



Charged waters

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Clamp on current leak monitor

Equipment, such as the pictured monitor, can test for leaking current to lessen the chances of injuries or death due to electric shock drowning. Favorable test results should not be taken as a sign that the water will be safe in the long term, though, as a leak can take place shortly after the test is conducted.

More information

More information about electric shock drowning and how to prevent it may be found online at www.electricshockdrowning.org. People may also email Ed Lethert at elethert@gmail.com for more information or to try to schedule a time for him to test for leaking current.

A 21-year-old man was out for an evening swim near a dock several weeks ago when he felt electricity in the water. He grabbed the dock ladder to get out of the water, was shocked and fell face-down back into the water.

Marcus Colburn became a victim of electric shock drowning Sunday, June 21, in Missouri. ESD causes death and serious injury to people in fresh water with no warning signs that the water has become electrified. It occurs when an electrical current leaks into water due to an electrical fault in wiring or equipment and when there is a serious degradation or failure of a grounding conductor. Only a little current in the water, 1/50th of the current used by a 60-watt light bulb, is needed to bring on paralysis, which can lead to drowning. Larger amounts of current can lead to electrocution.

Ed Lethert is working to prevent ESD deaths in Minnesota. An Air Force trained electronic technician, Lethert has worked with electricity for decades. After leaving the Air Force, he has worked in the electronics industry, with an engineering firm, as a project manager for an electrical contractor and has been involved with technical training. Now he's educating as many people as possible about the dangers of ESD.

Cases appear to be on the rise around the country. Lethert said that can likely be attributed to more electricity being installed near water and more people who attempt to fix electrical problems themselves.

While there are no warning signs that the water is electrified, or about to be electrified, there are steps that people can take to prevent ESD.

“The cardinal rule is to stay out of the water where electricity is present,” Lethert said.

That means people and pets shouldn't be swimming at marinas or near boats, docks and boat lifts that use electricity, he said. If the conditions are just right, he added, current can travel in the water to a neighboring property as well.

Getting people to follow that rule isn't always easy, Lethert said, especially people who own lakeshore property who want to be able to swim off their docks. In those cases, he said, the power should be cut to everything that's near the water before anyone starts to swim, and it should stay off until everyone is out of the water. Lethert also would like to see signs posted around docks powered with electricity at private homes and marinas telling people not to swim due to a danger of electrocution.

Tests may be performed to determine whether current is leaking from equipment. Lethert said people should not rely on favorable test results for long, as a leak can take place right after the test is conducted. There are also monitors that will sound an alarm if current begins leaking, however those systems are expensive, he said.

Swimming off of a boat away from the shore in most cases eliminates the risk of ESD, Lethert said. It can still happen if boats tie together in the lake and run an electrical cord from one boat to another one, he said.

ESD only occurs in freshwater, but lakes, rivers and pools are not the only places where it happens. Injuries and deaths due to the phenomenon have taken place in ditches, fountains and mini golf ponds. There is also a risk of ESD on solid ground in places such as campgrounds after a rainfall when puddles may become electrified due to faults in the wiring of campers.

People who witness someone falling victim to ESD should immediately turn off the power if possible, Lethert said. Many people have been injured or killed after jumping into the water to help an ESD victim. Instead, Lethert said, throw the victim a life ring or push them away with a nonconductive pole or object. People in the water who feel a tingle, should turn around and swim back to where they didn't feel anything. Trying to exit the water using the dock or ladder could result in electrocution, he said.

As part of his efforts to educate the public on the dangers of ESD, Lethert will give a presentation to the Lake Minnetonka Conservation District Wednesday, July 22. He also hopes to talk soon to the Hennepin County Sheriff's Water Patrol to help the deputies understand what to do to help victims of ESD while keeping themselves safe. The Minnetonka Power Squadron is also promoting electrical safety around the water, he said.

Lethert has the equipment necessary to test for leaking currents, and he is willing to test equipment around the Lake Minnetonka area for free.

"I just want to do some good," he said.

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