

ANNUAL REPORT  
August 1, 1980 - August 1, 1981  
ILLINOIS LOPRA REACTOR  
Facility License R-117

I. SUMMARY OF OPERATING EXPERIENCE

The LOPRA was scheduled for operation a total of 29 hours and was in actual operation a total of 18.8 hours. Scheduled operations averaged 2.4 hours/month and actual operation 1.6 hours/month. Use of the LOPRA was for an 'Approach to Critical' experiment for students and operator training in which this experiment was completed. The types and percentages of usage for this time were:

Approach to Critical Experiments	28%
Operator Training	55%
Measurements for Surveillance Requirements	17%

There were no new experiments or changes in facility design, performance characteristics, and operating procedures during this period. The LOPRA was placed in an Inoperative condition, as defined by the Technical Specifications, from October 10, 1981 through May 8, 1981. During this time, the  $\text{BF}_3$  tube that is used for start-up was removed and was utilized as a temporary source range detector for the Illinois Advanced TRIGA Reactor, License No. R-115. This was described in the Annual Report for this reactor, dated February 28, 1980.

II. TABULATION OF OPERATION

Hours Critical\* and Energy

Steady State Operation	18.8 hours	0.0014 MW-hrs
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\*This includes time for loading fuel elements during the approach to critical experiments. Actual critical time would be about 30% of this value.

III. EMERGENCY SHUTDOWNS - None.

IV. MAINTENANCE

The only maintenance was a change in the power supply for the  $\text{BF}_3$  tube that is used as the source range monitor. After repeated difficulties and the final failure of a 23 year old tube-type high voltage power supply, a new solid-state system was substituted to obtain the 1700 volts necessary for this operation.

V. CONDITIONS UNDER SECTION 50.59 of 10 CFR 50

As indicated above, there were no changes to the system, procedures, or new experiments during this period.

VI., VII., VIII. RADIOACTIVITY

Because of the low power and infrequent use of the LOPRA, its operation does not contribute to the release of effluents. Personnel records for the laboratory are given in the Annual Report for the Advanced TRIGA Reactor, License No. R-115, dated February 28, 1981 (Docket No. 50-151).

LICENSE RENEWAL

Amendment No. 3 to Facility License No. R-117 was received on April 6, 1981. This amendment renews the operating license until November 1, 1989. The only change in the amendment is a section that requires limiting conditions of operation for the water quality and surveillance requirements to assure that the condition is met.