

## Are You Aware Of Our In-service Battery Training?

MK Battery offers a certified battery training course, that is crafted to your specific cable systems applications and needs. The normal course outlines basic battery theory, understanding the differences about AGM and GEL type batteries, the "Pros" and "Cons" of each type of battery, maintenance procedures, testing and safety.

Special emphasis and time is spent on battery and power supply maintenance. Understanding the proper battery charging methods and the common failures of batteries in power supplies due to improper charging and maintenance practices.

We discuss most of the battery test equipment on the market today and the proper way to use it. This includes VOM, CCA, Impedance, Capacity and Load testers.

A typical in-service training course from us includes one full day of one of our specialists riding in the field with one of your techs identifying the current power supplies deployed and current maintenance and replacement procedures. This is usually followed by one or more 2 hour classroom training sessions. We prefer to have classes broken down to small groups no larger than 15-20 people if possible. Again, we will conform to meet your needs. A certificate is awarded to all those who participate in the 2 hour training class.

To find out more about the MK Battery In-service training course or to sign up for a course, please contact one of our sales reps in our booth or call 1(800)-372-9253.

## Inside This Issue:

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## What does Tier II have to do with you?

By law, anyone or any company who has excessive amounts of poison or corrosive material stored in their possession for extended periods of time, has to report it to the local and government authorities.

The law states that if you have more than 10,000 lbs of lead or 500 lbs of sulfuric acid in a building or on your premises, it must be reported to the proper authorities. Now this may seem like a large amount of lead and acid and that there is no way you would/could have that amount in your possession, or even better, how would you determine what the amount of lead and sulfuric acid in a battery is?

Let's break this down in a quick example for you. First you must have a current MSDS ([Material Safety Data Sheet](#)) for the type of batteries you have in your possession. Each battery type, size and manufacture has a different MSDS sheet. On the MSDS sheet you will find the percentage amount of each battery pertaining to lead and sulfuric acid by weight.

We will use an MK Battery Group 31 battery for our

example. The MSDS sheet states that by weight 67% is lead and 10% is sulfuric acid. Let's do the math:

### Lead -

$$\begin{aligned} \text{E31 SLD G} &= 72 \text{ lbs} \\ 72 \times .67 &= 48.2 \text{ lbs} \\ 10,000 \text{ divided by } 48.2 &= 207 \text{ Batteries} \\ 207 \text{ divided by } 36 \text{ (number of batteries on a pallet)} &= 5.75 \text{ Pallets} \end{aligned}$$

### Acid -

$$\begin{aligned} \text{E31 SLD G} &= 72 \text{ lbs} \\ 72 \times .10 &= 7.2 \text{ lbs} \\ 500 \text{ divided by } 7.2 &= 69 \text{ Batteries} \\ 69 \text{ divided by } 36 &= 1.9 \text{ Pallets} \end{aligned}$$

As you can see by the numbers, it does not take long to end up in a reportable situation. This applies to an accumulation of both new and spent batteries. To find out more or to have MK Battery assist you, please stop by our booth or call us at 1(800)-372-9253.

Cable-Tec  
**EXPO**

Come See Us  
Booth #2222  
June 16<sup>th</sup>-18<sup>th</sup>

## What's in your EPA file?

Hopefully each of you as a cable operator has an EPA file. The government is curious about many things, too curious in many situations, however with respect to batteries, they want to know what you do with your spent (junk) batteries.

You as a cable operator are liable for the proper disposal of your spent batteries. They have to be disposed of through an EPA approved smelter via a responsible company to get them there.

MK Battery has several programs available to assist you with the proper disposal and recycling of your spent batteries. MK Battery will pick up your spent batteries and provide you with the proper certification to be placed in your EPA file.

For more information about how you can sign up with MK Battery and take advantage of a customized spent battery program for your company, please stop by our booth and speak to one of our sales reps or call 1(800)-372-9253.

## COMMODITY PRICES RISE SHARPLY!

This is not the type of news we like to report. Metals prices, including lead, the main component in batteries, have risen sharply over the last year. Lead prices alone have risen 72% from last year's levels. The prices of copper, aluminum, steel, and other commodities have risen dramatically as well. We have been monitoring the added manufacturing cost associated with this and are doing our best to cope with the changes.

If you are a commodities speculator you may wish to watch the prices as posted on the London Metals Exchange (LME). The web address is: [www.lme.com](http://www.lme.com).



## Tip from the tech...

*"A chain is only as strong as its weakest link."*  
author unknown

Batteries are only one component of your powering network system. The other major component is the power supply module, which besides providing stable power, also charges the batteries until they are needed. You could have the best batteries made in your power supply cabinet, however, if your charger is not functioning correctly or is not set up correctly, you will have nothing but problems.

If the charger constantly overcharges the batteries by charging at too high a voltage, the batteries will begin to gas and release excess pressure. The gases escaping are hydrogen and oxygen. They are supposed to recombine inside a valve-regulated battery to create water. Overcharging dries out the electrolyte by driving hydrogen and oxygen out of the battery through the safety valves. Due to a sealed battery's design, water cannot be added to the battery to compensate for this. Performance and life will be reduced.

