



Research Reactor Center

University of Missouri-Columbia

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April 18, 2005

Mr. Alexander Adams, Jr.
U.S. Nuclear Regulatory Commission
Mail Stop O12-G13
Washington, DC 20555-0001

REFERENCE: Docket No. 50-186
University of Missouri- Columbia Research Reactor
Amended Facility License R-103

SUBJECT: MURR Operations Monthly Summary

Dear Mr. Adams:

Enclosed is a copy of MURR's Monthly Operations Summary for March 2005. If you have any questions, please contact me at (573) 882-5276.

Sincerely,

Leslie P. Foyto
Reactor Manager

LPF/djr

Enclosure

A020

**UNIVERSITY OF MISSOURI
RESEARCH REACTOR**

OPERATIONS MONTHLY SUMMARY

March 2005

**Prepared by:
Operations Staff**

INTRODUCTION

The reactor operated continuously in March with the following exceptions: 4 shutdowns for scheduled maintenance and refueling; 1 unscheduled shutdown. One Licensee Event Report, No. 05-01, was submitted within the Technical Specification required thirty-day time requirement.

MAINTENANCE ACTIVITIES

- 3/7/05 Refueled - removed core 05-10, loaded core 05-11.

----- Reinstalled refurbished Secondary Coolant System Flow Distribution Valve S-18.
- 3/10/05 Refueled - removed core 05-11, loaded core 05-12.
- 3/14/05 Refueled - removed core 05-12, loaded core 05-13.
Performed a backflush on the Secondary Coolant Side of the Pool Coolant System Heat Exchanger HX521.
Replaced the personnel airlock outer door motor.
Reinstalled refurbished Secondary Coolant System Flow Distribution Valve S-19.
- 3/21/05 Refueled - removed core 05-13, loaded core 05-14.
- 3/28/05 Refueled - removed core 05-14, loaded core 05-15.
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- 3/29/05 Completed CP-29 (Calibration of the NMC RAK Radiation Stack Monitor).

UNSCHEDULED SHUTDOWNS

<u>Date</u>	<u>No.</u>	<u>Type</u>	<u>Cause</u>
3/10/05	1177	Scram	Airlock Door Failure

On March 10, 2005, the reactor was manually scrammed when it was discovered that the containment building personnel airlock inner door-sealing gasket did not remain inflated after a door closing cycle. This resulted in a loss of containment integrity and a deviation from Technical Specification 3.5.a. This event is described in detail on Page 4 of this summary.

LICENSEE EVENT REPORT

LER No. 05-01 dated March 10, 2005

On March 10, 2005, a control room operator was exiting the reactor containment building through the personnel airlock. The operator noted that the inner airlock door sealing gasket pressure gauge was reading 0 psig with the door shut. With the assistance of another operator, it was determined that the inner airlock door gasket inflated as intended when the door reached the "closed" position, but then immediately deflated after the cycle was complete (the door remained closed). Additionally, the sound of air flowing past the gasket seal could be heard. The operator immediately informed the control room of the condition and the reactor was shutdown and secured.

Upon investigation, it was determined that the inner airlock door three-way, dual solenoid-pilot valve had not remained in the "latched" position following the door closing cycle. Once the closing solenoid de-energized, the three-way valve returned to the "unlatched" position, thereby venting air pressure from the sealing gasket resulting in a loss of containment integrity. The three-way valve bonnet and dual solenoid-pilot control assembly were replaced. The door was then cycled five times to verify proper adjustment and operability. The reactor was refueled and returned to 10 MW operation later that day with Reactor Manager's approval.

Failure of the personnel airlock door to provide an adequate seal resulted in a deviation from Technical Specification 3.5.a; one of two Limiting Conditions for Operation regarding containment integrity. Technical Specification 3.5.a requires that containment integrity be maintained at all times except when the reactor is secured, and irradiated fuel with a decay time less than sixty days is not being handled. One of the six conditions for reactor containment integrity to exist is "The personnel airlock door operable." This implies that one of the two personnel airlock doors must be fully closed with its gasket inflated, thus providing a satisfactory seal. Detailed analysis of the event and any corrective actions are included in Licensee Event Report No. 05-01.

OPERATION SUMMARY FOR MONTH OF
University of Missouri Research Reactor Center (MURR)

Mar-05

HOURS OPERATED THIS PERIOD

666.52

TOTAL HOURS OPERATED, REACTOR

265,163.40

HOURS OPERATED AT FULL POWER, THIS PERIOD

662.67

TOTAL HOURS AT FULL POWER, REACTOR

261,810.79

INTEGRATED POWER THIS PERIOD

276.20

MWD

TOTAL INTEGRATED POWER, REACTOR

103,289.39

MWD

Submitted by: Das K
MWD Custodian/Reactor Physicist

Date: 4/6/05