

**Washington Public Power Supply System**

P.O. Box 968 3000 George Washington Way Richland, Washington 99352 (509) 372-5000  
Docket No. 50-397

January 28, 1983  
G02-83-80

Mr. R. H. Engelken  
Regional Administrator  
U.S. Nuclear Regulatory Commission  
Region V  
1450 Maria Lane, Suite 210  
Walnut Creek, California 94596

Subject: NUCLEAR PROJECT NO. 2  
10CFR50.55(e) REPORTABLE CONDITIONS #22, #29, #37, #43, #49,  
#50, #53, #54, #60, #64, #82 AND #102; DEFICIENCIES IN  
ELECTRICAL SEPARATION

- References: a. Letter #G12-82-101, D.M. Sternberg to R.G. Matlock, dated August 17, 1982, same subject.
- b. Letter #G02-82-803, R.G. Matlock to R.H. Engelken, dated September 23, 1982, same subject.

Reference b informed you that WNP-2 had reopened the above subject 10CFR 50.55(e)'s as requested in reference a. Attachments I, II, IV, VI, VII and XII provide the Project's final reports on 10CFR50.55(e)'s #22, 29, 43, 50, 53, and 102. Attachments III, V, VIII, IX, X and XI provide the Project's interim reports on 10CFR50.55(e)'s #37, 49, 54, 60, 64, and 82.

We will continue to provide your office with quarterly updates on items #37, 49, 54, 60, 64, and 82 until all deficiencies are resolved. The next report will be submitted on or before April 18, 1983.

If you have any questions regarding the above subjects, please contact R. T. Johnson, WNP-2 Project QA Manager, (509) 377-2501, extension 2712.

R. G. Matlock  
Program Director, WNP-2

LCF/kd

Attachments: (12) As stated

- cc: W.S. Chin, BPA - Site
- A. Forrest, Burns and Roe - HAPO
- N.D. Lewis, NRC
- J. Plunkett, NUS Corp.
- A. Toth, NRC Resident Inspector - Site
- Document Control Desk, NRC
- WNP-2 Site Files/917B

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## Attachment I

WASHINGTON PUBLIC POWER SUPPLY SYSTEM  
DOCKET NO. 50-397  
LICENSE NO. CPPR-93

NON-SAFETY RELATED CABLE ROUTING DESIGN ERRORS  
10CFR50.55(e) CONDITION #22  
FINAL REPORT

### Description of Deficiency

Cable routing design errors were identified by the Electrical Contractor, Fischbach/Lord on CM-RFI-525, dated January 19, 1978. The design error was the routing of a number of non-safety division 'B' Supervisory System Signal Cables in the non-safety division 'A' signal trays. The cables involved were BMISC-1, 2, 4, 5, 6, 8, 10, 11, 12, 13, and 211.

### Safety Implication

The identified cables are non-safety related and do not directly bridge the safety divisions; therefore, there is no impact on Class 1E safety systems. This item is not reportable.

### Corrective Action

The cable routing was revised (Work Change Notice #218-FCZ-042). In order to prevent future recurrence, the computer program which generates drawings E550 and E551 (cable schedules) was modified to detect division incompatibility in cable routing designs.

### Status of Corrective Action

218-FCZ-042 (CM-RFI-525) - Corrective Action Completed

## ATTACHMENT II

WASHINGTON PUBLIC POWER SUPPLY SYSTEM  
DOCKET NO. 50-397  
LICENSE NO. CPPR-93

### CLASS 1E CIRCUITS IN SEISMIC CATEGORY II AREAS 10CFR50.55(e) CONDITION #29 FINAL REPORT

#### Description of Deficiency

Certain Class 1E trays, by design, enter a Seismic Category II portion of the Radwaste Building from the Reactor Building. (Refer to 10CFR50.55(e) #50 as a specific instance of this generic item).

#### Safety Implication

The structural adequacy of the Seismic Category II portion of the Radwaste Building was evaluated and found capable of withstanding Seismic Category I loadings. However, two Reactor Closed Cooling (RCC) System lines were found to be routed above the trays. Evaluation of the RCC hangers indicated them to be overloaded in the event of a Seismic Category I occurrence. It was thus concluded that the RCC lines could conceivably cause failure of the subject Class 1E cables. This item is considered reportable under 10CFR50.55(e).

