

March 7, 2024



## **Sept. 11, 2023, downtown power outage and underground fire**

### **Executive Summary**

*For a detailed analysis of the event, please email [engage@csu.org](mailto:engage@csu.org).*

On Sept. 11, 2023, at roughly 2:30 a.m., an underground electrical failure on E. Kiowa Street (between Nevada Avenue and Tejon Street) triggered a significant fire and subsequent power outage to approximately 280 customers in the downtown area.

Due to the complexity of the downtown electric system and the damaging nature of the fire, full restoration efforts took more than seven weeks. As much as possible, investigative efforts ran concurrent with restoration work.

#### **Site challenges**

The impacted area includes two underground electric vaults that house transformers and cables, as well as pipes and wires that crisscross over each other throughout Kiowa Street – many of which are not owned and maintained by Colorado Springs Utilities.

#### **Three potential origins**

As part of the investigation and restoration efforts, an excavation was conducted underneath the affected portion of Kiowa Street. This excavation revealed three potential origins for the fire based on large quantities of melted copper, disintegrated cable and melted rebar. At least one site showed clear evidence of damage consistent with core drilling operations, which are often conducted by contractors using a truck-mounted drill as part of a process to install underground wire or conduit.

After extensive testing, it can be confirmed that Colorado Springs Utilities' underground transformer did not cause the fire.

A responsible party could not be identified after a review of permits and locate requests.

#### **The most likely point of origin of the fire**

One of the sites revealed a makeshift plywood patch (**Photo 1**), under which was extensive damage (**Photos 2 and 3**). This is the most likely point of origin for the fire.

March 7, 2024

### **A chain reaction**

There are several underground electric cables under E. Kiowa Street that provide power to the downtown area. If underground locates are not requested or followed, damage is more likely to occur.

If just one or two electric cables suffer minor damage, like a nick in the insulation from a core drilling incident, it could lead to equipment failure over time. When an underground electric cable is damaged, energy doesn't flow correctly through it causing an "energy leak." Should additional cables sustain damage, the subsequent chain of events could result in a catastrophic failure.

### **Preventative measures**

Colorado Springs Utilities is pursuing new technology on its underground cables to isolate damaged electric cables from the rest of the system. This emerging technology could limit large-scale damage like what occurred on Sept. 11, 2023.

March 7, 2024

**Photo 1 – Plywood patch**



March 7, 2024

Photo 2 – Damage underneath plywood patch



March 7, 2024

**Photo 3 – Damaged cable underneath plywood patch**



March 7, 2024

Photo 4 – Example of new underground conduit

