

MICROSTRUCTURAL EXAMINATION OF IRRADIATED V-(4-5%)Cr-(4-5%)Ti - D. S. Gelles (Pacific Northwest National Laboratory) P. M. Rice and S. J. Zinkle (Oak Ridge National Laboratory) and H. M. Chung (Argonne National Laboratory)

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EXTENDED ABSTRACT

Microstructural examination results are reported for two heats of V-(4-5%)Cr-(4-5%)Ti irradiated in the EBR-II X530 experiment to ~4 dpa at ~400°C to provide an understanding of the microstructural evolution that may be associated with degradation of mechanical properties. Fine precipitates were observed in high density intermixed with small defect clusters for all conditions examined following the irradiation. The irradiation-induced precipitation does not appear to be affected by preirradiation heat treatment at 950-1125°C. There was no evidence for a significant density of large (diameter >10 nm) dislocation loops or network dislocations. Analytical investigations successfully demonstrated that the precipitates were enriched in titanium, depleted in vanadium and contained no nitrogen.