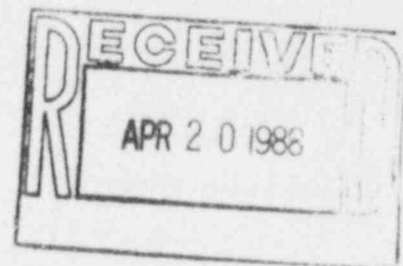


Your Partner in Quality Service
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April 18, 1988



Mr. Robert Martin
Nuclear Regulatory Commission
Regional Administrator, Region IV
611 Ryan Plaza Drive
Suite 1000
Arlington, Texas 76011

- Reference:
1. Telephone conference on April 15, 1988 with Richard Fisher, Toni Cuttrill and Roseann Costello of ENERTECH and Robert Martin of the Nuclear Regulatory Commission.
 2. ENERTECH letter to Control Components, Inc. dated April 7, 1988.

Dear Mr. Martin:

This letter provides further information with regard to the seal material incompatibility issue discussed with you on April 15, 1988. We discussed the problems associated with the PORV valve operators at the South Texas Project. While investigation continues to ascertain the scope of the problem, this letter constitutes an interim report and subsequent surveillance recommendations.

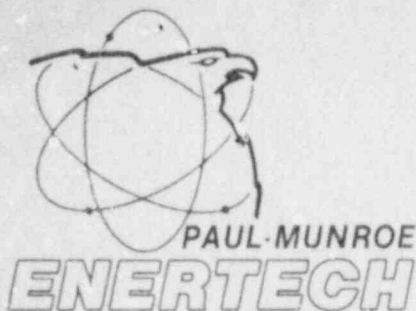
Leakage in two actuators had been detected recently, which has led to several plant visits by an ENERTECH technician. All of the valve operators had been utilized frequently in the modulating mode so that all seals were exercised and subjected to heat effects, especially due to the induced heat from the PORV. The valve operators on trains B and C were especially affected and this report shall deal with these.

Hydraulic fluid leakage was detected at the pump shaft on the C train valve operator. The pump was exchanged for one taken from Unit 2 and the shaft seal was brought back to ENERTECH for analysis. In addition, two fluid samples were withdrawn from the valve operator as the fluid exhibited an unusually dark color. One of these samples was sent to ENERTECH for analysis along with a sample of unused hydraulic fluid, Fyrquel EHC manufactured by the Stauffer Chemical Company.

In addition, leakage at the upper rod seal of the hydraulic cylinder on train B was detected, and thus a cylinder from Unit 2 was used to replace that cylinder on Unit 1. This cylinder was subsequently returned to ENERTECH for refurbishment and analysis.

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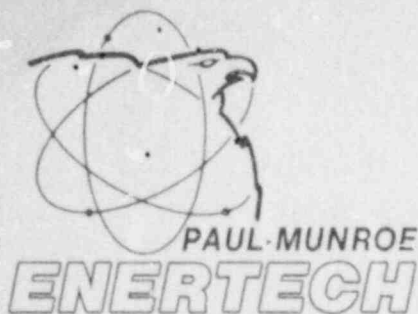
The fluid sample taken from the B train was sent to an outside laboratory along with the unused sample to determine particulate count, water content and acidity. Infra-red Spectrophotometry was performed to determine the material composition of the contaminants, if any. The particulate count of the contaminated fluid indicated a cleanliness level of Class 9 as defined in NAS 1638. The water content and acidity were not significant, nor was the IR spectra in comparison to the unused fluid. As a result, a definitive determination of the contaminant was not made and a further request to Houston Lighting and Power was made for larger samples for concentration and qualitative analysis.

The pump shaft seal and the hydraulic cylinder rod seals that were brought back to ENERTECH were sent to another laboratory for material identification. The report that followed was definitive in its findings that the seal material was BUNA-N, which is incompatible with Fyrquel EHC.

The hydraulic cylinder from train B that was returned to ENERTECH is currently undergoing analysis. All seals removed from this component shall be sent to an outside lab for material identification.

