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Extra Yukawa Couplings and the Electron Electric Dipole Moment GEORGE WEI-SHU HOU, Natl Taiwan University — The impressive improvement by the ACME Collaboration in 2018 suggests the presence of a new electron Yukawa coupling, ee, that accompanies an extra top Yukawa coupling, tt, where the latter is responsible for electroweak baryogenesis (EWBG). In the context of the general two Higgs doublet model that permits such extra Yukawa couplings, we elucidate an exquisite cancellation among dangerous diagrams for the electron electric dipole moment, broadening the solution space for EWBG tt-driven. The cancellation calls for the new Yukawa couplings to have hierarchical structures that echo the observed pattern of the Standard Model Yukawa couplings.

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