

USAEC - AECL COOPERATIVE PROGRAM AND  
HEAVY WATER REACTOR PROGRAM

## MONTHLY PROGRESS REPORT

April 1968

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This document is furnished pursuant to the memorandum of understanding of June 7, 1960, between the U. S. and Canadian Governments establishing a Cooperative Program on the development of heavy water moderated power reactors.

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RECORDS ADMINISTRATION



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## REACTOR PHYSICS EXPERIMENTS

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### USAEC-AECL COOPERATIVE PROGRAM

#### INTRODUCTION

The temperature coefficient of reactivity for organic-cooled lattices with natural uranium oxide and simulated burned-up  $UO_2$  fuel measurements will be made in the SE in May and June 1968.

#### SUMMARY

Assembly and testing of SE fuel assemblies are scheduled to be completed by May 15, 1968. PDP asymmetrical control rod measurements are being analyzed.

#### DISCUSSION

All SE components are on hand or are expected by April 15. The standard fuel bundles have been assembled and the special irradiation pieces are being assembled. Before installation in the SE, each fuel assembly will be tested at operating conditions in the test facility. These tests are scheduled for completion by May 15. New suspension plates will be fabricated for the SE to accommodate the organic loop assemblies.

Flux distributions were measured last year with asymmetric control rods in the PDP  $dk/dT$  lattice. Comparison calculations were started this month. Flux shape calculations using HAMMER, PDQ, and WHIRLAWAY are partially completed.

### HEAVY WATER REACTOR PROGRAM

#### INTRODUCTION

The experimental HWR program for FY-68 consists of measurements on simulated boiling  $H_2O$  cooled assemblies in the SE and evaluations in the PDP of control rod strategies for coping with xenon oscillations.

SUMMARY

The SE experiments began on April 8, 1968, and the PDP experiments are scheduled for May 1968.

DISCUSSION

The SE fuel assemblies have been assembled and loaded into the SE. Buckling measurements began on April 8, 1968.

The PDP control rod experiments will not require additional hardware and are scheduled for the early part of May 1968.

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