Upon review of the procurement documents for the hydraulic cylinder seal kits, ENERTECH finds that the seals were properly specified by the manufacturer's part number for the subject cylinder and for Viton seals. Certificates of Conformance received with the kits specify that the procured seals were made of Viton. The presence of BUNA-N seals is an isolated incident, as these cylinders have only been provided to South Texas Project. We are, however, pursuing discussions with Parker Cylinder Division, the manufacturer of the cylinders, to determine the cause for the improper shipment of these seals.

After reviewing the procurement documents for the pump shaft seal and after many discussions with the pump manufacturer, we find that the part number provided us by the supplier to specify this seal actually specified BUNA-N. We corrected our specifications and procurement documentation to reflect the correct number. To date, these shaft seals have been supplied only to the South Texas facility, and therefore we know that this is an isolated situation.



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All other components that are refurbished with new elastomers utilize standard size o-rings that are all normally procured from an approved seal vendor. Due to the similarity in appearance between each seal material, ENERTECH procures only seals compatible with Fyrquel. For this reason, we know that common o-ring seals are not suspect.

BUNA-N, or nitrile, is considered an unsatisfactory seal material for use with Fyrquel, and because of this, ENERTECH specifies all seals to be either Viton, a fluorocarbon, or EPR, ethylene propylene rubber. BUNA-N seals exposed to Fyrquel exhibit softening and swelling which could over a period of time lead to seal failure. These effects may not be readily apparent, but will be accelerated by high operating temperatures.

For this reason, ENERTECH recommends an enhanced surveillance program for the suspected operators to monitor for excessive leakage. This is simply done by observation of the cylinder rod and the pump shaft to detect the presence of fluid. By analyzing the fluid from each operator for nitrile material, the limits of this surveillance will be determined. Should performance be found to be degraded such that the pump operates continuously, then the unit should be brought out of service and the seals of the pump and hydraulic cylinder be replaced.

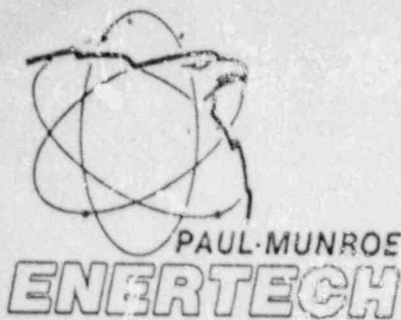
Should you have questions regarding this incident please contact the undersigned by phone at (714) 528-2301.

Very truly yours,

Paul-Munroe ENERTECH

Richard C. Fisher
Director of Engineering

RCF:kcd
0686E



SENT via FAX
8:21 4-7-88

cc: F. Erlach
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April 7, 1988

Control Components, Inc.
22591 Avenida Emprresa
Rancho Santa Margarita, California 92688

Attention: Mr. E. J. Villalva
Manager, Contract Administration

Subject: South Texas Project, Units I and II Valve Operators
CCI Purchase Order Numbers 7006B and 7427B
ENERTECH Job Numbers E7304 and E7324

As you know, several problems with the subject valve operators have occurred recently at South Texas Project. The ENERTECH technician who serviced these operators at the site brought back a pump shaft seal and two seals from a cylinder rod seal assembly (from the "B" and "C" operators), all of which exhibited signs of erosion. We sent these seals to an outside lab for evaluation. The preliminary lab results indicate that these seals may be BUNA-N, which is incompatible with phosphate ester fluid (FRYQUEL).

Our subsequent investigation indicates that the seals were ordered properly by ENERTECH, specifying Viton or EPR, but that our vendor(s) apparently inadvertently furnished BUNA-N instead.

ENERTECH of course feels an obligation to develop an immediate course of action to determine the extent of the problem. In order to complete our evaluation, we will need a fluid sample from each of the eight Unit I and Unit II operators. We will then send the samples to a lab for analysis. The presence of BUNA-N particles in the fluid will indicate to us which operators, if any, have seals that require replacement. ENERTECH will immediately develop a course of action to resolve the problem as required.

May we request that CCI arrange to have fluid samples sent to ENERTECH by April 13th.

Sincerely,

Roseann Costello

Roseann Costello
Manager, Contracts Administration

RC/sjm

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