$$\dot{Q}_{CC}^{k=1}(T_j) = \dot{m}_{da}^{k=1} * C_{p,da}^{k=1} * [T_{CC} - T_0^{k=1}(T_j)]$$

$$\dot{E}_{CC}^{k=1}(T_j) = \frac{\dot{Q}_{CC}^{k=1}(T_j)}{3.413\frac{Btu/h}{W}}$$