

Risk Assessment Documentation Operator: James Mellors Amusements Limited

Star Flyer Ride @ Piccadilly Gardens, Manchester

Build from Tuesday 19th March

Operation from Friday 29th March to Sunday 30th June 2013

Operation / activity	Hazard description (i.e. potential cause of injury/damage)	Who's at risk?	Current preventative and protective measures.	Risk Rating	Further action required.
Structural Integrity	Metal failure	Employees Public	Regular testing/inspection carried out and documented. Daily visual inspection of major stress areas and connection bolts	Low	Monitor
	Incorrect construction	Employees Public	All construction is monitored by a competent person. Attraction is inspected by competent person prior to initial commissioning. All attractions are built according to the manufactures recommendations.	Low	Initial inspections and competent persons able to monitor build up of this attraction should be documented
	Inappropriate/ dangerous modifications	Employees Public	No substantial modifications will be conducted to the attraction without the manufacturers consent	Low	Monitor
	Chairs breaking free	Employees Public	Inspections on chairs carried out as per inspection check list.	Low	Daily / annual inspections to be documented
	Failure / or over supply of stored energy.	Employees Public	Failure of electricity would result in failure to minimal danger. The ride would stop in a safe position and the chairs brought down using the emergency procedures.	Low	Regular checks emergency valves and battery.
	Electricity	Employees Public	Electrical continuity checked prior to commissioning. Power sourced from dedicated power supply on site. Protected by RCD. Any mains power / distribution will be covered, secured and only accessed by authorised staff	Low	monitor

Operation / activity	Hazard description (i.e. potential cause of injury/damage)	Who's at risk?	Current preventative and protective measures.	Risk Rating	Further action required.
	Fuel Delivery (n/a for Manchester as using mains power)	Employees Public	n/a Manchester as using main power. Usually fuel would be delivered to site in tankers and pumped directly into bowsers. Tanks are double bunded.	Low	Any generators will be panelled in to prevent unauthorised access.
	Fire	Employees Public	Suitable fire extinguisher beside attraction, all accumulations of rubbish removed.	Low	Monitor
Access and egress	Ride security and start up	Public / trespassers	Ride is controlled from control desk with excellent vision of the entire ride and protected by attendants.	Low	monitor
	Walkways	Public	All walkways are inspected daily prior to opening. Any transient slip hazards are marked and cleaned as soon as reasonably practical	Low	Monitor and document
	Platforms	Public	Entrance and exit controlled by competent persons.	Low	Document staff training
	Uncontrolled movement of ride	Public	Ride will not be allowed to move until all passengers are secured in. Rotation of the passenger seats is only possible when they have reached a predetermined height therefore preventing accidental collision with fencing or other stationary objects such as lights or trees. The seat rotation is also stopped at a predetermined height at the end of each ride cycle before the passengers can be lowered to the park position	Low	Review operating procedure as necessary

Operation / activity	Hazard description (i.e. potential cause of injury/damage)	Who's at risk?	Current preventative and protective measures.	Risk Rating	Further action required.
	Crowd control barriers	Public	All barriers are visually inspected daily for security, strength and condition. Protective barriers provided on loading platforms. Public not allowed into platform area until ride has ceased and all clear given. Ensure that all access gates to the attachment area are securely closed while ride in operation. Patrons waiting for next ride must be kept outside of attachment area, away from moving device.	Low	Monitor and document
	Emergency evacuation	Public	Emergency evacuation is conducted using the emergency evacuation plan.	Low	Emergency plan in ride manual
	Insufficient lighting	Employees Public	Suitable lighting is provided throughout the public access area during operation of the attraction.	Low	Monitor
	Persons with disabilities, mental and physical	Public	Operators instruct carers on the suitability of each ride for persons with special needs.	Low	Suggested list of attractions suitable to the individual should be given to carers
Staff access and egress	Access walkways	Employee	Access walkways covered in anti-slip material Always ensure that the riders have unobstructed access while entering and exiting loading platform. The Controller and Assistant Controller must advise the riders to use caution and be ready to physically assist anyone who appears impaired.	Low	Monitor

