



### A General Principle May Not Always Be Applicable

The performance of a product within its operating environment is critical to establishing that product's role in the causation of an incident. An electrocution incident occurred to a maintenance worker who was performing an electrical job task on a beverage dispensing machine. The job task that the maintenance worker was performing consisted of replacing the light fixture socket on the dispenser machine while the equipment was electrically energized. The maintenance worker received a fatal electrical shock while handling the conductors for the light fixture socket which was electrically positioned on the load side of the light ballast.

The allegation was that the power source for the dispenser machine was defective because it did not incorporate a Ground Fault Circuit Interrupter (GFCI) into the power cord. The purpose of the GFCI is to detect the presence of an imbalance of electrical current flow between the Hot Conductor and the Neutral Conductor of the power source into the machine. If an imbalance of electrical current flow is detected, the GFCI operates to disconnect the electrical power from the machine.

In the present case, the maintenance worker was performing the replacement of the light fixture socket on the load side of the ballast while the dispenser machine was energized. The ballast's electrical circuit was such that it would isolate the secondary side from the primary side of the ballast. As such, the GFCI, electrically positioned on the primary side of the ballast, would be unable to detect an electrical current flow imbalance which occurs on the secondary side of the ballast, where the maintenance worker became part of the electrical circuit. The presence of a GFCI on the power source of the dispenser machine would not have played any role in preventing the electrocution of the maintenance worker.