Check to make sure the charger is charging at the manufactured charging parameters and that the temperature probe is hooked up correctly and functioning properly.

Continually undercharging a battery can damage a battery as well. If a battery is continually undercharged, a power-robbing layer of sulfate will build up on the positive plate, which acts as a barrier to electron flow. Premature plate shedding can also occur.

**Again - performance is reduced and life is shortened.**

Remember, batteries are only part of your powering network. If you are experiencing a battery problem in your power supplies, check the charging voltages first. If you replace the batteries and do not fix the root of the problem, you will continue to experience problems and the batteries will prematurely fail again.

# CUSTOMER COMPARISON CONCLUSIONS

*(This testimonial comes from a large CATV System in Florida)*

January 2004

## Purchasing the Right Battery

This report was created in the interest of finding the most cost-effective battery solution for providing back-up power for our CATV system Power Supplies.

One of the major problems when deciding which brand of batteries to purchase, is wading through all the facts and figures and biased test data, the salesmen throw at you and deciding which really meets your needs. Sometimes the salesmen don't fully understand our needs and recommend a product that doesn't stand the test of time.

## Battery Capacity Comparison:

**Battery A:** Gel-cell, lower voltage at first but increases to meet the need.

**Battery B:** Wet-cell, higher voltage at first but drops off after a while.

**Battery C:** AGM (Absorbed Glass Mat), higher voltage at first but drops off after a while.

**MK Battery:** Gel-cell, lower voltage at first but increases to meet the need.

## Battery Longevity Comparison:

**Battery A:** Maximum life span is eight years, many of them fail within six years.

**Battery B:** We have only used them for the past two years. We are already seeing signs of failure of these batteries.

**Battery C:** We have only been using them for a year. They are unproven, time will tell.

**MK Battery:** Maximum life span is unknown. Now at ten years and still going. We call them "the batteries that won't die". The "MK" brand batteries that I'm recommending have proven themselves over and over again.

## Maintenance Free Comparison:

**Battery A:** Almost all leaked acid, which required the P/S tech to wash the acid away and clean the terminal connection on a regular basis.

**Battery B:** We have noticed some minor acid leaks. Being of Wet-cell design, we may need to add water in the future.

**Battery C:** Only slight signs of acid leaking yet, may get worse over time.

**MK Battery:** I have only seen one battery leak acid in seven years of working with them. MK Batteries are the only ones that we don't need to spray the terminals with a non-corrosive spray.

## Handling Abusive Conditions Comparison:

**Battery A:** Heat definitely affects these batteries. P/S that sit directly in the sunlight all day long fail sooner than the ones that get some shade. The charge voltage needs to be closely monitored. Vibration and rough handling shorten their life span.

**Battery B:** Being a wet-cell battery, extra care must be used in making sure the batteries stay upright and level.

**Battery C:** Being AGM type batteries, the manufacturer requires a higher charge voltage level, which no one informed us of this fact when they started shipping them to us. We expect that the charge voltage will need to be closely monitored. The manufacturer does not recommend AGM batteries for use in high temperature locations. We have measured temperatures in the P/S cabinets above 130 degrees F. This high temperature is sure to shorten their life span.

**MK Battery:** These batteries have stood up to long periods of under and over charging voltages and bounce right back after charge levels are brought back to normal. MK brand will accept a much wider charge voltage window. MK also is better at handling high temperatures and rough handling during transport and installation. Some MK batteries have been moved several times from P/S to P/S with no ill effects. They have recovered nicely from long periods of deep discharge states. Most other brands would have been ruined.

## Safety and ease of use Comparison:

**Battery A:** Again there is the acid issue. Getting battery acid on a person's skin or in the eyes can be quite serious. The handles have failed on occasions causing the batteries to fall and cause personal injury.

**Battery B:** On the plus side, these batteries are lighter than the others. They use a rope type handle that is not likely to break or become disconnected from the battery. Although I haven't seen any sign of acid leakage, being of a wet-cell design, these batteries are able to leak if not kept in an up-right position.

**Battery C:** Several of these batteries have arrived with broken handles others have broken during use.

**MK Battery:** I never had a handle fail to work properly. There is virtually no acid leakage to cause problems.

## Summary:

I recommend that we switch to the MK Brand of batteries as they have proven themselves year after year after year. They have zero maintenance requirements after installation, they stand up to adverse conditions and their life span far exceeds any other battery I've seen. Their cost-per-year is less than any other battery.



## **MK Battery**

1645 South Sinclair Street  
Anaheim, CA 92806  
800-372-9253  
Fax 714-937-0818  
[www.mkbattery.com](http://www.mkbattery.com)

*POWER YOU CAN  
DEPEND ON*

**Cable-Tec**

**EX  
PO**

June 15-18  
Orlando

## **1995 AND STILL GOING STRONG**



*A recent test conducted  
on this battery returned by  
one of our customers found  
that **93%** of the battery's  
capacity was still available.*

**We'll See  
You  
At The Show**

**See Us at Booth #2222**

**Cable-Tec EXPO  
June 16<sup>th</sup> - 18<sup>th</sup>, 2004**

**Orange County Convention Center  
Orlando, Florida**