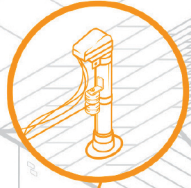


Backfeed

Backfeed on power lines happens when electricity flows in the opposite direction from its intended path, typically from an improperly connected residential generator or solar array back onto the distribution system. It can be extremely dangerous for utility workers, particularly during an outage restoration, when crews may believe all lines are de-energized. Here's how backfeed works and some key ways to protect against it.

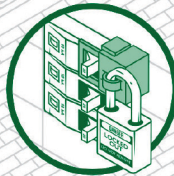
● Service drop

Sends power to residence from the grid, but can also be energized from the home.



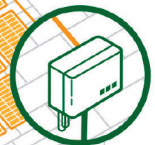
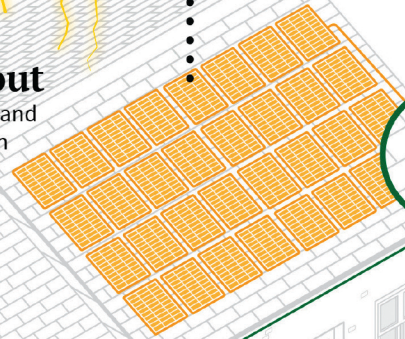
● Lockout/Tagout

Crews lock main breaker and solar panel disconnects in "off" position.



● Solar panels

Distributed generation like rooftop solar can backfeed if improperly wired.



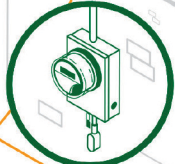
● Automatic anti-islanding inverter

Monitors grid and shuts off power output in an outage.



● Meter settings

Some newer meters can be set to automatically detect backfeed during an outage or maintenance work.



● Transfer switch

Ensures connection to grid through the service panel is severed when a generator is connected.



● Generator

Must be connected to a transfer panel to avoid backfeeding. Improper connection can cause short circuits, fire, damage to grid components like transformers, and injury to working crews or even neighbors in their homes.

● Line testing

Lineworkers test feeders to ensure they're de-energized, but may not expect power to be coming from the service drop.



●...Downed line

● Backfeeding danger

● Preventive measures