

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Washington Nuclear Plant - Unit 2	DOCKET NUMBER (2) 0 5 0 0 0 0 3 9 1 7	PAGE (3) 1 OF 0 1 2
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TITLE (4)
10CFR Part 21 Report - Defective Cable/Conduit Weight Engineering Specification

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)																																										
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES		DOCKET NUMBER(S)																																								
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LICENSEE CONTACT FOR THIS LER (12)
NAME: W. S. Davison, Plant Compliance Engineer
TELEPHONE NUMBER: 5 0 9 3 7 7 - 2 7 2 6
AREA CODE: 509
EXT.: 2726

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS

SUPPLEMENTAL REPORT EXPECTED (14)
 YES (If yes, complete EXPECTED SUBMISSION DATE) NO
EXPECTED SUBMISSION DATE (15)
MONTH: DAY: YEAR:

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On September 3, 1986, an evaluation resulted in the conclusion that the engineering criteria supplied by Burns and Roe Inc. in the electrical specification 2808-218 was non-conservative with regard to conduit weight per foot calculations. Weight per foot numbers for combinations of conduit and cable used at WNP-2 provided values which were significantly smaller than the suggested numbers recommended by various conduit clamp manufacturers. These weight per foot numbers are used to determine total loading on conduit supports to ensure that total loading is less than the maximum allowed on the specific support type. Actual weights of some field installed conduits were compared with the criteria and found to be between 20 to 52 percent higher in weight than used in the calculation. Therefore, the actual support loading on some supports may possibly exceed the allowed design stress criteria. This could possibly effect all safety systems. An engineering review is being conducted to identify design impacts. No field changes are expected to result from this discovery due to initial margins included in the hanger designs.

This is a special report filed per the requirements of 10 CFR Part 21.

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FACILITY NAME (1) Washington Nuclear Plant - Unit 2	DOCKET NUMBER (2) 0500039786	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		86	027	000	2	02

TEXT (If more space is required, use additional NRC Form 368A's) (17)

Nature of Defect and Safety Hazard

At 1300 hours on September 3, 1986, a safety evaluation resulted in the conclusion that the engineering criteria supplied by Burns and Roe Inc. in the electrical specification 2808-218 section 16A, paragraph 3.3.3.3 for weight per foot of the combination of conduit and cable, were less than the recommended values by various conduit clamp manufacturers. This could result in overloading conduit supports for safety related equipment cables. The Supply System Burns & Roe contract number was 2808.

The conduit weight data is used to calculate the total loading on a conduit support. The raceway installation procedure and the previous contractor procedures require a conduit support inspection sheet to be filled out on each support. This inspection sheet lists all the conduits on the support and adds up the weight of the conduits based upon the weight per foot data in the Engineering Specification. The maximum allowable weight on the particular support type is taken from the approved support drawing and compared with the calculated weight on the support to ensure it does not exceed the design stress criteria. Since the actual weight per foot of conduit may be more than was used on the support inspection sheet, there is a possibility that some safety related supports are loaded in excess of their design stress criteria.

The possibility of conduit support failure due to this problem is extremely small for the following reasons: 1) Conduit supports generally have designed maximum loading much greater than the actual load of the conduit; 2) Conduits are generally not filled to the maximum with cable and therefore actual weights are less than calculated; 3) Rated support loading calculations have safety factors and are conservative when stress criteria is applied, and 4) Samples selected for a preliminary review were found to be loaded within their design stress criteria. Therefore, field changes to conduit supports should not be required as a result of this discovery.

Corrective Action

The current plant procedures which utilize this faulty data will be modified to correct conduit weight per foot values.

A letter will be transmitted to Burns and Roe Inc. to inform them of our determination and request their further evaluation.

A statistically random sample of conduit supports is being performed in accordance with the methodology of IE Bulletin 79-02. The initial review will be completed during September 1986. Any support found deficient will be corrected.



WASHINGTON PUBLIC POWER SUPPLY SYSTEM

P.O. Box 968 • 3000 George Washington Way • Richland, Washington 99352

Docket No. 50-397

September 8, 1986

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: NUCLEAR PLANT NO. 2
LICENSEE EVENT REPORT NO. 86-027

Dear Sir:

Transmitted herewith is Licensee Event Report No. 86-027 for WNP-2 Plant. This report is submitted in response to the report requirements of 10CFR Part 21 and discusses the item of reportability as required by section 21.21(b)(3). Verbal notification of this event was made at 1305 hours on September 4, 1986.

Very truly yours,

C.M. Powers (M/D 927M)
WNP-2 Plant Manager

CMP:mm

Enclosure:
Licensee Event Report No. 86-027

cc: Mr. John B. Martin, NRC - Region V
Mr. R. T. Dodds, NRC - Site (901A)
Ms. Dottie Sherman, ANI
INPO Records Center - Atlanta, GA
Mr. C. E. Revell, BPA (M/D 399)

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