

Abstract Submitted  
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**Assessment of Collateral Effects to Tokamak Systems During  
Planned Air Baking of DIII-D to Simulate ITER Tritium Removal<sup>1</sup>**

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S.L. ALLEN, R. ELLIS, LLNL, W.P. WEST, General Atomics — 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 experi-  
ment 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 inter-  
est 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 ap-  
propriate, 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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