Operation / activity	Hazard description (i.e. potential cause of injury/damage)	Who's at risk?	Current preventative and protective measures.	Risk Rating	Further action required.
	Movement in front of moving machinery	Employee	Employees instructed not to enter the ride perimeter under any circumstances during operation.	Low	Monitor
	Moving machinery of ride	Employee	Ride movement is strictly controlled by operator. Operator to remain in visual contact with all attendants during the ride operation.	Low	monitor
Build / Dismantle/ Maintenance	Incorrect construction	Employees	Only designated competent persons will construct or dismantle any rides. The documented ride build / dismantle system will be followed throughout the process.	Low	A register of competent persons should be maintained.
	Manual handling	Employees	Employees instructed in how to build and dismantle equipment. Use of mechanical handling equipment used wherever reasonably practical.	Low	New employees must be trained & documented before starting work.
	Access to unauthorised persons	Employees	Attractions perimeter securely fenced or taped at all times.	Low	Monitor
	Falling objects	Employees	Where a risk of falling objects is identified, hard hats must be worn and hard hat area identified.	Low	Hard hat area should be marked.
	Electricity	Employees	Electricity disconnected prior to maintenance being carried out.	Low	Only competent person to carry out electrical works

Operation / activity	Hazard description (i.e. potential cause of injury/damage)	Who's at risk?	Current preventative and protective measures.	Risk Rating	Further action required.
	Access for checks	Employees	Checks on the top of the machine conducted by experienced personnel.	Low	
	Accidental start up.	Employees	Operations key must be taken out when working on the attraction.	Low	Monitor
	Slips, trips and falls.	Employees	Transient slip hazards removed, trailing cables minimized, regular review of area to minimise possible trip hazards. Check area constantly for objects or liquids that could cause a slip or fall and ensure area is free of debris. Check any step up to the ride and any disembarkation points and place warning signs at each point. Maintain a clean and tidy operating area. Leave no tools or materials in ride area after any work.	Low	Monitor
	Failure of lifting equipment	Employees	Annual testing of lifting equipment, chains etc. Employees instructed in use of mechanical handling equipment	Low	Yearly test certificates must be documented.
	Use of hazardous substances	Employees	Competent persons only to use such substances, if necessary a no smoking zone must be applied.	Low	Monitor
	Use of welding equipment	Employees`	No welding required on site.	Low	

Operation / Activity	Hazard description (i.e. potential cause of injury/damage)	Who's at risk?	Current preventative and protective measures.	Risk Rating	Further action required.
	Lighting	Employee	Suitable task lighting is provided during build up / dismantling of attraction.	Low	Monitor
Working at heights.	Daily checks	Employees	Trained Employees instructed in how to build & dismantle equipment must wear full fall arrest system when working at heights – harness and connecting lanyard. In addition a separate safety lanyard and carabineer are provided for support and secondary protection anytime work must be performed aloft. All tool and equipment carried aloft has to be attached via a lanyard to the climber or tower, nothing should be freely carried by the climber	Low	Monitor
	Failure of fall arrest system.	Employees	Regular visual checks of fall arrest system with annual test reports.	Low	Monitor condition and document.
Ride operation	Lack of operator vision and control over the whole situation	Employees Public	The operator of the machine is on the station platform during the operation of the ride. From this position they are able to see the majority of the working area during the full ride duration. Attendants ensure that no person enters the barrier area.	Low	During operation at busier sites more attendants should be employed.
	Uncontrolled crowd movement	Employees Public	Crowds controlled by means of queuing barrier system. One entry and exit with an attendant to prevent access during operation. Ride is stopped immediately if anyone enters the ride area.	Low	Monitor

Operation / activity	Hazard description (i.e. potential cause of injury/damage)	Who's at risk?	Current preventative and protective measures.	Risk Rating	Further action required.
	Incorrect load / unload	Employees Public	The load / unload is conducted under the direct supervision of the ride operator. Be cautious when fitting large people into the seats. Check that they fit within the contours of the seat and the harness fits properly. If this is not so - **Do not let this person ride**. The minimum height for persons able to fit into the STARFLYER seats is 120 cm. The main point is to make sure that you do not believe the passenger can in any way slide out of the seat. Make sure the harness has good surface contact with the passenger's body. If this is not so - **Do not let this person ride**.	Low	Monitor
	Fatigue	Employees	Operators must be in good physical and mental condition. Take scheduled breaks	Low	Monitor
	Persons with medical conditions	Public	Safety signage at ride states to not ride if suffer from vertigo, motion sickness, ill health etc. Riders must be in good mental and physical condition, specifically not under the influence of drugs or alcohol. Riders must not have any physical problems, such as heart condition or back injuries, which could be exacerbated by a STARFLYER ride. If you are pregnant, you are not allowed to ride.	Low	Monitor
	Violence or unruly behaviour	Employees Public	Operators and staff will restrict access to public engaged in unruly behaviour; attraction will be	Low	Monitor

