STORM / POWER OUTAGES

What type of information is available to customers?

The City of Banning Electric Department Office Specialists receives information from, and provides information to, customers when they call with questions or outage information. It is important to remember that the Office Specialists must relay important outage information we receive from our customers to employees responsible for the safe restoration of power. During outages involving many customers the wait time to talk with an Office Specialist may increase due to the heavy volume of calls.

Why aren't more details available about outages?

In general, the Electric Department cannot list specific addresses that are without power, since outages are often widespread throughout the city. Plus, with ongoing restoration efforts, the location of outages changes very quickly. It is very difficult for the Electric Department to predict how long a specific customer will be without power, due to the numbers of jobs that need to be completed, chanting weather conditions, availability of crews, repair supplies, and a number of other factors.

Some customers have asked why we cannot contact a line crew by radio to check on when a specific street or address might have power restored. During times of multiple outages it would be unrealistic to expect the Electric Department to be able to radio crews to handle each customer inquiry about restoration work in the field. The radio's primary function is for the safety of the workers and any additional "traffic" on the radio would jeopardize this safety. It would also divert the Electric Department crews in the field from its primary focus – restoring power to customers – and dramatically slow the work of field crews.

Do emergency safety issues impact outage restoration? What if I have a wire down on my property? Will a crew respond faster?

The Electric Department gives high priority to emergency situations such as life in danger. In cases when wires are down, if they are visibly burning or if they're a higher voltage primary line, they will receive higher priorities. In cases when service lines (going directly to a home) are down on a resident's property, the Electric Department will make the repair as soon as possible after the main or primary lines are restored. However, in larger outages, we may have hundreds of primary and service lines down throughout the city. Customers should remember to *always stay away* from these lines – *always* assume they are live power lines. Telephone and TV lines can also pose a hazard especially if they are wrapped up with the power lines. They should also call the Electric Department to report all downed lines, so that the Electric Department can make necessary repairs – creating a safer work environment for other utilities to complete their repairs. If the Electric Department phone lines are overwhelmed with callers, and customers get a busy signal, they can also call "911" to report life threatening situations. 911 dispatchers have direct communication links to the Electric Department.

How does the Electric Department decide which outage repair jobs to do first?

During times of multiple outages, a number of factors are weighed to determine which repairs crews will make first. These include public safety considerations, measures the will restore power to the largest number of customers, and which critical public services (hospitals, police and fire stations) have no emergency generation available.

The Electric Department follows a strict set of priorities in restoring power. First to be restored are outages that affect high voltage or sub-transmission facilities, which provide power to substations that serve large numbers of customers, hospitals, schools and businesses. Following in descending order are substation main line circuit outages, other primary lines, transformer malfunctions, downed service wires and finally nonessential street lights. Oil spills from transformers, wires blocking main highways, and wires down on buildings or vehicles are top priorities based on the hazards they pose to the public.

Why are we among the first to lose power and the last to get it back?

When multiple outages occur, our job is to restore electric service to as many people as quickly and safely as possible. That means we deal with the biggest problems first and work our way to the smaller problems later. Unfortunately, this means customers living in less populated areas (remote areas) or dead end streets might have longer outages than some other customers.

The restoration process is simply a matter of clearing a path so electricity can flow from its source to your home. The power is sent over high-voltage distribution lines to our substations, then over primary distribution lines that run along the major arterials in your neighborhood, and finally branches off to your street and to your home. If any of those lines are damaged anywhere along that path, your power will go out.

When multiple outages occur, our first order of business is to repair the hi-voltage distribution lines so electricity can get to the substations. We're also concerned about restoring service to hospitals and rest homes, and responding to other emergencies. Once the substations have power, we then turn our attention to primary distribution lines so we can get the main circuit breakers back into operation. Then, once the circuits have power, we can concentrate on getting electricity to those who lost power because a line is down at the end of the driveway or down the block.

This last phase of an outage response is time-consuming because, instead of getting thousands of customers on by fixing a high-voltage distribution line or hundreds by fixing a primary distribution line, we must clear trees or make repairs to lines that serve only a few customers. This is why it takes several hours (or days after a big storm) to get power fully restored.

Why is it that electrical power goes out but the phone and cable TV is seldom out?

An electric power line is constructed differently than a phone or TV cable. The power line is generally bare wire, while the phone and TV cable is a bundle of small wires contained within a plastic jacket. As a result, if a tree falls onto a

power line, it shorts out the line and either causes the circuit breaker to trip back at the substation or blows a fuse down the block. Either way, the power goes out. Meanwhile, if the tree falls into a phone or TV cable, the signals carried by the wires within the cable can continue to flow.

Is there a right way to hook up an emergency generator when the lights go out?

Many homeowners have the urge to fire-up a portable generator if the power goes out. But, if used wrong, a portable generator can cause a deadly accident or could be damaged when power is restored. To operate safely, a portable generator must be separated from your home's electrical system. If it's not, the generator will backfeed electricity out through the circuit breaker panel and out into the neighborhood.

If you use a portable generator, do not plug it into the household circuit unless you have a transfer switch installed by a licensed electrician. Or, when you use a portable generator, make sure that the things you power are plugged directly into the machine.

Has any consideration been given to putting power lines underground?

We are looking at undergrounding systems to improve electric service in many areas because they provide a clean, uncluttered appearance to a neighborhood and they reduce tree-related power outages. Most of our electric system is built on overhead poles, however, because it is less expensive and easier to maintain.

Engineers estimate that – depending on terrain, voltage, and current carrying capacity of a power line – it can cost as much as ten times more to build an underground power line than an overhead power line of the same distance. Also, while underground systems are protected from falling trees, they have their own set of problems, such as failures caused by overheating, water, and corrosion, and by careless digging. And, repairs to an underground line are much more difficult and time-consuming than they are for an overhead power line.

What causes the power failures that last just long enough to wipe out all the digital clocks?

The majority of our short outages occur when Southern California Edison conducts switching on their high-voltage transmission lines. In their effort to change direction on the transmission feeds within their power grid, the circuit to which our substations are connected, is temporarily disconnected and then reconnected. There are many reasons that Edison must conduct the circuit switching, however, the results are the same – we experience short duration outages. Outages which we have no control over, or at this time remedy to correct.

The Electric Department's electric system is simply a larger version of the electric system in your home. If you've ever had a short circuit in your wiring or if you've ever overloaded a circuit, you've probably had a circuit breaker trip and shut off the power to a portion of your home. This same thing can happen with our electric system. What's different is that the voltage is higher, the wire is bigger and is strung on poles (or underground) and the circuit breakers are located in a

substation rather than in a circuit breaker panel on the garage. Short outages for us are generally tree caused – whereby a tree limb or palm frond will fall and force two wires together. By design, the circuit breaker is automatically opened. When this occurs, all customers served on that circuit will lose power. After five to ten seconds, the breaker is automatically closed. Generally this timeframe allows the limb/frond to continue its path to the ground. If the limb/frond stays in contact with the two lines, the circuit breaker will again open and eventually lock open until the obstruction is cleared. If the limb/frond has cleared, the power is restored – with the outage limited to a few seconds.