

MK Battery's Life-Cycle Series

Part 3: System Reliability



Longer Life Means Greater Reliability

System reliability is your top concern. With dish networks aggressively operating in your area, you can't afford a single outage. Unhappy customers mean lost customers. But the four-year batteries you install in your power supplies keep failing after just two years. How can you better protect your system and keep your customers happy?

With MK Battery's newly improved broadband batteries, your system has the best back-up battery protection available. MK Battery understands how critical system reliability is in today's market, so it has made significant engineering enhancements to its broadband batteries. The result: an increase in battery life of 50 to 60 percent.

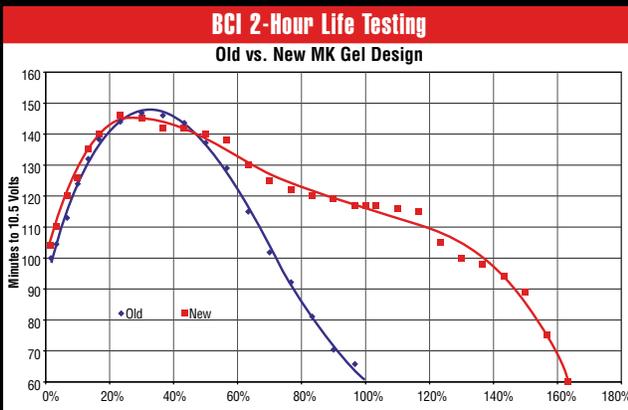


Plate Thickness Increases

How has MK Battery improved its already top-of-the-line product? The positive plates in MK's new broadband batteries are approximately 20 percent thicker. By increasing plate thickness, the active material weight is increased approximately 25 percent in each positive plate. More active material means longer life and greater system reliability.

To achieve this increase in plate thickness, MK Battery reduced by one the number of positive plates. Eliminating a single plate enables MK Battery to increase the weight of the unpasted battery grid by approximately 20 percent. Because the battery's internal skeleton is now heavier, it supports more of the active material necessary to produce electricity. Of course, MK Battery uses all of the same state-of-the-art manufacturing processes including tank formation, weld gaskets, edge wrap, forged terminals and sealing valves that increase the quality and longevity of its existing batteries.

Longer Life Expectancy, Same Costs

These changes translate to 50 to 60 percent longer life in the same float/cyclic environment with the same load and

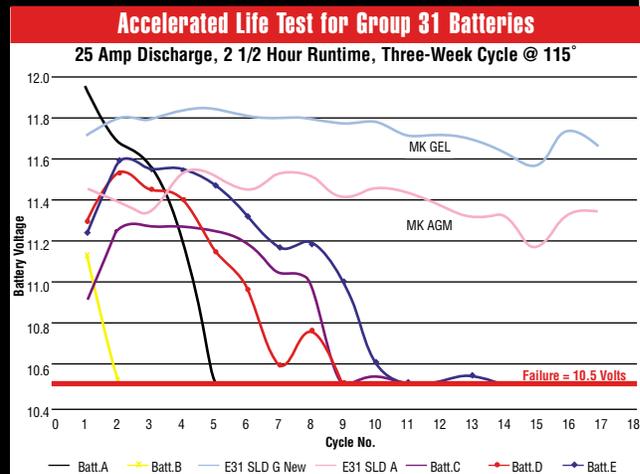
discharge rate. The result: An improvement in system reliability. Cable operators who were getting two to three years of life from their batteries can now achieve three to five years of life. These gains in reliability come without any increase in costs.



Engineering improvements have increased the life of MK's new broadband batteries.

Not only is MK Battery offering its new broadband batteries for the same price, it is increasing its standard warranty from three to four years. The company also offers an enhanced five-year warranty where environmental conditions are appropriate.