			stopped if behaviour is seen during the operation. Don't argue with patrons. If there is a problem, call the Duty Manager		
Operation / activity	**Hazard description (i.e. potential cause of injury/damage)**	**Who's at risk?**	**Current preventative and protective measures.**	**Risk Rating**	**Further action required.**
	Unexpected movement of ride during load / unload	Employees Public	The ride chairs are strictly controlled during load and unload and stationary while loading.	Low	
	Incorrect closure of safety bars.	Public	Operators ensure the safety bars are secured correctly. Restraint system can only be fitted and released by trained ride operator	Low	Monitor and document daily check of restraints.
	Body movements within chairs	Public	Public Notices on display to notify passengers to not lean forward of the safety bars.	Low	monitor
	Passengers falling or being thrown from the seats.	Public	The ride will not start until every safety bar is in position. Restraint system can only be locked and released by trained ride operator. Rotation of the passenger seats is only possible when they have reached a predetermined height therefore preventing accidental collision with fencing or other stationary objects such as lights or trees.	Low	The seat rotation is also stopped at a predetermined height at the end of each ride cycle before the passengers can be lowered to the park position
	Failure of safety devices	Employees public	Safety devices checked daily, safety devices "fail to safe".	Low	Document daily inspections

Operation / activity	Hazard description (i.e. potential cause of injury/damage)	Who's at risk?	Current preventative and protective measures.	Risk Rating	Further action required.
	Power failure	Employees Public	In the event of an electrical power failure (black-out) the seated passengers can still be lowered to the ground by manually opening the emergency lowering hydraulic bypass valve and following the " Black Out Procedure" in the appendix section of the manual.	Low	
	Fall of object from height	Employees Public	All passengers are informed to secure loose items prior to entering ride especially shoes and bags. Passengers are responsible for their valuables and no objects are to be hand carried inc. cameras, pets, purses etc	Low	
	Unsafe practices by employees during ride	Employees Public	Employees are instructed in the safe operation of the ride. Disciplinary action will be taken for any infringements. All attendants to remain in view of the operator during the operation of the ride.	Low	Monitor, and employee training must be documented.
	Reckless behaviour of passengers	Employees Public	All passengers are monitored by the ride operator, any reckless behaviour will be stopped where possible. The ride will stop if the behaviour continues.	Low	Monitor
	Passengers under the influence of alcohol or drugs	Employees Public	Signage to say will not be allowed to ride. Employees using drugs or alcohol in this situation give grounds will be subject to instant dismissal	Low	Monitor
	Smoking	Public	Smoking is not permitted.	Low	Monitor

	Ride operation at high speed	Employees Public	Speed of ride restricted by computer monitoring system.	Low	monitor
Operation / activity	**Hazard description (i.e. potential cause of injury/damage)**	**Who's at risk?**	**Current preventative and protective measures.**	**Risk Rating**	**Further action required.**
Emergency evacuation.	Emergency access / egress from chairs when stopped for staff and passengers.	Employees Public	Ride Lowered manually from outside of the ride. Always ensure that the riders have unobstructed access while entering and exiting the loading platform. The Controller and Assistant Controller must advise the riders to use caution and be ready to physically assist anyone who appears impaired	Low	
	Evacuation	Employees Public	Emergency evacuation plan would be followed	Low	
	Lack of communication	Employees Public	Signage provided before entry to ride, Passengers instructed in the safe use of the ride.	Low	Monitor List of signage provided
	Panic	Employees Public	All movements controlled by operator, emergency plan followed. Keep rider calm until ride can be lowered down.	Low	Staff trained and documented
	Passengers unwilling to move	Employees Public	Ride would not operate until passengers are removed, security would be called.	Low	
	Insufficient lighting	Employees Public	Sufficient lighting is provided on the attractions	Low	Monitor lights

Operation / activity	Hazard description (i.e. potential cause of injury/damage)	Who's at risk?	Current preventative and protective measures.	Risk Rating	Further action required.
Environment conditions / positioning.	Ground and underground services	Employees Public	Ride would not be built if existence of underground services would present a danger. Ride is only erected on firm ground with appropriate levelling spaces as necessary.	Low	Ground is assessed by competent person prior to construction.
	Clearance of obstacles, cables, equipment and persons	Employees Public	Site is planned and distances between rides and obstacles are equal to or more than the guides set down within HSE.	Low	
	Wind, rain	Employees Public	Attractions will not be operated in severe weather conditions or where there is a risk from severe wind or rain.	Low	Monitor
	Lightning	Employees Public	Attractions will not be operated in severe weather conditions or where there is a risk from lightning strikes. All towers must be grounded with lightning/grounding rods. Stop all STARFLYER operations and move all personnel from the site whenever lightning is likely to occur. If lightning strikes the structure, all equipment must be inspected by an engineer before re-opening. If a person(s) is struck by lightning, follow emergency procedures as outlined in major accidents. DO NOT operate the STARFLYER if lightning is in the area.	Low	Monitor

Signed Date Signed Date

(Risk Assessor) (Authorised Manager)