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Irradiation of U-Mo/Mg Dispersion Fuel in the NRU Reactor

M. Saoudi¹, S. Corbett¹, T. Wagner¹, S. Hibbins² and N. Wang²

¹Fuel Development Branch

²Nuclear Fuel Fabrication Facility

Canadian Nuclear Laboratories, 286 Plant Road, K0J 1J0 Chalk River – Canada

ABSTRACT

The irradiation tests of U-7Mo/Mg and U-10Mo/Mg dispersion fuel mini-elements with an LEU loading of 4.5 g/cm³ are continuing in the NRU reactor with a maximum linear power rating of 100 kW/m. The U-Mo/Mg mini-elements have achieved a burnup up to 60 at.% U-235 depletion. The U-Mo/Mg fuel elements undergoing irradiation were manufactured in the Nuclear Fuel Fabrication Facility at Canadian Nuclear Laboratories through processes similar to those used to fabricate NRU driver fuel (LEU). This paper describes the U-Mo/Mg mini-elements, the irradiation vehicle used, and some preliminary PIE on the irradiated U- Mo/Mg mini-elements.