

The competing teams and prizes can be found at:

<https://gocompetition.energy.gov/challenges/challenge-1/trial-event-leaderboards>.

After a workshop at FERC June 28, 2018,

https://gocompetition.energy.gov/sites/default/files/FERC_GO_Comp_20180628.pdf, on July 24, 2018, ARPA-E issued a funding opportunity announcement (FOA, (DE-FOA-0001952) of up to \$5 million for teams to participate, since some of the most talented organizations, e.g., U.S. Federally Funded Research and Development Centers, could not compete without funding. The initial Problem Formulation was released August 28, 2018. The final April 9, 2019, version was 82 pages long with 211 equations. Secretary of Energy Rick Perry announced the 18 FOA winners on October 31, 2018.

The C1 Original Dataset 1, for Sandbox use, was released October 30, 2018, and updated March 22, 2019. The dataset is composed of Real-Time (Division 1, contains starting information, 10-minute time limit) and Offline (Division 2, no starting information, 45-minute time limit) parts, each with 5 network models (TAMU 500-bus 422 contingencies, SDET 793-buses with 100 contingencies, TAMU 2000-bus with 3300 contingencies, SDET 2312 buses with 1014 contingencies, and UW-Mad 7977 buses with 2428 contingencies) with 10 scenarios each (100 total scenarios). The C1 Original Dataset 2, also for Sandbox use, was released January 8, 2019, and updated March 25, 2019. Like its counterpart, the dataset is also composed of Real-Time and Offline parts, but each with 4 network models with 10 scenarios each (80 total scenarios).

After considerable discussion, it was decided to score Divisions 1 and 2 by taking the geometric mean of each network model for each team and then the geometric mean over all network models; the geometric mean somewhat diminishes the effect of outliers. Divisions 3 and 4 used the same data but ranked the teams using a performance profile method. The results were essentially the same as using an arithmetic mean and ranking by the number of best scores, which was used in subsequent Challenges. The reason for the two scoring methods is that the average score discourages aggressive approaches since any failure on an individual scenario can be devastating to a team's overall score. Ranking by the number of best scores, on the other hand, encourages aggressive approaches. Challenge 1 proceeded with 3 Trial Events followed by a Final (prize) Event.

The non-prize Trial Event 1, closed April 15, 2019, with results from the 22 participating teams announced May 21, 2019, and data (39 scenarios from 13 synthetic network models of 500A-, 500B- 793-, 2000A-, 2000B-, 2312A-, 2312B-, 3013-, 3288-, 4601-, 4918-, 9591-, 10000-buses) released May 21, 2019. This was a subset of the full 718 scenarios used in Trial Event 1. There were no industry datasets in Trial Event 1.

The non-prize Trial Event 2, closed July 19, 2019, with results from the 27 participating teams announced August 15, 2019, and data from two sets, Real-Time and Offline, of 140 scenarios from 14 synthetic network models of 500B-, 793-, 2000B-, 2312B-, 2755-, 3022-, 4020-, 4617/9-, 4918-, 8466-, 10000-, 11612/5-, 19402-, 30000-buses) released August 20, 2019. There were no industry datasets in Trial Event 2.

The non-prize Trial Event 3, closed September 13, 2019, with results from the 25 participating teams announced October 1, 2019, and data (two sets of 30 scenarios from 6 synthetic network models of 4918-, 8688-, 10000-, 11612/5-, 18877/19402-, 30000-buses) released September 27, 2019. There were no industry datasets in Trial Event 3.

The \$3.4M prize Final Event 4, closed October 31, 2019, with results from the 26 participating teams announced February 12, 2020, by U.S. Secretary of Energy Dan Brouillette. The synthetic data (20 scenarios from each of 17 synthetic network models (340 total scenarios) of 500B-, 793-, 2000B-, 2312B-, 2742-, 3022-, (3970-, 4601-), 4020-, 4619-, 4836/7-, 4918-, (8718-, 8754-, 9591-), 10000-, 10480-, (18877-, 18889-, 18916-, 19339-, 19402-), 24464/5-, 30000-buses) was released December 3, 2019; some of the network models have varying numbers of buses. There were 3 industry network models, 16422-, 44175-, and 44176-buses, with 4 scenarios each that were not released.