

In reply refer  
to 327-81-63

# NORTHROP

August 10, 1981



U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Attention: Director of Inspection and Enforcement

Subject: Licensee Event Report

Reference: (a) Technical Specification for the  
Northrop Corporation TRIGA Mark  
F Reactor, dated 19 February 1971

Gentlemen:

In accordance with Section H.7.a., of the Technical Specifications  
for the Northrop Reactor, the following information is submitted  
for your record.

Certain operations of the Northrop Reactor on 28 July 1981, may  
have been in violation of paragraph F.3., of the Technical  
Specifications. Please refer to the enclosed memo for details.

Region V Director of Inspection and Enforcement was informed by  
telephone within 24 hours of this occurrence.

A copy of this report has been sent to Region V Director of  
Inspection and Enforcement.

Very truly yours,

Walter E. Crandall, Chairman  
Corporate Radiation Committee

Enclosure

WEC:jm

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Delete: PDR,  
LPDR,  
MSIC, for  
ARTIS  
E. Crandall  
initials*

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# Memorandum

Northrop Corporation

In reply refer to:

327-81-57

To: Dan Avant  
Walt Crandall

From: George Cozens

Subject: REPORT OF A POSSIBLE ABNORMAL OCCURRENCE

Date: 28 July 1981

Copies:

Ref:

On the morning of 28 July 1981, Joe Woods noticed an unusual sound being emitted by the stack monitor (RMI) pump. The problem was diagnosed as dry bearings in the pump itself. Grease was applied to the bearings (where the grease fittings could be reached), oil was added to the gear box, the pump was tested briefly, and the system returned to operation by about 0835.

During the day, the stack monitor was left on, in preparation for a reactor run. Due to customer problems, the run was delayed until 1735, at which time a 2Kw, 10 minute steady state run was conducted in the exposure room. Because this run was at such a low level (0.2% of our maximum steady state level), little or no increase in the stack monitor reading/recording was expected. Frank Blair, the operator, logged the stack monitor reading as 35cpm during the run (at 1748). The background for RMI, on the day's startup list was recorded as 35cpm. (By comparison, RMI typically reads about 60cpm for 20Kw runs - or 2% of full power).

At about 1815, after completing the shut down for the day, Frank proceeded to turn off the stack monitor, but found that the pump motor had already stopped. Apparently, the motor had blown its circuit breaker some time earlier. The stack monitor instrumentation, which is on a separate circuit, was still operating.

On the reactor console, located immediately below the RMI remote meter, are two indicator lights: one, a white light, indicates when there is electrical power on the pump motor; the other, a red light, indicates when the gas flow entering the RMI chamber is insufficiently low. Under normal operating conditions, the white light would be lighted and the red light extinguished. Since both lights get their power from the motor circuit, both would be off should this circuit lose its power. The operator does not recall the white light being off during the 2Kw run. We believe then, that the stack monitor pump was operating during the run, and that it stopped operating some time after the run. In this case, no violation of our Tech Specs would have occurred.

**NORTHROP**

To: Dan Avant  
Walt Crandall

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However, in the event that the extinguished white light could have been overlooked, there exists the possibility that some, or all, of the 2Kw run was made with little or no sampling of the stack effluent, in which case, a violation of our Tech Specs would exist. In any case, this situation presented no hazard to Northrop personnel or the general public.

A possible solution to prevent any reoccurrences of this kind in the future, might be the installation of a relay to the RMI circuitry, which would alarm if the pump motor loses power during operating conditions.

*George Cozens*  
George Cozens  
Northrop Reactor