

PRIORITY ROUTING	
First	Second
RA	RC
DRA	EIC
DRP	EGA
DRS	QI
DRMS	PAO
DRMA	
<i>Burkholder</i>	
FILE	<i>100</i>

*50-186*

UNIVERSITY OF MISSOURI RESEARCH REACTOR  
OPERATIONS MONTHLY SUMMARY

*0/1*

APRIL 1998

Prepared by:  
Operations Staff

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MAY 15 1998

April 1998

The reactor operated continuously in April with the following exceptions: five shutdowns for scheduled maintenance and/or refueling; two unscheduled shutdowns.

On April 1, a rod-not-in-contact-with-magnet rod run-in occurred when control blade 'A' disengaged from its magnet during a routine blade shimming evolution. The offset rod drive mechanism for control blade 'A' was thoroughly inspected and tested--including a pull test (Reactor Test Procedure 21). The reactor was subsequently refueled and a normal startup was completed satisfactorily. On the subsequent scheduled maintenance day, the offset and drive mechanism were inspected again and electronics technicians thoroughly checked and tested the electronics. In an attempt to possibly isolate and identify a cause for this problem, electronics technicians switched the power supplies for the control blade magnets. No further problems of this particular type have since occurred.

On April 27, a wide range monitor (Channel #4) high power scram occurred during a normal startup with the reactor at 10 kW. No actual high power condition was indicated or observed on any instrumentation. A thorough examination and testing of this nuclear instrument revealed no anomalies. The cause was believed to be spurious. A subsequent normal startup was completed satisfactorily.

Major maintenance items for the month included: removing redundant post indicating valve #3 in the fire protection (wet) system; replacing the air regulator on the anti-siphon system; performing the biennial change-out of control blade offset mechanism 'B'; installing the new Gamma-Metrics nuclear instrument channel 5/6 power range recorder per modification package 95-1C.

#### UNSCHEDULED SHUTDOWNS

<u>Date</u>	<u>No.</u>	<u>Type</u>	<u>Cause</u>
4/1/98	1082	Rod Run-In	Control blade 'A' disengaged from magnet
4/27/98	1083	Scram	Spurious Channel #4 high power

### OPERATIONS SUMMARY

HOURS OPERATED THIS PERIOD	642
TOTAL HOURS OPERATED	211,308
HOURS AT FULL POWER THIS PERIOD	640
TOTAL HOURS AT FULL POWER	208,212
INTEGRATED POWER THIS PERIOD	267 MWD
TOTAL INTEGRATED POWER	80,907 MWD

### MAINTENANCE ACTIVITIES

04/01/98 Refueled - removed core 98-17, loaded core 98-18.

04/06/98 Refueled - removed core 98-18, loaded core 98-19.

04/13/98 Refueled - removed core 98-19, loaded core 98-20. Removed post indicating valve #3 from the fire protection wet system. Replaced the air regulator to the anti-siphon system.

04/15/98 Refueled - removed core 98-20, loaded core 98-21.

04/20/98 Refueled - removed core 98-21, loaded core 98-22. Biennial change-out of offset mechanism 'E'. Installed new channel 5/6 Gamma-Metrics power range recorder per modification package 95-1C.

04/27/98 Refueled - removed core 98-22, loaded core 98-23.