Randomized control trials make use of an external control group to develop a baseline.
The control group serves to establish the baseline – what load patterns would have been absent curtailment.

- Large sample sizes effectively eliminate baseline error.
- 5% of participants withheld (2,000).
- 95% of participants dispatched (38,000).

Control groups outperform methods that rely solely on non-event days to estimate baselines.

- As part of the CAISO baseline accuracy assessment, we've analyzed over 6,000 baseline options for each weather sensitive program.
- Once sample sizes exceed 200, control groups outperformed other baseline methods.
  - No bias
  - Far more precision.
PG&E’s 10 randomly assigned groups had nearly identical patterns during hot non-event days

SDG&E load shapes during hot non-event days also confirmed the treatment and control groups were similar

- Customers randomly assigned
- Group A included 1,026 devices
- Group B included 1,017 devices
- Applied a same day adjustment developed using pre-event data

- Control group developed via propensity score matching
- Matching included full population of non-residential customers
- Applied a same day adjustment developed using pre-event data