#### Corrective Action

Additional hangers were provided for the RCC process lines so that they will sustain Seismic Category I loadings (PED 215-M-5151, H-2675, H-3610, H-3832). A survey of the Seismic Category II areas through which the Class 1E trays are routed was conducted by Burns and Roe Task 1590 to assure no other Seismic Category II supported components endanger a safety-related system or raceway (Ref. Burns and Roe letters BRWP-F-82-932 and BRWP-F-82-2490, and Burns IOM F-83-0058).

To preclude future re-occurrence, an item has been added to the electrical engineering assignment sheet to determine whether Class 1E cables enter a Seismic Category II structure. If so, the design of the cables must be either "fail-safe" or appropriately routed above any Seismic Category II supported structures/equipment, etc.

#### Status of Corrective Action

PED 215-M-5151 - Corrective Action Completed  
PED 215-H-2657 - Corrective Action Completed  
PED 215-H-3610 - Corrective Action Completed  
PED-215-H-3832 - Corrective Action Completed

### Attachment III

WASHINGTON PUBLIC POWER SUPPLY SYSTEM  
DOCKET NO. 50-397  
LICENSE NO. CPPR-93

CLASS 1E CABLES IN SEISMIC CATEGORY II SUPPORTED RACEWAYS  
10CFR50.55(e) CONDITION #37  
INTERIM REPORT

#### Description of Deficiency

Main steam line radiation monitoring cables, 4PRM-1, 2, 5PRM-1, 2, 6PRM-1, 2, and 7PRM-1, 2, which are Class 1E, were routed through the Turbine Generator Building (the Turbine Generator Building is a modified non-Seismic Category I structure analyzed to withstand a safe shutdown earthquake (SSE)) without proper consideration for seismic support for safety-related raceways (NCR-218-04210).

#### Safety Implication

The main steam line radiation monitors initiate protective action for both main steam line isolation and reactor scram, thus mitigating the consequences of a fuel failure. It has been determined that, assuming no line break or small steam line break within the Turbine Generator Building, no other means of assuring reactor scram and main steam isolation exists in the event of fuel failure should the radiation signals be lost due to a seismic event by failure of non-Seismic Category I supports. This item is considered reportable under 10CFR50.55(e).

#### Corrective Action

Engineering direction was given under PED 218-E-0077 to upgrade the installation to Seismic Category I.

#### Additional Information

During upgrade of supports it was found that the conduits were located below Seismic Category II equipment (RFI-218-4138). Engineering direction was given to reroute the conduits (PED 218-E-2216) to preclude failure due to non-Seismic Category I equipment.

#### Status of Corrective Action

PED 218-E-0077 - Field Work In Process  
PED 218-E-2216 - Field Work In Process

## Attachment IV

WASHINGTON PUBLIC POWER SUPPLY SYSTEM  
DOCKET NO. 50-397  
LICENSE NO. CPPR-93

ELECTRICAL SEPARATION OF RPS SCRAM GROUP OUTPUT  
10CFR50.55(e) CONDITION #43  
FINAL REPORT

### Description of Deficiency

Reactor Protection System (RPS) scram group output cables are incorrectly assigned to non-redundant safety divisions. These cables are routed in individual conduits (grounded) through a common blockout in the Radwaste Building, elevation 525' (Drawing E-767, Zone K-14/15). They are susceptible to damage by a single event: a fire, missile, etc.

### Safety Implication

The Reactor Protection System is designed to be a "fail-safe" system. That is, during normal plant operation, the system is normally energized and a "Scram" de-energizes the system to insert control rods. Therefore, a fire or missile event would result in conductors shorting to ground or open circuiting which would cause the system to fail in a safe manner. To inhibit control rod insertion, a hot short to all the cabling would be required. A fire or missile would not cause hot shorting since cables of other systems are not routed within these conduits.

Therefore, based on the fail-safe design of the RPS, failure due to lack of separation would not have resulted in an adverse safety impact even if it had gone undetected.

The condition is therefore evaluated to be non-reportable under 10CFR50.55(e).

