

**LOG OF MEETING
DIRECTORATE FOR ENGINEERING SCIENCES**

SUBJECT: Meeting of the ASTM F24 Evolution Task Group I (Design/Engineering) to discuss Manufacturing/Operations/Maintenance requirements for amusement rides

DATE OF MEETING: June 25, 2018

PLACE OF MEETING: Virtual (teleconference)

LOG ENTRY SOURCE: Mark Kumagai (ESMC)

COMMISSION ATTENDEES: Mark Kumagai (ESMC)

NON-COMMISSION ATTENDEES: Contact ASTM for attendee list.

SUMMARY OF MEETING: The task group discussed additional requirements to F2291 section 5.2 *Hazard Mitigation* and section 8.32 *Metal Structures*. These proposed requirements proposed requirements to address corrosion in structural members by preventing or mitigating water pooling within tubular members, detecting corrosion within tubular members that are not sealed from water entry to provide early discovery, and prevent internal structural failures.

The following performance requirements were proposed for section 8.32 *Metal Structures*:

8.32.2 Prevention of Corrosion – Safety related components made of metal, as determined by the Ride Analysis, shall be designed to mitigate potential hazards associated with corrosion in the intended environmental conditions, as determined by the Environmental Analysis.

8.32.2.1 Mitigation methods for the potential of entrapped or pooled water shall consider the intended amusement ride or device orientation during, fabrication, construction, commissioning, setup/teardown, operation, transportation, and storage.

8.32.2.2 Selection of protective coatings, such as paint or plating processes, shall consider the intended environmental conditions as determined in the Environmental Analysis.

8.32.3. Hollow structural members, such as tubes or pipes, shall consider the potential for corrosion on the interior surface of the section.

8.32.3.1 Where hollow structural members are sealed, the hazard mitigation shall consider internal condensation and degradation of the seal.

8.32.3.2 Where drainage is used to prevent water accumulation inside the hollow structure, the hazard mitigation shall consider access to drainage holes and frequency of drainage hole maintenance.

8.32.3.3 Where inspection is part of the hazard mitigation to prevent internal corrosion, the method, frequency, access, and acceptability criteria shall be considered.

8.32.4 Metal structures shall consider the effects of temperature extremes as determined by the F2291 4 Environmental Analysis.

8.32.3.1 The effects of temperature extremes on metal properties shall be considered.

8.32.3.2 When the potential for trapped or pooled water exists, consideration shall be given to potential deformation due to the expansion of frozen water.

The task group will ballot this in July. CPSC staff stated that they supported the proposed addition to address internal corrosion in structural members.

Cc: Caton, McCallion, Edwards