Abstract Submitted for the 55th **Annual Meeting**
Division of Plasma Physics
November 11–15, 2013
Denver, Colorado

Category Number and Subject: 6.20 DIII-D Tokamak

[ ] Theory [X] Experiment

Performance of the DIII-D ECH System,* M. Cengher, J. Lohr, Y.A. Gorelov, and D. Ponce, *General Atomics* – The DIII-D ECH system continues to perform with good reliability, with increasing requests for ECH/ECCD and continuing modifications to the installation. The total power injected into DIII-D has reached 3.4 MW, with pulse length up to 5 s. The power generated by the individual gyrotrons, the power injected into the tokamak, and the total energy injected into DIII-D will be shown for the present year on a shot-to-shot basis. The efficiency of a new transmission line for the most recently installed gyrotron was measured. This gyrotron is expected to inject up to 720 kW of power into DIII-D, for 915 kW of generated power. The polarization was checked and the results are shown in agreement with the computed values. The gyrotron "Tinman" was moved to a tank, formerly occupied by the poorly performing "Han" gyrotron, which developed an internal water leak. The re-measured transmission efficiency for this line is -0.96 dB. The use of TIMCON event controller to set ECH timing and aiming is expected to lead to a decrease in the time necessary to install the setup for a new shot, eliminate possible operator errors, and provide better coordination with other aspects of the experiment. The data processing includes calculation of the toroidal and polodal ECH aiming angles and X-mode content for the steerable mirrors that are moved during the plasma shot.

*Work supported by the US DOE under DE-FC02-04ER54698.