### Additional Information

General Electric filed a 10CFR21 on the entire PGCC including RPS Scram group cables. GE issued FDDR-KK1-549 to correct the RPS problems. Burns and Roe issued engineering direction to follow up on this FDDR (PED's 218-E-3481, 3875, and 4298). As a result, the present routing of these cables is not identical to the routing at the time the potentially reportable 10CFR50.55(e) was originally filed.

## Attachment V

WASHINGTON PUBLIC POWER SUPPLY SYSTEM  
DOCKET NO. 50-397  
LICENSE NO. CPPR-93

OPERATION OF STANDBY GAS TREATMENT SYSTEM DAMPER  
10CFR50.55(e) CONDITION #49  
INTERIM REPORT

### Description of Deviation

The Standby Gas Treatment System (SGTS) contains redundant trains consisting of two 100% capacity fans per loop for a total of four 100% capacity fans. To maintain a  $\frac{1}{4}$ " water gage negative pressure within the Reactor Building in the event of a LOCA, only one fan is required.

As shown on the attached flow diagram there exists electrically operated dampers to control the mode of operation of each train (e.g., isolation, recirculation or exhaust). Also depicted on the attached diagram is the source of emergency power for each motor operated damper and fan.

It is contended that due to the system design which provides two redundant divisions of dampers in each fan train, a possible loss of both Standby Gas Treatment System loops from a single event is possible and that separation problems exist in each fan and heater area (i.e., all four dampers within either division, if closed, would render the system inoperable).

### Safety Implication

Since all compatible division damper control circuits (for all four fan trains) are routed together, the worst case single failure will be a fault which could generate a localized fire and cause both SGTS trains to become inoperative.

