

National Fairground Inspection Team (NFIT) Sector Workplan 2019/20

Open Government status: Open

Audience: All HSE NFIT B3 and B2 inspectors, Heads of Operations and Specialist Inspectors engaged in NFIT work

Contents

1. Inspection programme	1
1.1 What are we inspecting and why?.....	1
1.2 What is the extent of the problem?	2
1.3 What must be covered at the inspections?	3
1.4 What sectors and topics are we inspecting and when?	3
1.5 Application of the Enforcement Management Model (EMM)	5
2. Guidance and support available.....	6
3. Recording of inspections.....	6
4. Your Health and Safety	8
5. Appendices	9
Appendix 1: Maintenance of travelling fairground rides.....	9
Appendix 2: Kolmax Miami Trip.....	10
Appendix 3: Tagada	11
Appendix 4: Safeco Crazy Frog	12
Appendix 5: Superstar.....	13
Appendix 6: Multi-car roller coasters	15
Appendix 7: Matters of Evident Concern	17
Appendix 8 Initial Enforcement Expectations	18

1. Inspection programme

1.1 What are we inspecting and why?

The purpose of this inspection programme is to continue and build upon the intervention work undertaken in previous years. It sets out NFIT's contribution to the Fairgrounds & Theme Parks Sector Action Plan and the milestones in the HSE Delivery Plan 2019/20. There are three work streams:

- i) Inspection of travelling fairground rides focusing on standards of maintenance, inspection and operation. Band 2s and Heads of Operation should consider the scope for multi-disciplinary targeted interventions at specific travelling fairs and associated communications activities.
- ii) Inspection of a sample of multi-car roller coasters at theme parks.
- iii) Interventions with controllers of specific travelling fair rides to check action has been taken to address safety issues previously identified by HSE in safety alerts arising from investigations, incidents and received intelligence.
- iv) Inspection of inflatable devices to ensure their safe use.

A failure of a large fairground ride has the potential to cause a catastrophic incident with multiple serious and potentially fatal injuries to riders and others (including employees at times of set-up and close down). Those affected are likely to be children and young people at leisure and any such incident is likely to attract significant political, public and media attention.

1.2 What is the extent of the problem?

Annual figures for the number of injuries to members of the public reported at fairgrounds and theme parks (SIC93210) under [RIDDOR 2013](#) are an unreliable measure of industry performance on public safety. This is due to significant misreporting and misclassification of injuries under this SIC. The two main causes of injuries to workers reported under [RIDDOR 2013](#) are slips, trips and falls on the level, and falls from height.

Analysis of valid injury reports received indicates very few injuries are sustained as a result of failure or incorrect operation of rides. However, HSE recognises that failure of a large fast-moving ride can result in catastrophic consequences such as the Smiler incident at Alton Towers in 2015 and the Tsunami incident at M&Ds Strathclyde Park in 2016. HSE also recognises that recent incidents, including the prosecution of operators following a fatal incident in March 2016 involving inflatable devices has raised public awareness of the potential for injury and harm to users of such devices when not erected and/or operated in-line with manufacturer guidance or good practice standards.

HSE's overall strategy is to ensure that fairground rides and inflatable devices are safe when in use and in doing so reduce the risk of such catastrophic incidents to as low as is reasonably practicable.

1.3 What must be covered at the inspections?

The 2019/20 NFIT Work Plan is focused on:

- i) Improving standards of inspection, maintenance and operation of rides in the travelling fair sector.
- ii) Ensuring that theme park operators have robust systems in place for managing the risks associated with the operation of multi car roller coasters.
- iii) Ensuring that essential upgrades and modifications identified by previous HSE interventions or industry information following incidents have been carried out on specific rides and that operators are complying with revised operating procedures.
- iv) Inspection of inflatable devices to ensure maintenance and inspection is undertaken and that any replacement components used are correctly rated.

1.4 What sectors and topics are we inspecting and when?

i) Improving standards of inspection, maintenance and operation of rides in the travelling fair sector.

For 2019/20 all rides on a fairground are in scope for inspection where circumstances observed give rise to Inspector concerns.

Many incidents on fairground equipment may be attributed to the way they are operated as often as they are for technical reasons. Such risks associated with use are only apparent when the ride is in operation; therefore, unannounced visits to fairs in operation will be more effective.

