For simple connected graphs that are neither paths nor cycles, we define $l(G) = \max\{m : G \text{ has a divalent path of length } m \text{ that is not both of length } 2 \text{ and in a } K_3\}$, where a divalent path in $G$ is a path in $G$ whose interval vertices have degree two in $G$. A graph is pancyclic if $G$ has cycles of length $k$, for each $k$ with $3 \leq k \leq |V(G)|$. Let $s \geq 0$ be an integer and a graph is called $s$-pancyclic if the removal of any $k$ vertices results in a pancyclic graph. When $s = 0$, a 0-pancyclic graph is a pancyclic graph. We show that if a connected graph $G$ is not a path, a cycle or a $K_{1,3}$, then for any integer $s \geq 0$, $L(G)^{s+1}$ is $s$-pancyclic.