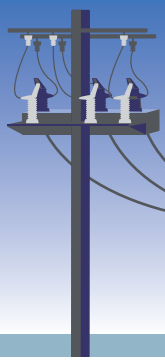
SEE BACK COVER FOR HELPFUL
MODERNIZATION QUESTIONNAIRE

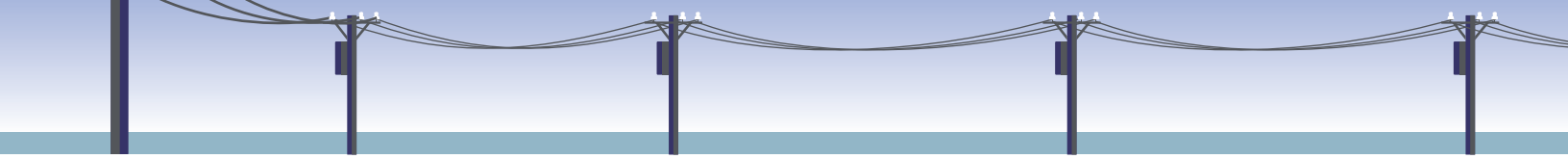
5 STEPS
TO MODERNIZE YOUR FEEDERS

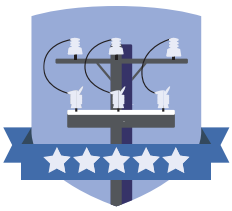
Excellence Through Innovation

5 STEPS TO TAKE YOUR SYSTEM TO THE NEXT LEVEL



From the influx of distributed energy resources (DERs), to cutting operational costs, to rising customer expectations, the industry is constantly facing changes and challenges. **These five steps will walk you through how to modernize your feeders to address both today's and tomorrow's demands.**

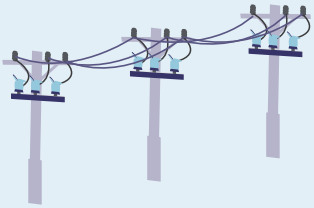




Leverage the Innovations of IntelliRupter® PulseCloser® Fault Interrupters

IntelliRupter® fault interrupters represent the first breakthrough in recloser fault-testing technology in 70 years. Their two baseline innovations create immediate benefits.

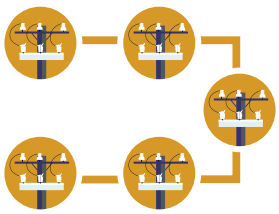
1



Segment Your Radial Feeders

More segments on a feeder mean fewer customers will be out of power when a fault occurs. Conventional reclosers are plagued with coordination challenges, but IntelliRupter fault interrupters can be added to any circuit to increase segmentation without affecting existing reclosers.

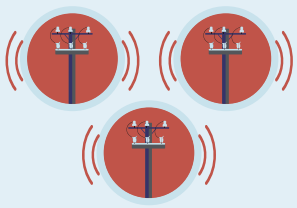
2



Loop Your Circuits

Radial circuits reach a limit to their reliability, and customers at the far end get little or no relief from outages. However, connecting radial circuits and turning them into loops enables power to be rerouted from alternate sources—significantly improving reliability.

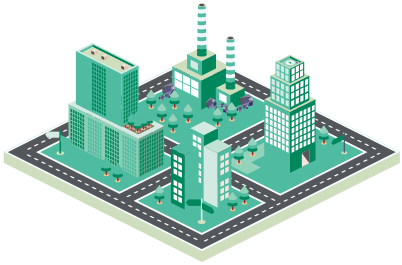
3



Implement Advanced Restoration Schemes

Some situations, such as complex circuits with capacity constraints or areas with critical customers, require more intricate configurations than automatic loop restoration.

4

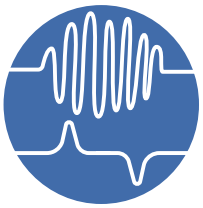


Think Holistically to Realize the Ideal System

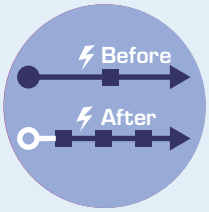
Many utilities make decisions at the substation level that restrict—or even jeopardize—reliability throughout the distribution system. Reaching the optimal system requires thinking beyond the feeder and taking a holistic approach—from substation to grid edge.

