PRESS
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# How to Maintain Network Control During Outages

## A Simple Technique for Checking UPS Health

If you ask any user of the NOJA Power OSM Recloser about their maintenance schedule, there's a very good chance the only thing they do is periodically change the battery. For any electrical capital equipment, you can reasonably expect that there would be a maintenance schedule to be followed. NOJA Power's OSM Recloser System is designed for a 30-year maintenance free service life, with one exception – the UPS Battery in the controller.

Across the globe, any utility that deploys Automatic Circuit Reclosers (ACRs) would have a maintenance program for the equipment. These remote devices, which are effectively computer controlled circuit breakers installed on power poles out in the field, do require periodic maintenance. In the case of a feeder outage, a utility should expect that they can maintain contact with the de-energized reclosers for some time afterwards – providing visibility and control in emergency circumstances.

Of course, to ensure the availability of the unit, there must be an onboard Uninterruptible Power Supply, or UPS. These ubiquitous devices are exhibited in effectively all remote switchgear. Whilst the switchgear is designed to last 30 years, battery technology has not quite reached that level, meaning that periodic replacement is necessary.

The question remains then "How often do I change the battery in my Recloser?". Sending a team out for maintenance is expensive, so for economic reasons it makes sense to limit the visits to site. It would be very wasteful to visit a healthy device, and probably more wasteful to replace a healthy battery. To check its remaining life, you could use an estimation, such as how often you change your car battery (they're the

same class of battery), but there is a simpler way which has been deployed in the NOJA Power OSM Recloser.


NOJA Power OSM Recloser Installation

Ask any electronics engineer, gauging the life left in a battery is a challenging concept, but the most reliable measure is how well the battery performs under load conditions. NOJA Power have deployed a simple method in their OSM Reclosers with RC control to test these batteries, simply called “Auto-Battery Test”.

Users of the recloser can periodically configure the device to execute a battery test, where a load is placed across the terminals of the battery for a minute, and the voltage and current in the battery is monitored. If the battery is unable to sustain voltage under load – it’s a good indicator that it’s time for a battery change. This information can then be fed back via SCADA to a control centre, so that maintenance teams can be dispatched to devices which actually require a battery replacement, rather than spending big money maintaining devices which are still in good condition.

Typically, utilities which are using the Auto Battery Test Functionality run the test once every 30 days. This frequency ensures that data is kept up to date, but the battery life isn't significantly affected by the regular load testing.

"There are 2 key points to ensure reliability of our pole mounted auto reclosers in the field," says NOJA Power Group Managing Director Neil O'Sullivan. "The first is make sure the earthing is correct in accordance with the user manual so that if there is a lightning strike and a rise in potential the entire product, both circuit breaker tank and control cubicle, rise in potential together and maintain their impulse integrity. The second is the battery and ensuring the battery is healthy when it is needed. Temperature is the greatest challenge for batteries and the life of the batteries is directly proportional to the average operating temperature over its life. In extreme high temperature climates, the life will be significantly reduced compared to mild or cold climates. The Auto Test function takes the guesswork out of when the batteries should be replaced and is another tool to help our utility customers ensure the reliability of our product in service."

The Auto-Battery Test functionality is available in every RC10 and RC15 controlled NOJA Power OSM Recloser in the field today. If you'd like to save some money and trial this capability, contact NOJA Power at www.nojapower.com or speak with your local distributor.