PACIFIC AIR PRODUCTS CO.
3133 West Harvard Street · Santa Ana, California 92704 · P.O. Box 5277 · Telephone 714/557-1710 · Telex No. 67-8319

March 9, 1984

United States Regulatory Commission
1717 H Street NW
Washington, D.C. 20555

Attention: Director
Office of Inspection & Enforcement

Subject: 10CFR Part 21 Concern Status Update
Pacific Air Products Co. Linear Converters

Gentlemen:

The attached letter and list represents the most recent actions and information available that relate to the excessive wear situations encountered by linear converters manufactured by Pacific Air Products Co.

If you have any questions or comments, please contact me at (714) 557-1710.

Very truly yours,
PACIFIC AIR PRODUCTS CO.

James P. Dodson
Director of Quality Assurance

cc: NRC (Dallas) Attn: Mr. Cliff Hale



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March 7, 1984 Log No. 7043-31

Attention: Quality Assurance Director

Regarding: Clinton Power Station
Linear Converter Investigation Update

Gentlemen:

On February 1, 1984, we issued a concern regarding abnormal wear on the linear converters manufactured by Pacific Air Products Co. I would like to bring you up-to-date on the progress of our investigation.

1. Our testing program is well underway and is running according to plan and schedule. We have been able to duplicate the pattern of wear that has been reported to us from the field.

2. Our investigation of field conditions is providing us with some insight into the causes of excessive wear and I would like to relay some of this information to you.

A. Actual field conditions confirm that the excessive wear on the linear converters is caused by "hunting" of the control circuitry. For example, in one case a volume sensing device was installed downstream of the dampers. When the dampers opened, the air was aimed directly on the velocity sensing device. At that moment, the device sensed the increased velocity and caused the damper to change position thereby deflecting the airstream away from the sensing device. The sensing device once again called for the damper to open, etc., etc.. This field condition, "velocity stratification", caused the damper to "hunt". (We estimate that this condition could cause short cycle response at about 21,000 strokes per day or 651,000 strokes per month or 3,906,000 strokes in a six month period.)

B. Not only can velocity sensing devices cause hunting but temperature sensing devices, where the differential is closely set, may also cause the same condition.

I am enclosing a photograph of the input shaft of a linear converter that was returned to us from the field. The wear pattern is indicative of the hunting problem. I would suggest that your project be inspected to determine whether any of the tell-tale signs are present. Hunting caused by the control circuit not only affects the linear converter but it also affects the damper and the actuator. If this condition exists, it should be remedied as soon as possible. A determination of the number of cycles run by the equipment should also be made to assist in evaluating the replacement or servicing that may be required.

We are starting the final phase of our testing program and will have some definitive data available soon.

If you have any questions concerning the information contained herein, please call me at (714) 557-1710.

Very truly yours,
PACIFIC AIR PRODUCTS CO.