When Inspectors are observing rides, they should consider not only the behaviour of operators but the potential effects of foreseeable rider behaviour and whether

operators are actively observing riders if such behaviour could create a risk to the safety of the riders or others e.g. rider behaviour suggests they may not be able to ride safely; attempts to jump from rides; remove restraints or ride in an inappropriate position etc. Guidance on the expected behaviour of operators and possibly high-risk behaviours in riders can be found in [HSG 175](#).

The fairground industry is seasonal. Travelling fairgrounds and theme parks are most active between March and October with a limited number of winter fairs and carnivals in December/January.

- 225 inspections to be carried out between Q1 and Q3 in 2019.
- Specific priorities are set out below.

Sector	Topic(s)	When
Travelling Fair	Machinery Safety	Between Q1 and Q3
	Structural Safety	
	Electrical	
	Work at Height	
	Transport	
	Public Protection	

ii) Multi Car Rollercoaster Inspection

Following the incidents at Alton Towers in 2015 and M&D's Strathclyde Park in 2016, the Sector has identified a further sample of rollercoasters at smaller independent theme parks within the UK for proactive inspection. Interventions should take place during Q1-3. Location and ride information is contained in the Targeting and Intelligence Guide.

Sector can provide limited on-site assistance if required.

iii) Inspection of rides where previous issues have been identified

Interventions with controllers of specific travelling fair rides aim to check that action has been taken to address safety issues already identified by HSE in safety alerts

following investigations, incidents and receipt of intelligence. The rides previously identified are:

- Kolmax Miami Trip
- Tagada
- Safeco Crazy Frog
- Superstar

Where issues are observed with these rides at site the proforma available may be used.

These inspections should take place between Q1 and Q3 and detail about the issues is given in Appendices 2 – 6.

Sector and FOD's Divisional Intelligence Officers will provide information updates on rides as information is made known e.g. following incidents or from industry sources. Further detail, advice and information will form part of the 2019/20 NFIT Seminar, scheduled for 26 & 27 March 2019.

iv) Inspection of inflatable devices

Intervention with the operators of inflatable devices to ensure that required safety measures are applied. These will include arrangements for annual inspection/ongoing care of the device, use of both base level and high-level tie points, and correct equipment i.e. anchor pegs, inflating device used, equipment available to monitor local wind speeds etc.

1.5 Application of the Enforcement Management Model (EMM)

Where matters of evident concern and/or dangerous machinery or operation are observed, action should be taken in line with the [EMM](#).

Matters of evident concern identified at interventions should be dealt with in accordance with FOD procedures. Examples of such matters frequently found on fairgrounds can be found at [Appendix 7](#).

2. Guidance and support available

Specialist Support type	Relevant specialist
Electrical	Electrical Inspectors
Mechanical\Machinery	Mechanical Inspectors
Industry standards & enforcement	Fairground, Entertainment & Leisure Sector

Other Important Guidance for Inspections	Guidance location
Topic-specific industry guidance on topics such as workplace transport, electrical safety, public protection	Available on the Intranet
HSG 175 – Fairgrounds and amusement parks: Guidance on safe practice	HSG 175
Bouncy Castles and inflatable play equipment	Inflatables
Communities Microsite	Microsite link

The above support and guidance is supplemented by in-year work briefings and targeted sector-specific training.

3. Recording of inspections

NFIT inspections should be recorded in accordance with current work recording instructions. The additional instructions below will assist with accurate and consistent recording.

COIN Recording

When visiting a fairground site, it may be that one person owns more than a single ride operating there. Where this is the case and an inspector, or inspectors, undertake work upon rides owned by the same operator this should be recorded as a single inspection with each machine discussed as part of that inspection. Think of this in the same way as a fixed-premises and each ride is a machine under the control of the company i.e. as an inspector you do not open a case for each lathe or press observed

within that company's perimeter. Where a family on site have several machines and each is owned by a different member of the family then each of those machines will be a separate case attributable to the ride operator.

