Kennen Space Center (KSC) recently redesigned and rebuilt the main flame deflector (MFD) at Launch Complex 39B. The MFD design team’s innovative new deflector design uses easily replaceable and durable shingled steel plates, but gaps between the plates result in small flow paths to the back side of the MFD, posing launch safety and maintenance concerns. Computational fluid dynamics experts at NASA Ames were called in to apply high-resolution methods to help identify thermal, pressure, and flow environments on and around the geometrically complex MFD.

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