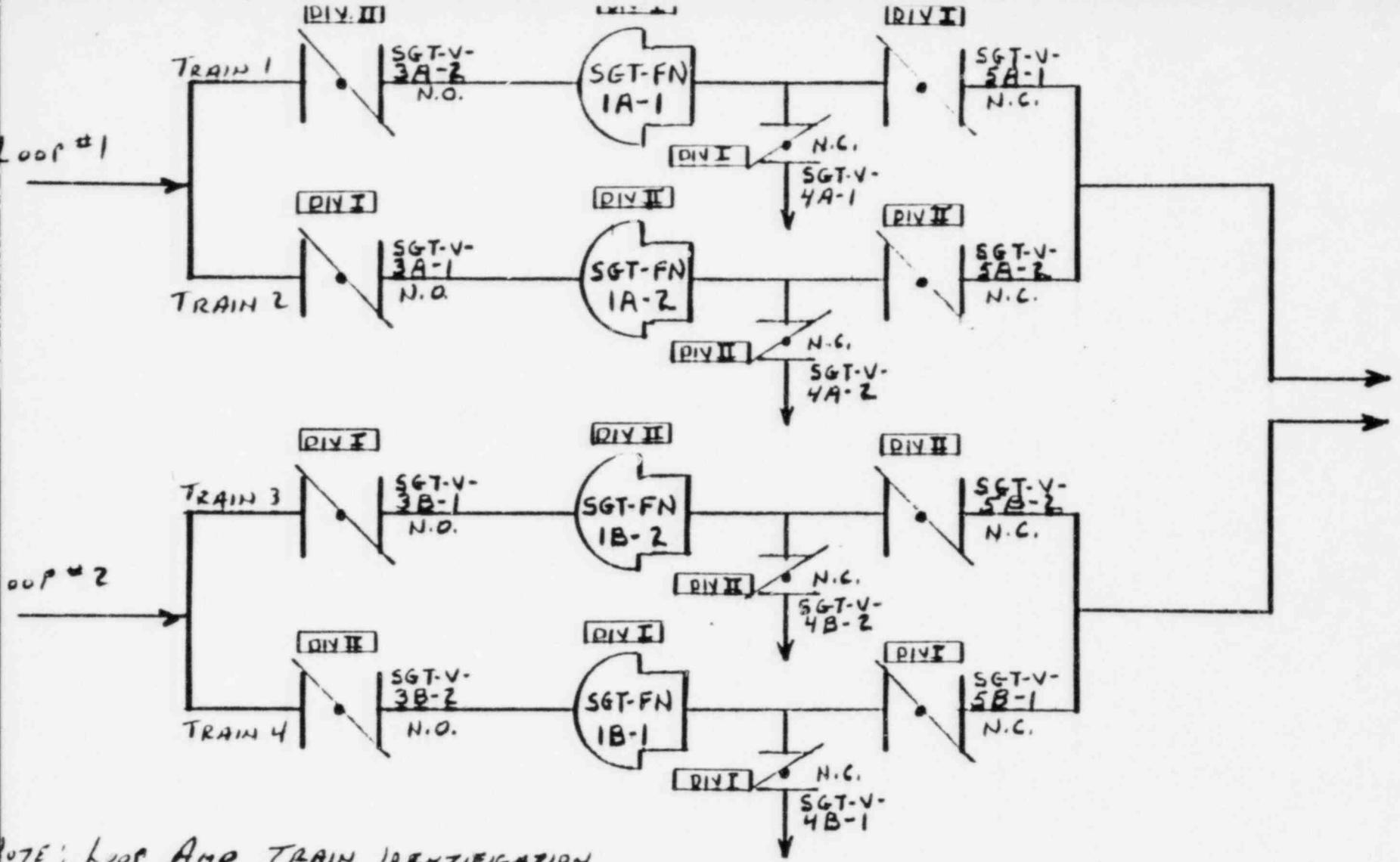
### Corrective Action

The SGTS fan and heater circuits have been reviewed and no electrical separation violations have been identified.

The Architect Engineer, in conjunction with Supply System Project engineers is evaluating the damper control circuits for corrective action.

### Status of Corrective Action

Quarterly reports will be filed until resolved.



NOTE: LOOP AND TRAIN IDENTIFICATION DESIGNATIONS ARE ARBITRARY, AND ARE PROVIDED FOR THE PURPOSES OF THIS ANALYSIS ONLY.

Flow Diagram

## Attachment VI

WASHINGTON PUBLIC POWER SUPPLY SYSTEM  
DOCKET NO. 50-397  
LICENSE NO. CPPR-93

HPCS/CST LEVEL SENSING CABLE ROUTING  
10CFR50.55(e) CONDITION #50  
FINAL REPORT

### Description of Deficiency

Level sensors on the condensate storage tanks (CST) are used to detect low-level conditions, thereby initiating automatic transfer of High Pressure Core Spray (HPCS) pump suction from the CST to the suppression pool. The cable used to transmit the signal which is Class 1E is routed through the Turbine Building.

### Safety Implication

The Turbine Building is a modified non-Seismic Category I structure designed to withstand a safe shutdown earthquake (SSE). However, during a SSE, a potential loss of the low-level signal could occur due to Seismic Category II supported equipment damaging the conduit. If so, suction on the HPCS pumps may not be transferred from the CST to the suppression pool.

Further investigation indicated that piping from the CST to the HPCS pump is routed within the Service Building. The Service Building is not designed to withstand an SSE. During an SSE, the piping could fail.

A single failure (E.G., loss of a diesel generator), in addition to the above, would reduce the Emergency Core Cooling Systems below the minimum requirements listed in FSAR Sections 6.3.1.1.2.d and 6.3.1.1.2.e.

The condition is considered a reportable deficiency under 10CFR21 and 10CFR 50.55(e).

### Corrective Action

A standpipe has been added to the piping from the CST inside the Reactor Building (PED 215-M-A420). A level sensor on the standpipe transmits a signal for initiation of automatic switchover from the CST to the suppression pool. For detailed discussions, refer to the responses to FSAR questions 031.128, 122.146, and 211.197. Also, see FSAR Figure 6.3-1 and Appendix B, Item II.K.3.22.

The cables were re-routed to remain within the Reactor Building (PED 218-E-5138).