MK Battery's confidence in its broadband batteries is well founded. In an independently conducted Accelerated Life Test of seven different batteries (see chart), the new E31 SLD G outperformed every one. All of the non-MK Battery products failed within 14 three-week cycles, with one product failing in just two cycles and most within 11 cycles. MK Battery's products are still performing after 17 cycles. The company is so committed to developing long-lasting, quality batteries, it is working with broadband industry groups to develop engineering, design, manufacturing and test standards to benefit the entire industry.



By choosing MK Battery's new broadband batteries, cable operators can increase their system reliability without increasing their costs. Customers stay happy and stay connected.

Save Money While Improving Reliability

The pressure is on to control costs. Yet you can't cut corners, as system reliability must be at its highest or competitors will steal your customers. Still, the cost of replacing failed batteries in your power supplies every two years is killing your budget. What can you do to save money and improve system reliability?

By deploying MK Battery's newly improved broadband batteries in your power supplies, you extend the life of your backup power system and simultaneously reduce your costs. Engineering improvements have increased the life of MK's new broadband batteries by as much as 50 to 60 percent. If you were getting two to three years of use from your batteries, you'll now achieve three to five years of life.

annual failure rates ranging from 3 percent to 25 percent for competing batteries, you'll have to roll a truck 3,000 times to replace dead batteries from an initial order of 5,000. At \$75 dollars a pop, that amounts to \$225,000.

You also save money by needing fewer replacement batteries. When one battery fails in the string, you can't simply replace that battery. All batteries in a power supply must be of the same capacity and date code. Otherwise, the higher capacity of the new battery will be equalized to match the lower capacities of the older batteries. This equalization weakens the new battery.

Lower Replacement Costs

If your supplier were to honor its warranty and replace all failed batteries, then you'd only need to buy replacements for those remaining in the string. Over five years, this could cost you \$427,500. More often than not, however, your warranty won't be honored to the fullest. Your costs for replacement batteries could escalate to \$652,500 if none are warrantied.

As the testing results on the previous page show, the failure rates of MK's new broadband batteries are quite low—ranging from .5 percent to 1 percent for four years, and increasing to 10 percent only in year five. The result: less money spent on truck rolls and replacement batteries. Buying just 5,000 E31 SLD Gs could save you as much as \$491,250 over five years.

But the biggest benefit of using MK Battery's new broadband batteries is the increase in customer satisfaction from fewer outages. Happy customers are paying customers. Let MK Battery help you save money and keep customers.

Five-Year Cost Analysis

Five-Year Costs	Warranty 100%	Warranty 50%	Warranty 0%	MK Battery Warranty 100%
Initial Battery Cost	\$375,000	\$375,000	\$375,000	\$570,000
Truck Roll Costs	\$225,000	\$225,000	\$225,000	\$48,750
Replacement Batteries	\$427,500	\$540,000	\$652,500	\$142,500
Total Cost	\$1,027,500	\$1,140,000	\$1,252,500	\$761,250
MK Savings	\$266,250	\$378,750	\$491,250	
Net Present Value	\$229,648	\$326,692	\$423,735	
Internal Rate of Return	41%	56%	70%	

Based on initial purchase of 5,000 batteries

The result: An immediate reduction in the cost of battery backup power. If you currently deploy three batteries costing \$100 each in your power supplies, and you receive two to three years of use, your per-year cost for backup power would range from \$100-150. But with MK's new battery, those costs drop to \$60-100 per year—as much as a 60-percent reduction. Multiply that by thousands of power supplies, and the savings are substantial.

Although the initial cost of MK Battery's E31 SLD G may be higher than competing products, your five-year savings resulting from a battery that won't fail greatly outweigh those costs. MK Battery has developed a detailed analysis that outlines those benefits. For a copy e-mail bruceh@mkbattery.com. We've highlighted the results in the Five-Year Cost Analysis table above.

Reduce Truck Rolls

As you can see, it's not just the cost per year of power that's smaller. You save tremendous amounts in labor and replacement batteries over the life of the E31 SLD G. With

Per-Year Cost of Power*