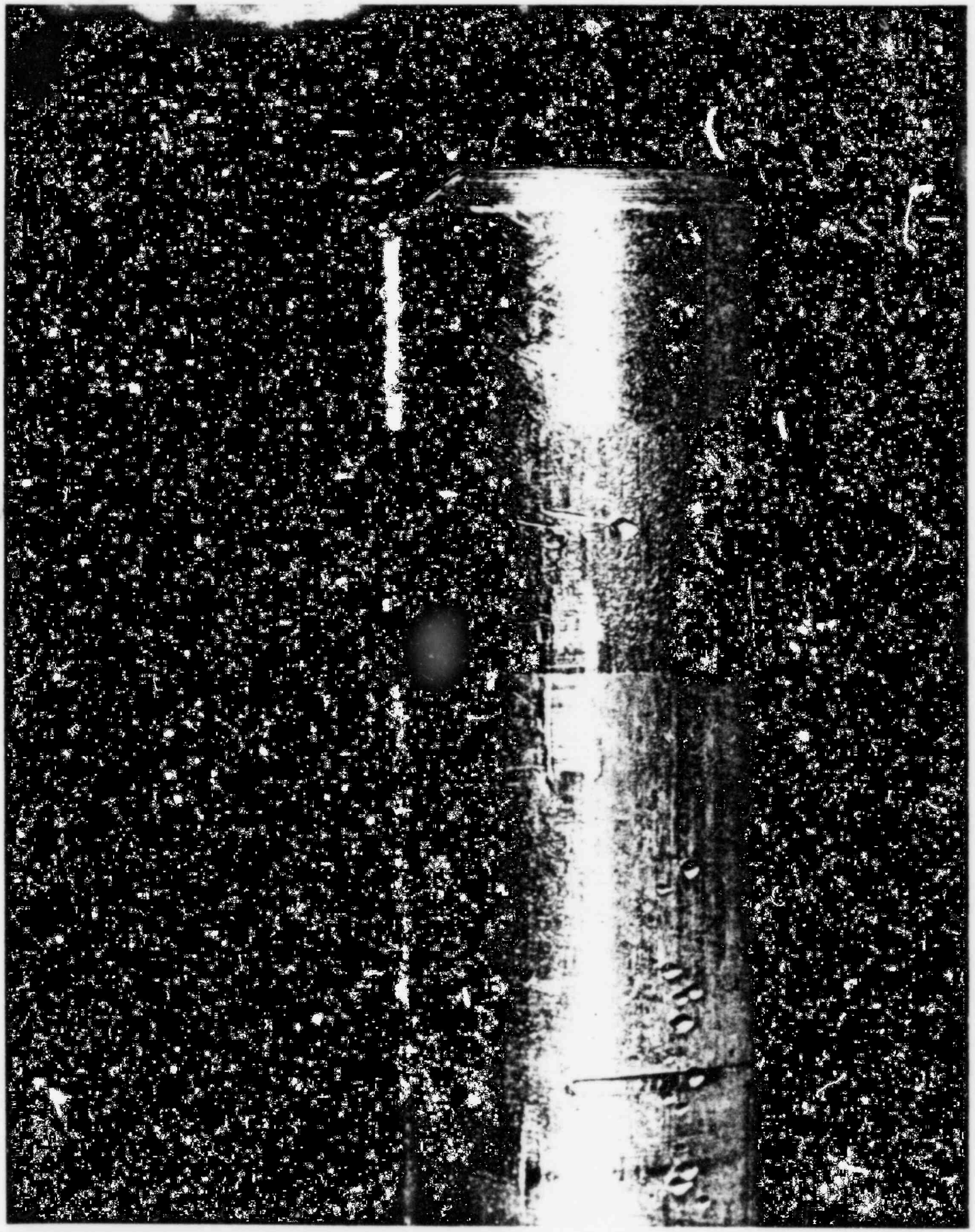
James Dodson

James P. Dodson
Director of Quality Assurance

Enclosure: (1)

JPD:dg

cc: Sargent & Lundy (Q.A.)
Steve Ornberg (S&L)



The attached letter dated 3/7/84 regarding PAPCo's linear converter investigation update was sent to the following:

ILLINOIS POWER COMPANY
Clinton Power Station
P.O. Box 678
Clinton, Illinois

cc: Sargent & Lundy (Q.A.)
Steve Ornberg (S&L)
Rick Servey ( Illinois Powr)

BINGHAM MECHANICAL
P.O. Box 1856
1300 Pancheri Drive
Idaho, Falls, ID 83401

cc: Sabol & Rice

WISCONSIN POWER & LIGHT CO.
Columbia Generating Station
Milwaukee, Wisconsin 53081

cc: Willkomm Co., Inc.
Sargent & Lundy (Q.A.)
Steve Ornberg (S&L)

WISCONSIN POWER & LIGHT CO.
Edgewater Generating Station
Sheboygan, Wisconsin 53081

cc: Willkomm Co., Inc.
Sargent & Lundy (Q.A.)
S. Ornberg (S&L)
Joe Dalheimer (Aldag)

CONSUMERS POWER COMPANY
Midland Nuclear Power Station
Midland, Michigan 48640

cc: Bechtel Ann Arbor (Q.A.)

The CLEVELAND ELECTRIC ILLUM. CO.
c/o Perry Nuclear Power Plant
P.O. Box 97
Perry, Ohio 44081

cc: MCC Powers-Skokie (Q.A.)

DUKE POWER COMPANY
Catawba Nuclear Station
Newport, S.C. 29730

cc: Bahnson Service Co. (Q.A.)

VIRGINIA ELECTRIC & POWER CO.
P.O. Box 26666
Richmond, Virginia 23261

cc: Stone & Webster (Boston)

NIAGARA MOHAWK POWER CORP.
300 Erie Blvd. - West
Syracuse, N.Y. 13202

cc: Store & Webster (J. Plante)

PUBLIC SERVICE CO. INDIANA
Marble Hill Generating Station
P.O. Box 190
New Washington, Indiana 47162

cc: Sargent & Lundy (Q.A.)
S. Ornberg (S&L)

COMMONWEALTH EIDSON COMPANY
c/o Braidwood Station
P.O. Box 81
Bracevill, Illinois 60407

cc: Sargent & Lundy (Q.A.)
S. Ornberg (S&L)

COMMONWEALTH EDISON CO.
c/o Byron Station
P.O. Box B
Byron, Illinois 61010

cc: S. Ornberg (S&L
Sargent & Lundy (Q.A.)
Shankar Planjery (S&L)
Jim Westermeyer (Comm Ed.)

United NRC
1717 H. Street NW
Washington, D.C. 20555

Cliff Hale
U.S. NRC
Dallas, Texas