### Status of Corrective Action

PED 215-M-A420 - Construction Action Complete  
PED 218-E-5138 - Construction Action Complete

## Attachment VII

WASHINGTON PUBLIC POWER SUPPLY SYSTEM  
DOCKET NO. 50-397  
LICENSE NO. CPPR-93

HIGH PRESSURE CORE SPRAY (HPCS) SERVICE WATER SYSTEM  
10CFR50.55(e) CONDITION #53  
FINAL REPORT

### Description of Deficiency

It was reported that Division 3 HPCS Service Water Pump Discharge Pressure Monitoring Instrumentation receives power from a Division 1 source instead of a Division 3 source. However, upon investigation, it was determined that only SW-PS-40A was incorrectly powered by Division 1.

### Safety Implication

The deficiency would not have affected plant safety. This instrument provided no active safety function, i.e., its only function was to alert (annunciate) the plant operator in the event that system pressure was lower than normal.

The annunciator is non-Class 1E and serves only to indicate a potential problem with the HPCS Service Water System. Upon alarm, the operator would investigate system status at panel H13-P-601. Panel H13-P-601 has Class 1E instrumentation indicating HPCS status as follows:

- Instrument HPCS-FI-603 - HPCS pump P1 flow indicator
- Instrument HPCS-PI-601 - HPCS pump P1 discharge pressure
- Instrument SW-PI-40 - HPCS pump P2 discharge pressure

Based on the operator evaluating HPCS system status at panel H13-P-601, rather than the annunciator alarm prior to implementing any corrective action, this item is considered to be non-reportable.

### Corrective Action

Project Engineering Directives (PED's) 235-E-0050, 235-E-0071, and 218-E-1653 were issued to correct the deficiency by supplying the power to SW-PS-40A from a Division 3 power source.

### Status of Corrective Action

PED 235-E-0050 - Construction Action Completed  
PED 235-E-0071 - Construction Action Completed  
PED 218-E-1653 - Construction Action Completed

## Attachment VIII

WASHINGTON PUBLIC POWER SUPPLY SYSTEM  
DOCKET NO. 50-397  
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SEPARATION VIOLATIONS WITHIN PGCC  
10CFR50.55(e) CONDITION #54  
INTERIM REPORT

### Description of Deficiency

The lack of Division 3 ducts within the BOP portions of the PGCC has resulted in safety-related Division 3 High Pressure Core Spray (HPCS) cables (CB-A2-1-21, CB-DA-17, CJB-TCG1-2.2A, CJB-TCG1-2.2, and JB-TCC2-4.2) being routed with Division 1 and Division 2 safety related cables. These Division 3 cables were routed in a separate flexible conduit within Division 1 and 2 duct sections.

### Safety Implication

It was concluded that a fire in Divisions 1 or 2 floor sections could subsequently lead to failures in Division 3. Accordingly, the BOP portion of the PGCC routing could have adversely affected the safety of the plant, and the design does not conform to the criteria stated in the Safety Analysis Reports.

Therefore, this condition is considered to be reportable under 10CFR21 and 10CFR50.55(e).

### Corrective Action

A separate miniduct system was designed within the BOP portion of the PGCC for routing of Division 3 cables (PED 218-E-3677). Division 3 cables will now be installed in flexible conduit within the miniducts. However, control room human factors changes have removed four of the specific cables (CB-A2-1-21, CB-DA-17, CJB-TCG1-2.2A, and CJB-TCG1-2.2) from the BOP PGCC ducts (FDDR-KK1-795 and PED 218-E-4974). The remaining cable (JB-TCC2-4.2) will be dispositioned by PED 218-E-A431, which will be issued by January 31, 1983.

### Status of Corrective Action

PED 218-E-3677 - Construction Action Completed  
FDDR-KK1-795 - Field Work In Progress  
PED 218-E-4974 - Field Work In Progress  
PED 218-E-A431 - To Be Issued

## Attachment IX

WASHINGTON PUBLIC POWER SUPPLY SYSTEM  
DOCKET NO. 50-397  
LICENSE NO. CPPR-93

### INCORRECT IDENTIFICATION OF SAFETY-RELATED CABLES 10CFR50.55(e) CONDITION #60 INTERIM REPORT

#### Description of Deficiency

Seventy-nine (79) Class 1E analog instrumentation cables used for safety-related functions and post-accident monitoring, are mislabeled as Non-Class 1E. This mislabeling caused Class 1E cables to be routed without required Class 1E documentation for route, pull, etc. In addition, these cables may not be routed in Class 1E raceways along their entire length.

