

EPRI Test Report

In 2009, the Electric Power Research Institute conducted a test with a grid and only a single wire, as the NEC currently allows. The crux of the report seems to be two fold. First is verifying that a grid in the pool deck provides adequate protection, and they conclude that by far this is the best protection. The results seem to point to adequate protection by a grid in the deck, even for temporary faults of thousand plus Volts. There never was more than 100 millivolts AC recorded.

Second is how to mitigate stray voltage when ONLY a single wire is used, as is allowed in the NEC. The EPRI reports that a single wire allows 100 to 158 TIMES the voltage a grid allows (that's 10,000 – 15,800% more). Some of these mitigation techniques are mentioned in the article “Explanation of Stray Voltage and Mitigation possibilities” on this website.

This would be extremely useful in helping mitigate stray voltage on your deck if it was built according to the NEC 2008 version and later.

This report possibly may be obtained by contacting EPRI, 3420 Hillview Avenue, Palo Alto, California 94304-1338 ▪ PO Box 10412, Palo Alto, California 94303-0813 ▪ USA
800.313.3774 ▪ 650.855.2121 ▪ askepri@epri.com ▪ www.epri.com