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Frank G. Garvan* (fgarvan@uf1.edu), Mathematics Department, University of Florida, 358 Little Hall, PO BOX 118105, Gainesville, FL 32611-8105. *Higher Order Mock Theta Conjectures*. Preliminary report.

The Mock Theta Conjectures were identities stated by Ramanujan for his so called fifth order mock theta functions. Andrews and Garvan showed how two of these fifth order functions are related to rank differences mod 5. Hickerson was first to prove these identities and was also able to relate the three Ramanujan seventh order mock theta functions to rank differences mod 7. Based on work of Zwegers, Zagier observed that the two fifth order functions and the three seventh order functions are holomorphic parts of real analytic vector modular forms on $SL_2(\mathbb{Z})$. Zagier gave an indication how these functions could be generalized. We give details of these generalizations and show how Zagier's 11th order functions are related to rank differences mod 11. (Received January 29, 2018)