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How Power Is Restored After A Storm

To better understand the LCEC restoration plan, you must understand how electricity is delivered to your home or business. The main components of an electric system are the power plant, the transmission system, and the distribution system.

Power Plant - where electricity is generated and sent out over the delivery system.

Transmission System - group of lines used to transmit energy at high voltage.

- Transmission lines - carry electricity to substations, strategically located throughout the system.
- Substation Power transformers - located at substations to reduce high transmission voltages to a lower distribution voltage. LCEC's distribution system is made up of 19 substations.

Distribution System - distribution lines and transformers, and other electrical devices used to distribute electricity at a lower voltage.

- Distribution transformers - located on poles or pads (for underground service) throughout the system to reduce voltage even lower for use in homes and businesses.
- Electric Circuit - a combination of distribution lines called feeders and taps, transformers and devices. Most areas within LCEC's service territory are served by more than one circuit. There are almost 100 distribution circuits.
- Feeders - carry reduced voltages from substations to the poles outside homes and busi
- Tap lines - carry electricity from feeders to a transformer. Taps are typically located in neighborhoods or business districts.
- Service drops - carry electricity from the transformer to the customers' home or business.
- Fuse - a protective device located at the connection of the tap and the feeder. Similar to the fuses and circuit breakers in your car or home. They protect wire and equipment from damage caused by short circuits and overload. When one of these events occurs, the fuse "opens" and de-energizes the line. Just like your car or home fuse, the cause of the event must be resolved and a new fuse installed to restore power.

How does all of this impact LCEC's restoration efforts?

LCEC’s plan first calls for restoration of essential services such as hospitals, traffic signals, shelters, communication centers and law enforcement. Next, power is restored to the largest number of customers. This is achieved by first restoring transmission lines, then substations, and then feeders.

Once feeders are restored, taps that lead to neighborhoods and businesses can be restored. These taps can be very large, encompassing hundreds of customers, or very small, serving only one customer. The larger taps are restored before smaller taps. Individual services or services that need to be reconnected

after repair to the customer's damaged electrical system are restored last. At this stage, transformer change-outs are also made.

Main feeders must be energized before homes or businesses along that route can receive power. Therefore, you may not see crews in your neighborhood immediately after a storm because they are working on rebuilding or restoring power to these main lines.