#### Safety Implication

The evaluation of the deficiency (BRWP-79-412) revealed that the cables were routed in Class 1E raceways only. Therefore, the problem constitutes the lack of proper cable designation and installation documentation.

Since the cabling was routed and bulk pulled with Class 1E cables in Class 1E raceways only, there exists no safety hazard and the deviation was considered to be not reportable under 10CFR50.55(e).

#### Corrective Action

NCR 2808-5657 was written and has been closed by IR-218-13462. Prior to revised engineering direction, 6 of 79 cables were installed. Two of the 6 cables were spared. Four were bulk-pulled with Class 1E cables so Class 1E documentation exists for them (218-E-1963) and were re-identified as Class 1E. Also, the remaining 73 cables were re-identified as Class 1E and subsequently pulled as Class 1E.

The following PED's re-identified the cables: 218-E-1650, 218-E-1685, 218-E-1720, 218-E-2278, 218-E-2362.

#### Additional Information

Cables AIR 21-9010 and Air 22-9010 were not re-tagged by PED 218-E-1650. The conductors for SW-PT-32A and B were spared in these cables and new cables were added for the pressure transmitters. PED 218-E-2362 was issued to re-tag cables AIR 21-9010 and AIR 22-9010 per further engineering changes not related to NCR 2808-5657.

#### Status of Corrective Action

PED 218-E-1650 - Field Work in Progress  
PED 218-E-1685 - Construction Action Completed  
PED 218-E-1720 - Construction Action Completed  
PED 218-E-1963 - Construction Action Completed  
PED 218-E-2278 - Construction Action Completed  
PED 218-E-2362 - Field Work In Progress

## Attachment X

WASHINGTON PUBLIC POWER SUPPLY SYSTEM  
DOCKET NO. 50-397  
LICENSE NO. CPPR-93

PLANT ELECTRICAL SEPARATION  
10CFR50.55(e) CONDITION #64  
INTERIM REPORT

### Description of Deficiency

As of August 1979, the Main Control Room had been reviewed and approximately 150 instances were discovered involving violations in the application of WNP-2 Electrical Separation Criteria to safety related cables and panel wiring. In general, the deficiencies involved incorrect labeling, routing, or termination of cabling within PGCC or Control Room panels.

### Safety implication

The deficiencies found could have resulted, under single failure conditions, in the simultaneous loss of redundant safety-related equipment with possible subsequent loss of safety function.

The condition was therefore concluded to be a reportable deficiency under 10CFR50.55(e).

### Corrective Action

In 1979, a task force reviewed the Main Control Room and plant areas for other violations of WNP-2 Separation Criteria in all safety-related applications.

The WNP-2 Electrical Separation Criteria were refined and clarified and were used by a Separation Task Force to judge plant separation as designed and as installed. These same criteria were submitted in FSAR Amendment 23, Section 8.3. Instances of deficiencies identified as criteria violations are being evaluated and corrected via Project Engineering Directives (PED's).

An additional task force was established in September, 1982 to review the overall separation criteria and construction installation to that criteria. A formal report from this task force will be available in February, 1983.

### Status of Corrective Action

#### 1979 Task Force Separation Study PED's

218-E-2111 - Field Work In Progress  
218-E-1725 - Construction Action Completed  
218-E-2155 - Field Work In Progress  
218-E-0051 - Field Work In Progress  
218-E-2362 - Field Work In Progress  
218-E-2209 - Construction Action Completed  
218-E-0044 - Field Work In Progress  
218-E-2090 - Field Work In Progress  
218-E-2198 - Construction Action Completed  
235-E-0062 - Field Work In Progress

