

IFIC GAS AND ELECTRIC COMPANY

31E + 77 BEALE STREET • SAN FRANCISCO, CALIFORNIA 94106 • (415) 781-4211

FREDERICK T. SEARLS
VICE PRESIDENT AND GENERAL COUNSEL

JOHN C. MORRISSEY
ASSOCIATE GENERAL COUNSEL

WILLIAM B. KUDER
WILLIAM E. JOHNS
MALCOLM H. FURBUSH
CHARLES T. VAN DEUSEN
MALCOLM A. MACKILLIP
PHILIP A. CRANE, JR.
ASSISTANT GENERAL COUNSEL

October 24, 1973

WILL KELLY
HENRY J. LAPLANTE
RICHARD A. CLARKE
WILBERT L. HARRICK
EDWARD J. MCGANNEY
JOHN B. DISON
GLENN WEST, JR.
ARTHUR L. MILLMAN, JR.
CHARLES W. THIRRELL
ROBERT OHLSBACH
STANLEY T. SCHINER
DANIEL E. GORDON
SENIOR COUNSEL

DAN GRAYSON LUSROCK
J. BRADLEY BUNNIN
BERNARD J. DELLABANTA
JACK F. FALLIN, JR.
HOWARD V. GOLUB
DONALD L. FREITAS
JAMES C. LOSTOON
JOSEPH S. ENGLERT, JR.
LOUIS F. SCHOFIELD
ROBERT L. GORDON
DENNIS C. SULLIVAN
PATRY TOOPANE
ROBERT L. HARRIS
ATTORNEYS

Mr. R. H. Engelken, Director
Directorate of Regulatory Operations
Region V
U. S. Atomic Energy Commission
P. O. Box 1515
Berkeley, California 94701

Re: Docket No. 50-275
Diablo Canyon Unit 1

Dear Mr. Engelken:

On Friday, September 21, 1973, the Region V office was notified by our Director of Quality Assurance of apparent discrepancies between the manner in which work was performed on the Diablo Canyon Unit 1 nuclear steam supply system primary loop piping and the manner in which this work was supposed to be performed under the specification. The apparently discrepant conditions were discovered Thursday, September 20, 1973, by one of our Construction Department field engineers during a routine inspection of work in progress followed by a review of the performing contractor's (Wisner & Becker) documentation. The affected work was stopped the day of discovery by the field engineer. Pending satisfactory resolution of the apparent discrepancies, no further welding or other work or activities on the pipe and equipment which could be detrimental to the investigation and resolution of the apparent discrepancies will be permitted. Work will resume when a course of action to correct faulty conditions, if any exist, is determined, or when we are satisfied that the work as it presently exists, although not performed in strict accordance with procedure and specification, has been properly documented and does not compromise quality requirements.

Discrepant Condition #1: Paragraph 6.7 of Specification 8752 provides in part as follows:

Weld defects revealed by non-destructive examinations shall be eliminated and repaired in accordance with a procedure approved by the constructor.

8311300155 740311
PDR ADOCK 05000275
S PDR

In disregard of this requirement, the contractor, following radiographic examination of welds No. 2-5A and 3-2A, performed work to remove discontinuities without appropriate documentation.

The contractor's explanation is that the specific radiographic examinations were not called for by the specification, procedure or code, but were made as a decision on their part to check the quality of their workmanship with welding of each joint approximately one-half completed. From the radiographs, they determined the apparent discontinuities were within acceptance limits of the code but, exercising conservative judgment, decided to take corrective removal action to eliminate the possibility of later interpretation of the discontinuities as rejectable at final inspection. The contractor has agreed that repairs of this type should have been, and will henceforth be, treated in strict and complete accordance with established procedures with documentation. PGandE Minor Variation No. M228 and Wismer & Becker Non-Conformance Report No. 13 have been initiated to document this discrepancy.

Discrepant Condition #2: Paragraph 6.68 of Specification 8752 provides in part as follows:

Cutting of stainless steel materials shall be performed by machining, sawing, or iron-free aluminum oxide abrasive discs.

Paragraph 3.67 provides in part as follows:

Grinding and polishing shall be done using only rubber or resin bonded aluminum oxide or silicon carbide grinding wheels.

Wismer & Becker's Weld Repair Procedure #3500-200 requires that:

Material removed shall be by grinding with rubber or resin bonded aluminum oxide or silicon carbide grinding wheels which have not previously been used on other types of material.

