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Oahu Storage Study

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Oahu Storage Study

■ Motivation

- With a 100% RPS by 2045, energy storage seems logical
- What is the value of storage in the near term?

■ Model Design

- System year 2018
- 2014 hourly load, utility solar, and wind data – from HECO
- 2014 distributed solar data - generated at Sandia
- BESS is allowed to either perform Arbitrage or supply Contingency Reserve, but not do both
- Three main sensitivities were performed:
 - BESS sizes: 50 MW, 100 MW, and 150 MW (all with $\frac{1}{2}$ hr storage capacity)
 - With and without a Renewable Reserve
 - With and without a Quick Start Reserve backup for a BESS supplying contingency reserve
- Submitted a journal paper in June, 2017 (Journal of Energy Storage)