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Web 15, 1979

Crojer Nuclear Plane Docket 54-314 Liceuse NPF-1

Engelken, Director 1' 3. Suclear Pegulatory Court salen F. Jon V So to 202, Walnut Creek Plaza 1990 N. C. lifornia Blvd. Wa rut Creek, CA 94596



Door Sir:

We lave determined that a deficiency may exist in the impeller lockmut design for the containment spray pumps at the Trojan Nuclear Plant. There is a potential for the impeller lockmuts to loosen. It locknut locsening occurs, the impeller locknuts could come off the shaft and/or the impeller could contact the pump casing, either of which may lead to pump failure.

There pumps, manufactured by the Ingersoll-Rand Company of Phollipsburg, New Jackey, ce simila, in design to the Trojan Residual Heat Removal (RHE) pumps. In 1976, during maintenance on an RER pump, the impeller locknut was found to be loose. Subsequently, the impeller out locking design was modifica on loth RHP pumps to provide a positive mechanical lock, instead of relying on lockout torque which provides only thread and not friction to prevent losening. We are performing a similar impeller locknut modification on our containment spray pumps.

te lave also learned that loosening of similar impeller locknuts has been reported by other nuclear plants (i.e., Significant Deficiency Report by Irlu psas-1 on May 9, 1978 and LER 78-023 by Ocones-3). Because of our rescreainty as to whether the TRE had been adequately informed of this torential generic problem, we are making this report in accordance with 10 GFR 21. Attached please find 10 GFR 21 Report No. 79-01 as required by this regulation.

Sincerely,

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Assistant Vice President

Thermal Power Plant Operation & Mainters ce

(C/13U/3jrsel

c: Licestor, Office of Inspection & Enforcement (3) Director, State of Oregon, Dupartment of Energy

#### 10 CFR 21 Paport on Potential Containment Spray Pump Impeller Locknut Design Deficiency

### 1. Individual Informing the Commission

Mr. Charles Goodwin, Jr.
Assistant Vice President
Thermal Operations & Maintenance
Portland General Electric Company
121 S. W. Salmon Street
Portland, OR 97204
Phone: 503-226-8181

## 1. Facility and Component Potentially Containing the Defect

- A. Facility: Trojan Nuclear Plant
- B. Component: Containment Spray Pumps Equipment Nos. P-204A & B

#### 1. Component Supplier

Ingersoll-Rand Company Cameron Pump Division P. O. Box 486 Phillipsburg, NJ 08865

#### V. Nature of Potential Defect

The potential exists for the impeller locknuts to loosen, ellowing the impeller to contact the pump casing which may lead to pump failure; however, this condition has not been observed for the Trojan contains an appray pumps.

#### V. Date

The Nuclear Operations Board met on Thursday, April 12, 19/9, to determine whether there was a possibility that a deficiency exists. Based on this meeting, a recommendation was made to the responsible company officer to report the matter even though neither the need to report nor PGE's responsibility to report were clearly established.

## I. Number and Location of Similar Components

At the Trojan Nuclear Plant, the RHR pumps, P-202A & B, are the only other pumps similar to the containment spray pumps. These pumps were supplied by the same manufacturer and originally had a similar lockout design. In 1976, the locking mechanism for the RHR pump impellers was modified after it was discovered that one locknut had loosened. The manufacturer believes that the not loosened as a result of improper installation and that the RHR pumps may be more susceptible to locknut loosening than the containment spray pumps due to a faster coastdown. The RHR pumps have also been subject to higher temperature cycling and more frequent operation than the containment spray pumps.



#### All. Corrective Action

A. The corrective action consists of medifying the locking mechanism to include use of sea screws and locking tabs. Both the jew but and the cap but are provided with a "positive" mechanical lock.

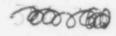
The modification for the containment spray pumps will be complete by June 15, 1979. The design concept is presently under review by the pump manufacturer.

B. Responsible PCE Personnel

Engineering: Mr. S. R. Christensen, Manager Generation Engineering Department

Installation: Mr. B. D. Withers, Superintendent Trojan Nuclear Plant





## ATTACHED IS A PART 21 REPORT FROM IE MAIL UNIT - ROOM 359E/W

PART 21 IDENTIFICATION NO. 79-175-000 COMPANY NAME Portland General DATE OF LETTER 4/16/79 DOCKET NO. 50-344 Electric Co.  DATE DISTRIBUTED 4/23/79 ORIGINAL REPORT SUPPLEMENTARY   ORIGINAL REPORT SUPPLEMENTARY		
DISTRIBUTION:	ONIGINAL REPORT	Q SOFFLE EVIARI L
REACTOR(R)	FUEL CYCLE &	SAFEGUARDS(S)
NRR/DOR (STELLO)	AD/FFMSI .	AD/SG-IE
NRR/DPM (BOYD)	NMSS/FOMS	AD/ROI
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CENTRAL FILES	CENTRAL FILES-SS-396	LPDR
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LPDR	TERA	CENTRAL FILES 016
TERA	BOB DEWNIG, MPA	CENTRAL FILES (CHRON)
BOB DEWNIG, MPA		CENTRAL FILES - SS-395
ACTION:		BOB DEINIG, MPA
PRELIMINARY EVUALATION OF THE ATTACHED REPORT INDICATES LEAD RESPONSIBILITY FOR FOLLOW-UP AS SHOWN BELOW:		
IE NRR [	NMSS [	OTHER
RCI ROI SG		
FFMSI	700	257