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Status and System Performance for the DIII-D ECH System,* M. Cengher, J. Lohr, Y.A. Gorelov, D. Ponce, R. Prater, C.P. Moeller, *GA* – The electron cyclotron heating (ECH) capabilities on DIII-D are being steadily updated, leading to increased experimental flexibility and high reliability of the system. A 110 GHz depressed collector gyrotron in the 1.0 MW class was installed and is being tested and conditioned to longer pulse length. A second depressed collector gyrotron is operational in addition to the four 110 GHz, 1 MW gyrotrons. A new design depressed collector gyrotron in the 1.5 MW class, operating at 117.5 GHz, is expected to be installed during 2015 following rework to address a high voltage standoff problem. This tube will operate in the $TE_{20,9}$ mode and has achieved 1.8 MW for short pulses during factory testing. The individual power generated at the gyrotrons and the power injected into the tokamak are measured on a shot-to-shot basis for the present year, with calibration based on the measured linearity between the injected power and the gyrotron cavity loading. The individual average injected powers into the plasma are between 520 and 760 kW. The line transmission coefficient including the waveguide line and the MOU is between -1.04 dB and -1.43 dB.

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