Examples:

- Mr A owns three machines. This will be one inspection COIN case which will record details of the three machines seen.
- Family B have three machines Mrs B owns two of these and her son has ownership of the third. This will be two inspections with COIN cases for Mrs B and her son opened separately.
- Family C operate three machines each owned by a member of the family, but the family operate as a Limited Company. In this case the inspection is on the Limited Company covering all three machines covered in a single COIN Inspection case.

It may be appropriate to unitise interventions at large theme parks. This can be done by using a COIN Master Case relating to the Theme Park in question and then individual inspection cases for the major rides inspected related to the Theme Park Master Case. This is much the same as for recording investigations involving multiple duty holders on COIN.

Proformas

Proformas are provided for the inspections of:

- multi-car rollercoasters
- specific machinery interventions including Kolmax, Miami Trip, Crazy Frog, Superstar and Tagada.

These are available to download at:

http://communities/connect.ti/fairgrounds_team/view?objectId=428240

Completed proformas should be emailed to Andrea Harrison at

andrea.harrison@hse.gov.uk

The following 'risk areas' in DO-IT must be used:

Topic	Examples (further information in Appendix 7)	DO-IT risk area
Machinery Safety	Access to dangerous moving parts Inadequate or poor fencing on rides including juvenile rides	Plant & Equipment
Structural Safety	Ride stability i.e. ride packing, damaged/missing footplates Inflatables not properly secured	Structural Safety
Electrical Safety	Generation and distribution	Electrical Safety
Work at Height	Erection and dismantling of rides and attractions	Work at Height
Transport	Site vehicle movements	Workplace Transport
Public Protection	Emergency arrangements for site and ride evacuation	Public Protection

Capturing this information is essential to enable us to effectively analyse the inspection outcomes and impact.

4. Your Health and Safety

When planning any visit inspectors (and their line managers) should ensure they are familiar with the mandatory precautions which all visiting staff must consider when undertaking HSE business outside of HSE premises or their official office. Details of this and HSE's lone worker policy can be found [here](#). Referral to COIN history pre-visit is strongly recommended.

As it may be necessary to observe rides in operation e.g. when rides are open to the public, consideration should be given to the timing of the visit This is particularly relevant where in inspections and any necessary enforcement may be undertaken outside of office hours.

5. Appendices

Appendix 1: Maintenance of travelling fairground rides

Introduction
Fairground ride operators are required to ensure machines are subject to annual inspection by a Registered Inspection Body who will produce a Document of Conformity (DoC) for the ride once examined. This DoC should be readily available at the fairground site for examination. In between annual inspection owners and operators are expected to be able to show a regime of pre-use checks and maintenance to ensure the ride remains safe to operate.
Health and safety
Ensure appropriate PPE is worn - e.g. safety footwear, & hi viz jacket Reference to COIN prior to visit to identify local factors e.g. violence or aggression marking
Inspection
Inspectors should investigate and question owners/operators about: DoC • Is it in date? • Does it relate to the machine in front of them? • What is the independence of the Inspection Body producing the DoC? Pre-Use checks and Maintenance • What aspects of the ride are subject to pre-use checks and which of these are daily and which are post first running? • Is there a pre-use checklist and is this completed accurately? General Inspection The on-site general inspections will, in cases of poor adherence to maintenance regimes, help the inspector test the comments or information offered to them as evidence of an operator undertaking the checks. Evidence of a poor maintenance regime or lack of repair may be shown by: • Damaged fencing/floorplates • Worn or weathered ride restraints. • Poor electrical wiring, including blackened sockets • Missing bolts from structure or ride equipment
Priorities
• Ride Inspection DoC and in use checking regimes • Knowledge of person undertaking checks of what they are checking and why • Ride Safety – structural • Passenger Safety – restraint and containment equipment suitability and condition
Guidance
• HSG 175 – Fairgrounds and amusement parks: Guidance on safe practice
Contacts
Andrea Harrison 0203 028 3055

