detectors:</u> WE will add detectors in the following locations:		DJB			DJB
		E-255 ? 7-1-82				
	a) RHR pump cubicles & adjacent corridors (WE to NRC 01-13-78)					
	b) Boric acid tank area & adjacent electrics equipment areas (WE to NRC 01-13-78)					
	c) Auxiliary boiler day tank room (WE to NRC 01-13-78)					
	d) Solid radwaste processing area (WE to NRC 01-13-78)					
	e) Air compressor room (WE to NRC 01-13-78)					
	f) Each control room cabinet containing redundant safe-shutdown equipment & circuits will have ionization fire detectors located in the walk-through tunnel (WE to NRC 02-15-78)					
	g) Safety injection pump area (WE to NRC 02-15-78)					
	h) Charging pump area (WE to NRC 02-15-78)					
	i) Auxiliary building exhaust charcoal filter area (WE to NRC 02-15-78)					
	j) All pipeways (in accordance with NFPA-72) (WE to NRC 02-15-78)					
	k) Chemistry laboratory (WE to NRC 02-15-78)					
	l) Six products of combustion detectors in the switchgear room (WE to NRC 02-15-78)					
	m) Two products of combustion detectors in the battery rooms at the exhaust ventilation duct (WE to NRC 02-15-78)					
	n) Four POC detectors for the AFW pump cubicles (WE to NRC 02-15-78)					
	o) Five POC detectors in the remote shutdown cubicles (WE to NRC 02-15-78)					
	p) In the area of the service building exhaust system charcoal filters (WE to NRC 10-13-80)					
	q) In the control building charcoal filter cabinet (WE to NRC 10-13-80)					

Check on  
F., O., P.

NRC FIRE PROTECTION COMMITMENTS

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Target Date</u>	<u>Status</u>	<u>Resp. Ongoing</u>
43.	<p>r) Additional fire detection system in the AFW pump room which uses rate compensating thermal detectors in order to provide redundant actuation for the Halon system (WE to NRC 04-28-83)</p> <p>s) Same as above for the switchgear room</p> <p>t) Same as above for the cable spreading room</p> <p>u) Three fire detectors in each facade (WE to NRC 01-13-78)</p>					
44.	<p><u>Fire Hose Stations:</u> The following hose stations will be added and will have 1½" hose:</p> <p>a) HR-35, chemistry, laundry, day tank room #158</p> <p>b) HR-36, HR-43, component cooling water pump room #142</p> <p>c) HR-37, cyrogenic decay tank room #168</p> <p>d) HR-38, containment spray addition pump &amp; monitor tank room #187</p> <p>e) HR-39, chemical mixing tank room #185</p> <p>f) HR-40, HR-41, electrical equipment room #319</p> <p>g) HR-42, concentrates holdup tank &amp; transfer pump room #215</p> <p>h) HR-44, auxiliary building room #190</p> <p>i) HR-45, HR-46, outside the boric acid storage tank room</p> <p>j) HR-47, auxiliary building room #251 (NRC Safety Evaluation 08-02-79)</p>				DONE	
45.	<p><u>Fire Hose Stations:</u> Two hose stations with 100' of 1" hose and ball shutoff variable fog nozzles will be placed outside the control room.</p>	NRC Safety Evaluation 08-02-79			DONE	
46.	<p><u>Fire Hose Nozzles:</u> Selected interior hose stations which could be used in areas of potential shock hazard will be provided with variable fog type nozzles.</p>	WE to NRC Letter 09-26-79			DONE	
47.	<p><u>Fire Hose Stations:</u> HR-13 and HR-16 will be modified to include a second hose reel provided with 100' of 1" hose and an all fog nozzle with bail shutoff.</p>	WE to NRC Letter 02-15-78			DONE	

NRC FIRE PROTECTION COMMITMENTS

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48.	<u>Containment Hose Reels:</u> Hose reels in containment will be provided with 100' of 1" hose and a combination fog nozzle with bail shutoff. The water supply will be from the service water system. The following hose reels will be added:  a) HR-48 on El. 8' to provide coverage under each RCP b) HR-49 on El. 21' to provide coverage for cable trays, the equipment laydown area, and neutilation units c) HR-50, HR-51 on El 46' to provide coverage for cable trays and ventilation units d) HR-52 on El. 66' to provide coverage for each RCP and ventilation units e) HR-53, 54, 55, 56, & 57 in similar locations within Unit 2 containment	WE to NRC Letter 03-15-78			DONE	
49.	<u>Hose Stations:</u> Outside the cable spreading room we will add two 1½" hose stations with low velocity fog nozzles and two 1" hose stations with ball shutoff variable fog nozzles.	WE to NRC Letter 12-29-78			DONE	
50.	<u>Diesel Generator Rooms:</u> The deluge water suppression system in the diesel generator rooms will be upgraded. We propose to convert these systems to wet-pipe sprinklers providing .3 gpm/ft <sup>3</sup> coverage and annunciation in the control room.	WE to NRC Letter 01-13-78			DONE	
51.	<u>Diesel Generator Room Walls:</u> The diesel generator room walls will be upgraded to a 3-hour fire rating.	WE to NRC Letter 03-02-81	DJB			DJB
52.	<u>Cable Separation:</u> Cable or conduit that interconnects redundant safety-related cable trays will be rerouted or fire stops added to remove the combustibile pathway in various portions of the auxiliary and control buildings:  a) Cable spreading room b) Switchgear room c) Diesel generator rooms d) Auxiliary building - El. 8' e) Auxiliary building - El. 26' f) Auxiliary building - El. 46' g) AFW pump room and local control station h) Containment i) Yard area	WE to NRC Letter 10-13-80	DJB			DJB

MR 597

MR 597  
Seal model

NRC FIRE PROTECTION COMMITMENTS

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Target Date</u>	<u>Status</u>	<u>Resp. Ongoing</u>
53.	<u>Diesel Generator Air Intake:</u> We initially committed to do various things concerning the diesel generator air intake structure. This was changed to reversing the direction of air intake flow.	WE to NRC Letter 03-02-81			DONE	
54.	<u>Diesel Generator Remote Panel:</u> A remote panel will be provided in each diesel generator room to permit startup and loading of the associated diesel generator in the event of fire damage to the diesel generator controls in the control room.	NRC Safety Evaluation 08-02-79			DONE	
55.	<u>Portable Extinguishers:</u> We will provide three 2½ gallon portable pressurized water extinguishers in the switchgear room: (1) Adjacent to south entrance to the room; (2) Between the west entrance to the room and the entranceway to battery room #306; and (3) Adjacent to the entrance to battery room #307. They will have deflector type nozzles.	WE to NRC Letter 01-13-78			DONE No deflection nozzles	
56.	<u>Portable Extinguishers - Control Room:</u> We will provide 2 portable 2½ gallon pressurized water extinguishers inside control. They will have deflector type nozzles.	WE to NRC Letter 01-13-78			DONE Same as above	
57.	<u>Outside Fire Department Fire Fighting Activities:</u> We will coordinate fire fighting activities with outside fire departments as follows:  a) Two Creeks Fire Department (TCFD) members will receive a PBNP security orientation and will receive escort required badges. Orientation will be repeated every <u>2 years</u> . b) Plant tours will be given for the TCFD. c) Drills will be conducted with the TCFD once per year. d) Training will be provided by PBNP for TCFD members in basic radiation hazards every <u>2 years</u> .	WE to NRC Letter 02-01-78	GAC		See Item #27  DONE	GAC
58.	<u>Fire Protection QA Program:</u> We will apply the present PBNP QA program to fire protection to the extent necessary to meet the requirements of the Regulatory Guide.	WE to NRC Letter 02-01-78			DONE	

NRC FIRE PROTECTION COMMITMENTS

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59.	<u>Control Room Cabinet Fire Protection:</u> Each safe shutdown component (identified in Section 3.4.3.1, Page 3-94 of the fire protection review) will be capable of being locally operated independent from the control room. Also, we will modify the discharge nozzle of the CO <sub>2</sub> extinguisher equipment in the control room.	WE to NRC Letter 02-15-78			DONE	
60.	<u>Safety Injection (SI) Pump Area:</u> Cable tray penetrations in the SI pump compartment walls will be sealed to provide 2-hour fire resistance. (The SI pump baseplate drains will be shut to confine pump lube oil leakage to the baseplate area. Cable interconnecting redundant safety-related cable trays will be rerouted. We will add an automatically actuated fixed water suppression system in this area. The suppression system individual nozzles will be oriented to minimize water spray to pumps/motors unaffected by the posulated fire. Cabling in this area will also be protected.	WE to NRC Letter 02-15-78	DJB	Drain plug 3/80 Walls m-597 Seals 7/1/81 Sprinkler m-605 8/82 Cables See item 112 ↳		DJB
61.	<u>Component Cooling Water (CCW) Pump Area:</u> Cable that interconnects redundant safety-related cable trays will be rerouted. Also, the CCW pump area will be provided with an automatically actuated fixed water suppression system. Cabling in this area will also be protected.	WE to NRC Letter 02-15-78	DJB	Walls m-597 Door m-622		DJB
62.	<u>Auxiliary Building Charcoal Filter Area:</u> The north walls of room 160 and 161 will be upgraded to a 2-hour fire rating and the access doors will be upgraded to 1½-hour fire rating consistent with the fire-rating of walls.	WE to NRC Letter 02-15-78	DJB	Done except for fire danger		DJB



NRC FIRE PROTECTION COMMITMENTS

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Target Date</u>	<u>Status</u>	<u>Resp. Ongoing</u>
63.	<p><u>Hydrogen Hazard Fire Protection:</u> We will install excess flow and manual isolation valves in the hydrogen supply header at its point of entry into the auxiliary building. Fire barriers will be installed between safety-related and safe-shutdown equipment or cable, and the hydrogen supply header where required to provide suitable separation. The ½" noble gas removal system regeneration piping would be used only during regeneration of low-temperature absorber beds. This piping is evacuated and isolated and will be administratively tagged in the isolated condition. Also, the hydrogen header will be rerouted in the turbine building to avoid passing over the turbine lube oil reservoir.</p>	<p>WE to NRC Letter 02-15-78</p> <p>NRC Safety Evaluation 08-02-79</p>	DJB			DJB
					<p><i>M 593</i></p> <p><i>request exemption April 28, 1983</i></p> <p><i>GAC Check to see if this is still isolated.</i></p> <p><i>M 593</i></p>	
64.	<p><u>Penetration Seals:</u> Penetration seals will be upgraded to a 2-hour rating:</p> <p>a) Containment spray and SI pump room b) CVCS seal water filter and heat exchanger room c) Waste holdup tank room d) Component cooling water pump room e) HVAC equipment room f) Corridor and chemical mixing tank area g) Auxiliary building, EL. 46' (Facade interface) h) Boric acid tank area</p>	<p>WE to NRC Letter 03-15-78</p>	DJB			DJB
					<p><i>Seals</i></p> <p><i>M-597</i></p>	
65.	<p><u>Cable Penetration Seals:</u> All safety-related fire barrier cable penetration seals will be upgraded to a 3-hour fire rating.</p>	<p>WE to NRC Letter 12-29-78</p>	DJB			DJB
					<p><i>M-597</i></p>	
66.	<p><u>Fire Barriers:</u> The control building walls adjacent to the turbine building will be upgraded to a 3-hour rating. Included are the AFW pump room, switchgear room, and diesel generator room. The cable spreading room and diesel generator room walls will be upgraded to a 3-hour fire rating. The barrier, including penetration seals, separating the service building and general auxiliary building will be upgraded to a 2-hour fire rating and the unrated doors will be replaced with 1½-hour fire-rated doors.</p>	<p>NRC Safety Evaluation 08-02-79</p>	DJB			DJB
					<p><i>walls</i></p> <p><i>M-597</i></p> <p><i>M 51K</i></p>	

NRC FIRE PROTECTION COMMITMENTS

Item No.	Commitment Description	Source	Resp. Initial	Target Date	Status	Resp. Ongoing
67.	<u>Switchgear Room Ventilation:</u> The louvered ventilation penetration seals will be upgraded to provide a 2-hour fire-rated seal.	WE to NRC Letter 09-20-79	DJB	m-613 9-1-79		DJB
68.	<u>Auxiliary Building Cable Tray Penetration Seals:</u> Cable tray penetration seals will be added at penetrations through auxiliary building cubicle walls to provide a 3-hour rated seal where fire could affect safety-related cables or equipment in another area. Also, specifically, the cable tray penetration seals between the boric acid tank area and the adjacent electrical equipment areas will be upgraded to 3-hours. Also, the penetration seals to the containment penetration area will be upgraded to 2-hour seals.	NRC Safety Evaluation 08-02-79	DJB	m-597		DJB
69.	<u>Containment Building Fire Stops:</u> Fire stops will be added to certain cable trays that pass through containment building compartment walls to minimize combustible pathways between compartments.	NRC Safety Evaluation 08-02-79	DJB	m-597		DJB
70.	<u>Service Building Penetration Seals:</u> The penetrations in barriers between the service building and safety-related areas will be sealed, or the seals upgraded, to provide 3-hour fire resistance.	NRC Safety Evaluation 08-02-79	DJB	m-597		DJB
71.	<u>Cable Tray Penetration Seal Qualification:</u> Those seals in all safety-related fire barriers will be upgraded to provide 3-hour fire resistance. The fire rating for those seals will be established by testing in accordance with ASTM E-119 standards. We will provide the test reports and data. (NRC letter dated 11-24-80 requires the seals to be qualified by an independent testing laboratory.)	WE to NRC Letter 10-13-80	DJB	m-597		DJB
72.	<u>Pipeway Fire Protection:</u> We will cover all cable trays in upper pipeways 2 & 3 and pipeway 4 with a fire retardent material to limit fire severity and to avoid fire propogation in the auxiliary building. Exposed cables will be covered with a Kaowool blanket.	WE to NRC Letter 02-15-78	DJB			DJB

*No Qualification*

*Done 10/13/80 Qualification letter  
NRC 11/24/80*

*NRC didn't accept actions not done*

NRC FIRE PROTECTION COMMITMENTS

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73.	<u>Combustible Liquid Curbs:</u> Oil drums will not be stored within the dike. The lube oil storage tank room will have a curb of 3'-10". The lube oil reservoir area will have a curb height of 2'-8". The curbs will be high enough to contain the full tank contents with an appropriate margin for fire suppression water.	WE to NRC Letter 02-15-78			DONE	
74.	<u>Service Building Fire Barrier Penetration Seals:</u> Existing 1½-hour rated dampers in 2-hour rated walls will be replaced with dampers consistent with the walls. All penetrations in the fire barrier between the service building and auxiliary building will be sealed to provide 2-hour fire-rated resistance at the penetration.	WE to NRC Letter 02-15-78	DJB			DJB
75.	<u>Switchgear Room Fire Protection:</u> Three 2½ gallon pressurized water fire extinguishers will be added in the switchgear room. Open cable trays will be covered with fire retardent material.	WE to NRC Letter 02-15-78	DJB	10-1-78 Ext alternate SD System Pending		DJB
76.	<u>AFW Pump Room:</u> An 8' high security tunnel of 3-hour fire-rated construction will be installed between the remote shutdown cabinet and the AFW pump areas. All open cable trays within the room will be covered with a fire retardent material. Conduit crossovers will be rerouted as required to provide suitable train separation.	WE to NRC Letter 02-15-78	DJB	not accepted by NRC not done - fire m-597 steps instead		DJB
77.	<u>Lube Oil Storage Tank Drains:</u> The lube oil storage tank curbed area drain will remain plugged and the plugging of the containment spray and safety injection pump equipment drains will be done by 12-31-78.	WE to NRC Letter 03-02-78	GAC	CONTAIN SPRAY DIKED S.I. PLUGGED DONE		GAC
78.	<u>Upgraded Ventilation Dampers:</u> The installation of upgraded ventilation dampers (for consistency with walls) will be complete by 08-01-79.	WE to NRC Letter 03-02-78	DJB	m-613		DJB
79.	<u>Battery Room Loss of Ventilation Flow Annunciators:</u> They will be completed by 08-01-79.	WE to NRC Letter 03-02-78			DONE	
80.	<u>Kaowool Test Report:</u> We will submit to the NRC the final test report on the suitability of Kaowool for use as a fire retardent.	WE to NRC Letter 03-15-78	MSK	NRC did not accept test results for cable wrapping		MSK

NRC FIRE PROTECTION COMMITMENTS

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81.	<u>Auxiliary Building Cable Separation:</u>  a) In addition to the fire protection provision itemized in Section 6.0 of the FHA, Table 31-2 of WE to NRC letter 03-15-78 listed numerous additional locations where Marinite boards will be provided.  b) In the AFW pump area, the enclosures for safety-related electrical boxes in the area will also be upgraded to NEMA-4 to assure that a water hose stream would not degrade proper functioning.  c) In the switchgear room, a conduit for MOV-2890 passing between the pull boxes will be rerouted to remove this combustible pathway.	WE to NRC Letter 03-15-78	DJB		<i>mainly a) not accepted by NRC  b) MWR - maintain  c) Probably no longer applicable based on further submittals.</i>	DJB
82.	<u>Cable Tray Penetration Fire Stop Tests:</u> We will submit the test reports for the fire stop tests at the end of March 1978.	WE to NRC Letter 03-15-78	MSK		<i>See item 71</i>	MSK
83.	<u>Cable Spreading Room Spray Shields:</u> WE will install spray shields on top of the 480 V switchgear cabinets. Also, spray deflectors will be provided on front and rear panel openings in accordance with manufacturer's instructions.	WE to NRC Letter 12-29-78	DJB		<i>not required - no shields installed</i>	DJB
84.	<u>Cable Coverings:</u> We will reference available test data in support of the basis for the cable coverings and barrier materials we will use. Also, barriers between crossing cable trays will be installed with a 6" minimum extension beyond the sides of both trays.	WE to NRC Letter 09-22-78  WE to NRC Letter 12-29-78	DJB		<i>Couldn't do it not accepted by NRC = exceeded (106-114)</i>	DJB
85.	<u>Cold Shutdown:</u> We will verify by analysis that cold shutdown can be attained within 72 hours of a fire in the auxiliary building, containments, facades, pipeways, AFW pump area, and switchgear room independent of cable damage from a fire in other areas.	WE to NRC Letter 09-22-78	DJB		<i>Still in the process of analysis for areas other than control room.</i>	DJB

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86.	<u>RCP Oil Collection System:</u> The existing deflector cones will be fitted with curbs and drain piping installed in a manner which will allow oil leakage to be collected in four 55-gallon drums located on EL. 10' of containment. The drums will be connected in parallel, will have closed tops, and will be provided with vents.	WE to NRC 09-22-78			DONE	
87.	<u>Pumphouse Fire Protection:</u> We will install a sprinkler system for the diesel fire pump in place of the previously proposed barrier wall. The curb to be installed around the fire pump will be designed to a height adequate to contain a 10-minute discharge of fire suppression water, plus the contents of the diesel fuel oil tank. (This was subsequently changed to a small curbed area with a floor drain to the circ water pump pit area.) The barrier wall we previously committed to, will not be installed. We will also provide sprinkler protection for the sewer water pumps.	WE to NRC Letter 12-29-78  WE to NRC Letter 09-22-78	DJB			DJB
				<i>Supersedes Ite 40, 41, 42</i> <i>Exception request</i> <i>Pending</i>		
88.	<u>Water Damage Protection:</u> Floor drains will be added in the cable spreading room. Enclosures for safety-related electrical boxes in the AFW pump area will be upgraded to assure that a water hose stream will not degrade proper functioning. (We subsequently cancelled the floor drain modification because we would use gaseous suppression instead of water.	NRC Safety Evaluation 08-02-78	DJB			DJB
				<i>No repetition -</i> <i>no floor drains</i> <i>M &amp; R maintain done</i>		
89.	<u>Waterproofing:</u> The cable spreading room and nonsafety-related electrical equipment room floors will have an application of water sealant to prevent any water seepage to the rooms below. (This was subsequently cancelled.)	NRC Safety Evaluation 08-02-79			DONE	
90.	<u>Water Supply:</u> The fire department siamese pumper connection at the lakeside pumphouse will be provided with a sign to indicate the connection point.	NRC Safety Evaluation 08-02-79			DONE	

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91.	<u>Fire Hydrant Inspections:</u> We committed to develop administrative procedures to implement fire hydrant inspections on a periodic basis. We stated that we would continue annual inspections but that the monthly fire protection equipment surveillance procedure will be expanded to include fire hydrant inspections for accessibility and condition.	WE to NRC Letter 03-02-81			DONE PC-73, Part 2	GAC
92.	<u>Control Room Light Fixtures:</u> We will verify that the control room florescent light fixture diffusers have a flame spread rating of 25 or less, replace the diffusers with materials having the appropriate rating, or provide an evaluation of the hazard posed by the existing diffusers.	NRC Safety Evaluation 08-02-79			DONE	
93.	<u>Fire Detectors:</u> We were required to provide the NRC with results of bench tests to verify that the detectors will promptly detect products of combustion from the materials in the areas where detectors are installed.	NRC to WE Letter 03-05-80	MSK		<i>June 82 rec'd book letter from KICOE to Vought for detector testing</i>	MSK
94.	<u>Fire Brigade Training Frequency:</u> We train on an 2-year cycle, but the NRC wanted an annual cycle. We committed to conduct practice sessions annually.	WE to NRC Letter 03-02-81			DONE	
95.	<u>Fire Zone 1 Exemption Request (Unit 1 MCC Room):</u> In conjunction with the exemption request, we committed to do the following:  a) Conduits 1P2C, 1P2C1, and 1N11 will be wrapped with a fire barrier b) Cable tray PS will have a thermal shield beneath it the length of the tray c) Cable tray JD will be protected so as not to contribute to the heat load generated by the initial fire d) Cable trays PS and JD will have an appropriate fire stop in the tray to prevent fire propagation into the safe-shutdown sections of the tray	WE to NRC Letter 06-30-82	DJB		<i>NRC a) Didn't accept M R-163 to relocate b) not longer required because of a) suppression system c) not required 3-22-83 agreed d) not required 3-22-83 agreed neely</i>	DJB

