

Washington Public Power Supply System

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Docket No. 50-397

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February 5, 1982
G02-82-143

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



Subject: NUCLEAR PROJECT 2
10CFR50.55(e) POTENTIALLY REPORTABLE CONDITION #73
CONCRETE AND GROUTING WORK - CONTRACT 215

- Reference:
- a) Letter G02-80-302, dated December 15, 1980, Supply System to NRC, Potentially Reportable Deficiency
 - b) Letter G02-81-244, dated August 17, 1981, Supply System to NRC, Potentially Reportable Condition on Concrete and Grouting Work, Contract 215
 - c) Letter G02-81-402, dated October 23, 1981, Supply System to NRC, Request for Extension of 10CFR50.55(e) for Reportable Condition #73, Concrete and Grouting Work
 - d) Letter G02-81-491, dated November 15, 1981, Supply System to NRC, Request for Extension of 10CFR50.55(e) for Reportable Condition #73, Concrete and Grouting Work

Your office was informed of a potentially reportable condition concerning concrete and grouting in November of 1980. Reference a) provided disposition on a portion of the conditions cited. Reference b) provided an interim report on grouting describing the suspected deficiency, approach to resolution, and status. Reference c) and d) were updates to the interim report which detailed the delays involved in arriving at a process upon which to base a final report. A final report is attached for your records.

A material test program was developed to assess the condition of the grout installed by Contract 215 for which material records could not be provided. The test program utilized micro-coring to obtain samples of materials from the installation which could then be tested in the laboratory to verify essential properties, i.e., compressive strength.

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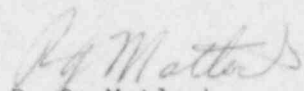
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The engineer evaluated the results of the program and concluded the grout material was unacceptable. Further discontinuities in the installation observed during the implementation of the Micro-Core Program indicated that the placement of the grout had been performed without adequate quality control measures. The engineer has, therefore, concluded that the condition is reportable and has recommended the sand cement grout installed under Contract 215 be replaced.

The material test program has demonstrated we have a process by which we can validate the property of grout materials in our existing installation. We intend to utilize the process, as necessary, to confirm the quality of other contractors' grouting. These findings will be a matter of record with any deficiencies dispositioned and reported in accordance with the existing project procedures.

If you have any questions, please contact Mr. R. T. Johnson at (509) 377-2501, extension 2712.


R. G. Matlock
Program Director, WNP-2

RLH/kd

Attachment: Final Report

cc: Mr. W.S. Chin, BPA - Site
Mr. R.A. Feil, NRC Resident Inspector - WNP-2
Mr. J.A. Forrest, Burns and Roe - HAPO
Mr. N.D. Lewis, NRC
Mr. J. Plunkett, NUS Corp.
Mr. R.E. Snaith, Burns and Roe - NY
Mr. V. Stello, NRC
EDC WNP-2 Files

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FINAL REPORT
SUPPLY SYSTEM NUCLEAR PROJECT NO. 2
DOCKET NO. 50-397
LICENSE NO. CPPR-93
10CFR50.55(e) REPORTABLE CONDITION NO. 73
CONCRETE AND GROUT WORK - CONTRACT 215

DESCRIPTION OF DEFECT OR NON-COMPLIANCE

It has been determined that the Contract 215 contractor performed Quality Class I grouting, on safety related hanger baseplates, using sand cement grout without proper material traceability and quality control measures, including material testing and documentation.

These deficiencies are deemed to be reportable under 10CFR50.55(e) on the basis that an element of the hanger installation which does not comply with specification requirements could have caused failure, jeopardizing the function of safety related equipment.

APPROACH TO RESOLUTION OF THE PROBLEM

The Supply System reported to the Commission (G02-81-402) that delays in obtaining documentation on grout had initiated Burns and Roe to issue technical direction to Pacific Testing Laboratory to develop a Micro-Coring program. Micro-Coring is a process of extracting small diameter cylinders as samples of the material in place. The sample material can then be tested by methods which have been demonstrated to provide results which will correlate with the test results on similar material performed by standard methods.

The grout record search was concluded when it became apparent it would not produce any usable information concerning the installation of sand cement grout. The Micro-Core approved program was thereupon implemented following demonstrations that cores could be satisfactorily obtained from the existing installation and acceptance by Burns and Roe of the correlation test results.

The program results were predominately negative. The sand cement grout samples obtained indicated unacceptable low strength. The grout, in a majority of the sample locations, was of such poor quality that no usable core samples could be extracted. These conditions instigated further inspections which revealed inconsistencies in the grout installation under hanger baseplates, in addition to the material concerns. Based on these results, it has been concluded that the sand cement grout installation performed under Contract 215 is unacceptable and a reportable condition exists.

The conditions identified relative to Contract 215 warrant our review of grout work performed under other contracts. Installations which are found to be unacceptable will be documented and corrected by replacement or as directed by the engineer.

STATUS OF RESOLUTION

The Supply System will direct the Construction Manager to proceed with removal of sand cement grout placed under Contract 215 as an element in establishing proper hanger installation. Exception to this direction will be on a case-by-case basis subject to Burns and Roe's approval. The work will be scheduled in accordance with the overall project requirements predominately on a system-by-system basis.

ACTION TO PREVENT REOCCURRENCE

The Supply System has removed future installation of components and grout from Contract 215.