Appendix 2: Kolmax Miami Trip

Introduction
The Kolmax Bench L-20 is a Miami-type ride manufactured in the Czech Republic. It has been involved in three serious incidents involving passenger ejections. The first investigation found numerous areas requiring remedial work.
Health and safety
Ensure appropriate PPE is worn - e.g. safety footwear, & hi viz jacket Reference to COIN prior to visit to identify local factors e.g. violence or aggression marking
Inspection
Inspectors should check remedial works notified to ride controllers have been completed and that machines are operating in accordance with both the manufacturer's instructions and HSE guidance. Identify and record the following information on your inspection case. • Specific ride details including serial number, ride name and ADIPS DoC unique reference. • Required remedial work completed • Machine operated in accordance with manufacturer and HSE instruction and guidance. • Any management failings such as training, instruction etc. • Any SG involvement • Any Material Breach or Enforcement action taken
Priorities
<u>Passenger Restraint Arrangement</u> ➤ Has a supplementary restraint system/bar been fitted to the outside seats to prevent a person being ejected from the ride? ➤ Has the electrical interlock switch to the restraint bar been modified so that it detects the restraint is positively latched and that the machine cannot be started without restraint being locked? ➤ Has the restraint release pedal been moved or shrouded to prevent the end passenger being able to reach it, or has other action been taken to eliminate this risk? <u>Braking System</u> ➤ Has the braking system been changed so that the gondola can be controlled if the primary drive and braking system fail? <u>Emergency Rescue</u> ➤ Has a procedure been prepared (with training and instruction for ride operators and attendants) on how to safely rescue people from all gondola positions? This must take account of the residual limitations in the primary drive and braking after any modifications that have been made. It must take into account possible unexpected movements of the gondola due to counter-weight movement.
Guidance
Inspection Proforma: Kolmax Miami Trip • Kolmax Miami safety alert  • Letter to Showmen's Guild on Kolmax Miami 
Contacts
Andrea Harrison 0203 028 3055

Appendix 3: Tagada

Introduction
There have been numerous incidents at Tagada rides in recent years and these are still occurring. Some are related to rider conduct, some to poor operating practices and some a combination of both. Injuries have occurred when passengers are dislodged from their seats and, in some cases, ejected from the machine.
Health and safety
Ensure appropriate PPE is worn - e.g. safety footwear, & hi viz jacket Reference to COIN prior to visit to identify local factors e.g. violence or aggression marking
Inspection
Inspectors should check remedial works notified to ride controllers have been completed and that machines are operating in accordance with both the manufacturer's instructions and HSE guidance. Identify and record the following information on your inspection case. • Specific ride details including serial number and ADIPS DoC unique reference. • Required remedial work completed • Machine operated in accordance with manufacturer and HSE instruction and guidance. • Any management failings such as training, instruction etc. • Any SG involvement • Any Material Breach or Enforcement action taken
Priorities
<u>Condition of Machine</u> ➤ No cracks in the casing that fingers etc. could get into? ➤ Seats all in reasonable condition with no cracks or holes? ➤ Rails all the way around the drum including over the door? ➤ Padding at the seat bench ends in good condition? <u>Accelerometer readings</u> ➤ Were accelerometer readings taken by the ride inspector during annual inspection? ➤ Was a printed accelerometer trace test available? If No, why? ➤ What were the maximum forces recorded? If above 1g, what action did you take to ensure the ride controller took action to ensure the machine was not able to generate forces above 1g in any axis? ➤ If the machine has been fitted with measures to control the downward speed of the drum, has this been done by: A restrictor in the air exhaust; Feeding the exhaust air into a pressurised air receiver; Or other (please specify) ➤ Were these safety modifications subjected to Design Review? (See HSG 175) <u>Observations during operation</u> ➤ Was the Tagada bounced by riders in the stationary position or whilst it was running slowly? ➤ If Yes, what action did you take to address this unsafe behaviour? ➤ Did the operator deal promptly with rider misbehaviour i.e. standing up, walking about in the drum etc.?
Guidance
• HSL Report on Tagada accelerations  • Letter to owners of Tagada rides  • Letter to bodies inspecting Tagada rides  • Tagada Proforma
Contacts
Andrea Harrison 0203 028 3055