NRC FIRE PROTECTION COMMITMENTS

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96.	<u>Fire Zone 2 (SI and CS Pump Room)</u> <u>Exemption Request:</u> In conjunction with the exemption request, cable trays PS and FR of Division B will have a non-combustible thermal shield placed beneath the trays the entire length within the zone.	WE to NRC Letter 06-30-82	DJB		<i>Superseded by automatic suppression 3-22-83 appeal meeting</i>	DJB
97.	<u>Fire Zone 3 (CCW Pump Room)</u> <u>Exemption Request:</u> In conjunction with the exemption request we will do the following:	WE to NRC Letter 06-30-82	DJB			DJB
	a) All sections of Division B cable trays which could be subject to direct fire plume impingement will have non-combustible thermal shields placed directly beneath them				a) Superseded by 113	
	b) All remaining horizontal portions of Division B cable trays will be protected by thermal shields placed directly below the trays				b) Wrepping shields 113	
	c) Division A trays will be provided with appropriate protection so they don't contribute to the intital fire's heat load				c) Permitted by 113	
	d) Vertical portions of trays FT and CK will be completely enclosed by a thermal shield				d) not required	
	e) Trays FV and JE will have a fire stop placed to prevent propagation into safe shutdown sections.				e) DJB 20 yes	
98.	<u>Fire Zone 4 (Unit 2 MCC Room)</u> <u>Exemption Request:</u> In conjunction with the exemption request, all of the Division B conduit in Zone 4 will be completely covered with an appropriate fire barrier.	WE to NRC Letter 06-30-82	DJB		<i>Replaced by A trans relocation DJB 10</i>	DJB
99.	<u>Fire Area 5 (AFW Pump Room)</u> <u>Exemption Request:</u> Along with the exemption request, we will install a single-failure proof automatic Halon suppression system. Also:	WE to NRC Letter 06-30-82	DJB			DJB
	a) Conduit 1P2C1 will be wrapped with a 1-hour barrier through the entire length of this area				<i>(#1) YES</i>	
	b) Cable tray FU will have a impingement barrier beneath it				<i>DJB 10</i>	
	c) Cable tray FT will have a thermal shield beneath it				<i>CABLES WILL BE LAYED IN NEW CONDUIT</i>	

DJB 9

10

9+10 WRAPPED  
11/23

b/c  
not required

NRC FIRE PROTECTION COMMITMENTS

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100.	<u>Fire Area 6 (Switchgear Room)</u> <u>Exemption Request:</u> In conjunction with the exemption request we committed to:	WE to NRC Letter 06-30-82	DJB			DJB
	a) Install a Halon system b) Install non-combustible thermal shields in cable trays ET and EW in Division A and EK in Division B c) Place thermal shields beneath redundant division in cable trays EC and FV until 12' horizontal separation is achieved d) Completely enclose vertical cable trays EH and GE with a thermal shield protecting all exposed surfaces			a) DJB #1 b) Will tell NRC no way c) Same as b d) Same as b		
				To be superseded by new alternate SD approach		
101.	<u>Fire Zone 7 (Monitor Tank Room)</u> <u>Exemption Request:</u> In addition to the exemption request, we will install radiant energy shields on all exposed surfaces of cable trays FL, CN, CK, and FX.	WE to NRC Letters 06-30-82 & 03-31-82	DJB			DJB
				DJB removed by 3-22-83 appeal setting for solid operation.		
102.	<u>Cable Spreading Room:</u> We will install a Halon system there.	WE to NRC Letters 06-30-82 & 03-31-82	DJB			DJB
103.	<u>Fire Zone 10 (Unit 1 Containment Southeast Quadrant):</u> In conjunction with the exemption request we committed to install the following:	WE to NRC Letters 06-30-82 & 09-29-82	DJB			DJB
	a) Conduit wrap on conduits 1C57A or 1C57B to achieve 20' separation b) Plume impingement, non-combustible thermal shields outside the pressurizer cubicle beneath the common tray (VG-01 to VG-06, VA-03-VA-07, VB-01, and VB-02) to the riser tray (WY-01) at which point adequate separation can be achieved by the placement of a non-combustible radiant energy shield between trays c) Fire stops in cable tray section WX-02 and WY-02 at the ceiling and in tray section VA-03 at the connection to tray section VA-02 d) Radiant energy shields on WX-02 and WY-02 to the ceiling			a) DJB 19 b, c, d, Pressurizer cables 3-22-83 appeal setting. Swiss ops not large required.		



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104.	<p><u>Fire Zone 11 (Unit 2 Containment) SE Quadrant</u>: In conjunction with the exemption request, we will provide the following:</p> <ul style="list-style-type: none"> <li>a) Non-combustible radiant energy shields outside the pressurizer cubicle between the trays until adequate separation is achieved (VM-01 and VM-02 to the ceiling)</li> <li>b) Plume impingement barriers on VL-01, VL-02 and VL-03, VN-01, VS-01 above VL-04, VU-03 to the top of the rising section</li> <li>c) Fires stops in VL-01 and VU-05 north of penetration 42, in VU-03 at the top of rising section, and VM-02 at ceiling</li> </ul>	WE to NRC Letters 06-30-82 & 09-29-82	DJB			DJB
					<p>A, B, C Agreed 3-22-83 not required superseded</p>	
105.	<p><u>Post-Fire Plant Procedures</u>: These procedures, in order to assure the availability and operability of the RHR and component cooling water system for cold shutdown, will specifically address the following:</p> <ul style="list-style-type: none"> <li>a) Post-fire surveillance to determine fire damage to cold shutdown equipment and cables</li> <li>b) Repair or replacement of fire damaged cold shutdown components</li> <li>c) Installation and testing of temporary power cable</li> <li>d) RHR and CCW system field alignment for manual and inoperable motor-operated and air-operated valves</li> <li>e) System operation from local control stations, including use of local instrumentation and communications among local control stations</li> </ul>	WE to NRC Letter 06-30-82	DJB			DJB
					<p>a) WJH b) WJH c) WJH d) GJM e) GJM</p> <p>yes yes yes yes yes</p> <p>DJB 11/12/82</p>	
106.	<p><u>Repair Parts</u>: In addition to the existing spare parts available at PBNP, we will provide a spare CCW pump motor and sufficient cable to allow temporary cable runs to be installed between the CCW and RHR pumps and their associated load center.</p>	WE to NRC Letter 06-30-82	DJB			DJB
					<p>DJB 14/12/82</p>	

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107.	<u>Fire Zone 10 (Unit 1 Containment SE Sector, El. 21')</u> : The redundant pressurizer pressure and level instruments conduit appeared to have a minimum horizontal separation of 16'. We committed to check this during the fall of 1983 outage. If not in compliance with Appendix R, we committed to protect one division of conduit with radiant energy shield for a sufficient length to achieve minimum separation.	WE to NRC Letter 04-28-83 <i>DJB 19 yes</i>	DJB			DJB
108.	<u>Fire Area 5 - AFW Pump Room</u> : We will relocate one division of cables for each unit's CVCS charging pump power and local control cables to provide for a separation distance of 29' and 27'. The relocated cables will be IEEE-383 qualified and rerouted in conduit throughout. We also will wrap the entire length of conduit using a material such as a double wrap of 3M flexible fire barrier material. We will also provide an additional fire detection system using rate compensating thermal detectors in order to provide redundant actuation for the Halon system.	WE to NRC Letter 04-28-83 <i>DJB 9, 10 yes</i> <i>DJB 23 yes</i> <i>ideal sensor detectors.</i>	DJB			DJB
109.	<u>Fire Area 6 (Switchgear Room):*</u> The independent halon suppression system for A05 and A06 for each unit will be activated by smoke detectors inside the cabinet. The following guideline will be used for cable tray protection:  a) All exposed trays less than 14' above the floor will be protected b) Tray protection will extend a minimum of 12" inside the perimeter of switchgear cabinets c) The face of vertical riser trays exposed to the aisles will be protected d) Trays containing service water pump cables will be boxed into the height of the adjoining horizontal tray barriers e) We will wrap the conduits containing 4 KV power feeds between the diesel generators and associated switchgear using a material such as a double wrap of 3M flexible fire barrier material	WE to NRC Letter 04-28-83 <i>DJB yes</i> <i>DJB 24, 31 yes</i> <i>a-e superseded by alternate shutdown</i>	DJB			DJB

\* Subsequent to this we stated that the Halon system would be enlarged to cover all cabinet sections of A05 and A06 for each unit. The Halon will be discharged into each cabinet and will be actuated by individual smoke detectors in each cabinet. WE to NRC Letter 05-31-83.

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110.	<u>Fire Area 8 (Cable Spreading Room):</u> We will provide emergency power cross-tie capability so that one charging pump for each unit will be available.	WE to NRC Letters 04-28-83 & 07-20-83	DJB			DJB
111.	<u>Fire Zone 1 (Unit 1 MCC Room):</u> We will relocate the Division B charging pump power and control cables and local control panel in a manner which will provide greater than 30' horizontal separation between redundant cables. We will install a partial zone automatic fire suppression system to provide coverage for one train of redundant cables and intervening combustibles. The system will include specific doorway coverage to reduce the potential for fire propagation from an individual charging pump room. The coverage will be provided for the open archways to fire zone 2 on the north and to the HVAC room on the south, as well as over the doorways to the charging pump cubicles. Also, fire stops will be installed in cable trays routed east-west, which constitute intervening combustibles between redundant charging pump cables.	WE to NRC Letters 04-28-83 & 07-20-83	DJB			DJB
112.	<u>Fire Zone 2 (SI and CS Pump Room):</u> We will relocate Division B charging pump power and control cable in a manner which will provide greater than 30' horizontal separation between redundant cables. The existing automatic suppression system will be modified to include specific coverage of open archways to fire zone 3 on the north and to fire zone 1 to the south. The system will also be expanded to the west to assure that one division of charging pump cables and intervening trays are protected.	WE to NRC Letters 04-28-83 & 07-20-83	DJB			DJB

MR 84-083  
yes  
DJB 21 yrs

DJB  
MR 84-083  
yes

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113.	<u>Fire Zone 3 (CCW Pump Room):</u> We will relocate charging pump power and control cables similar to that in fire zones 1 and 2. Fire stops will be installed in Division B cable trays for Unit 1 and Division A for Unit 2 in order to maintain the necessary separation. The section of tray FV-08 and conduits containing Unit 2, Division B charging pump cables, which are located between the proposed fire stop and fire zone 3 walls, will be enclosed with 1-hour rated material.	WE to NRC Letters 04-28-83 & 07-20-83	DJB			DJB
114.	<u>Fire Zone 4 (Unit 2 MCC):</u> a) We will relocate Division A, Unit 2 charging pump power and control cables to provide greater than 25' of horizontal separation b) We will install a partial zone automatic fire suppression system to provide coverage for one train of redundant cables and the intervening combustibles. The system will include special doorway coverage of the open archways to fire zone 3 on the south, as well as coverage over the doorways to the charging pump cubicles. c) Fire stops will be installed in cable trays routed east-west which are intervening combustibles between redundant charging cables.	WE to NRC Letters 04-28-83 & 07-20-83	DJB			DJB
115.	<u>Fire Zone 7 (Containment Spray Additive and Monitor Tank Area):</u> We will provide local necessary instrumentation capability for one instrument channel on EL. 8'.	WE to NRC Letter 04-28-83	DJB			DJB
116.	<u>Auxiliary Building Fire Area Boundary:</u> We will install 3-hour fire-rated penetration seals around the primary instrumentation system cables at the EL. 26' floor and unguarded floor openings (piping penetrations) which could present a hazard to redundant instrumentation cables.	WE to NRC Letter 04-28-83	DJB			DJB
117.	<u>Excess Letdown Isolation Valve:</u> We will modify these valve control circuits on each unit so that a minimum of 2 separate shorts in 2 separate sets of cable would be required for spurious actuation.	WE to NRC Letter 04-04-84	DJB			DJB

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118.	<u>AFW Pump Turbine Lube Oil Cooling Water:</u> The AFW pump turbine lube oil cooling water will be supplied alternately by the diesel-driven fire pump. This was expected to be completed during Unit 1, fall, 1983, outage and the Unit 2, fall, 1984, outage.	WE to NRC Letter 10-26-83			DONE	
119.	<u>82-17-01A, Fire Pump Testing:</u> We will revise test TS-19 to include the following additional performance data: suction lift, diesel pump shutoff pressure, diesel engine speed, and electric pump motor current draw. Also, an additional section specifying proper analysis techniques will be included.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83			DONE TS-72	GAC
120.	<u>81-17-01C, Fire Signalling System Testing:</u> A review of our fire protection tests will be done to identify informational alarms. Where informational alarms exist and can be expediently tested, these alarms will be verified.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83			DONE  PC 77 ALARM+TRIP TEST	
121.	<u>82-17-01C, Fire Detection System Testing:</u> The smoke detector system in operation is a fixed sensitivity photoelectric detector system which utilizes local zone panels and our indicating panel in the control room. Functional testing of this system will meet appropriate applicable NFPA codes.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83			DONE	
122.	<u>Violation 1, Item a(3), Operability Surveillance Testing/Inspection Procedure for Fire Doors:</u> In response to this finding we prepared a semiannual maintenance procedure (PC-70, Part I) to assure safe shutdown area fire door operability. The procedure documents a check for the defeat of the hold-open feature, verifies proper latch and closer operation, performs a general door hardware inspection, verifies freedom of operation, and verifies any associated computer alarms.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83			DONE  PC 70, 1 70, 2	

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123.	<u>82-17-01D, Test Acceptance Criteria:</u>  1) The surveillance tests will be reviewed and portions of tests which apply to non-technical specification equipment and systems will be placed in non-technical specification tests. This will be accomplished following NRC approval of our proposed revised Fire Protection Technical Specifications, Sections 15.3.14 and 15.4.15.  2) We will review all Fire Protection Technical Specifications test items to assure appropriate criteria or acceptability limits are present where they are required to satisfy the intent of the procedure and are consistent with both our accepted QA program and the PBNP test procedure philosophy. To be completed by April 30, 1983.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83	1-GAC  1-CWK			1-CWK  1-GAC
					2-DONE	
124.	<u>82-17-02, Fire Door Limiting Condition for Operation:</u> In addition to 4 corrective actions which were completed at the time of our response, we committed to installing a modification to utilize the plant security computer to monitor the open/close status of all safe shutdown area fire doors. Most of these doors now have their status monitored, but others required additional hardware and/or security computer software modification. Such changes will be accomplished in a timely manner.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83			DONE	
125.	<u>82-17-02, Facade Stairwell Door:</u> Industrial safety fire doors will have a maintenance inspection performed annually in addition to the current system or priority attention when needed. The inspection will be identified on the operations computerized call-up program and will be completed by August 31, 1983.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83			DONE	

6AC  
Check JJZ

PL 70, 2

NRC FIRE PROTECTION COMMITMENTS

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Target Date</u>	<u>Status</u>	<u>Resp. Ongoing</u>
126.	<p><u>82-17-03, Fire Door Closure Devices:</u> The following steps have been taken to assure that automatic fire doors will close in case of fire:</p> <p>1) All safe shutdown area fire doors have had their fusible links removed, thereby effectively defeating the hold-open feature.</p> <p>2) The semiannual maintenance surveillance procedure will ensure the fusible links are not inadvertently replaced on the safe shutdown area fire doors.</p> <p>3) The annual maintenance surveillance procedure on industrial safety fire doors will identify any unsatisfactory fusible links and facilitate their replacement with appropriately clean fusible links.</p> <p>4) A memorandum will be issued to all plant personnel explaining the problems caused by the use of fusible links which may have foreign material on them.</p>	<p>NRC IR 82-17 11-30-82</p> <p>WE to NRC Letter 01-21-83</p>			DONE	
127.	<p><u>82-17-07A, Contractor Training:</u> In order to ensure contractor performance with respect to plant fire protection matters rather than just a fire emergency, we will prepare a more detailed training program for contractor supervisory personnel. This training will include indoctrination to administrative procedures regarding combustibles control, transient fire loadings, and ignition control permit authorization. The administrative procedures required as base documents for this training and the training itself shall be in place by December 12, 1983.</p>	<p>NRC IR 82-17 11-30-82</p> <p>WE to NRC Letter 01-21-83</p>			DONE	RJB

NRC FIRE PROTECTION COMMITMENTS

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Target Date</u>	<u>Status</u>	<u>Resp. Ongoing</u>
128.	<p><u>82-17-017B, Spill Training:</u> In order to improve our fire protection program we will do the following:</p> <p>1) Consolidate the information from several procedures in a single administrative procedure governing handling of leaks and spills of flammable material.</p> <p>2) Review and modify as necessary EOP-12A to ensure it is appropriate for conditions presently existing at PBNP.</p> <p>3) Train and periodically retrain all fire brigade members, plant supervisory personnel, and contractor supervisory personnel on the procedure governing the handling of flammable materials leaks and spills.</p> <p>4) Document the training given on the procedure governing the handling of flammable materials leaks and spills. These will be completed by 12-31-83.</p>	<p>NRC IR 82-17 11-30-82</p> <p>WE to NRC Letter 01-23-83</p>			DONE	
					<p>PBNP 4.12.47-OIL SPILL CONTROL STANDING ORDER AOP 12 A OIL + NON RAD HAZ MAT SPILL PBNP 3.4.9 LEAKS + SPILLS OF FLAM. MATERIALS WHO DOES + WHAT TRAINING</p> <p>TRAINING</p>	
129.	<p><u>82-17-07C., Combustible Control</u> <u>Tours:</u> By 04-30-83, we committed to do the following:</p> <p>1) The Fire Protection Supervisor and/or Duty Shift Supervisor will periodically conduct and document combustible control tours.</p> <p>2) Plant management will continue to conduct, but not necessarily document, independent combustible control tours.</p> <p>3) An administrative procedure shall be prepared which reflects Items 1 and 2 above.</p>	<p>NRC IR 82-17 11-30-82</p> <p>WE to NRC Letter 01-21-83</p>			<p>DONE PC-71 Parts 1 &amp; 2</p>	GAC



NRC FIRE PROTECTION COMMITMENTS

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Target Date</u>	<u>Status</u>	<u>Resp. Ongoing</u>
130.	<p><u>82-17-07D, Combustible Controls:</u> To ensure that trash combustibles are promptly removed from plant areas and to ensure that transient fire loading is not excessive, with special emphasis on safe shutdown areas, we will do the following:</p> <p>1) Conduct combustible control tours as noted in Item 82-17-07C (previous page).</p> <p>2) Place in operation a transient fire loading evaluation program as described in response to Item 82-17-07E below, with implementation by 06-30-83.</p> <p>3) Provide training on the new fire protection administrative and functional procedures to fire brigade members and plant work group supervisors, with completion by 12-31-83.</p> <p>4) (Item b) Electric heat tracing was being installed on the steam generator instrument lines. The wooden enclosure was to be removed.</p> <p>5) (Item c) When the work at the CCW heat exchanger was complete, we stated that all scaffold material would be removed.</p> <p>6) (Item h) When the work around the AFW pump room was complete, we committed to remove the combustible materials (e.g., scaffold, planks, and ladder).</p>	<p>NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83</p>			<p>DONE</p> <p>① PC 71,1 71,2</p> <p>② PBNP 3.4.8</p> <p>ANNUAL 2</p>	
131.	<p><u>82-17-07E, Work Review for Fire Hazards:</u> To ensure the appropriate review with respect to transient fire loads, we will:</p> <p>1) Initiate a change to the MWR form and governing administrative procedure to include checkoffs indicating the need to consider special fire hazards and precautions.</p> <p>2) Initiate changes to PBNP 3.5 and 3.6.2 explaining the roles of the Superintendents and Construction and I&amp;C in maintenance request transient fire load assessment.</p>	<p>NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83</p>			DONE	

NRC FIRE PROTECTION COMMITMENTS

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Target Date</u>	<u>Status</u>	<u>Resp. Ongoing</u>
131.	3) Initiate a change to PBNP 3.31 clarifying the FPS's role in MR transient fire load assessment.					
cont	4) Train appropriate personnel on these changes by 09-30-83.					
	(Items 1, 2, and 3 were to be done by 03-31-83.)					
132.	<u>87-17-07E, Modifications Review for Fire Hazards:</u> In order to ensure modification work is properly evaluated with respect to transient fire loads, we will:	NRC IR 82-17 11-30-82			DONE	
	1) Use transient fire load procedures, combustibles control procedures, ignition control procedures, and other administrative fire procedures to ensure modification work is being properly evaluated, monitored, and performed with respect to fire protection.	WE to NRC Letter 01-21-83				
	2) Train work group supervisors and WE liaison personnel on the administrative procedures referred to above (by 10-30-83).					
133.	<u>82-17-07F, Hot Work Authorization:</u> Supervisory personnel who have received appropriate fire protection training and have been approved by the FPS may authorize the issuance of an ignition control permit prior to commencement of work. The appropriate FP training referred to above will be:	NRC IR 82-17 11-30-82	RJB			RJB
	1) Completion of the contractor supervisory personnel training referred to in 82-17-07A.	WE to NRC Letter 01-21-83				
	2) Completion of training regarding general and plant specific basic fire prevention and extinguishment.					

> GET

Initial GET covered  
outstanding items  
for continuing GET

NRC FIRE PROTECTION COMMITMENTS

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Target Date</u>	<u>Status</u>	<u>Resp. Ongoing</u>
134.	<u>82-17-07G, Fire Fighting Strategies:</u> We will prepare specific fire fighting strategies (FEP's) for plant safe shutdown areas which do not have FEP's. In addition, existing FEP's will be reviewed and updated if necessary. We will complete these actions by 06-30-84. All fire brigade members will receive training on new/updated FEP's when they become available.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83			DONE	
135.	<u>82-17-07H, Valve Position Control:</u> TS-23 was reviewed, and modified as required to include a verification that red locks are installed on all critical valves in the fire protection system.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83			DONE TS-73 PC-73 Part 4	GAC
136.	<u>82-17-07I &amp; J, Drills and Training:</u> We will do the following:  1) Adjust the fire protection calendar to coincide with the calendar year (already complete).  2) Prepare a computer program to tabulate and review individual and crew fire training records. The system will record training, drills, and fire brigade meeting attendance for individual brigade members, compare it with requirements and uniquely identify incomplete or tardy items (complete).  3) Computerize fire brigade records and requirements. This will encompass drills with the Two Creeks Fire Department and will be complete by 08-31-83.	NRC IR-82-17 11-30-82  WE to NRC Letter 01-21-83			DONE	
137.	<u>82-17-08, Quality Assurance Audits:</u>  1) Future annual audits will be conducted on a joint basis by QAD and SFPO.  2) The QA auditor will be a qualified lead auditor. The SFPO will be familiar with technical requirements of the fire protection program and meet the requirements of membership for the Society of Fire Protection Engineers.  The Triennial audit by an outside consultant accompanied by the SFPO and QAD representative will verify this approach.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83			DONE	

INTERVAL  
CORRESPONDENCE

NEPB-85-584

To: J. J. Zach

Attention: G. J. Maxfield/G. A. Casadonte

FROM: S. G. Cartwright

DATE: March 18, 1986

SUBJECT: NRC FIRE PROTECTION COMMITMENTSCOPY TO: D. J. Bell, M. S. Kaminski/P. W. Glessner, C. W. Krause/D. D. Schoon,  
NE File PT5.12

We have completed our review of the NRC Fire Protection Commitments listing transmitted by your memo (PBPB 85-263) dated September 18, 1985. Below is a status of all the items which we have prime responsibility for resolution of, or have knowledge of in general. We would like to point out that a number of the items on the list were and are not truly commitments to the NRC but rather proposals to the NRC in attempts to resolve open issues from Branch Technical Position APCSB 9.5-1 and Appendix R. Some of these items were rejected by the NRC and therefore implementation was not required. Further, a number have been modified or superseded by subsequent proposals or exemption requests. These will be identified accordingly below.

