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AUTH.NAME AUTHOR AFFILIATION
MATLOCK,R.G. Washington Public Power Supply System
RECIP.NAME RECIPIENT AFFILIATION
ENGELKEN,R.H. Region 5, San Francisco, Office of the Director

SUBJECT: Interim deficiency rept,originally reported on 801222,re thermite welding on buried svc water piping.Cause not stated.Testing being developed to assess effect of welding on base matl.Final rept will be submitted by 810501.

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TITLE: Construction Deficiency Report (10CFR50.55E)

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Washington Public Power Supply System
A JOINT OPERATING AGENCY

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January 22, 1981
G02-81-14

Docket No. 50-397

Nuclear Regulatory Commission
Region V
Suite 202, Walnut Creek Plaza
1990 North California Boulevard
Walnut Creek, California 94596

Attention: Mr. R. H. Engelken, Director

Gentlemen:

Subject: WPPSS NUCLEAR PROJECT NO. 2
POTENTIALLY REPORTABLE DEFICIENCY 10CFR50.55(e)
THERMITE WELDING ON BURIED STANDBY SERVICE WATER (SW) PIPE

Your staff was previously informed by telephone on December 22, 1980, of a "Potentially Reportable" 10CFR50.55(e) condition regarding the use of thermite welding to attach the cathodic protection pigtails to ASME piping. Attached, please find the WNP-2 Project's Interim Report which identifies the approach that is being taken to resolve this condition.

It is estimated that the final report on this condition will be submitted by May 1, 1981.

Please contact us if you have additional questions.

Very truly yours,

RG Matlock

R. G. Matlock
Program Director, WNP-2

RGM/RPS/im

Attachment: as stated
cc: WS Chin - BPA
ND Lewis - EFSEC, Olympia
RE Snaith -B&R, NY
V. Stello - NRC
AD Toth - NRC Site
JJ Verderber - B&R, NY
E. Wood - NUS Corporation
WNP-2 Files

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

INTERIM REPORT

POTENTIALLY REPORTABLE CONDITION
WPPSS NUCLEAR PROJECT NO. 2
THERMITE WELDING ON BURIED SERVICE WATER PIPING

Statement of Problem:

Cathodic protection pigtails have been attached to the outside of buried Standby Service Water (SW) Piping, using the thermite process which is not recognized by ASME III ND (Class 3) or ASME Section IX. The effect of the thermite weld on the pipe material is unknown but could possibly cause a change in mechanical properties, create residual stresses and enbrittlement or cracking.

Proposed Approach to Resolution:

A test program is being developed. Thermite welds will be made duplicating the procedure utilized by the contractor. Destructive and metallurgical tests will be preformed to assess the effect of the welding on the base material. The testing will consist of bend tests, tensile tests and metallurgical examination. Impact tests were not considered appropriate in as much as there were no impact test requirements imposed by ASME Code for this material.

The final report on this condition will be submitted by May 1, 1981, pending completion of the test program and evaluation of the test results.