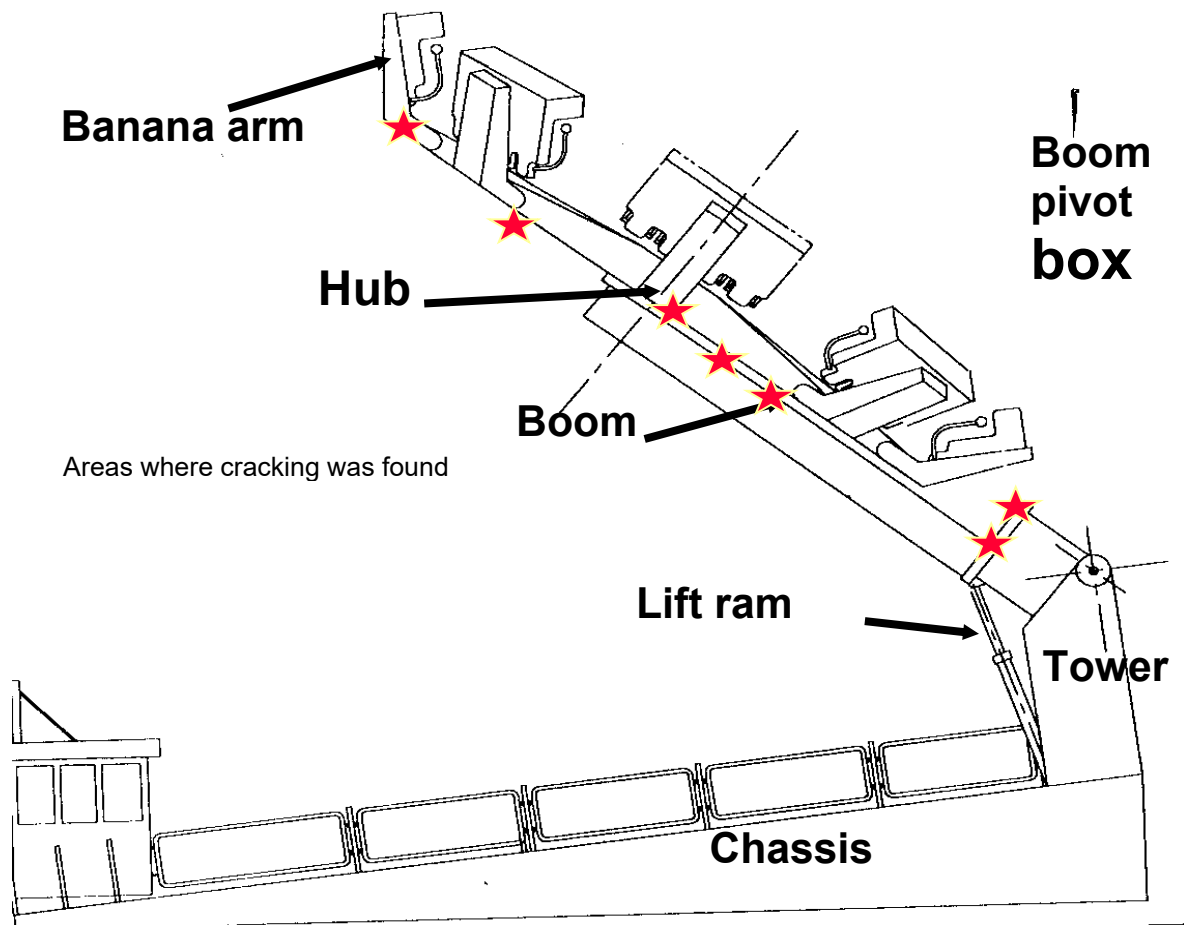
Appendix 4: Safeco Crazy Frog

Introduction
The Crazy Frog type machine was subject to a Safety Action Notice (SAN) requiring controllers to conduct certain examinations, make physical alterations to the machine and/or change operational use. Certain types of the Safeco Crazy Frog machine are the subject of a recent HSL Study (see link below for detail). This machine has been involved in a number of serious incidents since first imported into the UK. The majority involved: - injuries resulting from passenger ejections, - serious back injuries sustained during un-commanded catastrophic mechanical or pneumatic movements and ride arms dropping suddenly to the ground. Also ride arms failing catastrophically through metal fatigue. - back injuries resulting from high frequency, low amplitude seat movements. - bruising and minor crush injuries resulting from poor ergonomics, The majority of serious hazards affecting both riders and the machine's structural integrity were attributed to the ability to make sudden changes to pneumatic pressure in the machine. This can be addressed by the fitment of a pneumatic restrictor and some Controllers have done this. These have been fitted near to the pay box so they are visible.
Health and safety
Ensure appropriate PPE is worn - e.g. safety footwear, & hi viz jacket Reference to COIN prior to visit to identify local factors e.g. violence or aggression marking
Inspection
Inspectors should check remedial works notified to ride controllers have been completed and that machines are operating in accordance with both the manufacturer's instructions and HSE guidance. Identify and record the following information on your inspection case. 1. Specific ride details including machine name, serial number and ADIPS DoC number. 2. Required remedial work completed 3. Machine operated in accordance with manufacturer and HSE instruction and guidance. 4. Any management failings such as training, instruction etc. 5. Any SG involvement 6. Any Material Breach or Enforcement action taken
Priorities
Control of Machine Pneumatic control system (see NFIT workplan for details) ➤ Has the machine been fitted with a valve to limit the pneumatic pressure to the rams controlling the arms? If the valve has not been fitted, has the pneumatic control pedal on the floor been disabled? ➤ If the valve has not been fitted, is the machine being NDT'ed in accordance with the HSL schedule twice per year? ➤ If the valve has not been fitted, is the machine being NDT'ed in accordance with the HSL schedule twice per year? If not, consider enforcement. If the valve has not been fitted, why not? Non-destructive testing (NDT) ➤ Does the NDT schedule for the machine include ultrasound (UT)? ➤ Has any welding been carried out to any of the arms?
