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SUMMARY OF DIRECT AND CLOSE NEARBY LIGHTNING STRIKES TO LAUNCH COMPLEX 39B LIGHTNING PROTECTION SYSTEM FROM 2011 UNTIL 2019, KENNEDY SPACE CENTER, FLORIDA

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A new Lightning Protection System (LPS) was designed and built at Launch Complex 39B (LC-39B), at the Kennedy Space Center (KSC), Florida, in 2009, for NASA's Space Launch System (SLS) program. A comprehensive lightning monitoring system was additionally designed and the LC-39B lightning instrumentation started incremental deployment early 2011. By March 2011, the LC-39B lightning monitoring system was activated with short outages during construction and renovations of the LC-39B. Since 2011, the LC-39B LPS has been directly struck at least once per year. The earliest and latest in a year that the LPS has been directly struck by lightning has been January 7th and October 1st (both 2017), respectively. During the summer of 2018, the Mobile Launcher 1 (ML-1) lightning monitoring system was deployed and partially active during ML-1 construction/testing. Since 2018, the ML-1 has been parked at the LC-39B for different durations of time for integrated testing. Early August 2019 (6th and 9th) multiple lightning strikes terminated directly on the LPS at three different locations in addition to a nearby strike within the Pad perimeter and multiple nearby strikes outside the Pad Perimeter, triggering both, the LC-39B and the ML-1 lightning monitoring systems. This has been the first time direct lightning strikes have terminated on the LPS or within the LC-39B perimeter while the ML-1 has been at the LC-39B. This paper summarizes direct and close nearby lightning strikes to LC-39B from 2011 until the summer of 2019.