218-E-2213 - Field Work In Progress  
218-E-2222 - Field Work In Progress  
218-E-2237 - Field Work In Progress  
218-E-2252 - Field Work In Progress  
218-E-2129 - Construction Action Completed  
218-E-0153 - Construction Action Completed  
218-E-2257 - Field Work In Progress  
218-E-2248 - Field Work In Progress  
218-E-2278 - Construction Action Completed  
218-E-2309 - Field Work In Progress  
218-E-2439 - Field Work In Progress  
218-E-2413 - Field Work Not Started  
218-E-2385 - Construction Action Completed  
235-E-0055 - Construction Action Completed  
218-E-1816 - Construction Action Completed  
218-E-2199 - Construction Action Completed  
218-E-2395 - Field Work Not Started  
218-E-1953 - Construction Action Completed  
218-E-1951 - Construction Action Completed  
218-E-2020 - Field Work In Progress  
218-E-2011 - Construction Action Completed  
218-E-2031 - Construction Action Completed  
218-E-2038 - Field Work Not Started  
218-E-2036 - Field Work Not Started  
218-E-1983 - Field Work Not Started  
218-E-2040 - Construction Action Completed  
218-E-1715 - Construction Action Completed  
218-E-1954 - Construction Action Completed  
218-E-1961 - Construction Action Completed  
218-E-2110 - Construction Action Completed  
218-E-2343 - Voided by PED 218-E-3154  
218-E-2669 - Construction Action Completed  
218-E-2390 - Field Work Not Started  
218-E-1648 - Field Work In Progress  
218-E-1650 - Field Work Not Started  
218-E-1685 - Construction Action Completed  
218-E-1720 - Construction Action Completed  
218-E-1649 - Construction Action Completed  
218-E-1716 - Field Work In Progress  
218-E-1768 - Construction Action Completed  
218-E-1795 - Construction Action Completed  
218-E-1759 - Field Work In Progress  
235-E-0057 - Construction Action Completed  
235-E-0500 - Construction Action Completed  
218-E-1653 - Construction Action Completed  
218-E-1904 - Field Work Not Started  
218-E-1778 - Field Work In Progress  
218-E-1714 - Field Work In Progress  
218-E-1713 - Field Work In Progress  
235-E-0063 - Construction Action Completed  
218-E-1690 - Construction Action Completed

218-E-2967 - Field Work In Progress  
218-E-3085 - Field Work In Progress  
218-E-4829 - Construction Action Completed  
218-E-4869 - Construction Action Completed  
218-E-3053 - Construction Action Completed  
218-E-3479 - Construction Action Completed  
218-E-3153 - Field Work In Progress  
218-E-2858 - Field Work In Progress  
218-E-3532 - Field Work Not Started  
218-E-3530 - Field Work Not Started  
218-E-3046 - Construction Action Completed  
218-E-3750 - Construction Action Completed

Task 3670 Separation PED's (Compliance to Section 8.3 FSAR Amendment 23)

218-E-4247 - Field Work Not Started  
218-E-4490 - Construction Action Completed  
218-E-4587 - Construction Action Completed  
218-E-4599 - Field Work In Progress  
218-E-4633 - Construction Action Completed  
218-E-4656 - Construction Action Completed  
218-E-4702 - Field Work In Progress  
218-E-4780 - Construction Action Completed  
218-E-4789 - Field Work Not Started  
218-E-4824 - Field Work In Progress  
218-E-4836 - Field Work Not Started  
218-E-4837 - Field Work Not Started  
218-E-4840 - Field Work Not Started  
218-E-4841 - Field Work Not Started  
218-E-4855 - Field Work Not Started  
218-E-4888 - Field Work Not Started  
218-E-4902 - Field Work Not Started  
218-E-4951 - Field Work Not Started  
218-E-A083 - Field Work Not Started  
218-E-A141 - Field Work Not Started  
218-E-A222 - Field Work Not Started  
218-E-A405 - Field Work Not Started  
218-E-A527 - Field Work Not Started  
218-E-A274 - Field Work Not Started  
218-E-A304 - Field Work Not Started  
218-E-A670 - Field Work Not Started  
218-E-A725 - Field Work Not Started

## Attachment XI

WASHINGTON PUBLIC POWER SUPPLY SYSTEM  
DOCKET NO. 50-397  
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LACK OF INSTALLATION DOCUMENTATION FOR  
CLASS 1E CABLES IN THE MAIN CONTROL ROOM RACEWAYS  
10CFR50.55(e) CONDITION #82  
INTERIM REPORT

### Description of Deficiency

The documentation verifying the installation of safety related cables in the Power Generation Control Complex (PGCC) floor ducts (main control room under floor raceways) was incomplete rendering the PGCC cable routing summaries invalid. It was determined, relative to the installing contractor's work, that: 1) there were no definitive inspection criteria; 2) changes to the QA records were not traceable in some cases; and 3) routing sheets used to install the cables did not match the QA record documentation for approximately 14% of the cables.