Guidance
• HSL Report on Crazy Frog control system, mechanical integrity and ergonomics. • Crazy Frog Proforma
Contacts
Andrea Harrison 0203 028 3055

Appendix 5: Superstar

Introduction
The Superstar was the subject of a major investigation/ intervention in 2002–2004 when catastrophic weld failures occurred. These are illustrated at positions as shown in Diagram 1 below. Investigation into the causes was extensive and resulted in all of these machines requiring remedial work and/or changes to their operation. An Enforcement Notice was issued during the investigation requiring alterations to the operating procedures and a comprehensive, in depth NDT regime. In some cases, machines have had significant re-engineering work or have a revised NDT schedule. In these or other circumstances NFIT should take action as necessary to ensure public safety. Sector can provide advice if required. See ‘further references’ section for copy of the Schedule to the Notice and letter sent to all ride controllers and inspection bodies reminding them of the standards required. Inspectors should check that these machines are being operated and tested either in accordance with the Schedule or to an equivalent standard.
Health and safety
Ensure appropriate PPE is worn - e.g. safety footwear, & hi viz jacket Reference to COIN prior to visit to identify local factors e.g. violence or aggression marking
Inspection
Inspectors should check remedial works notified to ride controllers have been completed and that machines are operating in accordance with both the manufacturer's instructions and HSE guidance. Identify and record the following information on your inspection case. 1. Specific ride details including machine name, serial number and ADIPS DoC number. 2. Required remedial work completed 3. Machine operated in accordance with manufacturer and HSE instruction and guidance. 4. Any management failings such as training, instruction etc. 5. Any SG involvement 6. Any Material Breach or Enforcement action taken
Priorities
<u>Condition of machine</u> Current NDT schedule ➤ Is the original HSE/HSL NDT schedule, issued with the PN, being used? ➤ If not, does a NDT schedule exist – if so, please take copy and pass to Sector. If no schedule exists, consider enforcement action – Sector will be happy to advise. ➤ Are there metal plates welded over the boom joints? ➤ If so, are these removed and refitted during NDT testing?
Guidance
• Superstar NDT Schedule • Letter to owners and inspection bodies of Superstar machines • Superstar Proforma
Contacts
Andrea Harrison 0203 028 3055

