

An Expectation of Reliable Service - Preventive Maintenance

What is Preventive Maintenance?

Southside Electric Cooperative performs Preventive Maintenance on a daily basis through a variety of activities. We define this as a proactive schedule of planned maintenance actions, at designated intervals, intended to reduce outages, equipment failures, and pole damage. Ultimately, these programs help reduce unscheduled outages, which increase reliability for our members, and protect equipment. To our members, these programs are in place to meet requirements that SEC has set to reduce overall outage times and increase reliability.

Many years ago, the common practice was to clear new rights-of-way and build lines. System patrols were done when construction was slow or when there were repetitive outages on an individual line. In other words, constructing new services was a priority.

As times change, so do expectations. One of the items that drive utilities is reliability. Figure 1 shows the SAIDI (System Average Interruption Duration for Cooperative

members from 2006 through 2011. This is a measure of the amount of time (in minutes) that the average member would be without power during a given year. As you can see, being proactive has helped reduce outage duration for our members considerably in the past six years.

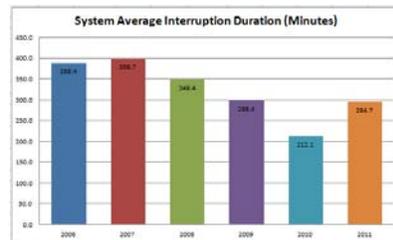


Figure 1 - System Average Interruption Duration Index

While some of these preventive activities have been in place (such as SEC's Pole Inspection program which looks at the condition of all 128,000 poles on our system every 10 years) all have been reviewed and changed to gather as much information as possible to assist the Cooperative. Some of these include Underground Equipment Inspections, Line Patrols, Circuit Reconditioning, Protective Equipment Maintenance, Infrared Testing, Animal Protection, and Oil Sample Testing. Each of these activities gathers information that assists our Linemen and Apparatus Technicians to prevent events in the future.

All of these preventive activities are designed to protect the heart of our system, our substations. With the installation of animal protection in our substations, we can limit the number of outages caused by squirrels, birds, and snakes. This, along with line patrols, which focus on hazard trees (leading cause of outages) and equipment failures, helps to enable SEC to keep our substations energized. When we keep the stations energized, outages are drastically reduced.

SEC's Apparatus Technicians have the responsibility for monitoring and maintaining equipment in all of our substations. All of the Cooperative's Apparatus Technicians complete four years of specialized education in addition to their lineman training. These employees also receive manufacturer training on a yearly basis.

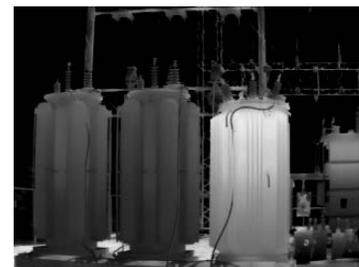


Figure 2. Infrared Picture shows Substation Regulator (far right) warmer than normal. Indicative of an internal connection issue.

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In 2010, SEC also started a circuit reconditioning project. This activity was focused on our worst performing circuits from the previous years. These projects look to replace items that could cause outages on the line, upgrade equipment, address lightning and grounding issues and add



Figure 3 - Pole changed as a result of SEC annual Pole Inspections.

opening points in the line to assist SEC personnel in restoration. A total of ten circuits were “reconditioned” in 2010 and 2011 at a total cost of approximately \$4.3 million. Work took place on Gary, Nutbush, Drakes Branch, Moran, Amelia, Wellville, Lone Gum, White House, Madisonville and Powhatan substations. We have already begun to see improvements from these activities and will continue to monitor these areas as time passes. In addition,

we have identified seven more circuits on Altavista, Madisonville and Ponton substations that will be reconditioned during 2012 and 2013.

The Cooperative performs approximately 30 different Preventive Maintenance Activities & Projects on a regular basis. SEC’s work practices have evolved over the years based on best utility practices, past performance and lessons learned. The Operations and Engineering Departments review these practices on a regular basis to ensure the Cooperative provides the commitment to reliability that is expected by you, our members.