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Construction of a 100kW Electron Cyclotron Resonant Heating (ECRH) system on the Madison Plasma Dynamo Experiment (MPDX) M.M. CLARK, J. MILHONE, P. NONN, J.P. WALLACE, C.B. FOREST, University of Wisconsin - Madison, WIPAL TEAM — A system of five 20 kW magnetrons is being installed for the Madison Plasma Dynamo Experiment (MPDX) to produce and heat the plasma with RF energy. Each magnetron will receive 2.5A of 14kV DC power. The source of the DC power is from a 240V three phase line which is transformed to high voltage, rectified, and processed through a series modulator regulator circuit. The RF is transmitted to the vessel via WR284 waveguide. The actions taken to develop the DC power source will be discussed and illustrated. The vessel of MPDX is a 3 meter diameter sphere comprised of two nearly identical hemispherical shells of 1.25" thick cast aluminum. 36 Rings of SmCo magnets attached to the inner vessel surface create a cusp field to contain the plasma and provide a resonance surface for the RF.

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