nication between the engineering and manufacturing functions. Furthermore, the quality function reported through the manufacturing function rather than having the necessary independence. This is a classic organizational error: The quality function must be independent of engineering, manufacturing, and even purchasing.

Case 7

The power sub-station in a skyscraper basement blew up during testing. It was suspected that the person measuring current flow at the time of the accident had bridged two adjacent bus bars with the test coil. However, the person doing the testing was badly injured and did not remember what happened. The test coil, although badly damaged, was found in the debris. Metallographic examination of the contacts of the coil showed that fused copper from the bus bars was transferred to the contact points. Clearly, the bus bars had been shorted.

The cases summarized are some of the actual failures encountered by the authors. These failures illustrate how common sense, due diligence, and a background in materials science can contribute toward solving electrical and electronic failures. It is hoped that the information contained in these summaries will help others avoid similar problems.

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