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**ASSESSMENT OF REACTIVITY DEVICES FOR CANDU-6
WITH DUPIC FUEL**

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Abstract

Reactivity device characteristics for a CANDU-6 reactor loaded with DUPIC fuel have been assessed. A transport code WIMS-AECL and a three-dimensional diffusion code RFSP were used for the lattice parameter generation and the core calculation, respectively. Three major reactivity devices have been assessed for their inherent functions. For the zone controller system, damping capability for spatial oscillation was investigated. The restart capability of the adjuster system was investigated. The shim operation and power stepback calculation were also performed to confirm the compatibility of the current adjuster rod system. The mechanical control absorber was assessed for the capability to compensate the temperature reactivity feedback following a power reduction. This study has shown that the current reactivity device systems retain their functions when used in a DUPIC fuel CANDU reactor.