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Category Number and Subject:

☐ Theory      ☒ Experiment

**Assessment of Collateral Effects to Tokamak Systems During Planned Air Baking of DIII-D to Simulate ITER Tritium Removal,\*** B.W.N. Fitzpatrick, J.W. Davis, A.A. Haasz, P.C. Stangeby, *U. Toronto*, S.L. Allen, R. Ellis, *LLNL*, W.P. West, *GA* — Thermo-oxidation is a method for removing carbon-based co-deposits and is unique in its ability to remove deuterium from tokamak co-deposits, including tile gaps and shaded areas. This is a possible technique for tritium removal on ITER. In these experiments, we examine the potential collateral (deleterious) effects of a thermo-oxidation experiment planned for DIII-D. Experiments at Toronto have set the process parameters to be 10 Torr air exposure at 250°-350°C for two hours. Components of interest were placed in a vacuum chamber filled with O<sub>2</sub> or air and baked at 250° and 350°C. Components were examined for visual or mechanical changes, and when appropriate, mass change. In special cases, optical or electromagnetic diagnostics were performed. Components tested spanned a wide variety of materials and functions, e.g., cryopump components, structural, mechanical and diagnostic components, and fast wave antennae. To date, nearly all DIII-D systems have passed these tests. Detailed results will be presented.

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