



## Research Reactor Center

University of Missouri-Columbia

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November 14, 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 October 2005. If you have any questions, please contact me at (573) 882-5276.

Sincerely,

Leslie P. Foyto  
Reactor Manager

LPF/djr

Enclosure

IE24

UNIVERSITY OF MISSOURI  
RESEARCH REACTOR

OPERATIONS MONTHLY SUMMARY

October 2005

Prepared by:  
Operations Staff

## INTRODUCTION

The reactor operated continuously in October with the following exceptions:  
6 shutdowns for scheduled maintenance and refueling; 1 unscheduled power reduction.

## MAINTENANCE ACTIVITIES

10/3/05	Refueled – removed core 05-47, loaded core 05-48.
10/5/05	Completed CP-29 (Calibration of the NMC RAK Radiation Stack Monitor).
10/6/05	Shipped eight spent fuel elements to Savannah River Site. Refueled – removed core 05-48, loaded core 05-49.
10/7/05	Replaced the Pool Coolant Demineralizer System inlet filters.
10/10/05	Refueled – removed core 05-49, loaded core 05-50.
10/14/05	Refueled – removed core 05-50, loaded core 05-51.
10/17/05	Refueled – removed core 05-51, loaded core 05-52.
10/24/05	Refueled – removed core 05-52, loaded core 05-53.
10/25/05	Completed the biennial change out of Control Blade 'C' Offset Mechanism. Replaced the lead screw for 'C' Control Rod Drive Mechanism.
10/31/05	Refueled – removed core 05-53, loaded core 05-54. Completed the biannual cleaning of the Cooling Tower sump and basin. Performed a backflush on the Secondary Coolant Side of the Pool Coolant System Heat Exchanger 521. NRC inspector arrived at MURR for routine inspection. Replaced the magnet cabling on 'C' Control Rod Drive Mechanism. Replaced the fuses in the fused switch for the South Roof Top Air Handler.

### UNSCHEDULED POWER REDUCTIONS

<u>Date</u>	<u>No.</u>	<u>Type</u>	<u>Cause</u>
10/6/05	1190	Scram	Reflector HI-LO Differential Pressure

On October 6, 2005, a "Reflector H-LO Differential Pressure" scram automatically initiated when a 3-inch sample holder was removed from the reactor pool reflector region during a normal sample handling evolution. Removal of the sample holder, combined with a lower than normal pool coolant flow, created a low differential pressure condition across the reflector region. Pool coolant flow had gradually decreased over the 12 hours prior to the shutdown for no apparent reason. During troubleshooting efforts, the pool coolant and demineralizer system filters were removed and inspected. Fibrous material, similar to that of nylon rope, was found on the filters. The filters were either replaced or cleaned, as required, and pool coolant system flows returned to normal. The most likely scenario is a section of nylon rope, which is used to hang off items in the pool, had come loose and entered the pool coolant loop through natural convection valve 547. This valve is located near the pool bottom and is maintained open during operation. Once in the loop, the combination of gamma radiation and the pool coolants pumps had deteriorated the rope to point where it had disintegrated and collected on the filters. The reactor was subsequently returned to 10 MW operation.

**OPERATION SUMMARY FOR MONTH OF**

University of Missouri Research Reactor Center (MURR)

Oct-05

HOURS OPERATED THIS PERIOD

632.01

TOTAL HOURS OPERATED, REACTOR

269,694.25

HOURS OPERATED AT FULL POWER, THIS PERIOD

626.76

TOTAL HOURS AT FULL POWER, REACTOR

266,319.14

INTEGRATED POWER THIS PERIOD

261.32

MWD

TOTAL INTEGRATED POWER, REACTOR

105,169.01

MWD

Submitted by: \_\_\_\_\_

Das K

MWD Custodian/Reactor Physicist

Date: \_\_\_\_\_

11/1/05