

Burdick *PLS*

UNIVERSITY OF MISSOURI RESEARCH REACTOR
OPERATIONS MONTHLY SUMMARY

50-186

AUGUST 1998

Prepared by:
Operations Staff

9810200240 980930
PDR ADOCK 05000186
R PDR

SEP 21 1998

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The reactor operated continuously in August with the following exceptions: five shutdowns for scheduled maintenance and refueling; four unscheduled shutdowns.

On August 6, a reactor scram occurred due to the loss of facility electrical power. Electrical power was restored in about an hour and the reactor was returned to normal operation.

On August 27 a manual rod run-in was initiated by the shift supervisor due to suspicion of a primary system leak. Operators subsequently discovered a leak at a flange on primary heat exchanger 503A. It was determined that a flange gasket had failed. The rubber gaskets (both inlet and outlet) were replaced with flexitallic gaskets. The heat exchanger was leak-checked satisfactorily and the reactor was returned to operation. During the subsequent startup, with the reactor at 5 MW, a primary heat exchanger low flow scram occurred. No actual low flow condition was indicated or observed on any other instrumentation. The flow transmitter was believed to have entrapped air--which caused the scram. The transmitter was vented and the reactor was returned to operation. During the subsequent startup, with the reactor at 5 MW, a primary heat exchanger low flow scram again occurred. No actual low flow condition was indicated or observed on any other instrumentation. The transmitter was believed to have been inadequately vented. The transmitter was vented again and the primary flow was adjusted and the reactor was returned to normal operation. No further problems of this type have since occurred.

Major maintenance items for the month included: performing some modifications on the Gamma-Metrics drywell -including hanging a lead shield on the outside of the drywell; replacing the pool system demineralizer loop motor; performing the annual emergency drill involving in-house personnel; rebuilding the trailing solenoid on the north containment back-up door; installing new flexitallic gaskets on primary heat exchanger 503A.

UNSCHEDULED SHUTDOWNS

<u>Date</u>	<u>No.</u>	<u>Type</u>	<u>Cause</u>
8/6/98	1086	Scram	Loss of facility electrical power.
8/27/98	1087	Manual Rod Run-In	Primary heat exchanger leak.
8/27/98	1088	Scram	Entrapped air in primary heat exchanger flow transmitter.
8/27/98	1089	Scram	Entrapped air in primary heat exchanger flow transmitter.

OPERATIONS SUMMARY

HOURS OPERATED THIS PERIOD	659
TOTAL HOURS OPERATED	213,933
HOURS AT FULL POWER THIS PERIOD	655
TOTAL HOURS AT FULL POWER	210,825
INTEGRATED POWER THIS PERIOD	273 MWD
TOTAL INTEGRATED POWER	81,996 MWD

MAINTENANCE ACTIVITIES

08/03/98 Refueled - removed core 98-37, loaded core 98-38. Performed modifications on Gamma-Metrics drywell.

08/06/98 Refueled - removed core 98-38, loaded core 98-39.

08/10/98 Refueled - removed core 98-39, loaded core 98-40. Performed annual emergency drill with in-house personnel. Rebuilt trailing solenoid on north back-up door. Replaced pool demineralizer motor (P-513B).

08/15/98 Loaded new pool deionization bed.

08/17/98 Refueled - removed core 98-40, loaded core 98-41. Installed new windgates on Row 1 p-tube per modification package 98-3.

08/24/98 Refueled - removed core 98-34, loaded core 98-42.

08/27/98 Refueled - removed core 98-42, loaded core 98-43. Installed new flexitallic gaskets on primary heat exchanger 503A.

08/31/98 Refueled - removed core 98-43, loaded core 98-44.