

Late File Exhibit 4

KCE CT 11 Impacts and Benefits at the Proposed System Location

The KCE CT 11 Project will not cause any negative impact to the system at the proposed location. In detailed study Eversource found that the additional charge and discharge from the BESS system does not cause any voltage or thermal issues on any of the circuits served by the NE Simsbury 43F substation, nor does it cause any voltage or thermal issues on any of the circuits served by the North Bloomfield 2A substation.

For system wide and market benefits, please also refer to the responses to the Siting Council Second Set of Interrogatories, question 2. In addition to the regional and market benefits provided from the BESS project, the standalone BESS project will directly benefit the greater Granby area served by Circuit 43F with the additional renewable energy generation on this circuit and with forecasted increase of electrical demand. The Eversource studies demonstrate that the project also affects the broader area through the North Bloomfield substation.

Eversource Distribution System Impacts

Eversource studied the CT 11 project online and found that the project does not cause overloading or adverse impact to the system with the operational parameters noted in the response to the Council's First Set of Interrogatories, question 24. Furthermore, the study examined at both peak and minimum loading when the generator is in parallel with the Eversource system.

Voltage Impact During Normal Operation | NE Simsbury 43F3

Connecticut regulatory requirements require adherence to voltages at -5% to +5% PU. The modeling software uses a nominal voltage of 120 as the output, so the voltages from the model must remain between 114 and 126 V. Eversource studied scenarios to determine if the interconnection can maintain these requirements at peak and minimum loading conditions. The study examined the system at both peak and minimum loading when the generator is in parallel with the Eversource system.

Under the Peak Loading - Discharging scenario, the Minimum Daytime Loading - Discharging scenario, and the Minimum Nighttime Loading - Discharging scenario, the system can sustain voltage within the PURA limitations. The BESS system does not cause any voltage or thermal issues on any of the circuits served by the NE Simsbury 43F substation.

Voltage Impact During Unplanned Alternate Operation | North Bloomfield 2A4

These scenarios simulate a power outage or fault that occurred upstream from the proposed system location. Eversource has a scheme in place so that in this scenario all SCADA reclosers will open and the isolated zones will be picked up from other circuits through tie reclosers. In this case the alternate feed for this zone is the North Bloomfield 2A4 feeder.

Under the Peak Loading - Discharging scenario, the Minimum Daytime Loading - Discharging scenario, and the Minimum Nighttime Loading - Discharging scenario, the system can sustain voltage within the PURA limitations. The BESS system does not cause any voltage or thermal issues on any of the circuits served by the North Bloomfield 2A substation.

Voltage Impact During Planned Alternate Transformer Configuration | NE Simsbury 43F3-2X

These scenarios simulate a planned outage that takes the 43F-1X substation transformer out of service.

Under the Peak Loading - Discharging scenario, the Minimum Daytime Loading - Discharging scenario, and the Minimum Nighttime Loading - Discharging scenario, the system can sustain voltage within PURA limitations on all circuits fed from the NE Simsbury 43F substation. The system does not cause high voltage at the point of interconnection (POI); or elsewhere along the 43F3 circuit.

Benefiting local and regional Renewable Generation:

The DWW Solar II, LLC 26.4 megawatt AC solar photovoltaic electric generating facility is located west of Hopmeadow Street (US 202/CT 10), and is interconnected to Eversource Energy's North Simsbury Substation west of Hopmeadow Street in Simsbury, Connecticut. This intermittent generation flows directly to the local Granby 43F Circuit, the same circuit KCE CT 11 is proposed to interconnect to. The BESS will increase local use of the electricity generated from the DWW Solar II facility through time shifting from periods of high generation to periods of high demand.

Additionally, other sources of electricity generation can flow from the North Bloomfield substation on circuit 2A4 to the KCE CT 11 project, and conversely from the BESS project to North Bloomfield benefit the greater regional generation and load. There is currently 2.275 MW in of distributed generation on the low side of the North Bloomfield Substation, and 101 MW of intermittent solar in the queue on the high side of the North Bloomfield Substation with an interconnection agreement in process.

Servicing increase Load:

Electric demand: According to the [ISO New England's 2024-2033 Forecast Report of Capacity, Energy, Loads, and Transmission \(CELT Report\)](#), New England's electricity use is expected to increase steadily over the next decade. The report's forecast is based on several factors, including:

- Projected adoption of new technologies, such as electric vehicles (EVs), distributed solar photovoltaics (PV), and air-source heat pumps
- Expected economic growth
- Historical weather patterns
- State-level carbon reduction goals

The report projects that net peak demand will increase from 20,308 MW in 2024/2025 to 26,768 MW in 2033/2034 for normal winter peak weather. For below-average winter peak weather, the net peak is forecasted to increase from 21,089 MW in 2024/2025 to 28,270 MW in 2033/2034. Grid operators in New England expect the demand for electricity to grow by 17% in the coming decade, largely due to the increasing electrification of heating and vehicles.

The Granby population has trended up slightly over the past 2 decades from 10,955 in [2004](#) to 11,249 in 2023. The combined forecast for increase in electrical demand combined with the upward population trends demonstrate that Granby should expect to see a similar increase of demand of approximately 17%. As a result, the areas in and surrounding Granby served from Circuit 43F and the greater region will receive the direct electrical system benefits of BESS at this location. Those benefits include increased the penetration of renewable energy, time shifting to match generation with demand, peak shaving and load servicing. Please also see the broader market and system benefits noted in the responses to the Siting Council second round of Interrogatory Question 2.