

# NAFLIC

*National Association For Leisure Industry Certification*

**Standards & Related Documents Sub-Committee**

**TECHNICAL BULLETIN - NOVEMBER 1996**

## **140. Miami Surf accident in Sweden**

We have been informed by the Swedish authorities that a serious accident occurred involving a restraint bar on a ride known as Miami Surf. This was a Miami Trip ride type but, at this stage, we are unable to confirm the manufacturer. The accident happened when the restraint bar was being lowered and one of the passengers was not in a normal seated position. The bar came down and exerted excessive force across the passenger's back with resultant serious injury. We do not know whether or not the design was meant to incorporate force limitation features.

Although the accident occurred on a Miami Surf ride, some common principles apply to powered restraints, doors and barriers on a variety of types of rides.

We note that present guidance expects that powered closing restraints should not be capable of inflicting injury. As additional guidance we draw attention to the proposed requirements in the draft European Standard "Fairgrounds and amusement parks machinery and structures - safety". The Standard, covering design and manufacture (as well as operation) of rides, is expected to come into use around the year 2000. The present working draft includes the wording "Powered passenger restraint devices may create additional hazards for injuries. Their movement shall be slow and maximum exerted force shall not be more than 0,15 kN (0,08 kN if also children are admitted) measured on the active edge of the device."

Persons carrying out a risk assessment (for instance in the course of design, Design Review, Initial Test) may need to consider whether the guide figures in the draft European Standard are appropriate. Persons carrying out Initial Test or Thorough Examination may need to consider whether to carry out check measurement of the maximum forces that powered (or, for that matter, gravity) restraints are capable of imposing. This may be particularly relevant where the force limit relies on the setting of adjustable components.

If there are associated risks, operator training and instructions to passengers are relevant ("Fairgrounds and Amusement Parks - A Code of Safe Practice", paragraphs 153, 154). Procedure for operators might include - watching that passengers are appropriately positioned, informing them that the bars will be closing, and telling them to "put your hands in the air" out of the way of the moving components. This last point also serves to confirm that passengers have heard the instruction.

Committee Members :- Dr Garry Fawcett (Chairman), Mr Richard Barnes, Mr Doug Dadswell, Mr Peter Smith  
and representatives of LTC Ltd, Plant Safety Ltd, and Banwell & Associates Ltd

© November 1996

2A GROVE PARADE, BUXTON, DERBYSHIRE. SK17 6AJ

TEL: (01298) 22384 FAX: (01298) 70784