Item 4

This item is complete. The new door was added by Modification Request M-545 completed on 4/01/80. The door seal was completed 9/1/79 by Modification Request M-589.

Item 14

The statements are true with the understanding that "in accordance with" means to the guidelines and intent of NFPA 24. The FSAR has been revised to indicate this interpretation.

Item 40

This original proposal was rejected by the NRC. WE superseded this proposal by an exemption request on the circulating water pumphouse described in the Response to 10 CFR 50 Appendix R "Alternate Shutdown Capability" report submitted to the NRC 10/26/83. No action is required on this item.

Item 41

This NRC recommendation is not compatible with the PBNP pumphouse configuration. This proposal was also superseded by our 10/26/83 exemption request.

#### Item 42

The wet-pipe automatic sprinkler system was completed 8/1/82 by Modification Request M-605. Detectors were completed 7/1/82 by Modification Request E-255. The barrier wall was completed 3/1/82 by Modification Request 82-11, and later modified by Modification Request 83-71 which was completed 12/12/85.

#### Item 43

All the detectors were installed in accordance with the fire detector location plan approved by both the NRC and Brookhaven. Modification Request E-255 covered the installation of these detectors and installation is complete. Records were returned to PBNP to close this MR in early December, 1985.

#### Item 50

The design density for the diesel generator room sprinkler system was not calculated as part of the sprinkler modification. Paul Glessner has performed a hand calculation for this system which verifies that the system will provide the specified coverage.

#### Item 51

This activity covered by Modification Request M-597 is complete. The east wall of the diesel generator rooms is not included in this commitment and will be documented and justified by a technical evaluation.

#### Item 52

This activity was completed by the penetration seal work covered by Modification Request M-597. The cable and conduit that interconnects the redundant safety-related cable trays were identified by Bechtel and did not fall into all areas identified by a-i. All action is complete on this item.

#### Item 55 and 56

The question of deflector type nozzles for pressurized water extinguishers in the control room was addressed by the NRC during the July, 1982 I&E inspection and our response was provided to them in a letter dated January 21, 1983. Deflector type nozzles are not available and are not provided. No further action is required on these items.

#### Item 60

The cable tray penetrations sealing to provide 3-hour resistance was completed 7/1/82 by Modification Request M-597. The SI pump baseplate drains were plugged by Maintenance 3/1/80. In accordance with Item 52, the cable interconnecting redundant safety-related cable tray was not rerouted but was provided with fire stops covered by Modification Request M-597. The suppression system was installed 8/1/82 by Modification Request M-605. Cable protection was initially meant to be by the use of

Kaowool which was rejected by the NRC and was therefore not done. This item is complete.

Item 61

Same actions were taken here as in Item 60. This item is complete.

Item 62

The walls were upgraded 7/1/81 by Modification Request M-597. Fire doors were added 5/1/81 by Modification Request M-622. All action is complete on this item.

Item 63

The hydrogen header was rerouted including the addition of excess flow and manual isolation valves on 4/1/80 by Modification Request M-593. In regard to the other proposals of this item, our 6/30/82 letter to the NRC stated that our analysis of a hydrocarbon fire was potentially more severe than a hydrogen fire. The NRC agreed that the protection provided for the hydrocarbon fire was adequate for the hydrogen fire in their letter to WE dated 4/28/83. No further action is required on this item.

Item 64 and 65

All areas requiring penetration sealing were completed by Modification Request M-597. Seals installed have a 3 hour rating.

Item 66

The control building walls adjacent to the turbine building were upgraded, the tunnel was built to provide a 3 hour fire barrier. Fire doors rated at 3 hours were also installed in the block wall. Existing tunnel to turbine building doors do not have to be fire rated. The barrier separating the service building and auxiliary building was upgraded to a 3 hour barrier. Fire door installation is covered by Item 62.

Item 67

The louvers were replaced by fire dampers 9/1/79 by Modification Request M-613. All activity is complete on this item.

Item 68

Combustible pathway seals were installed in those areas listed in this item by Modification Request M-597. All work was completed by 7/1/81.

Item 72

Kaowool was never approved by the NRC as an acceptable fire retardant material and therefore this proposal was rejected. No further action is required on this item.

#### Item 74

The penetrations between the service building and auxiliary building have been sealed with 3 hour barrier material on 7/1/81 by Modification Request M-597. The existing fire dampers between the service building and the turbine building have not been replaced nor is this required by Appendix R. NE is currently purchasing fire dampers for installation between the service and auxiliary buildings in 1986. (Reference Fire Protection Punchlist Item 7 attached.)

#### Item 75

The fire extinguishers were added 10/1/98. Proposed cable protection for the switchgear room was superseded by our exemption request for the switchgear room contained in our June 30, 1982 submittal (Red Book) and is no longer applicable. No further action is required on this item.

#### Item 76

The tunnel was installed as described. As stated in Item 72, the open cable trays were not wrapped with Kaowool since this was an unacceptable material to the NRC. Additionally the conduit crossovers were not rerouted. This proposal was superseded by an exemption request which was granted by the NRC 7/3/85. Item 108 represents the current commitment for this area.

#### Item 78

Upgraded ventilation dampers were installed 9/1/79 by MR-M-613.

#### Item 80

Kaowool was never accepted by the NRC. This item is no longer required.

#### Item 81

- a) The proposed Marinite boards were never accepted by the NRC as a fire barrier. This proposal was superseded by the Appendix R requirements which WE committed to comply with or request exemption from as necessary, therefore no action is required.
- b) The upgrade of the electrical boxes was completed by a maintenance work request handled by M. Crouch.
- c) This proposal was superseded by the switchgear room exemption request submitted to the NRC by WE on 6/30/82.

#### Item 82

This was a promise in response to Staff Position 32. The Bechtel design of fire stops could not be verified. PBNP seals were torn out and replaced with 3 hour silicon foam seals. No further action is required.

Item 83

This proposed modification was superseded by our decision to install a gaseous Halon suppression system in the cable spreading room.

Item 84

Our proposed cable covering (Kaowool) was rejected by the NRC and therefore we did not install it. Action on this item is no longer required.

Item 85

This item has not been done to date but will be completed by the Appendix R Evaluation. See the Fire Protection Punchlist Items 14 and 15 for the development of necessary procedures.

Item 87

The sprinkler system was installed by Modification Request M-605 on 8/1/82. The remaining proposed modifications were superseded by the 10/26/83 exemption request and subsequent revisions for pumphouse fire area.

Item 88

No action is required on this item. The proposed floor drains were superseded by the commitment to install a Halon suppression system. Electrical boxes in the AFW pump room were upgraded.

Item 93

Manufacturer's information regarding detector tests was submitted to the NRC in the June 30, 1982 (Red Book) Appendix R analysis and with our January 1983 response to the July 1982 I&E inspection. No response has been received from the NRC.

Item 95

The proposed items a-d were rejected by the NRC on 3/22/83. In accordance with an appeal meeting with the NRC, WE agreed to the following. For Item a, the conduits and panels will be relocated in accordance with Modification Request 83-160 (Reference subject list Item 111 and Fire Protection Punchlist Item 9). For Item b, suppression was provided by Modification Request 84-83 for this tray and additionally the charging pump C cable will be relocated away from the PS tray. Items c and d are no longer required due to the cable rerouting. No further action is required on this item.

Item 96

This proposal was rejected by the NRC and automatic suppression was provided by Modification Request M-605. No further action is required on this item.



#### Item 97

The proposals listed in this item were rejected by the NRC. As a result of the 3/22/83 appeal meeting with the NRC the following was agreed to:

- a) The cable trays will be wrapped as described by Modification Request 84-22.
- b) Unit 1 B train cable will be relocated as described by Modification Request 83-160.
- c) Unit 2 A train cable will be relocated as described by Modification Request 83-161.
- d) Not required as a result of the meeting.
- e) Fire stops were installed as part of Modification Request 84-21.

No further action is required on this item. The new commitments identified in a, b, and c appear in the Fire Protection Punchlist as Items 9, 10, and 22 respectively.

#### Item 98

The proposal was rejected by the NRC. As a result of the 3/22/83 appeal meeting with the NRC, WE agreed to relocate A train cable in lieu of proceeding with this item. No further action on this item is required.

#### Item 99

The proposals listed were rejected by the NRC. As a result of the 3/22/83 appeal meeting with the NRC, WE agreed to the following:

- a) Relocation and wrapping of Unit 1 B train a described by Modification Requests M-160 and 84-025, respectively.
- b) Relocation and wrapping of Unit 2 A train as described by Modification Request M-161 and 84-025, respectively.
- c) Installation of redundant fire detection and a Halon suppression system as described by Modification Requests M-821 and M-821 addendum 1, respectively. Installation of these modifications is complete.

Items a and b above are listed on the Fire Protection Punchlist as Items 9, 10, 22 and 23.

#### Item 100

This proposal was rejected by the NRC. Additionally the agreements on the switchgear room made during the 3/22/83 appeal meeting were subsequently rejected by the NRC. Our last exemption request to the NRC on the switchgear room was formally rejected by the NRC on August 21, 1985. Although the switchgear room resolution is still open, we plan to by-pass the switchgear room with dedicated power as listed in the Fire Protection Punchlist as Item 31.

Item 101

This proposal was rejected by the NRC. As a result of the 3/22/83 appeal meeting WE agreed to provide alternate shutdown in accordance with our 10/26/83 submittal. No further action is required on this item.

Item 102

This item was completed by Modification Request M-821.

Item 103

This proposal was rejected by the NRC. As a result of the appeal meeting with the NRC on 3/22/83; WE agreed to the following.

- a) Fire protection barriers was not required for the pressurizer heater cables and therefore could be eliminated.
- b) Conduit 1C57A will be wrapped as described by Modification Request 84-024. This item is included in the Fire Protection Punchlist as Item 19.

Item 104

Same as for Item 103 except conduit 2T426 will be wrapped.

Item 105

This item is still open and shows on the Fire Protection Punchlist as Item 29.

Item 106

The motor is currently on order and scheduled for delivery April, 1986. The cable is currently onsite. This item is on the Fire Protection Punchlist as Item 15.

Item 107

See response to Item 103.

Item 109

This proposal was rejected by the NRC as stated in response to Item 100. No further action is required on this item.

Item 113

This commitment is accurate with the exception that the Division A cable trays do not require fire barriers due to the rerouting of the cables. Work remaining on this item is identified in the Fire Protection Punchlist Items 9, 10, and 22 (Reference response to Item 97 above).

The remaining items (108, 110, 111, 112, 114, 115, 116, and 117) are all planned and have modification requests associated with them. All actions and schedules for completion of those actions have been incorporated into the Fire Protection

Punchlist attached to this memo. This punchlist will be maintained by NE and distributed to the plant such that the status of fire protection items remaining to be completed can be tracked.

We trust that the responses in this memo will assist you in documenting the close out of numerous of the items contained on your list. We request that you review the NE punchlist to ensure that all items still requiring action are identified. Any comments you have should be forwarded to Don Bell.

*Heartwright*

bjm

Attachment

Approved:

*G. D. Frieling*  
G. D. Frieling

Approved:

*R. A. Newton*  
R. A. Newton

MS Kaminski

10.11.9



INTERNAL  
CORRESPONDENCE



NEPB-86-878

To: J. J. Zach

Attn: G. J. Maxfield/G. A. Casadonte

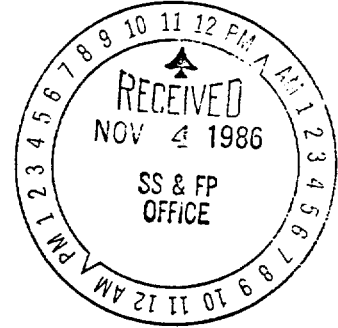
FROM: D. J. Bell

DATE: October 31, 1986

SUBJECT: FIRE HAZARDS ANALYSIS COMMITMENTS

COPY TO: S. G. Cartwright  
M. S. Kaminski  
C. W. Krause/T. G. Malanowski

NE File PT5.12



We have researched the 1977 PBNP Fire Protection Review and noted the attached list of commitments. These are not true commitments but are proposed actions to the NRC in attempts to resolve compliance with BTP 9.5-1 and Appendix A. The items were implemented, requested by the NRC, or superseded by Appendix R requirements. Our evaluation of the status of each item is included on the list.

We request that you review this list to ensure that all items which still require action are identified. This list is supplemental to the NRC Fire Protection Commitment list dated August 19, 1985 for documenting the closeout of fire protection items.

*D J Bell*

cj

Approved: *G. D. Frieling*

G. D. Frieling

Approved: *R. A. Newton*

R. A. Newton

# FIRE HAZARDS ANALYSIS COMMITMENTS

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Initial</u>	<u>Resp. Status</u>	<u>Resp. Ongoing</u>
1	1-7	Administrative procedures exist which require all safety related equipment areas to be free of material storage.	GAC		GAC
2	1-7	Required material storage is restricted to unobstructed plant areas free of other combustibles.	GAC		GAC
3	1-7	All maintenance and repair work requires a maintenance request.			
4	1-8	A portable fire extinguisher is mounted on each welding and cutting unit.			
5	1-8	Cleanliness control is enforced in safety related areas during maintenance activity.			
6	1-11	Equipment test requirements are documented in the PBNP Emergency Plan Section 4.7.			
7	1-11	For impaired fire protection components:  a. High priority maintenance requests are issued  b. Interim additional protection equipment is provided			

FIRE HAZARDS AND IS COMMITMENTS

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Initial</u>	<u>Resp. Status</u>	<u>Resp. Ongoing</u>
8	1-16	A periodic testing program including written procedures has been implemented.			
9	2-8	All areas of the turbine building service building and office are within 20 feet of a fog nozzle.			
10	3-11	Fire detectors will be added to each RHR compartment and the corridor where redundant conduits are in close proximity.		Done - detection is furnished in designated rooms in accordance with fire detector location plan. MR E-255, 7-1-82	
11	3-15	A fire detector will be added to the (-) 5'-3 corridor.		Done - MR E-255, 7-1-82	
12	3-16	Cable tray penetrations will be upgraded to 2 hr. rating in SI/CS pump room.		Done - MR M-597, 7-1-81	
13	3-16	All cables in SI/CS pump room will be covered with fire retardant material.		Deleted. Not accepted by NRC. Superceded by Appendix R requirements. MR 83-160, 5-31-86	
14	3-17	Cables will be rerouted to eliminate combustible pathways between trays.		Not done fire seals installed at both ends of conduit instead. MR M-597, 7-1-81	
15	3-17	Marinite board will be added between trays with less than 2 foot vertical separation.		Not done. Superceded by Appendix R requirements. MR 84-083, 11-1-85	
16	3-18	SI pump base drains will be closed off.		Done, by Maintenance, 3-1-80	

FIRE HAZARDS ANALYSIS COMMITMENTS

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Initial</u>	<u>Resp. Status</u>	<u>Resp. Ongoing</u>
17	3-18	Marinite barriers will be added beneath trays over SI pumps.		Not done. Marinite barriers not accepted by NRC. Superseded by Appendix R requirements. MR 83-160, 5-31-86	
18	3-19	CS pump base drains will be closed off.		Done, by Maintenance, 3-1-80	
19	3-19	Cable trays above CS pump will be covered with fire retardant material.		Not done. Not accepted by NRC. Superseded by Appendix R requirements. MR 84-083, 11-1-85	
20	3-19	Hose reels HS-35 and HS-36 will be added.		Done, MR M-598, 5-1-80	
21	3-19	Fire detectors will be added in pump and congested tray areas.		Done, MR E-255, 7-1-82	
22	3-21	Cable tray penetrations in room 144 will be sealed with 2-hr. seals.		Not done. Not required. Cables are in common fire area on both sides of room. RHR MOV-738 can be operated manually.	
23	3-23	Cable between train A & B trays will be rerouted in room 131.		Not done. Tray separation not enough for Appendix R. Spare RHR pump cables provided for Appendix R.	
24	3-23	Trays in room 131 will be covered with fire retardant material.		Not done. Not accepted by NRC. Spare RHR pump cables provided for Appendix R.	
25	3-24	A fire detector will be added for MCC B33 and B43.		Done, MR E-255, 7-1-82	
26	3-24	Trays in room 142A will be covered with fire retardant material.		Not done. Not accepted by NRC. Spare RHR pump cables provided for Appendix R.	

FIRE HAZARDS AND      IS COMMITMENTS

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Initial</u>	<u>Resp. Status</u>	<u>Resp. Ongoing</u>
27	3-26	Fire detectors will be added in rooms 137 and 140.		Done, MR E-255, 7-1-82	
28	3-27	For cable trays in waste holdup tank room:  a) Penetrations will be provided with 2-hr. seal.  b) Tray will be covered with fire retardant material.		a) Not done at wall to room 144 (see item 22). 3-hr. seal at north wall.  b) Not done. Not accepted by NRC. Not required by Appendix R.	
29	3-28	Cable tray penetrations between rooms 142 and 151 will be provided 2-hr. rated seals.		Done, MR M-597, 7-1-81	
30	3-28	All cable trays in room 142 will be covered with fire retardant material.		Not done. Not accepted by NRC. Superseded by Appendix R requirements. MR 84-021, 022, 4-3-86	
31	3-29	Cables between train A & B trays will be rerouted as necessary.		Not done. Fire seals installed at both ends of conduit. MR M-597, 7-1-81	
32	3-30	Fire detectors will be added to rooms 141, 142, 143.		Done, MR E-255, 7-1-82	
33	3-31	Cable trays in rooms 141 and 143 will be covered with fire retardant material.		Not done. Not accepted by NRC. Not required by Appendix R.	
34	3-33	Cables between train A & B trays will be relocated.		Not done. Fire seals installed at both ends of conduit. MR M-597, 7-1-81	
35	3-34	Cable trays in room 156 will be covered with fire retardant material.		Not done. Not accepted by NRC. Superseded by Appendix R requirements. MR 84-021, 083, 4-3-86	



# FIRE HAZARDS ANALYSIS COMMITMENTS

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Initial</u>	<u>Resp. Status</u>	<u>Resp. Ongoing</u>
36	3-34 3-36	Fire detectors will be added in rooms 152, 153, 154, 156.		Done, MR E-255, 7-1-82	
37	3-39	A heat detector will be added to auxiliary building exhaust charcoal filter.		Done, MR E-255, 7-1-82	
38	3-41	All cable trays in HVAC room 159 will be covered with fire retardant material.		Not done. Not accepted by NRC. Not required by Appendix R.	
39	3-41	Cables between train A & B trays will be relocated.		Not done. Fire seals installed at both ends of conduit. MR M-597, 7-1-81	
40	3-41	Fire detectors will be added in room 159.		Done, MR E-255, 7-1-82	
41	3-49	For spray additive, monitor tank room.  a) All cable trays will be covered with a fire retardant material.  b) Cables between A & B trays will be relocated.  c) Fire detectors will be added.		a) Not done. Not accepted by NRC. Superseded by Appendix R requirement. MR 83-157, 158, 11-30-86 b) Not done. Fire seals installed at both ends of conduit. MR M-597, 7-1-81 c) Done, MR E-255, 7-1-82	
42	3-51	Hose reels will be added to room 187.		Done, MR M-598, 5-1-80	
43	3-54	Hose reel 39 will be added for room 182.		Done, MR M-598, 5-1-80	

FIRE HAZARDS AND IS COMMITMENTS

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Initial</u>	<u>Resp. Status</u>	<u>Resp. Ongoing</u>
44	3-57	In rooms 184 and 185:  a) All cable trays will be covered with fire retardant material.  b) Fire detectors will be added.		a) Not done. Not accepted by NRC. Superseded by Appendix R requirements. MR 83-157, 5-30-86 b) Done, MR E-255, 7-1-82	
45	3-60	Penetrations through El. 46' walls will be provided 2-hr. seals.		Done, MR M-597, 7-1-81	
46	3-62	In the boric acid tank room 237:  a) All trays will be covered with a fire retardant material.  b) Conduit interconnections will be rerouted as required.  c) Fire detectors will be added.		a) Not done. Not accepted by NRC. Superseded by Appendix R requirements. MR 83-157, 158 11-30-86 b) Not done. Fire seals installed at both ends c) Done, MR E-255, 7-1-82	
47	3-66	Fire detectors will be added in rod drive rooms 245 & 246.		Done, MR E-255, 7-1-82	
48	3-67	Fire detectors will be added in heating boiler day tank rooms.		Done, MR E-255, 7-1-82	
49	3-71	Area limiting 2" angle curb will be added under each RCP.		Not done. Oil collection system installed per Appendix R, MR M-803, 12-1-82	
50	3-74	Fire stops will be added to Unit 2 RCP cable penetrations El. 57'.		Done, MR M-597, 7-1-81	
51	3-75	Cable trays in various contain-		Not done. Not accepted by	

# FIRE HAZARDS ANALYSIS COMMITMENTS

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Initial</u>	<u>Resp. Status</u>	<u>Resp. Ongoing</u>
		ment areas will be covered with fire retardant material.		NRC. Superseded by Appendix R requirements. MR 84-23, 24, 12-1-86	
52	3-77	Fire detectors will be added to congested cable tray areas of containment.		Done, MR E-255, 7-1-81	
53	3-79	Conduit between redundant trays will be rerouted as necessary.		Not done. Conduit sealed at both ends. MR-597, 7-1-81	
54	3-88	A heat detector will be added in charcoal filter area at El. 74'.		Not done. Containment detection provided according to fire detector location plan. MR E-255, 7-1-82	
55	3-89	A fire stop will be provided in the cable trench at El. 66'.		Not done. Not practical cable protection. Not required for Appendix R compliance.	
56	3-92	Control room viewing window will be upgraded to 2-hr. rating.		Done, MR M-622, 5-1-81	
57	3-93	Smoke detectors will be added in control board and control room.		Done, MR E-255, 7-1-82	
58	3-95	Cable spreading room walls will be upgraded to 3-hr. rating.		Done, MR M-597, 7-1-81	
59	3-97	Cable between redundant trays will be coated with a fire retardant.		Interposing cables fire sealed at both ends. MR M-597, 7-1-81	
60	3-100	In the cable spreading room: a) A manually operated fixed spray system will be added		a) Not done. Halon system provided. MR M-821, 4-3-86 b),c),e) Not done. Not required for gas system.	