Contrary to these requirements, the contractor used the carbon-arc gouging process in removing weld material from Weld No. 3-2A. As a result PGandE has revised paragraph 6.68 to read as follows:

Cutting of stainless steel materials shall be performed by machining, sawing, or iron-free aluminum oxide abrasive discs. Where approved by Constructor, carbon air arc gouging may be

used for removing weld metal providing that the excavation is prepared for repairs by removing all remaining slag, scale or oxides, by machining or grinding 1/16 inch minimum to sound metal. Sound metal shall be verified by liquid penetrant examination. Grinding shall be with rubber or resin bonded aluminum oxide or silicon carbide grinding wheels not previously used on other materials.

Wisner & Becker's Weld Repair Procedure No. 3500-200 has been revised to include this specification change, and the revision is in the process of review and approval. Repairs to Weld No. 3-2A will be made according to the revised procedure when it is approved. PGandE Deviation No. 181 and Wisner & Becker Non-Conformance Report No. 11 are being processed to document this discrepancy.

Discrepant Condition #3: Paragraph 6.54 of Specification 8752 provides as follows:

Weld metal layers generally shall not exceed 1/8 inch in thickness in order that a minimum amount of base metal penetration will result. All welds shall be deposited as stringer beads. Welds shall be made by making a complete pass over the joint before going to the next pass. "Block" welding technique shall not be used. Weaving shall not exceed two electrode diameters or the gas cup orifice inside diameter. The manner of depositing weld metal shall be such that cutting of a groove face shall be held to a minimum.

Wisner & Becker's Weld Procedure No. 3500-1 reiterates these requirements. In our judgment Wisner & Becker used alignment-welding techniques to maintain apparatus and pipe alignment during welding of the primary system which were in violation of the PGandE and Wisner & Becker procedures. In addition, their method of welding, utilizing the some-time simultaneous services of two welders in diagonally opposed quadrants, did not rigidly conform to specification and procedure.

PGandE, with assistance from Wisner & Becker and Westinghouse Electric Corporation, has embarked on a comprehensive investigative program to evaluate the quality of the welds, both completed and partially completed, of the primary coolant loop main piping. The condition of the welds, pipe and equipment is being carefully reviewed with analytical and physical investigation, as deemed appropriate, to determine the consequences of the discrepant actions.

In order to determine the quality of weld joints Nos. 3-5A and 3-5B a non-destructive examination program recommended by Westinghouse was undertaken commencing October 10, 1973. This program included visual examination with magnification, a dye penetrant examination, and 300 KV X-ray examination of carefully prepared surfaces of the welds. The findings of this examination are being evaluated by Westinghouse, and the conclusions will be submitted to PGandE.

PGandE's Department of Engineering Research, assisted by the General Construction Department, is conducting a thorough review of the thermal history of both completed and partially completed field welds on the primary coolant loop, and the results of their report will be considered, together with the Westinghouse findings, by PGandE's Engineering Department. It is presently expected that complete findings with conclusions will be available in November. If further investigative steps are determined to be necessary, they will be defined and initiated at that time. PGandE Deviation No. 182 and Wismer & Becker Non-Conformance Report No. 12 are being processed to document this discrepancy. A final report of the resolution of this discrepancy will be submitted to you.

Preliminary results indicate that the work performed to date is in accordance with the intent of Specification 8752, the nuclear steam supplier's recommended installation procedures, and the ASME Boiler and Pressure Vessel Code requirements. To prevent future discrepancies PGandE currently is reviewing the Specification, the contractor's work procedures, and the nuclear steam supplier's recommended installation procedures to provide improved guidelines where necessary and to remove ambiguities and deficiencies if they are found to exist.

Both PGandE and Wismer & Becker are concerned with the disclosure of these apparent discrepancies. Effective October 1, 1973, a welding supervisor was assigned by Wismer & Becker, full-time, to oversee welding operations, to coordinate the activities and training of foremen and welders, and to assure that procedures are rigidly followed. PGandE, on October 10, 1973, instituted a special training program for on-site field engineering and inspecting personnel to refamiliarize them with the quality requirements of on-site activities. This program will continue until we are satisfied that our people are fully informed and that all work is in full compliance with applicable quality requirements.