Diagram 1: Superstar Arm Diagram



Appendix 6: Multi-car roller coasters

Introduction Serious accidents involving multi car roller coasters are rare; there have been 3 in the United Kingdom in over 30 years of use. Whilst these machines are designed to be intrinsically safe, the incident at Alton Towers demonstrated the high level of hazard they present if not managed correctly. This work is designed to check that operators of such machines have systems in place for their management and to ensure they do not expose people to risk during normal use and when dealing with unplanned incidents such as stoppages/crashes etc.
Health and safety Ensure appropriate PPE is worn - e.g. safety footwear, & hi viz jacket Reference to COIN prior to visit to identify local factors e.g. violence or aggression marking
Inspection Inspectors should assess whether operators have appropriate management systems and arrangements in place for eliminating or controlling the risks associated with failure of the rollercoaster. Identify and record the following information on your inspection case. 1. Specific ride details including machine name, serial number and ADIPS DoC number. 2. Required remedial work completed 3. Machine operated in accordance with manufacturer and HSE instruction and guidance. 4. Any management failings such as training, instruction etc. 5. Any SG involvement 6. Any Material Breach or Enforcement action taken
Priorities <u>Design and installation by a competent person (normally an ADIPS registered ride inspector).</u> ➤ Does the machine have a Design Review or a Maturity Risk Assessment? This should cover as a minimum: Design and operation of the control system; Suitability of the containment system; Operating instructions Inspection and maintenance schedules (including the NDT schedule) ➤ Is there a report of Assessment of Conformity to Design? This should cover the entire device including the structure, mechanical, electrical, electronic, hydraulic and pneumatic assemblies. ➤ Is there a Report of Initial Test showing that all of the safety critical functions of the machine function as intended? <u>Inspection and maintenance by competent in-house and external personnel:</u> ➤ Is the machine thoroughly inspected annually? ➤ Is there evidence of a regular, in house test and inspection scheme to ensure the machine remains safe for use between annual tests e.g. daily pre-use checks, test runs, brake tests, etc. ➤ Is there evidence of a pro-active maintenance system? ➤ Is there an effective, traceable fault rectification system? <u>Operation:</u> ➤ Is there appropriate signage relating to the machine e.g. rider height, weight, disability, alcohol, keeping hands inboard, removing loose possessions etc.? ➤ Are all staff (operational and engineering) trained in their roles on the individual machine? ➤ Do staff have access to weather information and sufficient instruction and training about ride operation during adverse weather? ➤ Is there an agreed and understood system of communication between the operator and platform staff? ➤ Are the rules for loading and unloading passengers understood and followed e.g. ensuring restraints are fitted and secure, actions if a rider appears unhappy etc.?

➤ Is there a system for handing the machine back and forth between engineering and operational staff? ➤ Is there a system in place for adding or removing cars during operation? ➤ Is there a system for monitoring the number of cars on track at any one time? ➤ Is there a planned system for clearing 'block stops' to ensure cars do not crash? This will normally be automatic once the machine is put into recovery mode. ➤ Are there training, plans and equipment in place to reassure and rescue all passengers (including disabled if allowed to ride) from all foreseeable parts of the ride? ➤ Are both of the above practised? ➤ Is there regular contact with the emergency services?
Guidance
• Multi-car rollercoaster inspection programme NFIT Work Plan 2018/19 • HSG 175 – Fairgrounds and amusement parks: Guidance on safe practice
Contacts
Andrea Harrison 0203 028 3055

