

NAFLIC

National Association For Leisure Industry Certification

Standards & Related Documents Committee

TECHNICAL BULLETIN - SEPTEMBER 2005

306. High Flyer Overspeed

On July 7, 2005 an accident occurred on a 10 to 12 year old High Flyer amusement device manufactured by A.R.M. Industries of Ohio. This happened at a fair in Michigan and resulted in five people being taken to a local hospital; one of them is said to have suffered a sprained neck and others may have suffered minor back and neck injuries.

The ride is a Ranger-type in which the passenger unit, accommodating 16 persons, first swings and then rotates through full 360 degrees about a horizontal axis. It then normally executes 1½ revolutions in each direction. It was shut down after an apparent electrical malfunction caused it to carry out complete rotations, spinning much faster than its design speed. Witnesses say they saw the entire ride structure wobble back and forth and some of them say that the ride appeared to come off its support jacks. One press report says that the conventional control and the emergency stop (although it didn't use these precise words) both failed to stop the ride. The ride's power supply was eventually cut off allowing the ride to come to a halt.

It is conceivable that it was not possible to stop by using the (wrongly designed?) Emergency Stop, which ought to have been able to completely bypass single items of equipment such as electronic drives, etc. That is to say that the specification would not be acceptable if it just removed the "enable" from an electronic drive - disconnection of motive power must be provided by other effective means.

More information about requirements for the design of safety stops and emergency stops, as well as precautions to be taken if the maximum achievable speed (in the absence of controls) exceeds the safe maximum operational speed, may be found in *Safety of Amusement Devices: Design* (NAFLIC; ISBN 0 9546161 0 3).

We previously reported on a ride which failed to stop in TB 259 from May 2003. Overspeeding was not involved in that case.

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