

NAFLIC

National Association For Leisure Industry Certification

Standards & Related Documents Committee

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286. Electrical Fatalities in USA

During the last year we have become aware that there have been at least three fatalities from electrical causes involving amusement devices in the USA.

Two of the accidents affected workers - in one, the man who was killed was installing equipment, when another person turned the power back on. In the other accident, state investigators are said to have reported that the cause was a chafed power cord which had apparently become damaged from vibrating against a distribution panel. We note that if the worker had made "indirect contact", i.e. he touched metalwork that had become live due to the chafing, this first fault would have shorted to earth, resulting in automatic disconnection if the correctly coordinated circuit protection was installed. In the case of "direct contact", i.e. the worker touched a bare live conductor of the cable without that conductor having been shorted to earth, earth leakage protection would have made electrocution less likely. However, the ride was being set up so that there may not have been a proper earth at that stage.

The third fatality to which we refer involved an 8 year old boy. This was the first time in Ohio that an amusement ride fatality had led to criminal charges. The jury found that the dodgems had been improperly wired and the victim was severely shocked while he was waiting in line with his father to board the ride. He died three weeks later as a result of his injuries.

The owner of the ride pleaded guilty to a charge of attempted involuntary manslaughter, a worker was found guilty on charges of involuntary manslaughter and reckless homicide, and two inspectors working for the Ohio Department of Agriculture (responsible for amusement device safety) were guilty of dereliction of duty.

We last reported on a British electrical accident in Technical Bulletin 199 (February 2000) when the injuries were only minor. More advice on electrical aspects of rides may now be found in Chapter 11 of *Safety of Amusement Devices: Design*¹, specific advice on dodgems is found in Appendix 1 of the same. In Great Britain the Electricity at Work Regulations 1989 apply.

¹ *Safety of Amusement Devices: Design* (NAFLIC; ISBN 0 9546161 0 3)