5

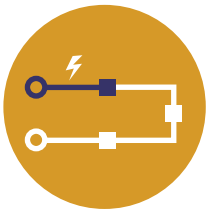
- **Accurate Sensing** – Precise sensors enable better coordination, and controls protect both upstream and downstream, and this is especially important with the influx of DERs onto the grid.
- **PulseClosing® Technology** – This fault-testing method uses 95% less energy than conventional reclosers, which results in less stress on the system and the capability to gently test for faults on underground cables and hybrid systems.



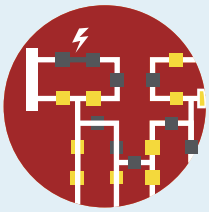
- **Coordinated Segmentation** – Precise sensing results in time-current characteristic (TCC) curves with an accuracy of +/- 2%, so more devices can be added to radial circuits without risk of miscoordination.
- **PulseFinding™ Fault Location Technique** – A pulse of current hunts down faults. This means devices can segment lines but don't have to be coordinated—providing additional segmentation benefits beyond traditional TCC coordination.



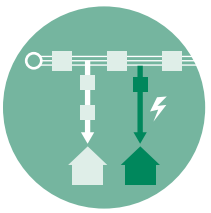
- **Automatic Fault Isolation and Restoration** – IntelliRupter fault interrupters' built-in Loop Restoration logic automatically detects faults, isolates issues, and reroutes power—all without needing communications.
- **Voltage Sag Elimination** – IntelliRupter fault interrupters gently fault-test, so using them as the tie point won't cause voltage sags on adjacent feeders, which is an unavoidable problem with conventional reclosing.



- **IntelliTeam® SG Automatic Restoration System** – This software bundles IntelliRupter fault interrupters into "teams", which assess the situation around them and make decisions at the team level while using system-level knowledge. Real-time analysis handles multiple contingencies and the variable nature of DERs, enabling the system to enact switching actions to restore power within seconds.



- **IntelliRupter Fault Interrupters Outside the Substation** – Removing the instantaneous trip on substation circuit breakers and placing an IntelliRupter fault interrupter outside the substation allows you to execute tight, precise coordination throughout your system, avoiding frequent momentary outages for the entire feeder.
- **TripSaver® II Cutout-Mounted Reclosers** – These single-phase reclosers isolate issues on a lateral only to that particular lateral. They eliminate unnecessary outages on other laterals and protect feeders from blinks.
- **VacuFuse® II Self-Resetting Interrupters** – These single-phase devices replace overhead distribution transformer fuses. They bring an advanced, targeted solution to troublesome spots at the grid edge, preventing nuisance outages from becoming permanent issues and keeping customers happy.



Excellence Through Innovation

AT WHICH STEP IN THE PROCESS ARE YOU?

MODERNIZATION QUESTIONNAIRE

Start by analyzing the present state of your feeders and the challenges you are facing or will face in the future. Bring this form to us, and we will help you implement a step-by-step modernization plan for your system.

Reliability Goals

What are your present reliability indices?

SAIDI: _____

SAIFI: _____

MAIFI:* _____

CEMI: _____

What are your reliability improvement targets?

SAIDI: _____

SAIFI: _____

MAIFI:* _____

CEMI: _____

Other: _____

Which problems are you presently dealing with or see near on the horizon? Circle all that apply.

Momentary Outages O&M Costs

Customer Satisfaction Reliability

Evolving Workforce DERs

Voltage Sags Other: _____

System Assessment

Which step best represents your overall system? Circle the best answer.

Step 1 Step 2

Step 3 Step 4

Which step best represents your 10 worst-performing feeders? Circle the best answer.

Step 1 Step 2

Step 3 Step 4

Existing Assets

_____ **How much capital do you spend on replacing connectors, splices, and conductors annually?**

_____ **How much O&M do you spend to install new connectors, splices, and conductors annually?**

_____ **How frequent is the maintenance cycle for legacy reclosers?****

_____ **How much O&M do you spend maintaining legacy reclosers every maintenance cycle?****

* Not tracking MAIFI? Especially as DERs proliferate on the grid, momentary outages will become a bigger and bigger problem. Are there industrial loads in the circuit served by your utility company?

** You may have equipment that requires routine maintenance. Although these products have already been purchased and are up on your lines, they likely have a high total cost of ownership from reoccurring O&M expenses. It may be more economical to buy new, low-hassle products and use your existing assets' maintenance schedules as a trigger to install replacements.