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0D Power Flow Analysis on the C-2W Device RYAN CLARY, ERIK TRASK, AND THE TAE TEAM, TAE Technologies — In TAE Technologies current experimental device, C-2W (also called Norman) [1], record breaking, advanced beam-driven field reversed configuration (FRC) plasmas are produced and sustained in steady state utilizing variable energy neutral beams (15–40 keV, total power up to 20 MW), advanced divertors, end bias electrodes, and an active plasma control system. It is important to measure and account for various power flows at the 0D level for experiments in the C-2W device and a data processing routine has been developed to calculate such power flows. In this poster, we will describe the architecture of this data processing routine, the diagnostic inputs to the routine, and the inherent modeling assumptions required. In addition, the results of power flow analysis will be presented for typical experiments in the newly-obtained high-performance operating regime. [1] H. Gota et al., Nucl. Fusion 59, 112009 (2019).

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