



# REED COLLEGE

Reed Research Reactor  
3203 SE Woodstock Boulevard, Portland, Oregon 97202-8199  
phone: 503/777-7222. email: reactor@reed.edu

January 20, 2023

2023-004

Geoffrey Wertz  
Project Manager  
Non-Power Production and Utilization Facility Licensing Branch  
Division of Advanced Reactors and Non-Power Production and Utilization Facilities  
Office of Nuclear Reactor Regulation

Dear Mr. Wertz,

This letter is intended to fulfill the 14-day written report requirement of Technical Specification 6.7.2, "Special Reports," following operation in violation of limiting conditions of operation.

On January 11, 2023, reactor staff were performing a planned movement of irradiated fuel within the reactor pool in support of routine fuel inspection. At 1327 Fuel Element (FE) 3674 was removed from core position E09 by the fuel handler and moved to the inspection rack. Fuel positioned in the inspection rack is still considered to be in motion as the inspection rack does not actively hold elements and continuous action by the handler is required. At 1348, the facility exhaust fan stopped functioning. Staff immediately realized the exhaust fan had failed as reactor bay pressure equalized with the control room, visual indication on the air return vent indicated lack of flow, and the fan motor could no longer be heard.

I conducted an initial investigation while the fuel handler maintained the FE in the inspection rack. A staff member who was cleaning within visual distance of the fan motor reported seeing a spark, smelling a slight acrid odor, and the motor shut down. I locally secured power to the motor, and contacted Reed Facilities Services for their support in conducting a more in-depth investigation of the motor.

After the initial investigation, it was clear to me that it would take a significant period to repair the fan motor. Since it is unreasonable to expect the fuel handler to be physically capable to maintain physical control over a fuel element for a period of hours/days, and the FE was already considered to be in motion, at approximately 1400 I directed the fuel handling team to return FE 3674 from the inspection rack to the nearest safe location that did not require continuous action by the handler. In this case the nearest safe location was to return the element to core position E09. The fuel handler returned the FE 3674 to core position E09 at 1408.

Staff members of Reed Facilities Services responded at 1436 and determined that aging wire insulation within the motor had degraded to the point that there was a short that tripped the motor.

In accordance with Technical Specification 6.7.2.a.4, at 1410, I reported the violation of Technical Specification 3.4 by telephone to the NRC Operations Center and immediately following the call confirmed the content in writing.

At 1441, I informed Reed College management and the Reactor Operations Committee of the event. On January 12, 2023 at 1050 I notified Duane Kilsdonk, Compliance Officer Energy Siting Division Oregon Department of Energy of the event.

Work continues to repair the damaged motor. All fuel movements and reactor operations will continue to be suspended until the repair is complete.

Sincerely,

Jerry Newhouse  
Director  
Reed College Research Reactor  
503-517-7748  
[jnewhouse@reed.edu](mailto:jnewhouse@reed.edu)

cc:

Dr. Kathryn C. Oleson, Dean of the Faculty, Reed College  
Duane Kilsdonk, Compliance Officer, Energy Siting Division Oregon Department of Energy