

(02 : Ageing, Modernization and Refurbishment)

MATERIALS SURVEILLANCE PROGRAM FOR THE RA10 RESEARCH REACTOR

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The RA10 is a new 30 Mw research reactor which is in the design stage. The surveillance program, as part of the Ageing Management Program, is needed to confirm and determine the effects of radiation on the mechanical properties of the core reactor materials, Zircaloy-4, Stainless Steels and Aluminum Alloys. Effects of interest are tensile properties, ductility does not reduce significantly, fracture toughness to prevent propagation of a crack of a certain size and radiation-induced growth. Surveillance capsules will be placed in three locations in RA10 reactor. The capsules are placed in regions where the flux is higher than the component they represent.