Very truly yours,

F. T. Searls . .

PAC:mjr

Hayes

PACIFIC GAS AND ELECTRIC COMPANY

PG&E + 77 BEALE STREET • SAN FRANCISCO, CALIFORNIA 94106 • (415) 781-4211

FREDERICK T. SEARLS
VICE PRESIDENT AND GENERAL COUNSEL

JOHN C. MORRISSEY
ASSOCIATE GENERAL COUNSEL

WILLIAM B. KUDER
WILLIAM E. JOHNS
MALCOLM H. PURBUSH
CHARLES T. VAN DEUSEN
MALCOLM A. MACKILLOP
PHILIP A. CRANE, JR.
ASSISTANT GENERAL COUNSEL

October 25, 1973

NOEL KELLY
HENRY J. LAPLANTE
RICHARD A. CLARKE
GILBERT L. HARRIS
EDWARD J. MCGANNEY
JOHN B. GIBSON
GLENN WEST, JR.
ARTHUR L. MILLMAN, JR.
CHARLES W. THIBBELL
ROBERT OHLBACH
STANLEY T. SKINNER
DANIEL E. GIBSON
SENIOR COUNSEL

DAN GRAYSON LUBBOCK
J. BRADLEY BUNNIN
BERNARD J. DELLASANTA
JACK F. FALLIN, JR.
HOWARD V. GOLUB
DONALD L. PRETAS
JAMES C. LORRISON
JOSEPH E. ENGLISH, JR.
LOUIS F. SCHOFIELD
ROBERT L. BORDON
DENNIS C. SULLIVAN
KATHY TODRANK
ROBERT L. HARRIS
ATTORNEYS

Dr. Donald F. Knuth, Director
Directorate of Regulatory Operations
U. S. Atomic Energy Commission
Office of Regulation
Washington, D. C. 20545

Re: Docket 50-275

Dear Dr. Knuth:

Enclosed is a copy of a letter we addressed to Mr. R. H. Engelken which, under 10 CFR 50.55, should have been addressed to you. If you require a copy actually addressed to you, please let me know. The final report will, of course, be so addressed.

Very truly yours,

F.T. Searls

Enclosure

cc: Directorate of Regulatory Operations
Region V

*dupe of
8311300155*

PACIFIC GAS AND ELECTRIC COMPANY

PG&E

77 BEALE ST. • SAN FRANCISCO, CALIFORNIA 94106 • (415) 781-4211

FREDERICK T. SEARLS
VICE PRESIDENT AND GENERAL COUNSEL

JOHN C. MORRISSEY

ASSOCIATE GENERAL COUNSEL

WILLIAM B. KUDER

WILLIAM E. JONES

MALCOLM H. FURBUSH

CHARLES T. VAN DEUSEN

MALCOLM A. MACKILLOP

PHILIP A. CRANE, JR.

ASSISTANT GENERAL COUNSEL

October 25, 1973

NOEL KELLY
HENRY J. LAPLANTE
RICHARD A. CLARKE
GILBERT L. HARRICK
EDWARD J. MCDONNELL
JOHN B. GIBSON
GLENN WEST, JR.
ANTHUR L. MILLMAN, JR.
CHARLES W. THIBBELL
ROBERT CHLUBACH
STANLEY T. BARNER
DANIEL E. GIBSON
SENIOR COUNSEL

DAN GRAYSON LURBCK
J. BRADLEY BUNNIN
BERNARD J. DELLASANTA
JACK F. FALUN, JR.
HOWARD V. GILLES
DONALD L. FREITAS
JAMES C. LOOSEBON
JOSEPH B. ENGLERT, JR.
LOUIS F. SCHOFIELD
ROBERT L. BORDON
DENNIS C. SULLIVAN
KATHY TOORANK
ROBERT L. HARRIS
ATTORNEYS

Dr. Donald F. Knuth, Director
Directorate of Regulatory Operations
U. S. Atomic Energy Commission
Office of Regulation
Washington, D. C. 20545

Re: Docket 50-275

Dear Dr. Knuth:

Enclosed is a copy of a letter we addressed to Mr. R. H. Engelken which, under 10 CFR 50.55, should have been addressed to you. If you require a copy actually addressed to you, please let me know. The final report will, of course, be so addressed.

Very truly yours,

F.T. Searls

Enclosure

cc: Directorate of Regulatory Operations
Region V

Dupe of
8311300155

Handy
50275

3 1102