### Safety Implication

Valid documentation is required to provide an accurate assessment of compliance to the electrical separation criteria which assures that the redundant safety systems are not made functionally inoperative by a single event. Related investigations (10CFR50-55(e) #64) have shown that safety-class cables were in fact routed improperly such that faults in one safety division could have adversely affected other divisional cables.

The condition was therefore evaluated to be a reportable deficiency under 10CFR50.55(e).

### Corrective Action

A Quality Assurance surveillance review was conducted. This review generated corrective action requests CAR-1437 and CAR-1439 which identified a significant lack of PGCC Quality Class 1 cable installation documentation. Based on these findings, an action plan was developed to generate uniform Quality Class 1 PGCC documentation which would alleviate documentation deficiencies in the area of Class 1E cable terminations and routing in the PGCC ducts. To avoid a recurrence of this problem, a control room stop Work Order Number 7 was issued on May 23, 1980, until such time that PQA could enforce approved PGCC installation procedures (PED 218-E-2967). This step was essential to avoid any documentation problems for future PGCC installation, specifically for FDI, FDDR, PED and Startup Work Requests. Fischbach/Lord instituted work procedure CP/QAP-428 to provide Quality Class 1 instructions for installation and documentation in the Main Control Room. As part of the corrective action plan, PED 218-E-3064 was issued to address the documentation deficiencies in the existing installation. Fischbach/Lord implemented this directive and forwarded the as-built cable routings via RFI 218-6163 and RFI 218-6251. These RFI's resulted in a number of PED's (reference letter BRWP-F-82-5260) that were issued to correct the routing errors (see 10CFR50.55(e) #64 for a list of PED's).

(Continued)

During implementation of the PED's listed in BRWP-F-82-5260, discrepancies were found in RFI 218-6163 and 218-6251. The Supply System then initiated another 100% walkdown of cables installed in PGCC in September 1982. The results of this walkdown were issued to Burns and Roe (Ref. WPBR-F-82-237, WPBR-F-82-238) which showed further discrepancies in cable routing in the PGCC. Burns and Roe issued engineering direction (PED 218-E-A405) to correct the routing errors for the BOP PGCC. General Electric issued FDDR-KK1-935, Rev. 0 and 1 to correct the errors within the NSSS portion of the PGCC.

Status of Corrective Action

PED-218-E-A405 - Field Work In Progress  
FDDR-KK1-935, Rev. 0 - Field Work In Progress  
FDDR-KK1-935, Rev. 1 - Field Work In Progress

## Attachment XII

WASHINGTON PUBLIC POWER SUPPLY SYSTEM  
DOCKET NO. 50-397  
LICENSE NO. CPPR-93

INCORRECT IDENTIFICATION OF ELECTRICAL CONDUITS  
10CFR50.55(e) CONDITION #102  
FINAL REPORT

### Description of Deficiency

Tagging of conduits throughout the Reactor Building around the periphery of the Main Control Room and in the Cable Spreading Room has been found to be deficient. Conduits containing both safety-related and non-safety-related cables were tagged with the "non-safety-related" divisional designation.

### Safety Implication

Inaccurate tag identification of conduit carrying both safety-related and non-safety-related cables could affect the safe shutdown analysis relative to electrical separation and fire protection for dedicated safety systems and protection of safety system components and cables from missiles and pipe breaks. The condition is considered to be a reportable deficiency under 10CFR50.55(e).

### Corrective Action

Project Engineering Directive PED 218-E-3085 was issued revising conduit identification and contract specification requirements, directing tagging of conduit to be based on the safety division compatibility of the cables routed within the conduit.

### Status of Corrective Action

Fischbach/Lord has developed a tagging procedure (CP-QAP-412 Typical Identification Marker Installation) to implement the PED.

PED 218-E-3085 - Construction Action Complete