Appendix 7: Matters of Evident Concern

Introduction
When inspecting Theme Parks or travelling fairgrounds inspectors may see matters of evident concern beyond those relating to the specified machines discussed earlier. Where assessed, these matters require discussion with the ride operator or fairground organiser, and where necessary action by the inspector to address the concern.
Health and safety
Ensure appropriate PPE is worn - e.g. safety footwear, & hi viz jacket Reference to COIN prior to visit to identify local factors e.g. violence or aggression marking
Inspection
Establish the contractual arrangements for the operation and management of the fairground and the individual rides to allocate responsibilities to the correct duty holder. Identify and record the following information on your inspection case. 1. Processes carried out and equipment used 2. Are appropriate control measures used, checked and maintained? 3. Specific control failings 4. Any management failings such as training, instruction etc. 5. Any SG involvement 6. Any Material Breach or Enforcement action taken
Priorities
Matters of evident concern likely to be found include: ➤ inadequate or poor fencing on rides (e.g. access not prevented to underside of ride, fences close enough to allow reach through to moving ride, gaps between fence sections or underneath that would allow an adult or child through), ➤ inadequate protection on juvenile machines to ensure non-riders are protected. ➤ obvious electrical faults (e.g. domestic cabling, poor jointing, cable in poor condition or running across vehicle routes). It should be noted that HSE has no powers in living accommodation areas. ➤ poor control of work at height during erection/dismantling or when running the ride (e.g. work from atop open lorry sides), ➤ inadequate supervision and control of rides (e.g. one operator for two or more rides, not enough supervision to ensure access gaps are secure when ride is in operation), ➤ minimum/maximum rider heights not being enforced, ➤ ride attendants failing to conduct physical checks of restraints/containment before ride starts, ➤ inflatables not properly secured (e.g. not all tie-down points used or inadequate stakes/ballast), ➤ danger areas not guarded/closed off (e.g. generator enclosures, vehicles), ➤ poor packing of rides (e.g. 'thin edge' loading or packing badly cracked and broken), ➤ rides in obviously poor condition (e.g. bent chequer plate, broken steps/handrails), ➤ queues not controlled (e.g. people running onto ride before last passengers can clear safely), ➤ passengers waiting on open decks of waltzers, ➤ rides sited close enough to impede pedestrian access or impact upon one another, ➤ rides being run out of balance (e.g. Twists with one car full and the opposite car empty, Crazy Frog with significantly different weight loading on opposing arms);
Guidance
• HSG 175 – Fairgrounds and amusement parks: Guidance on safe practice • Controller guidance for guarding and fencing requirements of juvenile fairground rides - ADIPS guidance
Contacts
Andrea Harrison 0203 028 3055

Appendix 8 Initial Enforcement Expectations

NB: Should an Inspector identify that there is (or is likely to be) a risk of serious personal injury arising from any of the situations below, then they should consider issuing a Prohibition Notice, regardless of the IEE indicated in the table.

Electrical			
	Situation	IEE	Comment
	Domestic 13-amp sockets and electrical accessories used where they are likely to get wet or become damaged.	PN and/or NoC	The use of domestic type electrical sockets and accessories is often found when additional lighting or sound systems are added to rides. Sockets and electrical accessories suitable for use outdoors and robust are readily available and practical to use. The issue can often be dealt with immediately by either replacement or removal. In any case, a follow up NoC letter should be sent even if the matter is dealt with immediately SG support should be sought about the correct rating of electrical fittings and accessories.
	Damage to cabling. Cable cores exposed from within the cable sheath or in extreme situations, copper conductors exposed by the cable damage.	PN and/or NoC	All cabling should be of a sound construction with the external sheath of the cable in good condition. Any joints or connections in cables should be made using electrical connectors or accessories suitable for the environment and intended for joining cables. The use of pvc tape to repair cabling should not be accepted. The replacement of damaged cabling is reasonably practicable and can often be completed immediately. In any case, a follow up NoC letter should be sent even if the matter is dealt with immediately
	Cables routed across vehicle and pedestrian traffic routes including those buried or covered cabling that could foreseeably be damaged by vehicle or pedestrian movements.	PN and/or NoC	This will include cabling that has been shallow buried or covered by tarmac or other material but could foreseeably become damaged by vehicle or pedestrian movements or may be struck by a shovel or securing peg. Reasonably practicable measures include the use of armoured cable, the provision of covers to provide adequate mechanical protection to the cable or routing the cable where it will not be at risk.

			If remedial action is undertaken immediately a follow up NoC letter should be sent.
	Damaged sockets and other electrical accessories	PN and/or NoC	The replacement of damaged sockets and other electrical accessories is reasonably practicable and can often be completed immediately. If the damage exposes potentially live parts within the accessory, then this is likely to present immediate danger and action should be taken to make the system safe. In any case, a follow NoC letter should be sent even if the matter is dealt with immediately
	Chocolate block type connectors used to make electrical connections	PN and/or NoC	Chocolate block connectors are not suitable for joining together flexible cables where there is any likelihood of strain being placed on the connection. They are not suitable for use where they may become wet unless suitably enclosed and wrapping with pvc tape will not provide adequate weather protection nor adequate strain relief. If used in fixed wiring systems, the connectors should be in an enclosure and the cabling supported or fixed to prevent strain on the connection. Purpose designed cable connectors, or in-line plugs and sockets can be used to join flexible cables when needed. