Witness: Shawn Morris

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Question:

EFSB-S-7 Refer to Exh. MS-F at 36. Destructive unit level testing resulted in a battery module burning for 6 hours and 40 minutes.

a. What components of the BESS are fuel sources?

b. How does the destructive unit level testing fire duration compare to the real-world instances of Tesla Megapack fires?

Response:

a. The combustible fuel sources within the BESS are primarily the lithium-ion battery cells, which contain flammable organic electrolyte and active electrode materials that can sustain combustion during thermal runaway. Additional combustible materials are present in smaller quantities within the battery modules and units, including polymer separators within the cells, plastic or polymeric module components, wire and cable insulation, seals, gaskets, and certain internal non-structural components. These combustible materials comprise approximately 10-20% of the BESS by weight. By contrast, the primary structural elements of the BESS—including the enclosure, internal framing, battery racks, and external housings—are constructed predominantly of steel and other non-combustible materials.

b. The fire duration observed during destructive unit-level UL 9540A testing is intentionally conservative and expected to be longer than instances of real-world Tesla Megapack fire incidents. The unit-level test is designed as a worst-case scenario, with forced initiation of thermal runaway under controlled conditions, no firefighting intervention, and no reliance on active system shutdown or isolation measures, in order to bound potential fire behavior and inform spacing and mitigation strategies. In contrast, reported real-world Megapack incidents have typically involved limited numbers of modules or portions of a unit, have occurred with system protections, and monitoring active, and have been managed through isolation, defensive firefighting tactics, and controlled burn-down rather than sustained, full-unit combustion. As a result, the extended burn duration documented in destructive testing represents an upper-bound analytical condition rather than a typical or expected fire duration under real-world operating and response conditions.