C28 A Near Electrocution by Irrigation Pipe — Case Solved by Photo Inspection

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After attending this presentation, attendees will better appreciate how reviewing previously produced evidence can be very rewarding and can decide the case.

This presentation will impact the forensic science community by demonstrating how a false theory can be defeated by careful examination of the evidence.

This case that resulted in litigation occurred in the large agricultural fields of eastern Idaho. A field worker reported he had been burned and almost electrocuted while touching or moving an irrigation pipe he found on the ground during a field clearing operation. The worker was well experienced and presented a story that at first seemed plausible; however, as the utility company and their experts reviewed the circumstances of the case, it became clear that the story represented by the worker simply did not add up. Further complicating the issue was the report by an electrical engineering expert witness who presented theories that were novel at best and unsupported by the evidence at worst. This plaintiff's expert's testimony, late in the case, meant that a jury might hear only his testimony, and no opposing view, as most of the investigators were associated in some way with the utility company.

The task of this defense investigator was to enter the case very late in the process and try to determine what happened, why, and how the plaintiff's theories were defective. The investigation combined elements of electrical engineering, human factors engineering, safety engineering, and a review of all utility records, investigation photos from the utility and sheriff's departments, as well as medical and other records.

This presentation will outline the evidence in the case, using photographic records from the various investigating agencies as well as original photos, to set the scene.

A systematic review of the evidence, including burn marks on cables, irrigation pipe, on the worker's hands, feet, and head, as well as other demonstrative evidence, will demonstrate the challenge facing the defendants.

At the heart of the matter were theories that, however illogical to the trained expert, were nevertheless compelling enough that a rural jury might be sufficiently swayed to make the verdict uncertain. These theories ignored the routine practice of utility companies to record and time stamp each event that might involve a circuit trip or fault. A detailed millisecond record existed of the initial trip event, an automatic re-set and final trip, and circuit disconnect.

In a review of routine photos that were thought to be of little significance, the missing link was revealed that finally answered the key defense question: why did the field worker raise the pipe into the 9kv electrified line, and why was his story that he found the pipe on the ground not plausible?

Part of the analysis was the investigation of similar incidents in the agricultural field, where contact with an overhead power line is unfortunately not uncommon. There is a significant statistical body of information that identifies contact by irrigation pipes and overhead lines as a major safety concern. It is this investigation into the common practice by field handlers of irrigation pipes that linked with the photographic evidence, finally providing a plausible explanation for the case.

A few comments will be made about a very short and suddenly abbreviated deposition as well as the surprise ending at trial.

Irrigation, Electrocution, Voltage

 ** Presenting Author*