FIRE HAZARDS AND IS COMMITMENTS

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Initial</u>	<u>Resp. Status</u>	<u>Resp. Ongoing</u>
		b) Spray shields will be provided for MCC's		d) Done, MR M-598, 5-1-80	
		c) Curbing will be provided to hold water		f) Done, MR E-255, 7-1-82	
		d) Two hose reels will be added			
		e) Tray covers will be removed			
		f) 8 fire detectors will be provided.			
61	3-103	Three EDG room walls common to plant areas will be upgraded to 3-hr. rating.		Done, MR M-597, 7-1-81	
62	3-103	Conduits for air starting, oil heaters, space heaters and instrumentation will be rerouted or redesigned to prevent damage efforts on both diesels.		Circuits reviewed for SER item 3.1.15 and Appendix R 1983 report. Resolution satisfactory to NRC staff concern achieved. No modification required.	
63	3-106	Switchgear room vent louvers will be upgraded.		Done, MR M-613, 9-1-79	
64	3-106	In the switchgear room:		a),b) Not done. NRC has determined that barriers and wrap are unacceptable. Alternate measures will be implemented.	
		a) Marinite barrier will be added between trays where separation is inadequate.			
		b) Cable trays will be covered with fire retardant material.		c) Not done. Fire seals provided on both ends. MR M-597, 7-1-81	
		c) Cable between redundant trains will be rerouted.		d) Done, MR E-255, 7-1-82	
		d) Additional fire detectors will be added.			

# FIRE HAZARDS ANALYSIS COMMITMENTS

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Initial</u>	<u>Resp. Status</u>	<u>Resp. Ongoing</u>
65	3-108	Battery room vent louver will be upgraded.		Done, MR M-613, 9-1-79	
66	3-109	Fire detectors will be added to battery rooms.		Done, MR E-255, 7-1-82	
67	3-110	In the AFP room: a) All cable trays will be covered with fire retardant material. b) Conduit crossovers between trains will be rerouted. c) Fire detectors will be added.		a) Not done. Wrap satisfactory to Appendix R done. MR 84-025, 4-3-86 b) Not done. Fire seals provided at both ends. MR M-597, 7-1-81 c) Done, MR E-255, 7-1-82	
68	3-112	Fire detectors will be added to HVAC room.		Done, MR E-255, 7-1-82	
69	3-113	Fire detector will be added to room 333.		Done, MR E-255, 7-1-82	
70	3-114	Fire damper in oil storage room will be upgraded.		Done, MR M-613, 9-1-79	
71	3-114	Oil tank curb will be raised to 3'-6".		Done, MR M-689, 7-15-80	
72	3-115	Turbine oil reservoir dike will be 24".		Done, MR M-689, 7-15-80	
73	3-116	Control building walls next to L.O. reservoirs will be upgraded to 3-hr.		Done, MR M-597, 7-1-81	
74	3-116	Fire detectors will be added at L.O. reservoirs.		Done, MR E-255, 7-1-82	
75	3	Fire detectors will be added in selected facade areas.		Done, MR E-255, 7-1-82	

FIRE HAZARDS AND IS COMMITMENTS

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Initial</u>	<u>Resp. Status</u>	<u>Resp. Ongoing</u>
76	3-122	Cable trays above pipeways 1, 2, 3 & 4 will be covered with fire retardant material.		Not done. Not required by Appendix A or R. Protection of cables above pipeway 1 desirable because of exposure to traffic.	
77	3-124	Fire detection will be added to pipeways 1 & 4.		Done, MR E-255, 7-1-82	
78	3-126	Fire detection will be added to pipeways 2 & 3.		Done, MR E-255, 7-1-82	
79	3-127	Cable trays in upper pipeways 2, 3 & 4 will be covered with fire retardant material.		Not done. Not accepted by NRC. Alternate shut-down provided for instrument cables. MR 83-157, 158, 5-31-86 & 12-1-86	
80	3-131	Fire detectors will be added to the gas stripper building.		Not done. Compliance with Appendix R does not involve this building. Adding detection is not planned.	
81	3-133	Fire detection will be provided in the chem lab.		Done, MR E-255, 7-1-82	
82	3-135	Fire detection will be provided in the heating boiler room.		Done, MR E-255, 7-1-82	
83	3-137	Curbing will be provided to contain f.o. leak at diesel fire pump.		Not done. Requested by NRC. Divider wall provided. MR 82-11, 3-1-82	
84	3-137	12 ft. barrier wall will be provided around diesel fire pump.		Not done. Divider wall provided MR 82-11, 3-1-82	
85	3-140	Fire detection will be modified in the diesel fire pump and day tank areas.		Done, MR E-255, 7-1-82	

# FIRE HAZARDS ANALYSIS COMMITMENTS

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Initial</u>	<u>Resp. Status</u>	<u>Resp. Ongoing</u>
86	3-143	Diesel fire pump cable will be rerouted between pumphouse and turbine building.		Not done. Fire seals installed at both ends of crossover duct. MR M-597, 7-1-81	
87	4-23	Spray shields will be provided to shield safety related equipment from suppression.		To be done. MR 86-097	
88	4-35	A smoke purge fan is proposed for control room, computer room and CSR.		Done, MR M-620, 11-1-80	
89	4-41	Diesel room ventilation control power cable will be relocated outside room.		Determined to be unnecessary 3-18-81 letter	
90	4-61	The containment is under strict administrative control during re-fueling:  a) Smoking is not permitted.  b) Introduction of combustibles is minimized.  c) Special safety precautions and controlled welding procedures are implemented.  d) Additional portable fire extinguishers are provided in occupied areas.			
91	4-73	Walls and penetrations of safety related structures that could be affected by a turbine L.O. fire will be upgraded to 3-hr.		Done, MR M-597, 7-1-81	
92	4	Fire detectors will be added in diesel rooms.		Done, MR E-255, 7-1-82	

FIRE HAZARDS AND S COMMITMENTS

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Initial</u>	<u>Resp. Status</u>	<u>Resp. Ongoing</u>
93	5-9	Pumper connection sign will be provided.		Done, MR M-544, 8-1-79	
94	6-2	Smoke vent of switchgear room will be by portable smoke vent unit.		Done by P.O., 10-1-78	
95	6-7	A 3-hr. rated door will be added to CSR.		Done, MR M-545, 4-1-80	
96	6-8	Six Biopack #45 units plus 12 bottles will be provided for breathing.		Done, MR M-574, 9-1-79	
97	6-12	Hydrogen header will be rerouted away from Unit 1 L.O. reservoirs.		Done, MR M-593, 4-1-80	
98	6-13	Alternate fire hose houses will be equipped with a combination nozzle.		Done by P.O., 10-1-78	
99	6-14	CSR floor will be waterproofed.		Done, by Maintenance, 7-1-79	



1 of 3

INTERNAL  
CORRESPONDENCE10.11.10  
M. J. Kaminski  
P. W. Glessner  
PSB 106

TO: J. J. Zach/12010100 FPP, 11100300

FROM: G. A. Casadonte

DATE: February 3, 1987

SUBJECT: NRC FIRE PROTECTION COMMITMENTS

COPY TO: S. G. Cartwright/D. J. Bell  
G. A. Casadonte  
M. S. Kaminski/P. W. GlessnerC. W. Krause/T. G. Malanowski  
E. J. Lipke/R. A. Newton  
G. J. Maxfield

This memo refers to the attached Fire Protection Commitments (FPC) punchlist and Fire Hazards Analysis Commitments (FHAC) list. Together they review and update the status of our NRC proposals and commitments. Some of the items on both lists were proposals that were either rejected by the NRC, modified or superseded by subsequent proposals; exemption requests or NRC requirements. These are identified where applicable.

The FHAC list was developed after receipt in November, 1986, of a similar list compiled by D. J. Bell following research of the 1977 PBNP fire protection review.

This list contains 99 items of which only Item No. 87 is considered open. Modification Request 86-097 covering the installation of the fire water spray shielding for MCC 1/2 B32 will, upon completion, close out this item.

Most of the other items are also included on the FPC list. The FHAC list has a separate column which refers to the applicable FPC punchlist item number(s). Likewise, any applicable FHAC item number is listed under the source column of the FPC punchlist.

The FPC punchlist was generated following the July 18, 1985, D. D. Schoon memo regarding fire protection commitments. The punchlist contains 137 items of which the following five items are considered open.

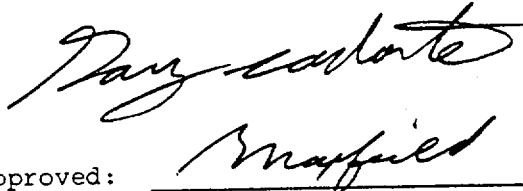
- Item No. 35, Firewatch Training. A needs analysis was submitted on August 5, 1986, and a lesson plan is being developed.
- Item No. 74, Service Building Fire Barrier Penetration Seals. Fire dampers have been installed. However, damper closure under air flow concerns needs to be addressed. Also, additional control building penetrations have been identified and are being corrected.

J. J. Zach  
February 3, 1987  
Page 2

- Item No. 93, Fire Detector Bench Tests. Test information was submitted to the NRC and no response has been received. However, in the July 30, 1984, NRC-WE letter regarding a July 2-3, 1984, NRC inspection of PBNP follow-up action of previous findings, "no items of noncompliance or deviations were identified." This may allow this item to be closed out.
- Item No. 100, Vital Switchgear Exemption Request. Exemption requests were rejected by the NRC, and the switchgear room will be bypassed with dedicated power.
- Item No. 123, Test Acceptance Criteria. We are waiting for our revised Technical Specifications to be approved by the NRC. Our surveillance tests have been reviewed, and non-Technical Specification equipment and systems were placed in non-Technical Specification tests.

Any items on either list that are not resolved by March 31, 1987, will be placed on an "active" punchlist, and the FPC punchlist and FHAC list will be retained in PBNP files as fire protection "historical documents."

Approved:

  
G. J. Maxfield

cst

Attachments

FIRE HAZARDS ANALYSIS COMMITMENTS (FHAC)

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Status</u>	<u>FPC Punchlist Item Number</u>	<u>Resp. Ongoing</u>
1	1-7	Administrative procedures exist which require all safety-related equipment areas to be free of (significant combustible) material storage.	COMPLETE PBNP 3.4.8 Trans. Comb. PBNP 3.4.12, Housekeeping	129 & 130	GAC
2	1-7	Required material storage is restricted to unobstructed plant areas free of other combustibles.	COMPLETE Same as Item No. 1	129 & 130	GAC
3	1-7	All maintenance and repair work requires a maintenance request.	COMPLETE PBNP 3.1.3	131	
4	1-8	A portable fire extinguisher is mounted on each welding and cutting unit.	COMPLETE PC-72, 4	21 & 35	
5	1-8	Cleanliness control is enforced in safety-related areas during maintenance activity.	COMPLETE PBNP 3.4.8, 3.4.12 Same as Item No. 1	129 & 130	
6	1-11	Equipment test requirements are documented in the PBNP Emergency Plan Section 4.7.	COMPLETE Contained in Technical Specifications		
7	1-11	For impaired fire protection components:	COMPLETE		
		a. High priority maintenance requests are issued	PBNP 3.1.3		GJM/WJH
		b. Interim additional protection equipment is provided	Spare extinguishers available Tech Specs followed. Standing Order PBNP 4.12.7		
8	1-16	A periodic testing program including written procedures has been implemented.	COMPLETE	58, 123	

FIRE HAZARDS ANALYSIS COMMITMENTS (FHAC)

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Status</u>	<u>FPC Punchlist Item Number</u>	<u>Resp. Ongoing</u>
9	2-8	All areas of the turbine building, service building and office are within 20 feet of a fog nozzle.	COMPLETE 65 hose reels, 8 hose cabinets, using hard rubber and soft hose	44	
10	3-11	Fire detectors will be added to each RHR compartment and the corridor where redundant conduits are in close proximity.	COMPLETE Detection is furnished in designated rooms in accordance with fire detector location plan. MR E-255, 7-1-82	43	
11	3-15	A fire detector will be added to the (-) 5'-3 corridor.	COMPLETE MR E-255, 7-1-82	43	
12	3-16	Cable tray penetrations will be upgraded to 2-hour rating in SI/CS pump room.	COMPLETE MR M-597, 7-1-81	82	
13	3-16	All cables in SI/CS pump room will be covered with fire retardant material.	Deleted. Not accepted by NRC. Superseded by Appendix R requirements. MR 83-160, 5-31-86	60, 112	
14	3-17	Cables will be rerouted to eliminate combustible pathways between trays.	Not done fire seals installed at both ends of conduit instead. MR M-597, 7-1-81	71, 82	
15	3-17	Marinite board will be added between trays with less than 2-foot vertical separation.	Not done. Superseded by Appendix R requirements. MR 84-083, 11-1-85	81, 112	
16	3-18 6-13	SI pump base drains will be closed off.	COMPLETE By Maintenance	60 & 77	
17	3-18	Marinite barriers will be added beneath trays over SI pumps.	Not done. Marinite barriers not accepted by NRC. Superseded by Appendix R requirements. MR 83-160, 5-31-86	81, 112	

FIRE HAZARDS ANALYSIS COMMITMENTS (FHAC)

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Status</u>	<u>FPC Punchlist Item Number</u>	<u>Resp. Ongoing</u>
18	3-19	CS pump base drains will be closed off.	COMPLETE Maintenance Work Request	77	
19	3-19	Cable trays above CS pump will be covered with fire retardant material.	Not done. Not accepted by NRC. Superseded by Appendix R requirements. MR 84-083, 11-1-85	112	
20	3-19	Hose reels HS-35 and HS-36 will be added.	COMPLETE MR M-598, 5-1-80	44	
21	3-19	Fire detectors will be added in pump and congested tray areas.	COMPLETE MR E-255, 7-1-82	43	
22	3-21	Cable tray penetrations in Room 144 will be sealed with 2-hour seals.	Not Done. Not required. Cable are in common fire area on both sides of room. RHR MOV-738 can be operated manually.		
23	3-23	Cable between train A & B trays will be rerouted in Room 131.	Not done. Tray separation not enough for Appendix R. Spare RHR pump cables provided for Appendix R.	85	
24	3-23	Trays in room 131 will be covered with fire retardant material.	Not done. Not accepted by NRC. Spare RHR pump cables provided for Appendix R.	85	
25	3-24	A fire detector will be added for MCC B33 and B43.	COMPLETE MR E-255, 7-1-82	43	
26	3-24	Trays in Room 142A will be covered with fire retardant material.	Not done. Not accepted by NRC. Spare RHR pump cables provided for Appendix R.	85	

FIRE HAZARDS ANALYSIS COMMITMENTS (FHAC)

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Status</u>	<u>FPC Punchlist Item Number</u>	<u>Resp. Ongoing</u>
27	3-26	Fire detectors will be added in Rooms 137 and 140.	COMPLETE MR E-255, 7-1-82	43	
28	3-27	For cable trays in waste holdup tank room:  a) Penetrations will be provided with 2-hour seal.  b) Tray will be covered with fire retardant material.	a) Not done at wall to Room 144 (See Item 22). 3-hour seal at north wall.  b) Not done. Not accepted by NRC. Not required by Appendix R.		
29	3-28	Cable tray penetrations between Rooms 142 and 151 will be provided 2-hour rated seals.	COMPLETE MR M-597, 7-1-81	71	
30	3-28	All cable trays in Room 142 will be covered with fire retardant material.	Not done. Not accepted by NRC. Superseded by Appendix R requirements. MR 84-021, 022, 4-3-86.	97	
31	3-29	Cables between train A & B trays will be rerouted as necessary.	Not done. Fire seals installed at both ends of conduit. MR M-597, 7-1-81.	71	
32	3-30	Fire detectors will be added to Rooms 141, 142, 143	COMPLETE MR E-255, 7-1-82	43	
33	3-31	Cable trays in Rooms 141 and 143 will be covered with fire retardant material.	Not done. Not accepted by NRC. Not required by Appendix R.		
34	3-33	Cables between train A & B trays will be relocated.	Not done. Fire seals installed at both ends of conduit. MR M-597, 7-1-81.	71	
35	3-34	Cable trays in room 156 will be covered with fire retardant material.	Not done. Not accepted by NRC. Superseded by Appendix R requirements. MR 84-021, 083, 4-3-86		

FIRE HAZARDS ANALYSIS COMMITMENTS (FHAC)

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Status</u>	<u>FPC Punchlist Item Number</u>	<u>Resp. Ongoing</u>
36	3-34 3-36	Fire detectors will be added in Rooms 152, 153, 154, 156	COMPLETE MR E-255, 7-1-82	43	
37	3-39	A heat detector will be added to auxiliary building exhaust charcoal filter.	COMPLETE MR E-255, 7-1-82	43	
38	3-41	All cable trays in HVAC Room 159 will be covered with fire retardant material.	Not done. Not accepted by NRC. Not required by Appendix R		
39	3-41	Cables between train A & B trays will be relocated.	Not done. Fire seals installed at both ends of conduit. MR M-597, 7-1-81.	71	
40	3-41	Fire detectors will be added in Room 159.	COMPLETE MR E-255, 7-1-82	43	
41	3-49	For spray additive, monitor tank room. a) All cable trays will be covered with a fire retardant material. b) Cables between A & B trays will be relocated. c) Fire detectors will be added.	a) Not done. Not accepted by NRC Superseded by Appendix R requirement. MR 83-157, 158, 11-30-86 b) Not done. Fire seals installed at both ends of conduit. MR M-597, 7-1-81 c) COMPLETE MR E-255, 7-1-82	71	
42	3-51	Hose reels will be added to Room 187.	COMPLETE MR M-598, 5-1-80	44	
43	3-54	Hose reel 39 will be added for Room 182.	COMPLETE MR M-598, 5-1-80	44	

FIRE HAZARDS ANALYSIS COMMITMENTS (FHAC)

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Status</u>	<u>FPC Punchlist Item Number</u>	<u>Resp. Ongoing</u>
44	3-57	In rooms 184 and 185:	a) Not done. Not accepted by NRC. Superseded by Appendix R requirements. MR 83-157, 5-30-86		
		a) All cable trays will be covered with fire retardant material.		43	
		b) Fire detectors will be added.	b) COMPLETE MR E-255, 7-1-82		
45	3-60	Penetrations through El. 46' walls will be provided 2-hour seals	COMPLETE MR M-597, 7-1-81	71	
46	3-62	In the boric acid tank Room 237:	a) Not done. Not accepted by NRC. Superseded by Appendix R requirements. MR 83-157, 158, 11-30-86.	71	
		a) All trays will be covered with a fire retardant material.			
		b) Conduit interconnections will be rerouted as required.	b) Not done. Fire seals installed at both ends		
		c) Fire detectors will be added.	c) COMPLETE MR E-255, 7-1-82	43	
47	3-66	Fire detectors will be added in rod drive Rooms 245 & 246.	COMPLETE MR E-255, 7-1-82	43	
48	3-67	Fire detectors will be added in heating boiler day tank rooms.	COMPLETE MR E-255, 7-1-82	43	
49	3-71	Area limiting 2" angle curb will be added under each RCP.	Not done. Oil collection system installed per Appendix R, MR M-803, 12-1-82	86	
50	3-74	Fire stops will be added to Unit 2 RCP cable penetrations El. 57'	COMPLETE MR M-597, 7-1-81	71	
51	3-75	Cable trays in various containment areas will be covered with a fire retardant material.	Not done. Not accepted by the NRC. Superseded by Appendix R requirements. MR 84-23, 24, 12-1-86	103, 104	



FIRE HAZARDS ANALYSIS COMMITMENTS (FHAC)

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Status</u>	<u>FPC Punchlist Item Number</u>	<u>Resp. Ongoing</u>
52	3-77	Fire detectors will be added to congested cable tray areas of containment.	COMPLETE MR E-255, 7-1-81	43	
53	3-79	Conduit between redundant trays will be rerouted as necessary.	COMPLETE Conduit sealed at both ends. MR-597, 7-1-81	71	
54	3-88	A heat detector will be added in charcoal filter area at El. 74'.	Not done. Containment detection provided according to fire detector location plan. MR E-255, 7-1-82	43	
55	3-89	A fire stop will be provided in the cable trench at El. 66'.	Not done. Not practical cable protection. Not required for Appendix R compliance.		
56	3-92	Control room viewing window will be upgraded to 2-hour rating.	COMPLETE MR M-622, 5-1-81		
57	3-93	Smoke detectors will be added in control board and control room	COMPLETE MR E-255, 7-1-82	43	
58	3-95	Cable spreading room walls will be to 3-hour rating.	COMPLETE MR M-597, 7-1-81	66, 71	
59	3-97	Cable between redundant trays will be coated with a fire retardant.	COMPLETE Interposing cables, fire sealed at both ends. MR M-597, 7-1-81	71	
60	3-100	In the cable spreading room:	a) Not done. Halon system provided MR M-821, 4-3-86	102	
		a) A manually operated fixed spray system will be added	b), c), e) Not done. Not required for gas system.	83	
		b) Spray shields will be provided for			
		c) Curbing will be provided to hold water			

FIRE HAZARDS ANALYSIS COMMITMENTS (FHAC)

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		d) Two hose reels will be added	d) COMPLETE MR M-498, 5-1-80	49	
		e) Tray covers will be removed.			
		f) Eight fire detectors will be provided	f) COMPLETE MR E-255, 7-1-82	43	
61	3-103	Three EDG room walls common to plant areas will be upgraded to 3-hour rating.	COMPLETE MR M-597, 7-1-81	71	
62	3-103	Conduits for air starting, oil heaters, space heaters and instrumentation will be rerouted or redesigned to prevent damage efforts on both diesels.	COMPLETE Circuits reviewed for SER Item 3.1.15 and Appendix R 1983 report. Resolution satisfactory to NRC staff concern achieved. No modification required.		
63	3-106	Switchgear room vent louvers will be upgraded.	COMPLETE MR M-613, 9-1-79	67	
64	3-106	In the switchgear room:	a),b) Not done. NRC had determined that barriers and wrap are unacceptable. Alternate measures will be implemented. (Bypass switchgear room)		
		a) Marinite barrier will be added between trays where separation is inadequate.			
		b) Cable trays will be covered with fire retardant material.			
		c) Cable between redundant trains will be rerouted.	c) Not done. Fire seals provided on both ends. MR M-597, 7-1-81	71	
		d) Additional fire detectors will be added	d) COMPLETE MR E-255, 7-1-82	43	

FIRE HAZARDS ANALYSIS COMMITMENTS (FHAC)

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65	3-108	Battery room vent louver will be upgraded.	COMPLETE MR M-613, 9-1-79	67	
66	3-109	Fire detectors will be added to battery rooms.	COMPLETE MR E-255, 7-1-82	43	
67	3-110	In the AFP room:	a) Not done. Wrap satisfactory to Appendix R done. MR 84-025, 4-3-86	108	
		a) All cable trays will be covered with fire retardant material.			
		b) Conduit crossovers between trains will be rerouted.	b) Not done. Fire seals provided at both ends. MR M-597, 7-1-81	71	
		c) Fire detectors will be added.	c) COMPLETE MR E-255, 7-1-82	43, 108	
68	3-112	Fire detectors will be added to HVAC room.	COMPLETE MR E-255, 7-1-82	43	
69	3-113	Fire detector will be added to Room 333.	COMPLETE MR E-255, 7-1-82	43	
70	3-114	Fire damper in oil storage room will be upgraded.	COMPLETE MR M-613, 9-1-79	78	
71	3-114	Oil tank curb will be raised to 3'6".	COMPLETE MR M-689, 7-15-80		
72	3-115	Turbine oil reservoir dike will be 24".	COMPLETE MR M-689, 7-15-80		
73	3-116	Control building walls next to LO reservoirs will be upgraded to 3-hour.	COMPLETE MR M-597, 7-1-81	66, 71	
74	3-116	Fire detectors will be added at LO reservoirs	COMPLETE MR E-255, 7-1-82	43	

FIRE HAZARDS ANALYSIS COMMITMENTS (FHAC)

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Status</u>	<u>FPC Punchlist Item Number</u>	<u>Resp. Ongoing</u>
75	3-122	Fire detectors will be added in selected facade areas	COMPLETE, MR E-255, 7-1-82	43	
76	3-122	Cable trays above pipeways 1, 2, 3 & 4 will be covered with fire retardant materials	Not done. Not required by Appendix A or R. Protection of cables above pipeway 1 desirable because of exposure to traffic.		
77	3-124	Fire detection will be added to pipeways 1 & 4.	COMPLETE MR E-255, 7-1-82	43	
78	3-126	Fire detection will be added to pipeways 2 & 3.	COMPLETE MR E-255, 7-1-82	43	
79	3-127	Cable trays in upper pipeways 2, 3 & 4 will be covered with fire retardant material.	Not done. Not accepted by NRC. Alternate shutdown provided for instrument cables. MR 83-157, 158, 5-31-86 & 12-1-86	72	
80	3-131	Fire detectors will be added to the gas stripper building.	Not done. Compliance with Appendix R does not involve this building. Adding detection is not planned.		
81	3-133	Fire detection will be provided in chem lab.	COMPLETE MR E-255, 7-1-82	43	
82	3-135	Fire detection will be provided in the heating boiler room.	COMPLETE MR E-255, 7-1-82	43	
83	3-137	Curbing will be provided to contain FO leak at diesel fire pump	COMPLETE Requested by NRC. Divider wall provided. MR 82-11, 3-1-82 & 83-071-01	87	
84	3-137	12' barrier wall will be provided around diesel fire pump.	COMPLETE Divider wall provided MR 82-11, 3-1-82	87	

FIRE HAZARDS ANALYSIS COMMITMENTS (FHAC)

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85	3-140	Fire detection will be modified in the diesel fire pump and day tank areas.	COMPLETE MR E-255, 7-1-82	43	
86	3-143	Diesel fire pump cable will be rerouted between pumphouse and turbine building.	COMPLETE Fire seals installed at both ends of crossover duct. MR M-597, 7-1-81	71	
87	4-23	Spray shields will be provided to shield safety-related equipment from suppression.	OPEN To be done. MR 86-097 Approved. Item 38 NE Punchlist		
88	4-35	A smoke purge fan is proposed for control room computer and CSR.	COMPLETE MR M-620, 11-1-80	5, 6, 7	
89	4-41	Diesel room ventilation control power cable will be relocated outside room.	COMPLETE Determined to be unnecessary 3-18-81 letter		
90	4-61	The containment is under strict administrative control during refueling:	COMPLETE	129, 130	
		a) Smoking is not permitted.	a) PBAS 107		
		b) Introduction of combustibles is minimized.	b) PBNP 3.4.8, Transient Combustible Control		
		c) Special safety precautions and controlled welding procedures are implemented.	c) PBNP 3.4.1, Ignition Controls		
		d) Additional portable fire extinguishers are provided in occupied areas.	d) RF 420 & 425, Refueling Callups		

FIRE HAZARDS ANALYSIS COMMITMENTS (FHAC)

<u>Item No.</u>	<u>Page No.</u>	<u>Commitment Description</u>	<u>Status</u>	<u>FPC Punchlist Item Number</u>	<u>Resp. Ongoing</u>
91	4-73	Walls and penetrations of safety-related structures that could be affected by a turbine LO fire will be upgraded to 3-hour.	COMPLETE MR M-597, 7-1-81	66, 71	
92	4-74	Fire detectors will be added in in diesel rooms.	COMPLETE MR E-255, 7-1-82	43	
93	5-9	Pumper connection sign will be provided.	COMPLETE MR M-544, 8-1-79		
94	6-2	Smoke vent of switchgear room will be by portable smoke vent unit.	COMPLETE PO, 10-1-78		
95	6-7	A 3-hour rated door will be added to CSR.	COMPLETE MR M-545, 4-1-80	4	
96	6-8	Six Biopack #45 units plus 12 bottles will be provided for breathing.	COMPLETE MR M-574, 9-1-79	8, 9, 10, 11	
97	6-12	Hydrogen header will be rerouted away from Unit 1 LO reservoirs.	COMPLETE MR M-593, 4-1-80	63	
98	6-13	Alternate fire hose houses will be equipped with a combination nozzle.	COMPLETE PO, 10-1-78	19	
99	6-14	CSR floor will be waterproofed.	COMPLETE Maintenance, 7-1-79	89	

FIRE PROTECTION COMMITMENTS (FPC) PUNCHLIST

Item & No.	Resp. Commitment Description	Source	Initial	Status	Ongoing
1.	<u>Fire Hydrant Inspections:</u> We will develop administrative procedures to visually inspect each required yard fire hydrant to verify that the hydrant barrel is dry and this it is not damaged. This should be performed once per 6 months.	NRC Safety Evaluation 08-02-79		COMPLETE PC-73, Part 2 Monthly	GAC
2.	<u>Emergency Lighting:</u> We agreed to provide 11 portable, battery-powered hand-held lights for emergency use by the fire brigade. They will be controlled through administrative procedures. (They will be placed on inventory checklists for the control room, the fire truck, and the AO station at C-59.)	NRC Safety Evaluation 08-02-79		COMPLETE to PC-75, Part 4	GAC
3.	<u>Communications:</u> Two new FM tranceiver units will be purchased for improved emergency communications. This will increase the number of available units to 5.	WE to NRC Letter 11-01-76		COMPLETE	
4.	<u>CSR Door:</u> A second doorway will be added to the floor elevation of the cable spreading room to facilitate entry for manual fire suppression. A 3-hour rated gas-tight door will be installed between the control room and the CSR.	NRC Safety Evaluation 08-02-79 FHAC List Item No. 95		COMPLETE The new door was added by Mod Req M-545 on 04-01-80. The door seal was completed 09-01-79 by Mod Req M-589	
5.	<u>CSR Exhaust Fans:</u> Exhaust fans for smoke venting to facilitate personnel entry for fire fighting purpose will be added for the cable spreading room.	WE to NRC Letter 11-01-76 FHAC List Item No. 88		COMPLETE Mod Request M-620	

FIRE PROTECTION COMMITMENTS (FPC) PUNCHLIST

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Status</u>	<u>Resp. Ongoing</u>
6.	<u>CSR Smoke Exhaust Fans:</u> The smoke exhaust system should exhaust products of combustion outside the building so as not to inadvertently actuate fire detectors in other plant areas or expose other safety-related areas to smoke damage. The exhaust fan motor cables and controls should be located outside the cable spreading room.	WE to NRC Letter 09-22-78 FHAC List Item No. 88		COMPLETE Mod Request M-620	
7.	<u>CSR Smoke Exhaust System:</u> A manually actuated smoke exhaust system will be installed for the CSR, control room, and computer room and additional portable equipment will be provided.	NRC Saftey Evaluation 08-02-79 FHAC List Item No. 88		COMPLETE Mod Request M-620	
8.	<u>Breathing Apparatus:</u> We did not have a 6-hour reserve supply for SCBA's. WE committed to obtaining additional SCBA equipment to provide increased capacity.	WE to NRC Letter 11-01-76 FHAC List Item No. 96		COMPLETE	
9.	<u>Emergency Breathing Apparatus:</u> We will relocate our EBA's from the control room instrument tunnel to provide for more protective storage facilities.	WE to NRC Letter 01-13-78 FHAC List Item No. 96		COMPLETE	
10.	<u>Emergency Breathing Apparatus:</u> We have 6 EBA's with 2 spare bottles per unit. Each bottle will have a 3/4 hour capacity. These bottles will be recharged using a 6-hour reserve supply of hospital-grade oxygen.	WE to NRC Letter 03-02-78 FHAC List Item No. 96		COMPLETE	



FIRE PROTECTION COMMITMENTS (FPC) PUNCHLIST

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Status</u>	<u>Resp. Ongoing</u>
11.	<u>Emergency Breathing Apparatus:</u> We will provide 10 additional Biopak 60p breathing units with one spare bottle per unit. Each bottle will have a 1-hour capacity. These bottles will be recharged using a cascade oxygen bank which will provide more than 100 60-minute refills.	NRC Safety Evaluation 08-02-79 FHAC List Item No. 96		COMPLETE	
12.	<u>Combustible Materials (Wood):</u> Wood materials for scaffolding, etc., will be fire retardant material.	WE to NRC Letter 01-01-76		COMPLETE PBNP 3.4.8	
13.	<u>Combustible Materials:</u> The existing permanent wood structures within the plant will be replaced with fire retardant structures.	NRC Safety Evaluation 08-02-79		COMPLETE When structures are replaced, fire retardant materials will be used. Mod Request procedure	
14.	<u>Underground Fire Loop:</u> An underground yard fire main loop is installed at PBNP in accordance with NFPA 24. The loop is independent of service or sanitary water requirements. The loop is made of cast iron pipe and fittings in accordance with ANSI A21.11 and is equipped with U.L. approved post indicator sectionalizing valves.	WE to NRC Letter 11-01-76		COMPLETE The statements are true with the understanding that "in accordance with" means to the guidelines and intent of NFPA 24. The FSAR has been revised to indicate this interpretation.	
15.	<u>Fire Pumps:</u> The fire pumps were purchased and installed to meet the requirements of NFPA 20 and suitable alarms are provided in the control room.	WE to NRC Letter 11-01-76		COMPLETE	
16.	<u>Flammable Liquid Storage:</u> Flammable liquids storage is in accordance with NFPA 30.	WE to NRC Letter 11-01-76		COMPLETE	

FIRE PROTECTION COMMITMENTS (FPC) PUNCHLIST

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Status</u>	<u>Resp. Ongoing</u>
17.	<u>Total Flooding Systems:</u> A CO <sub>2</sub> system is installed in the combustion turbine building IAW NFPA 12. A Halon 1301 system is installed in the remotely located record storage vault IAW NFPA 12A.	WE to NRC Letter 11-01-76		COMPLETE	
18.	<u>Fire Detection Systems:</u> Fire detection systems at PBNP are IAW NFPA 72D. All fire protection equipment and devices must be IAW NFPA standards and must be UL approved in order to obtain fire insurance carrier approval.	WE to NRC Letter 11-01-76		COMPLETE	
19.	<u>Outside Fire Protection:</u> Fire hydrant and hose house installation at PBNP are IAW NFPA 24.	WE to NRC Letter 11-01-76 FHAC List Item No. 98		COMPLETE PC-73, Part 2	GAC
20.	<u>Supervised Valves:</u> The position of all automatic opening sprinkler valves is checked for correctness and documented on a monthly basis. This is IAW NFPA 26.	WE to NRC Letter 11-01-76		COMPLETE PC-73, Part 4 TS-73	GAC
21.	<u>Portable Extinguishers:</u> Portable fire extinguishers meeting the guidelines of NFPA 10 and 10A are provided throughout PBNP.	WE to NRC Letter 11-01-76 FHAC List Item No. 4		COMPLETE	
22.	<u>Computer Room:</u> Fire protection for the computer room consists of portable extinguishers IAW, the recommendations of NFPA 75.	WE to NRC Letter 11-01-76		COMPLETE	
23.					
24.	<u>Hazardous Chemical Storage:</u> The limited quantity of hazardous chemicals utilized at PBNP are stored and protected IAW, the recommendations of NFPA 49.	WE to NRC Letter 11-01-76		COMPLETE Per GJM, CAG, & GAC	CAG

FIRE PROTECTION COMMITMENTS (FPC) PUNCHLIST

Item No.	Commitment Description	Source	Resp. Initial	Status	Resp. Ongoing
25.	<u>Welder Awareness of Fires:</u> The NRC recommended that a fire watch be established wherein one person observes the welding being performed as his only function.	Memo to File Dated 01-12-77		COMPLETE Covered by ignition control procedure, PBNP 3.4.1. Fire watch may have other duties, but must be observing hot work activities	
26.	<u>Fire Drill Critiques:</u> The Plant Fire Protection Supervisor will critique all inspector related drills and selected unannounced drills.	WE to NRC Letter 11-07-77		COMPLETE PC-74	GAC
27.	<u>Fire Fighting Procedures:</u> New fire fighting procedures will be developed for the control room, cable spreading room, 4160 V switch-gear room, and the emergency diesel generator rooms. Strategies will be established for fighting fires in all safety-related areas and areas presenting a hazard to safety-related equipment. They will identify combustibles in the area, methods of fighting a fire in the area, access, ventilation and smoke removal, radiation and toxic hazards, and systems or components which should be kept cool during the fire. A program to better coordinate and effectively use the assistance of the offsite fire departments will be developed and include security indoctrination, tours, and training in basic radiation hazards for members of the local fire department.	NRC Safety Evaluation 08-02-79	RR RJB	COMPLETE Security & radiation training to be done every 2 years. Last completed 10-85. Tours conducted as needed or requested by TCVFD	GAC RR RJB

FIRE PROTECTION COMMITMENTS (FPC) PUNCHLIST

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Status</u>	<u>Resp. Ongoing</u>
28.	<u>Fire Brigade Training:</u> The organization, training and equipment of the fire brigade basically comply with NFPA 27-1975. The SFPO will specify additional training and equipment provisions which he considers necessary to provide a suitable fire protection program for PBNP.	WE to NRC Letter 11-07-77		COMPLETE	
29.	<u>Fire Brigade Training:</u> The PBNP training program will be expanded to include the toxic characteristics of products of combustion, the proper method for fighting fires inside buildings and tunnels, and a detailed review of fire fighting procedures and procedure changes.	WE to NRC Letter 11-07-77		COMPLETE	
30.	<u>Fire Brigade Training:</u> The PBNP training program drill requirements will cover all fire fighting procedures during a 2-year training cycle.	WE to NRC Letter 11-07-77		COMPLETE	GAC
31.	<u>Fire Brigade Member Physical Exam:</u> An examination of the respiratory and cardiovascular systems will be performed when an employee is assigned to PBNP.	WE to NRC Letter 02-01-78		COMPLETE	
32.	<u>Fire Brigade Drills:</u> The schedule of drills for the fire brigade training program will be on a frequency of once every 3 months ( $\pm 25\%$ ). Each brigade will drill on a frequency of once yearly on backshifts ( $\pm 25\%$ ).	WE to NRC Letter 02-01-78		COMPLETE	GAC

FIRE PROTECTION COMMITMENTS (FPC) PUNCHLIST

Item No.	Commitment Description	Source	Resp. Initial	Status	Resp. Ongoing
33.	<u>Fire Brigade Training:</u> The fire brigade will be provided with and trained in the use of EBA's for manually fighting fires involving materials which require EBA's.	NRC Safety Evaluation 08-02-79		COMPLETE	
34.	<u>Posting:</u> Other plant areas (in addition to safety-related areas) will be posted as "Ignition Source Control Permit Required" and "No Smoking Allowed." Also, the Fire Brigade Chief or Assistant Chief will authorize the issuance of an ignition control permit.	WE to NRC Letter 11-07-77		COMPLETE PBNP 3.4.1	
35.	<u>Ignition Source Control Permit:</u> The responsible foreman or supervisor should survey the work area and insure that:  (1) All movable combustible materials below and within a 35' radius of the work has been removed;  (2) All immovable combustible material below and within a 35' radius has been protected and fire extinguisher, hose, or other firefighting equipment are provided at the work site; and  (3) A properly trained fire watch should be present for any work where there is a potential for fire that might damage safety-related equipment. A fire watch should be provided where the work is performed above or within a radius of 35' of combustible materials on the same elevation of the work or if combustible materials are below the work area where openings exist. A fire watch should be provided for all ignition source work in the control room, the cable spreading room, the diesel generator rooms, and any other safety-related areas	WE to NRC Letter 11-07-77 FHAC List Item No. 4	GAC	1 & 2 COMPLETE Covered by ICP PBNP 3.4.1	
			RJB GAC	3. OPEN GAC to develop fire watch program Needs analysis submitted to training Other complete and covered by ignition control procedure	RJB GAC

FIRE PROTECTION COMMITMENTS (FPC) PUNCHLIST

Item No.	Commitment Description	Source	Resp. Initial	Status	Resp. Ongoing
35.	that contain significant amounts of cable or flammable liquid. Also, the fire watch should remain on the work site while the work is being performed and for at least thirty minutes after it is a safe working condition. Oxyacetylene equipment must be checked for leaks before being moved to the work area.				
36.	<u>Battery Room Ventilation:</u> WE will provide loss of ventilation annunciation in the control rooms.	WE to NRC Letter 01-13-78		COMPLETE	
37.	<u>Post-Indicating Valves:</u> WE will install 4 new post-indicating valves to allow more remote isolation of the yard fire main. Their locations are: (1) Between FH-21 and the lateral to PIV-131; (2) Between FH-22 and the lateral to PIV-131; (3) Between FH-23 and the lateral to PIV-76; and (4) Between FH-24 and FH-25.	WE to NRC Letter 01-13-78		COMPLETE	
38.	<u>Hydrant Hose House Equipment:</u> WE will add the following equipment to each of the 4 hydrant hose houses: (1) Two 2½" hydrant gate valves installed on the hydrant; (2) Three 50' lengths of 1½" rubber-lined, mildew-proof jacketed fire hose; (3) Two 1½" adjustable shut-off nozzles; (4) One 2½"x1½"x1½" gated wye (siamese) with a 2½" female connection and two 1½" male connections; and (5) One 2½" full stream nozzle with shutoff.	WE to NRC Letter 01-13-78		COMPLETE PC-73, Part 2	

FIRE PROTECTION COMMITMENTS (FPC) PUNCHLIST

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Status</u>	<u>Resp. Ongoing</u>
39.	<u>Fire Detector for Control Room Ventilation System:</u> A fire detection device will be located inside the charcoal filter cabinet for the control room ventilation system.	WE to NRC Letter 01-13-78		COMPLETE See Item No. 43	
40.	<u>Circ Water Pumphouse:</u> WE will install a curb around the fire pump diesel to contain a fuel or lube oil leak. A 12' wall will be erected to separate the diesel-driven fire pump from service water pumps and the other fire pump; WE will relocate the 6 fire detectors in the pumphouse to facilitate more rapid response to a fire in the day tank/pump area.	WE to NRC Letter 01-13-78		COMPLETE This original proposal was rejected by the NRC. WE superseded this proposal by an exemption request on the circulating water pumphouse described in the response to 10 CFR 50, Appendix R, "Alternate Shutdown Capability," report submitted to the NRC 10-26-83. No action is required on this item.	
41.	<u>Circ Water Pumphouse:</u> In order to meet the requirements of III.G of Appendix R we should install two 1½ hour fire-rated barriers separating the service water pumps in the intake structure into 3 sections with a service water pump for each. Also, the diesel fire pump day tank should be relocated to the same side of the fire-rated barriers as the diesel fire pump. Any opening in the 1½ hour barrier should be properly protected, including a curb installed at all door openings to prevent a flammable liquid spill from reaching both sides of a barrier.	NRC to WE Letter 11-24-80		COMPLETE This NRC recommendation is not compatible with the PBNP pumphouse configuration. This proposal was also superseded by our 10-26-83 exemption request.	

FIRE PROTECTION COMMITMENTS (FPC) PUNCHLIST

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Status</u>	<u>Resp. Ongoing</u>
42.	<u>Circ Water Pumphouse:</u> WE will add a wet-pipe automatic sprinkler system over the safety-related pump area and we will provide fire detection and a fire-rated barrier to divide the service water pumps into 2 groups of 3 pumps each and separate one group of 3 pumps from the diesel fire pump.	WE to NRC Letter 06-23-81		COMPLETE The wet-pipe automatic sprinkler system was completed 08-01-82 by Mod Req M-605. Detectors were completed 07-01-82 by Mod Req E-255. The barrier wall was completed 03-01-82 by Mod Req 82-11 and later modified by Mod Req 83-71 which completed 12-12-85.	
43.	<u>Fire Detectors:</u> WE will add detectors in the following locations:	FHAC List Item Nos. 25, 32, 44, 46, 47, 48, 52, 54, 57, 68, 69, 85, 92		COMPLETE All the detectors were installed in accordance with the fire detector location plan approved by both the NRC and Brookhaven. Mod Req E-255 covered the installation of these detectors and installation is complete. Records were returned to PBNP to close this MR in early December, 1985.	
	a) RHR pump cubicles & adjacent corridors	WE to NRC 01-13-78 FHAC List Item No. 10&11			
	b) Boric acid tank area & adjacent electric equipment areas	WE to NRC 01-13-78			
	c) Auxiliary boiler day tank room	WE to NRC 01-13-78 FHAC List Item No. 82			
	d) Solid radwaste processing area	WE to NRC 01-13-78			
	e) Air compressor room	WE to NRC 01-13-78			
	f) Each control room cabinet containing redundant safe-shutdown equipment & circuits will have ionization fire detectors located in the walk-through tunnel	WE to NRC 02-15-78			
	g) Safety injection pump area	WE to NRC 02-15-78 FHAC List Item No. 21			
	h) Charging pump area	WE to NRC 02-15-78 FHAC List Item No. 36			
	i) Auxiliary building exhaust charcoal filter area	WE to NRC 02-15-78 FHAC List Item No. 37			



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<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Status</u>
43	j) All pipeways (in accordance with NFPA-72)	WE to NRC 02-15-78 Item No. 27, 77, 78		
	k) Chemistry laboratory	WE to NRC 02-15-78 FHAC List Item No. 81		
	l) Six products of combustion detectors in the switchgear room	WE to NRC 02-15-78 FHAC List Item No. 64		
	m) Two products of combustion detectors in the battery rooms at the exhaust ventilation duct	WE to NRC 02-15-78 FHAC List Item No. 65		
	n) Four POC detectors for the AFW pump cubicles	WE to NRC 02-15-78 FHAC List Item No. 67		
	o) Five POC detectors in the remote shutdown cubicles	WE to NRC 02-15-78		
	p) In the area of the service building exhaust system charcoal filters	WE to NRC 10-13-80 FHAC List Item No. 40		
	q) In the control building charcoal filter cabinet	WE to NRC 10-13-80		
	r) Additional fire detection system in the AFW pump room which uses rate compensating thermal detectors in order to provide redundant actuation for the Halon system	WE to NRC 04-28-83 FHAC List Item No. 67		
	s) Same as above for the switchgear room	FHAC List Item No. 64, 65		
	t) Same as above for the cable spreading room	FHAC List Item No. 60		
	u) Three fire detectors in each facade	WE to NRC 01-13-78 FHAC List Item No. 75		

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Ongoing

FIRE PROTECTION COMMITMENTS (FPC) PUNCHLIST

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Status</u>	<u>Resp. Ongoing</u>
44.	<u>Fire Hose Stations:</u> The following hose stations will be added and will have 1½" hose:	NRC Safety Evaluation 08-02-79 FHAC List Item No. 9, 20, 42		COMPLETE	
	a) HR-35, chemistry, laundry, day tank room #158			Mod Request, M-598	
	b) HR-36, HR-43, component cooling water pump room #142				
	c) HR-37, cyrogenic decay tank room #168				
	d) HR-38, containment spray addition pump & monitor tank room #187				
	e) HR-39, chemical mixing tank room #185	FHAC List Item No. 43			
	f) HR-40, HR-41, electrical equipment room #319				
	g) HR-42, concentrates holdup tank & transfer pump room #215				
	h) HR-44, auxiliary building room #190				
	i) HR-45, HR-46, outside the boric acid storage tank room				
	j) HR-47, auxiliary building room #251 (NRC Safety Evaluation 08-02-79)				
45.	<u>Fire Hose Stations:</u> Two hose stations with 100' of 1" hose and ball shutoff variable fog nozzles will be placed outside the control room.	NRC Safety Evaluation 08-02-79		COMPLETE	
46.	<u>Fire Hose Nozzles:</u> Selected interior hose stations which could be used in areas of potential shock hazard will be provided with variable fog type nozzles.	WE to NRC Letter 09-26-79		COMPLETE	
47.	<u>Fire Hose Stations:</u> HR-13 and HR-16 will be modified to include a second hose reel provided with 100' of 1" hose and an all fog nozzle with ball shutoff.	WE to NRC Letter 02-15-78		COMPLETE	

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48.	<p><u>Containment Hose Reels:</u> Hose reels in containment will be provided with 100' of 1" hose and a combination fog nozzle with ball shutoff. The water supply will be from the service water system. The following hose reels will be added:</p> <ul style="list-style-type: none"> <li>a) HR-48 on El. 8' to provide coverage under each RCP</li> <li>b) HR-49 on El. 21' to provide coverage for cable trays, the equipment laydown area, and neutilation units</li> <li>c) HR-50, HR-51 on El 46' to provide coverage for cable trays and ventilation units</li> <li>d) HR-52 on El. 66' to provide coverage for each RCP and ventilation units</li> <li>e) HR-53, 54, 55, 56, &amp; 57 in similar locations within Unit 2 containment</li> </ul>	WE to NRC Letter 03-15-78		COMPLETE	
49.	<p><u>Hose Stations:</u> Outside the cable spreading room we will add two 1½" hose stations with low velocity fog nozzles and two 1" hose stations with ball shutoff variable fog nozzles.</p>	WE to NRC Letter 12-29-78		COMPLETE Mod Request M-598	
50.	<p><u>Diesel Generator Rooms:</u> The deluge water suppression system in the diesel generator rooms will be upgraded. We propose to convert these systems to wet-pipe sprinklers providing .3 gpm/ft<sup>3</sup> coverage and annunciation in the control room.</p>	WE to NRC Letter 01-13-78		COMPLETE The design density for the diesel generator room sprinkler system was not calculated as part of the sprinkler modification. Paul Glessner has performed a hand calculation for this system which verifies that the system will provide the specified coverage.	
51.	<p><u>Diesel Generator Room Walls:</u> The diesel generator room walls will be upgraded to a 3-hour fire rating.</p>	WE to NRC Letter 03-02-81	DJB	COMPLETE This activity covered by Mod Req M-597 is complete. The east wall of the diesel generator rooms is not included this commitment and will be documented and justified by a technical	DJB

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52.	<u>Cable Separation:</u> Cable or conduit that interconnects redundant safety-related cable trays will be rerouted or fire stops added to remove the combustible pathway in various portions of the auxiliary and control buildings:	WE to NRC Letter 10-13-80		COMPLETE This activity was completed by the penetration seal work covered by Mod Req M-597. The cable and conduit that interconnects the redundant safety-related cable trays were identified by Bechtel and did not fall into all areas identified by a-i. All action is complete on this item.	
	a) Cable spreading room b) Switchgear room c) Diesel generator rooms d) Auxiliary building - El. 8' e) Auxiliary building - El. 26' f) Auxiliary building - El. 46' g) AFW pump room and local control station h) Containment i) Yard area				
53.	<u>Diesel Generator Air Intake:</u> We initially committed to do various things concerning the diesel generator air intake structure. This was changed to reversing the direction of air intake flow.	WE to NRC Letter 03-02-81		COMPLETE Mod Request M-685	
54.	<u>Diesel Generator Remote Panel:</u> A remote panel will be provided in each diesel generator room to permit startup and loading of the associated diesel generator in the event of fire damage to the diesel generator controls in the control room.	NRC Safety Evaluation 08-02-79		COMPLETE	

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55.	<u>Portable Extinguishers:</u> We will PROVIDE THREE 2½ GALLON PORTABLE pressurized water extinguishers in the switchgear room: (1) Adjacent to south entrance to the room; (2) Between the west entrance to the room and the entranceway to battery room #306; and (3) Adjacent to the entrance to battery room #307. They will have deflector type nozzles.	WE to NRC Letter 01-13-78		COMPLETE The question of deflector type nozzle for pressurized water extinguishers in the control room was addressed by the NRC during the July, 1982 I&E inspection and our response was provided to them in a letter dated January 21, 1983. Deflector type nozzles are not available and are not provided. No further action is required on this item.	
56.	<u>Portable Extinguishers - Control Room:</u> We will provide 2 portable 2½ gallon pressurized water extinguishers inside control. They will have deflector type nozzles.	WE to NRC Letter 01-13-78		COMPLETE Same as above	
57.	<u>Outside Fire Department Fire Fighting Activities:</u> We will coordinate fire fighting activities with outside fire departments as follows:  a) Two Creeks Fire Department (TCFD) members will receive a PBNP security orientation and will receive escort required badges. Orientation will be repeated every 2 years. b) Plant tours will be given for the TCFD. c) Drills will be conducted with the TCFD once per year. d) Training will be provided by PBNP for TCFD members in basic radiation hazards every 2 years.	WE to NRC Letter 02-01-78	GAC	COMPLETE See Item #27	GAC
58.	<u>QA Fire Protection Program:</u> We will apply the present PBNP QA program to fire protection to the extent necessary to meet the requirements of the Regulatory Guide.	WE to NRC Letter 02-01-78 FHAC List Item No. 8		COMPLETE	

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59.	<u>Control Room Cabinet Fire Protection:</u> Each safe shutdown component (identified in Section 3.4.3.1, Page 3-94 of the fire protection review) will be capable of being locally operated independent from the control room. Also, we will modify the discharge nozzle of the CO <sub>2</sub> extinguisher equipment in the control room.	WE to NRC Letter 02-15-78		COMPLETE
60.	<u>Safety Injection (SI) Pump Area:</u> Cable tray penetrations in the SI pump compartment walls will be sealed to provide 2-hour fire resistance. The SI pump baseplate drains will be shut to confine pump lube oil leakage to the baseplate area. Cable interconnecting redundant safety-related cable trays will be rerouted. We will add an automatically actuated fixed water suppression system in this area. The suppression system individual nozzles will be oriented to minimize water spray to pumps/motors unaffected by the posulated fire. Cabling in this area will also be protected.	WE to NRC Letter 02-15-78 FHAC List Item No. 13, 16	DJB	COMPLETE The cable tray penetrations sealing to provide 3-hour resistance was completed 7/1/82 by Mod Req M-597. The SI pump baseplate drains were plugged by Maintenance 3/1/80. In accordance with Item 52, the cable interconnecting redundant safety-related cable tray was not rerouted but was provided with fire stops covered by Mod Req M-597. The suppression system was installed 8/1/82 by Mod Req M-605. Cable protection was initially meant to be by the use of Kaowool which was rejected by the NRC and was therefore not done.  Also refer to item #112
61.	<u>Component Cooling Water (CCW) Pump Area:</u> Cable that interconnects redundant safety-related cable trays will be rerouted. Also, the CCW pump area will be provided with an automatically actuated fixed water suppression system. Cabling in this area will also be protected.	WE to NRC Letter 02-15-78	DJB	COMPLETE Same as above

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62.	<u>Auxiliary Building Charcoal Filter Area:</u> The north walls of room 160 and 161 will be upgraded to a 2-hour fire rating and the access doors will be upgraded to 1½-hour fire rating consistent with the fire-rating of walls.	WE to NRC Letter 02-15-78	DJB	COMPLETE The walls were upgraded 7/1/81 by Mod Req M-597. Fire doors were added 5/1/81 by Mod Req M-622.	
63.	<u>Hydrogen Hazard Fire Protection:</u> We will install excess flow and manual isolation valves in the hydrogen supply header at its point of entry into the auxiliary building. Fire barriers will be installed between safety-related and safe-shutdown equipment or cable, and the hydrogen supply header where required to provide suitable separation. The ½" noble gas removal system regeneration piping would be used only during regeneration of low-temperature absorber beds. This piping is evacuated and isolated and will be administratively tagged in the isolated condition. Also, the hydrogen header will be rerouted in the turbine building to avoid passing over the turbine lube oil reservoir.	WE to NRC Letter 02-15-78  NRC Safety Evaluation 08-02-79 FHAC List Item No. 97	DJB	COMPLETE The hydrogen header was rerouted including the addition of excess flow and manual isolation valves on 4/1/80 by Mod Req M-593. In regard to the other proposals of this item, our 6/30/82 letter to the NRC stated that our analysis of a hydrocarbon fire was potentially more severe than a hydrogen fire. The NRC agreed that the protection provided for the hydrocarbon fire was adequate for the hydrogen fire in their letter to WE dated 4/28/83.	
64.	<u>Penetration Seals:</u> Penetration seals will be upgraded to a 2-hour rating:  a) Containment spray and SI pump room b) CVCS seal water filter and heat exchanger room	WE to NRC Letter 03-15-78		COMPLETE All areas requiring penetration sealing were completed by Mod Req M-597. Seals installed have a 3 hour rating.	

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65.	<u>Cable Penetration Seals:</u> All safety-related fire barrier cable penetration seals will be upgraded to a 3-hour fire rating.	WE to NRC Letter 12-29-78	DJB	COMPLETE All areas requiring penetration sealing were completed by Mod Req M-597. Seals installed have a 3 hour rating.	
66.	<u>Fire Barriers:</u> The control building walls adjacent to the turbine building will be upgraded to a 3-hour rating. Included are the AFW pump room, switchgear room, and diesel generator room. The cable spreading room and diesel generator room walls will be upgraded to a 3-hour fire rating. The barrier, including penetration seals, separating the service building and general auxiliary building will be upgraded to a 2-hour fire rating and the unrated doors will be replaced with 1½-hour fire-rated doors.	NRC Safety Evaluation 08-02-79 FHAC List Item No. 58, 73, 91	DJB	COMPLETE Mod Request M-597 The control building walls adjacent to the turbine building were upgraded, the tunnel was built to provide a 3-hour fire barrier. Fire doors rated at 3 hours were also installed in the block wall. Existing tunnel to turbine building doors do not have to be fire rated. The barrier separating the service building and auxiliary building was upgraded to a 3 hour barrier. Fire door installation is covered by Item 62.  Mod Request M-413	
67.	<u>Switchgear Room Ventilation:</u> The louvered ventilation penetration seals will be upgraded to provide a 2-hour fire-rated seal.	WE to NRC Letter 09-20-79 FHAC List Item No. 63		COMPLETE The louvers were replaced by fire dampers 9/1/79 by Mod Req M-613.	
68.	<u>Auxiliary Building Cable Tray Penetration Seals:</u> Cable tray penetration seals will be added at penetrations through auxiliary building cubicle walls to provide a 3-hour rated seal where fire could affect safety-related cables or equipment in another area. Also, specifically, the cable tray penetration seals between the boric acid tank area and the adjacent electrical equipment areas will be upgraded to 3-hours. Also, the penetration seals to the containment penetration area will be upgraded to 2-hour seals.	NRC Safety Evaluation 08-02-79		COMPLETE Combustible pathway seals were installed in those areas listed in this item by Mod Req M-597. Completed 07-01-81.	



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69.	<u>Containment Building Fire Stops:</u> Fire stops will be added to certain cable trays that pass through containment building compartment walls to minimize combustible pathways between compartments.	NRC Safety Evaluation 08-02-79	DJB	COMPLETE Mod Request M-597	
70.	<u>Service Building Penetration Seals:</u> The penetrations in barriers between the service building and safety-related areas will be sealed, or the seals upgraded, to provide 3-hour fire resistance.	NRC Safety Evaluation 08-02-79	DJB	COMPLETE Mod Request M-597	
71.	<u>Cable Tray Penetration Seal Qualification:</u> Those seals in all safety-related fire barriers will be upgraded to provide 3-hour fire resistance. The fire rating for those seals will be established by testing in accordance with ASTM E-119 standards. We will provide the test reports and data. (NRC letter dated 11-24-80 requires the seals to be qualified by an independent testing laboratory.)	WE to NRC Letter 10-13-80 FHAC List Item No. 14, 29, 31, 34, 39, 41, 45, 46, 50, 53, 58, 59, 61, 64, 67, 73, 86, 91	DJB	COMPLETE Mod Request M-597 Qualification Letters 10-13-80 & 01-22-81	
72.	<u>Pipeway Fire Protection:</u> We will cover all cable trays in upper pipeways 2 & 3 and pipeway 4 with a fire retardant material to limit fire severity and to avoid fire propagation in the auxiliary building. Exposed cables will be covered with a Kaowool blanket.	WE to NRC Letter 02-15-78 FHAC List Item No. 79		COMPLETE Kaowool was never approved by the NRC as an acceptable fire retardant material and therefore this proposal was rejected. No further action is required on this item.	

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73.	<u>Combustible Liquid Curbs:</u> Oil drums will not be stored within the dike. The lube oil storage tank room will have a curb of 3'-10". The lube oil reservoir area will have a curb height of 2'-8". The curbs will be high enough to contain the full tank contents with an appropriate margin for fire suppression water.	WE to NRC Letter 02-15-78			
74.	<u>Service Building Fire Barrier Penetration Seals:</u> 1. Existing 1½-hour rated dampers in 2-hour rated walls will be replaced with dampers consistent with the walls.  2. All penetrations in the fire barrier between the service building and auxiliary building will be sealed to provide 2-hour fire-rated resistance at the penetration.	WE to NRC Letter 02-15-78	DJB	1. OPEN NE is currently purchasing fire dampers for installation between the service and auxiliary buildings in 1986. Reference NE Fire Protection Punchlist Item 7.) Mod Requests 83-151, 86-015 and 86-127.  2. COMPLETE The penetrations between the service building and auxiliary building have been sealed with 3 hour barrier material on 7/1/81 by Mod Req M-597. The existing fire dampers between the service building and the turbine building have not been replaced nor is this required by Appendix R.	TRB JJR
75.	<u>Switchgear Room Fire Protection:</u> Three 2½ gallon pressurized water fire extinguishers will be added in the switchgear room. Open cable trays will be covered with fire retardent material.	WE to NRC Letter 02-15-78		COMPLETE The fire extinguishers were added 10/1/78. Proposed cable protection for the switchgear room was superseded by our exemption request for the switchgear room contained in our June 30, 1982 submittal (Red Book) and is no longer applicable.	

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76.	<p><u>AFW Pump Room:</u> 1. An 8' high security tunnel of 3-hour fire-rated construction will be installed between the remote shutdown cabinet and the AFW pump areas.</p> <p>2. All open cable trays within the room will be covered with a fire retardent material.</p> <p>3. Conduit crossovers will be rerouted as required to provide suitable train separation.</p>	<p>WE to NRC Letter 02-15-78</p>		<p>1. COMPLETE</p> <p>2. COMPLETE As stated in Item 72, the open cable trays were not wrapped with Kaowool since this was an unacceptable material to the NRC.</p> <p>3. COMPLETE Additionally the conduit crossovers were not rerouted. This proposal was superseded by an exemption request which was granted by the NRC 7/3/85. Item 108 represents the current commitment for this area.</p>	
77.	<p><u>Lube Oil Storage Tank Drains:</u> 1. The lube oil storage tank curbed area drain will remain plugged.</p> <p>The plugging of the containment spray and safety injection pump equipment drains will be done by 12-31-78.</p>	<p>WE to NRC Letter 03-02-78 FHAC List Item No. 16,18</p>		<p>COMPLETE</p> <p>1. Lube oil storage tank area is plugged.</p> <p>2. Containment spray oil and seal water areas separated by dikes. SI pump drains plugged.</p>	
78.	<p><u>Upgraded Ventilation Dampers:</u> The installation of upgraded ventilation dampers (for consistency with walls) will be complete by 08-01-79.</p>	<p>WE to NRC Letter 03-02-78 FHAC List Item No. 70</p>		<p>COMPLETE Upgraded ventilation dampers were installed 9/1/79 by Mod Req M-613.</p>	
79.	<p><u>Battery Room Loss of Ventilation Flow Annunciators:</u> They will be completed by 08-01-79.</p>	<p>WE to NRC Letter 03-02-78</p>		<p>COMPLETE</p>	
80.	<p><u>Kaowool Test Report:</u> We will submit to the NRC the final test report on the suitability of Kaowool for use as a fire retardent.</p>	<p>WE to NRC Letter 03-15-78</p>		<p>COMPLETE Kaowool was never accepted by the NRC. This item is no longer required.</p>	

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81.	<u>Auxiliary Building Cable Separation:</u>  a) In addition to the fire protection provision itemized in Section 6.0 of the FHA, Table 31-2 of WE to NRC letter 03-15-78 listed numerous additional locations where Marinite boards will be provided.  b) In the AFW pump area, the enclosures for safety-related electrical boxes in the area will also be upgraded to NEMA-4 to assure that a water hose stream would not degrade proper functioning.  c) In the switchgear room, a conduit for MOV-2890 passing between the pull boxes will be rerouted to remove this combustible pathway.	WE to NRC Letter 03-15-78 FHAC List Item No. 15,17	DJB	COMPLETE  a) The proposed Marinite boards were never accepted by the NRC as a fire barrier. This proposal was superseded by the Appendix R requirements which WE committed to comply with or request exemption from as necessary, therefore no action is required.  b) The upgrade of the electrical boxes was completed by a maintenance work request handled by M. Crouch.  c) This proposal was superseded by the switchgear room exemption request submitted to the NRC by WE on 6/30/82.	DJB
82.	<u>Cable Tray Penetration Fire Stop Tests:</u> We will submit the test reports for the fire stop tests at the end of March 1978.	WE to NRC Letter 03-15-78 FHAC List Item No. 12&14		COMPLETE This was a promise in response to Staff Position 32. The Bechtel design of fire stops could not be verified. PBNP seals were torn out and replaced with 3 hour silicon foam seals. Mod Request M-597.	
83.	<u>CSR Spray Shields:</u> WE will install spray shields on top of the 480 V switchgear cabinets. Also, spray deflectors will be provided on front and rear panel openings in accordance with manufacturer's instructions.	WE to NRC Letter 12-29-78 FHAC List Item No. 60		COMPLETE This proposed modification was superseded by our decision to install a gaseous Halon suppression system in the cable spreading room.	

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84.	<u>Cable Coverings:</u> We will reference available test data in support of the basis for the cable coverings and barrier materials we will use. Also, barriers between crossing cable trays will be installed with a 6" minimum extension beyond the sides of both trays.	WE to NRC Letter 09-22-78  WE to NRC Letter 12-29-78		COMPLETE Our proposed cable covering (Kaowool) was rejected by the NRC and therefore we did not install it.	
85.	<u>Cold Shutdown:</u> We will verify by analysis that cold shutdown can be attained within 72 hours of a fire in the auxiliary building, containments, facades, pipeways, AFW pump area, and switchgear room independent of cable damage from a fire in other areas.	WE to NRC Letter 09-22-78 FHAC List Item No. 23, 24, 26		COMPLETE  Dedicated spare RHR, CCW pump cables and spare CCW pump motor at PBNP. Emergency repair procedures are in place. NE Fire Protection Punch List Item No. 14	
86.	<u>RCP Oil Collection System:</u> The existing deflector cones will be fitted with curbs and drain piping installed in a manner which will allow oil leakage to be collected in four 55-gallon drums located on El. 10' of containment. The drums will be connected in parallel, will have closed tops, and will be provided with vents.	WE to NRC 09-22-78 FHAC List Item No. 49		COMPLETE Mod Request M-803, 804	
87.	<u>Pumphouse Fire Protection:</u> 1. We will install a sprinkler system for the diesel fire pump in place of the previously proposed barrier wall.	WE to NRC Letter 12-29-78		1. COMPLETE The sprinkler system was installed by Mod Req M-605 on 8/1/82.	

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87. cont.	2. The curb to be installed around the fire pump will be designed to a height adequate to contain a 10-minute discharge of fire suppression water, plus the contents of the diesel fuel oil tank. (This was subsequently changed to a small curbed area with a floor drain to the circ water pump pit area.) The barrier wall we previously committed to, will not be installed.	WE to NRC Letter 09-22-78 FHAC List Item No. 83,84		2. COMPLETE The remaining proposed modifications were superseded by the approved 10-26-83 exemption request and subsequent revisions for pumphouse fire area. MR 82-011 and MR 83-071-01
	3. We will also provide sprinkler protection for the service water pumps.	NRC to WE 12-31-86		3. COMPLETE The sprinkler system was installed by Mod Req M-605 on 8-1-83.
88.	<u>Water Damage Protection:</u> Floor drains will be added in the cable spreading room. Enclosures for safety-related electrical boxes in the AFW pump area will be upgraded to assure that a water hose stream will not degrade proper functioning. (We subsequently cancelled the floor drain modification because we would use gaseous suppression instead of water.	NRC Safety Evaluation 08-02-78		COMPLETE No action is required on this item. The proposed floor drains were superseded by the commitment to install a Halon suppression system. Electrical boxes in the AFW pump room were upgraded.
89.	<u>Waterproofing:</u> The cable spreading room and nonsafety-related electrical equipment room floors will have an application of water sealant to prevent any water seepage to the rooms below. (This was subsequently cancelled.)	NRC Safety Evaluation 08-02-79 FHAC List Item No. 99		COMPLETE
90.	<u>Water Supply:</u> The fire department siamese pumper connection at the lakeside pumphouse will be provided with a sign to indicate the connection point.	NRC Safety Evaluation 08-02-79		COMPLETE

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91.	<u>Fire Hydrant Inspections:</u> We committed to develop administrative procedures to implement fire hydrant inspections on a periodic basis. We stated that we would continue annual inspections but that the monthly fire protection equipment surveillance procedure will be expanded to include fire hydrant inspections for accessibility and condition.	WE to NRC Letter 03-02-81		COMPLETE PC-73, Part 2	GAC
92.	<u>Control Room Light Fixtures:</u> We will verify that the control room florescent light fixture diffusers have a flame spread rating of 25 or less, replace the diffusers with materials having the appropriate rating, or provide an evaluation of the hazard posed by the existing diffusers.	NRC Safety Evaluation 08-02-79		COMPLETE Metal fixtures installed	
93.	<u>Fire Detectors:</u> We were required to provide the NRC with results of bench tests to verify that the detectors will promptly detect products of combustion from the materials in the areas where detectors are installed.	NRC to WE Letter 03-05-80		OPEN Manufacturer's information regarding detector tests was submitted to the NRC in the June 30, 1982 (Red Book) Appendix R analysis and with our January 1983 response to the July 1982 I&E inspection. No response has been received from the NRC. July 84, NRC-WE Letter	
94.	<u>Fire Brigade Training Frequency:</u> We train on an 2-year cycle, but the NRC wanted an annual cycle. We committed to conduct practice sessions annually.	WE to NRC Letter 03-02-81		COMPLETE	

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95.	<u>Fire Zone 1 Exemption Request (Unit 1 MCC Room):</u> In conjunction with the exemption request, we committed to do the following:	WE to NRC Letter 06-30-82		COMPLETE The proposed items a-d were rejected by NRC on 3/22/83. In accordance with an appeal meeting with the NRC, WE agreed to the following:	DJB
	a) Conduits 1P2C, 1P2C1, and 1N11 will be wrapped with a fire barrier			a) The conduits and panels were relocated in accordance with Mod Req 83-160 (Reference subject list Item 111 and NE Fire Protection Punchlist, Item 9).	
	b) Cable tray PS will have a thermal shield beneath it the length of the tray			b) Suppression was provided by Mod Req 84-83 for this tray and additionally the charging pump C cable was relocated away from the PS tray.	
	c) Cable tray JD will be protected so as not to contribute to the heat load generated by the initial fire			c) No longer required due to the cable rerouting.	
	d) Cable trays PS and JD will have an appropriate fire stop in the tray to prevent fire propagation into the safe-shutdown sections of the tray			d) No longer required due to the cable rerouting.	
96.	<u>Fire Zone 2 (SI and CS Pump Room Exemption Request:</u> In conjunction with the exemption request, cable trays PS and FR of Division B will have a non-combustible thermal shield placed beneath the trays the entire length within the zone.	WE to NRC Letter 06-30-82		COMPLETE This proposal was rejected by the NRC and automatic suppression was provided by Mod Req M-605. No further action is required on this item.	



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97.	<p><u>Fire Zone 3 (CCW Pump Room)</u>  <u>Exemption Request:</u> In conjunction with the exemption request we will do the following:</p> <p>a) All sections of Division B cable trays which could be subject to direct fire plume impingement will have non-combustible thermal shields placed directly beneath them</p> <p>b) All remaining horizontal portions of Division B cable trays will be protected by thermal shields placed directly below the trays</p> <p>c) Division A trays will be provided with appropriate protection so they don't contribute to the intital fire's heat load</p> <p>d) Vertical portions of trays FT and CK will be completely enclosed by a thermal shield</p> <p>e) Trays FV and JK will have a fire stop placed to prevent propagation into safe shutdown sections.</p>	<p>WE to NRC  Letter  06-30-82  FHAC List  Item No. 30</p>		<p>COMPLETE</p> <p>The proposals listed in this item were rejected by the NRC. As a result of the 03-22-83 appeal meeting with the NRC, the following was agreed to. The new commitments identified in a, b, &amp; c appear in the NE fire protection punchlist as Items 9, 10 and 22 respectively.</p> <p>a) COMPLETE.  The cable trays were wrapped as described by Mod Request 84-22.</p> <p>b) COMPLETE  Unit 1 "B" Train cables are relocated as described by Mod Request 83-160.</p> <p>c) COMPLETE  Unit 2 "A" Train power and control cables are relocated as described by Mod Request 83-161.</p> <p>d) Not required as a result of the meeting.</p> <p>e) COMPLETE  Fire stops were installed as part of Mod Request 84-21.</p>	
98.	<p><u>Fire Zone 4 (Unit 2 MCC Room)</u>  <u>Exemption Request:</u> In conjunction with the exemption request, all of the Division B conduit in Zone 4 will be completely covered with an appropriate fire barrier.</p>	<p>WE to NRC  Letter  06-30-82</p>		<p>COMPLETE</p> <p>The proposal was rejected by the NRC. As a result of the 03-22-83 appeal meeting with the NRC, WE agreed to relocate "A" train cable in lieu of proceeding with this item. Completed during 1986 Unit 2 refueling outage. Mod No. 83-161</p>	

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<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Status</u>	<u>Resp. Ongoing</u>
99.	<p><u>Fire Area 5 (AFW Pump Room)</u>  <u>Exemption Request:</u> Along with the exemption request, we will install a single-failure proof automatic Halon suppression system. Also:</p> <p>a) Conduit 1P2C1 will be wrapped with a 1-hour barrier through the entire length of this area</p> <p>b) Cable tray FU will have a impingement barrier beneath it</p> <p>c) Cable tray FT will have a thermal shield beneath it</p>	WE to NRC Letter 06-30-82		<p>COMPLETE</p> <p>The proposals listed were rejected by the NRC. As a result of the 03-22-83 appeal meeting with the NRC, WE agreed to the following. Item (a) and (b) are listed on NE fire protection punch-list as Items 9, 10, 22 and 23.</p> <p>Relocation and wrapping of Unit 1 "B" train as described by Mod Req M-160 and 84-025, respectively.</p> <p>Relocation and wrapping of Unit 2 "A" train as described by Mod Req M-161 and 84-025, respectively.</p> <p>Installation of redundant fire detection and a Halon suppression system as described by Mod Req M-831 and M-821 Addendum 1, respectively. Installation of modifications is complete.</p>	
100.	<p><u>Fire Area 6 (Switchgear Room)</u>  <u>Exemption Request:</u> In conjunction with the exemption request we committed to:</p> <p>a) Install a Halon system</p> <p>b) Install non-combustible thermal shields in cable trays ET and EW in Division A and EK in Division B</p> <p>c) Place thermal shields beneath redundant division in cable trays EC and FV until 12' horizontal separation is achieved</p> <p>d) Completely enclose vertical cable trays EH and GE with a thermal shield protecting all exposed surfaces</p>	WE to NRC Letter 06-30-82		<p>OPEN</p> <p>This proposal was rejected by the NRC. Additionally the agreements on the switchgear room made during the 03-22-83 appeal meeting were subsequently rejected by the NRC. Our last exemption request to the NRC on the switchgear room was formally rejected by the NRC on August 21, 1985. Although the switchgear room resolution is still open, we plan to bypass the switchgear room with dedicated power as listed in the NE fire protection punchlist as Item 31.</p>	

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101.	<u>Fire Zone 7 (Monitor Tank Room) Exemption Request:</u> In addition to the exemption request, we will install radiant energy shields on all exposed surfaces of cable trays FL, CN, CK, and FX.	WE to NRC Letters 06-30-82 & 03-31-82		COMPLETE This proposal was rejected by the NRC. As a result of the 03-22-83 appeal meeting WE agreed to provide alternate shutdown in accordance with our 10-26-83 submittal. No further action is required on this item.	
102.	<u>CSR:</u> We will install a Halon system there.	WE to NRC Letters 06-30-82 & 03-31-82 FHAC List Item No. 60		COMPLETE This item was completed by Mod Req M-821.	
103.	<u>Fire Zone 10 (Unit 1 Containment Southeast Quadrant):</u> In conjunction with the exemption request we committed to install the following:  a) Conduit wrap on conduits 1C57A or 1C57B to achieve 20' separation  b) Plume impingement, non-combustible thermal shields outside the pressurizer cubicle beneath the common tray (VG-01 to VG-06, VA-03-VA-07, VB-01, and VB-02) to the riser tray (WY-01) at which point adequate separation can be achieved by the placement of a non-combustible radiant energy shield between trays  c) Fire stops in cable tray section WX-02 and WY-02 at the ceiling and in tray section VA-03 at the connection to tray section VA-02  d) Radiant energy shields on WX-02 and WY-02 to the ceiling	WE to NRC Letters 06-30-82 & 09-29-82 FHAC List Item No. 51		COMPLETE This proposal was rejected by the NRC. As a result of the appeal meeting with the NRC on 03-22-83; WE agreed to the following:  Conduit 1C57A was wrapped as described by Mod Req 84-024. This item is included in the NE fire protection punchlist as Item 19.  Fire protection barriers were not required for the pressurizer heater cables and therefore could be eliminated.	

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104.	<p><u>Fire Zone 11 (Unit 2 Containment SE Quadrant):</u> In conjunction with the exemption request, we will provide the following:</p> <ul style="list-style-type: none"> <li>a) Non-combustible radiant energy shields outside the pressurizer cubicle between the trays until adequate separation is achieved (VM-01 and VM-02 to the ceiling)</li> <li>b) Plume impingement barriers on VL-01, VL-02 and VL-03, VN-01, VS-01 above VL-04, VU-03 to the top of the rising section</li> <li>c) Fires stops in VL-01 and VU-05 north of penetration 42, in VU-03 at the top of rising section, and VM-02 at ceiling</li> </ul>	<p>WE to NRC Letters 06-30-82 &amp; 09-29-82 FHAC List Item No. 51</p>	DJB	<p>COMPLETE Same as for Item 103 except conduit 2T426 was wrapped during Unit 2 Refueling 1986, MR 84-024.</p>	
105.	<p><u>Post-Fire Plant Procedures:</u> These procedures, in order to assure the availability and operability of the RHR and component cooling water system for cold shutdown, will specifically address the following:</p> <ul style="list-style-type: none"> <li>a) Post-fire surveillance to determine fire damage to cold shutdown equipment and cables</li> <li>b) Repair or replacement of fire damaged cold shutdown components</li> <li>c) Installation and testing of temporary power cable</li> <li>d) RHR and CCW system field alignment for manual and inoperable motor-operated and air-operated valves</li> <li>e) System operation from local control stations, including use of local instrumentation and communications among local control stations</li> </ul>	<p>WE to NRC Letter 06-30-82</p>		<p>COMPLETE Item 29, NE Fire Protection Punchlist</p>	

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106.	<u>Repair Parts:</u> In addition to the existing spare parts available at PBNP, we will provide a spare CCW pump motor and sufficient cable to allow temporary cable runs to be installed between the CCW and RHR pumps and their associated load center.	WE to NRC Letter 06-30-82		COMPLETE This item is on the NE fire protection punchlist as Item 15.
107.	<u>Fire Zone 10 (Unit 1 Containment SE Sector, El. 21')</u> : The redundant pressurizer pressure and level instruments conduit appeared to have a minimum horizontal separation of 16'. We committed to check this during the fall of 1983 outage. If not in compliance with Appendix R, we committed to protect one division of conduit with radiant energy shield for a sufficient length to achieve minimum separation.	WE to NRC Letter 04-28-83	DJB	COMPLETE See response to Item 103.
108.	<u>Fire Area 5 - AFW Pump Room:</u> We will relocate one division of cables for each unit's CVCS charging pump power and local control cables to provide for a separation distance of 29' and 27'. The relocated cables will be IEEE-383 qualified and rerouted in conduit throughout. We also will wrap the entire length of conduit using a material such as a double wrap of 3M flexible fire barrier material. We will also provide an additional fire detection system using rate compensating thermal detectors in order to provide redundant actuation for the Halon system.	WE to NRC Letter 04-28-83 FHAC List Item No. 67	DJB	COMPLETE Unit 1 COMPLETE, Mod Request 83-160 Unit 2 COMPLETE, Mod Request 83-161  Conduit wrap complete, Mod Request 84-025  Heat detectors installed, Mod Request M-821-01

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109.	<p>Fire Area 6 (Switchgear Room):*</p> <p>The independent halon suppression system for A05 and A06 for each unit will be activated by smoke detectors inside the cabinet. The following guideline will be used for cable tray protection:</p> <p>a) All exposed trays less than 14' above the floor will be protected</p> <p>b) Tray protection will extend a minimum of 12" inside the perimeter of switchgear cabinets</p> <p>c) The face of vertical riser trays exposed to the aisles will be protected.</p> <p>d) Trays containing service water pump cables will be boxed into the height of the adjoining horizontal tray barriers.</p> <p>e) We will wrap the conduits containing 4 KV power feeds between the diesel generators and associated switchgear using a material such as a double wrap of 3M flexible fire barrier material.</p>	WE to NRC Letter 04-8-83		<p>COMPLETE</p> <p>This proposal was rejected by the NRC as stated in response to Item 100. No further action is required on this item.</p>	
110.	<p>Fire Area 8 (Cable Spreading Room):</p> <p>We will provide emergency power cross-tie capability so that one charging pump for each unit will be available.</p>	WE to NRC Letter 04-28-83	DJB	<p>COMPLETE</p> <p>Mod Requests, 83-152, 153</p>	

\*Subsequent to this, we stated that the Halon system would be enlarged to cover all cabinet sections of A05 and A06 for each unit. The Halon will be discharged into each cabinet and will be actuated by individual smoke detectors in each cabinet. WE to NRC Letter 05-3' 73. Denied by NRC.

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111.	<p><u>Fire Zone 1 (Unit 1 MCC Room):</u></p> <p>a) We will relocate the Division B charging pump power and control cables and local control panel in a manner which will provide greater than 30' horizontal separation between redundant cables.</p> <p>b) We will install a partial zone automatic fire suppression system to provide coverage for one train of redundant cables and intervening combustibles. The system will include specific doorway coverage to reduce the potential for fire propagation from an individual charging pump room. The coverage will be provided for the open archways to fire zone 2 on the north and to the HVAC room on the south, as well as over the doorways to the charging pump cubicles.</p> <p>c) Also, fire stops will be installed in cable trays routed east-west, which constitute intervening combustibles between redundant charging pump cables.</p>	<p>WE to NRC Letters 04-28-83 &amp; 07-20-83</p>	DJB	<p>a) COMPLETE Mod Request 83-160</p> <p>b) COMPLETE Mod Request 84-083</p> <p>c) COMPLETE Item 20 N.E. punchlist, Mod Request 84-21</p>	
112.	<p><u>Fire Zone 2 (SI and CS Pump Room):</u></p> <p>We will relocate Division B charging pump power and control cable in a manner which will provide greater than 30' horizontal separation between redundant cables. The existing automatic suppression system will be modified to include specific coverage of open archways to fire zone 3 on the north and to fire zone 1 to the south. The system will also be expanded to the west to assure that one division of charging pump cables and intervening trays are protected.</p>	<p>WE to NRC Letters 04-28-83 &amp; 07-20-83 FHAC List Item No. 13, 15, 19</p>	DJB	<p>COMPLETE Mod Requests 83-160 &amp; 84-083</p>	

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113.	Fire Zone 3 (CCW Pump Room): We will relocate charging pump power and control cables similar to that in fire zones 1 and 2. Fire stops will be installed in Division B cable trays for Unit 1 and Division A for Unit 2 in order to maintain the necessary separation. The section of tray FV-08 and conduits containing Unit 2, Division B charging pump cables, which are located between the proposed fire stop and fire zone 3 walls, will be enclosed with 1-hour rated material.	WE to NRC Letters 04-28-83 & 07-20-83	DJB	COMPLETE This commitment is accurate with the exception that the Division A cable trays do not require fire barriers due to the rerouting of the cables.  Charging pump cables rerouted, Mod Request 83-160 and 83-161. CCW pump room cable wrapped, Mod Request 84-022. Items 9, 10, & 22 N.E. Punchlist.	
114.	Fire Zone 4 (Unit 2 MCC):	WE to NRC	DJB	COMPLETE	
	a) We will relocate Division A, Unit 2 charging pump power and control cables to provide greater than 25' of horizontal separation	04-28-83 & 07-20-83		Cable rerouted a) Item 10 N.E. Punchlist Mod Request 83-161	
	b) We will install a partial zone automatic fire suppression system to provide coverage for one train of redundant cables and the intervening combustibles. The system will include special doorway coverage of the open archways to fire zone 3 on the south, as well as coverage over the doorways to the charging pump cubicles.			b) COMPLETE Item 6 N.E. Punchlist Mod Request 84-083	
	c) Fire stops will be installed in cable trays routed east-west which are intervening combustibles between redundant charging cables.			c) COMPLETE Item 20 N.E. Punchlist Mod Request 84-021	



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115.	<u>Fire Zone 7 (Containment Spray Additive and Monitor Tank Area):</u> We will provide local necessary instrumentation capability for one instrument channel on EL. 8'.	WE to NRC Letter 04-28-83	DJB	COMPLETE Unit 1 COMPLETE Item 11 N.E. Punchlist Mod Request 83-157 Unit 2 COMPLETE Item 12 N.E. Punchlist Mod Request 83-158	
116.	<u>Auxiliary Building Fire Area Boundary:</u> We will install 3-hour fire-rated penetration seals around the primary instrumentation system cables at the EL. 26' floor and unguarded floor openings (piping penetrations) which could present a hazard to redundant instrumentation cables.	WE to NRC Letter 04-28-83	DJB	COMPLETE Item 21 N.E. Punchlist Mod Request 84-021	
117.	<u>Excess Letdown Isolation Valve:</u> We will modify these valve control circuits on each unit so that a minimum of 2 separate shorts in 2 separate sets of cable would be required for spurious actuation.	WE to NRC Letter 04-04-84		COMPLETE Items 17 & 18 N.E. Punchlist Mod Requests 83-154 & 83-155	
118.	<u>AFW Pump Turbine Lube Oil Cooling Water:</u> The AFW pump turbine lube oil cooling water will be supplied alternately by the diesel-driven fire pump. This was expected to be completed during Unit 1, fall, 1983, outage and the Unit 2, fall, 1984, outage.	WE to NRC Letter 10-26-83		COMPLETE Mod Requests M-623, M-624	
119.	<u>82-17-01A, Fire Pump Testing:</u> We will revise test TS-19 to include the following additional performance data: suction lift, diesel pump shutoff pressure, diesel engine speed, and electric pump motor current draw. Also, an additional section specifying proper analysis techniques will be included.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83		COMPLETE GAC TS-72	

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120.	<u>81-17-01C, Fire Signalling System Testing:</u> A review of our fire protection tests will be done to identify informational alarms. Where informational alarms exist and can be expediently tested, these alarms will be verified.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83		COMPLETE PC-77 TS-76	GAC
121.	<u>82-17-01C, Fire Detection System Testing:</u> The smoke detector system in operation is a fixed sensitivity photoelectric detector system which utilizes local zone panels and our indicating panel in the control room. Functional testing of this system will meet appropriate applicable NFPA codes.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83		COMPLETE TS-77 TS-78	GAC
122.	<u>Violation 1, Item a(3), Operability Surveillance Testing/Inspection Procedure for Fire Doors:</u> In response to this finding we prepared a semiannual maintenance procedure (PC-70, Part I) to assure safe shutdown area fire door operability. The procedure documents a check for the defeat of the hold-open feature, verifies proper latch and closer operation, performs a general door hardware inspection, verifies freedom of operation, and verifies any associated computer alarms.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83		COMPLETE PC-70, Part 1 PC-70, Part 2	GAC

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123.	82-17-01D, Test Acceptance Criteria: 11-30-82 1) The surveillance tests will be reviewed and portions of tests which apply to non-technical specification equipment and systems will be placed in non-technical specification tests. This will be accomplished following NRC approval of our proposed revised Fire Protection Technical Specifications, Sections 15.3.14 and 15.4.15.  2) We will review all Fire Protection Technical Specifications test items to assure appropriate criteria or acceptability limits are present where they are required to satisfy the intent of the procedure and are consistent with both our accepted QA program and the PBMP test procedure philosophy. To be completed by April 30, 1983.	NRC IR 82-17  WE to NRC Letter 01-21-83  FHAC List Item No. 8	CWK GAC         	OPEN Waiting for revised fire protection Tech Specs to be approved by NRC        COMPLETE	CWK GAC
124.	82-17-02, Fire Door Limiting Condition For Operation: In addition to 4 corrective actions which were completed at the time of our response, we committed to installing a modification to utilize the plant security computer to monitor the open/close status of all safe shutdown area fire doors. Most of these doors now have their status monitored, but others required additional hardware and/or security computer software modification. Such changes will be accomplished in a timely manner.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83		COMPLETE Mod Request 82-066	

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125.	82-17-02, Facade Stairwell Door: Industrial safety fire doors will have a maintenance inspection performed annually in addition to the current system or priority attention when needed. The inspection will be identified on the operations computerized call-up program and will be completed by August 31, 1983.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83		COMPLETE PC-70, Part 1	GAC
126.	82-17-03, Fire Door Closure Devices: The following steps have been taken to assure that automatic fire doors will close in case of fire: Letter 1) All safe shutdown area fire doors have had their fusible links removed, thereby effectively defeating the hold-open feature.  2) The semiannual maintenance surveillance procedure will ensure the fusible links are not inadvertently replaced on the safe shutdown area fire doors.  3) The annual maintenance surveillance procedure on industrial safety fire doors will identify any unsatisfactory fusible links and facilitate their replacement with appropriately clean fusible links.  4) A memorandum will be issued to all plant personnel explaining the problems caused by the use of fusible links which may have foreign material on them.	NRC IR 82-17 11-30-82  WE to NRC  01-21-83		COMPLETE PC-70, Part 1 PC-70, Part 2	GAC

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127.	<u>82-17-07A, Contractor Training:</u> In order to ensure contractor performance with respect to plant fire protection matters rather than just a fire emergency, we will prepare a more detailed training program for contractor supervisory personnel. This training will include indoctrination to administrative procedures regarding combustibles control, transient fire loadings, and ignition control permit authorization. The administrative procedures required as base documents for this training and the training itself shall be in place by December 12, 1983.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83		COMPLETE	
128.	<u>82-17-017B, Spill Training:</u> In order to improve our fire protection program we will do the following: WE to NRC 1) Consolidate the information from several procedures in a single administrative procedure governing handling of leaks and spills of flammable material.  2) Review and modify as necessary EOP-12A to ensure it is appropriate for conditions presently existing at PBNP.  3) Train and periodically retrain all fire brigade members, plant supervisory personnel, and contractor supervisory personnel on the procedure governing the handling of flammable materials leaks and spills.	NRC IR 82-17 11-30-82  Letter 01-23-83		COMPLETE	

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128.	4) Document the training given on the procedure governing the handling of flammable materials leaks and spills. These will be completed by 12-31-83.				
129.	82-17-07C., <u>Combustible Control Tours:</u> By 04-30-83, we committed to do the following:  1) The Fire Protection Supervisor and/or Duty Shift Supervisor will periodically conduct and document combustible control tours.  2) Plant management will continue to conduct, but not necessarily document, independent combustible control tours.  3) An administrative procedure shall be prepared which reflects Items 1 and 2 above.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83  FHAC List Item No. 1,2, 90		COMPLETE PC-71 Parts 1 & 2	GAC
130.	82-17-07D, <u>Combustible Controls:</u> To ensure that trash combustibles are promptly removed from plant areas and to ensure that transient fire loading is not excessive, with special emphasis on safe shutdown areas, we will do the following:  1) Conduct combustible control tours as noted in Item 82-17-07C (previous page).  2) Place in operation a transient fire loading evaluation program as described in response to Item 82-17-07E below, with implementation by 06-30-83.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83  FHAC List Item No. 1,2, 90		COMPLETE	

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130.	3) Provide training on the new fire protection administrative and functional procedures to fire brigade members and plant work group supervisors, with completion by 12-31-83.				
	4) (Item b) Electric heat tracing was being installed on the steam generator instrument lines. The wooden enclosure was to be removed.				
	5) (Item c) When the work at the CCW heat exchanger was complete, we stated that all scaffold material would be removed.				
	6) (Item h) When the work around the AFW pump room was complete, we committed to remove the combustible materials (e.g., scaffold, planks, and ladder).				
131.	<u>82-17-07E, Work Review for Fire Hazards:</u> To ensure the appropriate review with respect to transient fire loads, we will: WE to NRC 1) Initiate a change to the MWR form and governing administrative procedure to include checkoffs indicating the need to consider special fire hazards and precautions. 2) Initiate changes to PBNP 3.5 and 3.6.2 explaining the roles of the Superintendents and Construction and I&C in maintenance request transient fire load assessment.	NRC IR 82-17 11-30-82		COMPLETE	
		Letter 01-21-83 FHAC List Item No. 3			

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131.	3) Initiate a change to PBNP 3.31 clarifying the FPS's role in MR transient fire load assessment.				
	4) Train appropriate personnel on these changes by 09-30-83.				
	(Items 1, 2, and 3 were to be done by 03-31-83.)				
132.	<u>87-17-07E, Modifications Review for Fire Hazards:</u> In order to ensure modification work is properly evaluated with respect to transient fire loads, we will: Letter 1) Use transient fire load procedures, combustibles control procedures, ignition control procedures, and other administrative fire procedures to ensure modification work is being properly evaluated, monitored, and performed with respect to fire protection.  2) Train work group supervisors and WE liaison personnel on the administrative procedures referred to above (by 10-30-83).	NRC IR 82-17 11-30-82  WE to NRC  01-21-83		COMPLETE	
133.	<u>82-17-07F, Hot Work Authorization:</u> Supervisory personnel who have received appropriate fire protection training and have been approved by the FPS may authorize the issuance of an ignition control permit prior to commencement of work. The appropriate FP training referred to above will be:  1) Completion of the contractor supervisory personnel training referred to in 82-17-07A.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83		COMPLETE	



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133. cont	2) Completion of training regarding general and plant specific basic fire prevention and extinguishment.			
134.	<u>82-17-07G, Fire Fighting Strategies:</u> We will prepare specific fire fighting strategies (FEP's) for plant safe shutdown areas which do not have FEP's. In addition, existing FEP's will be reviewed and updated if necessary. We will complete these actions by 06-30-84. All fire brigade members will receive training on new/updated FEP's when they become available.	NRC IR 82-17 11-30-82  WE to NRC Letter 01-21-83		COMPLETE
135.	<u>82-17-07H, Valve Position Control:</u> TS-23 was reviewed, and modified as required to include a verification that red locks are installed on all critical valves in the fire protection system. 01-21-83	NRC IR 82-17 11-30-82  WE to NRC Letter		COMPLETE TS-73 PC-73, Part 4
136.	<u>82-17-07I &amp; J, Drills and Training:</u> We will do the following: 11-30-82 1) Adjust the fire protection calendar to coincide with the calendar year (already complete). 01-21-83 2) Prepare a computer program to tabulate and review individual and crew fire training records. The system will record training, drills, and fire brigade meeting attendance for individual brigade members, compare it with requirements and uniquely identify incomplete or tardy items (complete).	NRC IR-82-17  WE to NRC Letter		COMPLETE

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GAC

FIRE PROTECTION COMMITMENTS (FPC) PUNCHLIST

<u>Item No.</u>	<u>Commitment Description</u>	<u>Source</u>	<u>Resp. Initial</u>	<u>Status</u>	<u>Resp. Ongoing</u>
136.	3) Computerize fire brigade records and requirements. This will encompass drills with the Two Creeks Fire Department and will be complete by 08-31-83.				
137.	<u>82-17-08, Quality Assurance Audits:</u> IR 82-17 1) Future annual audits will be conducted on a joint basis by QAD and SFPO. Letter 2) The QA auditor will be a qualified lead auditor. The SFPO will be familiar with technical requirements of the fire protection program and meet the requirements of membership for the Society of Fire Protection Engineers.  The Triennial audit by an outside consultant accompanied by the SFPO and QAD representative will verify this approach.	NRC  11-30-82 WE to NRC  01-21-83		COMPLETE	MSK

INTERNAL  
CORRESPONDENCEMS Kaminski  
P. W. Glessner

PSB 106



To: J. J. Zach/12010100 FPP, 11100300

FROM: G. A. Casadonte

DATE: February 19, 1987

SUBJECT: ADDITIONAL FIRE PROTECTION COMMITMENTS

COPY TO: S. G. Cartwright/D. J. Bell  
G. A. Casadonte  
M. S. Kaminski/P. W. GlessnerC. W. Krause/T. G. Malanowski  
E. J. Lipke/R. A. Newton  
G. J. Maxfield

This memo refers to the attached list of commitments as found in "Response to 10 CFR 50, Appendix R, Alternate Shutdown Capability" (Brown Book). The list was developed following a receipt on February 13, 1987, of related information compiled by T. G. Malanowski following research of the Brown Book. Please include this list with the Fire Protection Commitments (FPC) Punchlist and Fire Hazards Analysis Commitments (FHAC) List sent to you on February 3, 1987.

The Brown Book list contains 33 items of which the following three items are considered open:

- Item No. 2      Additional Source Range. A modification to the pre-amp is required.
- Item No. 12    Surveillance of Spare Source Range Instrument. An annual calibration is required. A procedure is being written and will be in place by the next outage.
- Item No. 20    Add Transfer Switches to Emergency Diesel Generator. This is completed except for safeguards circuits.

Any items on this list that are not resolved by March 31, 1987, will be placed on an "active" punchlist, and this list will be retained in PBNP files as a fire protection "historical document."

Approved: \_\_\_\_\_

G. J. Maxfield

cst

Attachments

COMMITMENTS AS FOUND IN RESPONSE TO 10 CFR 50, APPENDIX R  
ALTERNATE SHUTDOWN CAPABILITY

<u>Item. No.</u>	<u>Section</u>	<u>Commitment</u>	<u>Status</u>	<u>FPC Punchlist Item No.</u>	<u>Resp.</u>
1	1.3.1	We will make the Halon System initiating detection systems diverse and redundant.	Complete Mod Req. M-821	100	
2	2.3.4.5	An additional source range will be added at a remote location to provide information for areas requiring alternate shutdown.	Open Requires a modification to pre-amp power supply.		P. J. Katers
3	2.4.4	Perform a modification to allow fire water to be supplied to the turbine-driven auxiliary feedwater pump lube oil coolers.	Complete Mod Req. M-623 and M-624	118	
4	2.4.5	One MOV in the RHR suction line will be kept closed with the MCC breaker open.	Complete Both valves shut with power removed and both breakers redlocked open.		
5	3.2.1	Fire stops will be placed between safe shutdown raceways where a fire could propagate and damage redundant divisions of cable.	Complete Mod Req. 83-160, -161, 84-021, -022, & -083	111, 112, 113 & 114	
6	3.2.1	Electrical penetrations for safe shutdown raceways will be fire sealed at their wall penetrations with fire stops equivalent to the rating of the wall.	Complete Mod Req. M-597	64, 65, 66 & 68	

<u>Item. No.</u>	<u>Section</u>	<u>Commitment</u>	<u>Status</u>	<u>FPC Punchlist Item No.</u>	<u>Resp.</u>
7	3.2.3	For components subject to spurious operations, we will incorporate as necessary into operating procedures either:  a) Providing a means to isolate equipment when not normally needed, or  b) Provide a means to detect spurious operations and undertaking procedures to defeat the mal-operation of equipment.	Complete Per L. J. Kamyszek		
8	4.3.2	To provide necessary alternate instrumentation in the event of fire in the 26', Zone 7, CSR and control room, transfer switches will be installed to transfer indication of the following instruments from the control room to the Unit 1 and Unit 2 charging and auxiliary feed-water pump areas.  Charging Pump Area: AFW Pump Area: Pressurizer Level    B SG Level (WR) RCS Pressure (WR)    B SG Pressure (WR) T <sub>HB</sub> T <sub>CB</sub>	Complete Mod Req. 83-157 & -158		
9	4.3.2	Instruments already installed in these areas will be reconnected to the transfer switch instrument connections.	Complete Mod Req. 83-157 & -158		
10	4.3.2	New instruments for RCS loop temperature will be installed in the AFW pump areas.	Complete Mod Req. 83-157 & -158		

<u>Item. No.</u>	<u>Section</u>	<u>Commitment</u>	<u>Status</u>	<u>FPC Punchlist Item No.</u>	<u>Resp.</u>
11	4.3.2	Alternate power sources which are independent of normal shutdown instrument divisions will be provided for alternate safe shutdown instrumentation. Supply will be either:  a) New battery, inverter and charger at each location, or  b) Inverter at each location powered from the new station battery, or  c) Inverter at each instrument location powered from the existing battery.	Complete Mod Req. 83-157 & -158		
12	4.3.3	The spare SR instrument will be maintained by plant instrument surveillance procedures.	Open Procedure not completed.		N. L. Hoefert
13	4.4.2	Power cables for 1P2C will be rerouted to provide adequate separation within Unit 1 charging and SI pump areas.	Complete Mod Req. 83-160 & 84-083	111 & 112	
14	4.4.2	Power cables for 2P2A and 2P2B will be rerouted to provide adequate separation in Unit 2 charging and CCW pump areas.	Complete Mod Req. 83-160 & 83-161	113	
15	4.4.2	2P2C power and control cables will be wrapped.	Complete Mod Req. 84-022	113	
16	4.4.2	1N11 and 2N04 will be relocated to provide adequate separation.	Complete Mod Req. 83-160	111	

<u>Item. No.</u>	<u>Section</u>	<u>Commitment</u>	<u>Status</u>	<u>FPC Punchlist Item No.</u>	<u>Resp.</u>
17	4.4.2	Provisions for an alternate power source for one charging pump in each unit will be provided. Kirk-key-type breakers will be installed in 1N11 and 2N04.	Complete Mod Req. 83-152 & -153. Alternate power provided, kirk-key breakers not used, breakers are interlocked.	110	
18	4.4.2	Alternate power will be provided for 1P2A and 2P2A.	Complete Mod Req. 83-152 & 83-153	110	
19	4.4.2	1N11 and 2N04 will also contain pressurizer level and pressure indication.	Complete Mod Req. 83-160 & 83-161		
20	4.5.2	We will add transfer switches to EDG control circuitry to isolate circuits from areas where a fire could affect diesel start or operation.	Open Safeguards circuits not complete.		P. J. Katers
21	4.5.2	An alternate DC power source for control circuits which is independent of areas where a fire could affect existing DG DC power, and control circuits will be added.	Complete Mod Req. 84-019		
22	4.5.2	DG current transformers will be provided with protective devices in the event of fire-induced open circuits downstream of the transformers.	Complete Per D. J. Bell. Resolved with vendor.		
23	4.5.2	Perform modifications to allow gravity transfer of fuel oil from the above ground tanks to the diesel day tanks.	Complete Mod Req. 83-150		

<u>Item. No.</u>	<u>Section</u>	<u>Commitment</u>	<u>Status</u>	FPC <u>Punchlist Item No.</u>	<u>Resp.</u>
24	4.6	Modify the logic of excess letdown valves (MOV-1299) to prevent spurious operation.	Complete Design for circuit modification altered on 4/4/84 & 4/27/84. Mod Req. 83-154 & -155.	117	
25	4.7	A repair procedure will be generated for source range flux monitoring.	Complete Maintenance procedures MI 21.8 & 21.9		
26	4.7	Power cables for alternate shutdown instruments will not be routed through the CSR or spray additive and monitor tank area, nor will they depend on power circuits presently routed through the CSR.	Complete Per P. J. Katers		
27	4.7	Current transformer circuits that could affect safe shutdown capability are protected by over-voltage shorting devices.	Complete Per P. J. Katers. No over-voltage shorting devices installed. Transformers cannot produce over 600V.		
28	4.7	There are no circuits which are part of alternative shutdown instrumentation routed through the CSR. This accomplished by isolation switches in the instrument loop between transducers located inside containment and present instrumentation located in the control room.	Complete Per P. J. Katers		



<u>Item. No.</u>	<u>Section</u>	<u>Commitment</u>	<u>Status</u>	<u>FPC Punchlist Item No.</u>	<u>Resp.</u>
29	5.8.1	A spare CCW pump motor and sufficient power cable will be available to re-establish CCW operability.	Complete Motor & cable at PBNP.	106	W. J. Herrman
30	5.8.1	Repair procedure will be written to ensure proper installation.	Complete Maintenance procedures MI 18.5 & 21.7	105	W. J. Herrman
31	5.8.2	Sufficient power cable to reestablish RHR system operability will be available.	Complete Cable at PBNP.	106	W. J. Herrman
32	5.8.2	Repair procedures will be written to ensure proper connections are made.	Complete Maintenance procedure MI 21.7	105	W. J. Herrman
33	6.2.1	A door will be installed in the part-height wall opening in the service water pump area.	Complete Mod Req. 83-071 & 82-011, FHAC List Item Nos. 83 & 84	87	



**Wisconsin Electric** POWER COMPANY  
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VPNPD-87-86  
NRC-87-20

February 25, 1987

Document Control Desk  
U. S. NUCLEAR REGULATORY COMMISSION  
Washington, DC 20555

Attention: Mr. George Lear, Project Director  
PWR Project Directorate 1

Gentlemen:

DOCKET NOS. 50-266 AND 50-301  
APPENDIX R COMPLIANCE  
POINT BEACH NUCLEAR PLANT UNITS 1 AND 2

This is to confirm our notification to the NRC Resident Inspector on February 19, 1987, of the following items identified as a result of our reverification of the Appendix R safe shutdown capability for the Point Beach Nuclear Plant.

1. Primary system monitoring instruments are powered from plant batteries which have been determined to have sufficient capacity to power normal requirements for approximately eight hours. A battery charger must be in or restored to service in order to maintain equipment operability for the 72-hour loss of offsite power requirement of Appendix R. A total of three battery chargers are provided. The A train battery charger power supply cables are located in Fire Zone 142. The B train battery charger power supply cables are located in Fire Zone 187, which is separated adequately from Fire Zone 142. However, the power source to the motor control center that provides B train battery charger power is also located in Fire Zone 142. Thus, the battery charger power cable installation in Fire Zone 142 does not satisfy the 20-foot separation requirements of Appendix R.

We have initiated a modification request to relocate and wrap within Fire Zone 142 or relocate outside of Fire Zone 142 the A train power supply to the swing battery charger. We expect to complete this modification by June 1, 1987.

As an interim measure, we have issued a repair procedure to be implemented should the power supplies to the battery chargers be lost due to a fire in Fire Zone 142. This procedure will replace the cable between the motor control center and the contactor which feeds the swing battery charger.

2. Redundant channels of instrument bus power cables are located in the auxiliary feedwater pump room in a manner such that the 20-foot separation requirements of Appendix R are not satisfied.

We have initiated a modification request to wrap one channel of instrument power cables for each unit in a one-hour fire barrier to comply with Appendix R, Section III.G.2.c. We expect to have this modification completed by April 3, 1987. The cables are routed in conduits, and the zone is provided with a single active-failure-proof automatic Halon fire suppression system. Early warning smoke detectors and a redundant system of heat detectors are also provided. These measures are considered to provide adequate compensatory protection.

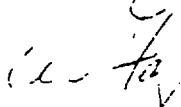
3. Redundant reactor coolant system hot and cold leg temperature instrument cables are routed in conduit which does not meet the 20-foot separation requirements of Appendix R at El. 8' of Unit 1 containment.

A modification request has been initiated which will wrap one channel of this instrumentation with a one-half-hour-rated fire barrier up to the point at which the 20-foot horizontal separation requirement is met. This is consistent with other in-containment barrier requirements. Since the cables are routed in conduit at that elevation,

photoelectric smoke detection is provided around the periphery of the ceiling, and combustible loading is very light, no additional interim compensatory measures are considered necessary.

If you have any questions, please contact us.

Very truly yours,

  
C. W. Fay  
Vice President-Nuclear

cc: Resident Inspector  
Regional Administrator-Region III

Blind copies to: D. J. Bell  
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VPNPD-87-234  
NRC-87-059

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Filed In:

P2NRC.1

(414) 277-2345

June 9, 1987

U. S. NUCLEAR REGULATORY COMMISSION  
Document Control Desk  
Washington, D.C. 20555

Gentlemen:

DOCKET NOS. 50-266 AND 50-301  
10 CFR 50 APPENDIX R, SAFE SHUTDOWN CAPABILITY  
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

This is to confirm our notification to the PBNP resident inspectors on May 18 and subsequent discussion with the resident inspectors on May 26, 1987 of the following item related to Appendix R compliance.

The PBNP abnormal operating procedure for control room inaccessibility (AOP 10A), which is the applicable procedure for Appendix R safe hot shutdown, states that the instrument air supply to containment is to be isolated and vented in order to prevent spurious operation of the pressurizer PORVs and letdown isolation valves.

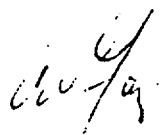
Instrument air venting capability for the Unit 1 containment was tested during the recently completed refueling outage. Venting of the instrument air header, which depended upon component air usage and system leakage, required 28 minutes to allow PORV closure. We determined the available vent capability to be unacceptable and initiated a modification to install an instrument air header valved vent connection outside containment. We also determined that bypass piping should be installed around check valves located in the instrument air supply to the PORV operators. Both modifications were installed and a successful instrument air header depressurization test was performed before the end of the refueling outage.

Document Control Desk  
June 9, 1987  
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A similar modification has been initiated to install an instrument air header vent valve outside of Unit 2 containment. Installation of this modification is scheduled for the Fall 1987 refueling outage. A capped test connection, which can provide satisfactory vent capacity until the scheduled modification is installed, is accessible outside containment. Bypass piping around check valves in the instrument air supply to the Unit 2 PORV operators has been installed. Thus, the existing instrument air vent capability is adequate and interim compensatory measures are not necessary.

If you have any questions, please contact us.

Very truly yours,

  
C. W. Fay  
Vice President  
Nuclear Power

Copies to NRC Resident Inspector  
NRC Regional Administrator, Region III

Blind copies to Britt/Gorske/Finke, Burstein, Charnoff, Krieser,  
Lipke, Newton, Zach

**EPER  
CHAPTER 10.0  
INDEX  
FIRE PROTECTION PROGRAM REFERENCES**

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**Tab No.    Title/Description**

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**IV.        10 CFR 50 Appendix R, Safe Shutdown Capability**

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1.        Response to 10 CFR 50 Appendix R, "Fire Protection of Safe Shutdown Capability," June 1982. (Red Book), Table of Contents and Executive Summary.
2.        Response to 10 CFR 50 Appendix R, "Alternate Shutdown Capability," (and response to GL 81-12), October 1983. (Brown Book), Table of Contents and Introduction.

**NRC Inspection for Compliance with 10 CFR 50, Appendix R, Applicable Sections and Associated Fire Protection Features**

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3.        NRC request for information for Appendix R Audit, December 3, 1986.
4.        WE letter transmitting information for the Appendix R Audit, February 9 and 16, 1987.
5.        NRC Appendix R Compliance Audit Report, July 7, 1987.

**PBNP Alternate Shutdown Capability for Vital Switchgear Room**

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6.        NRC Denied Exemption from Appendix R III.G.2 for 1 hr. fire barriers or 20 ft. horizontal separation with no intervening combustibles in the 4160V switchgear room, dated August 21, 1985.
7.        WE ltr to NRC, RE: Proposed 4160-Volt Switchgear Room By-Pass Modification, February 7, 1986.
8.        WE ltr to NRC, RE: Response to 10 CFR 50 Appendix R, Alternate Shutdown Capability, 4160V Switchgear Room, February 29, 1988.
9.        NRC approval of Alternate Shutdown Modification, July 30, 1986 and Safety Evaluation, July 27, 1988 and January 11, 1989.
10.       NRC Inspection Report of PBNP Alternate Shutdown Capability, August 1991.

**PBNP Fire Protection / Appendix R Training Module**

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11.       Fire Protection / Appendix R Training Module LP 2413.