CASE STUDY: Deka® Unigy®II Batteries Excel in Harsh Rail Signal Environment for CSX.

THE BACKGROUND

The flashing lights and crossing gates at railroad crossings must function flawlessly without any interruption. Their uninterrupted operation is completely dependent on the batteries that power those devices. Even in areas where the environments are harsh, the batteries must continue to provide this critical power.

THE CHALLENGE

CSX needed to find the right battery to sit inside an environmentally uncontrolled metal box in the harsh Florida sun. This battery solution also needed to be cost effective, maintenance-free, and sustainable. The Ni-Cd batteries that previously powered these applications were not able to meet all those needs.

THE CLEAR SOLUTION

The customer's power solution choice was the Deka Unigy II valve regulated lead-acid (VRLA) batteries. This lead battery technology offers a fully sustainable and recyclable solution with distinct technological advantages. A one-way pressure relief valve and a Microcat catalyst provides the engineering advancements needed to deliver long life in harsh environments.

"We replaced existing Ni-Cd batteries with a sustainable solution."

*"After a check-of-use, cell capacity average was an incredible **107%**, and conductance only decreased 20%"*

Deka Unigy II maintenance-free design with Microcat® catalysts provide long life and excel in harsh environments

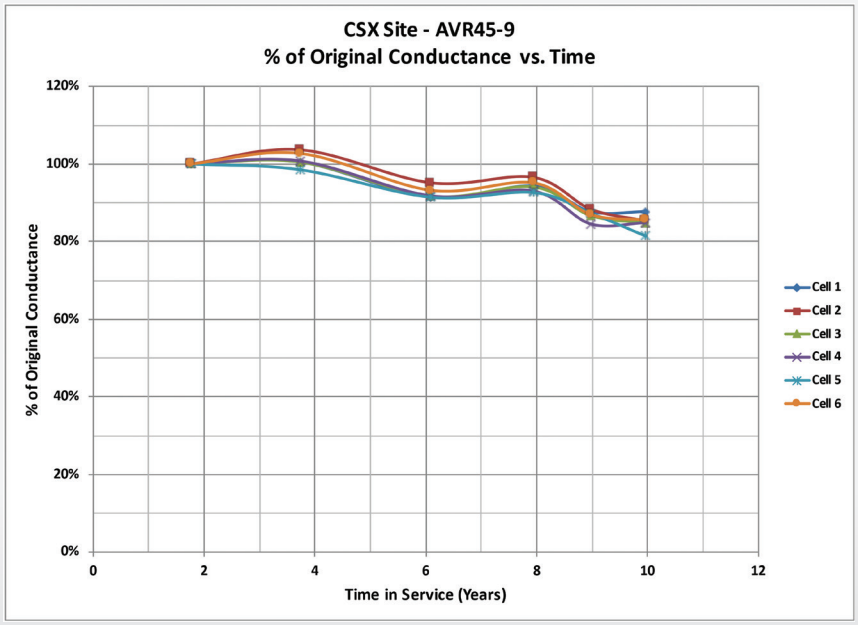

CHART 1

Cell Number	Time Hours*	Capacity %
1	8:40:39	108.47
2	8:41:18	108.60
3	8:36:33	107.61
4	8:30:31	106.36
5	8:40:52	108.51
6	8:33:53	107.06
Average	**8:37:18**	**107.06**

CHART 2

**Based on 8 hour rate*

THE RESULTS

A ten-year field study showed the Deka Unigy II batteries had superior conductance and capacity performance. (Conductance readings indicate when to closely monitor or replace the batteries. Active monitoring starts once a 40-60% change occurs and at an 80% change the battery needs to be replaced.) The Deka Unigy II's conductance reading after a ten-year period only decreased by approximately 20% for all the cells. *(see Chart 1)*

Capacity is the measure of the energy left in the battery. It is measured in a percentage scale with fully charged batteries at a minimum of 100% capacity. (Once a battery drops below 80% capacity, it is typically removed out of service.) The average capacity of the Deka Unigy II cells at the end of the ten-year field study was an incredible 107%. *(see Chart 2)*

THE CONCLUSION

Performance, combined with cost benefit and a truly sustainable solution, made CSX with the Deka Unigy II the clear winner in rail signal applications. Deka lead based batteries are the safe and reliable solution to help you reach your performance, sustainability and cost goals.

Call us today to learn how we can help you succeed.

AVR45 Deka Unigy II

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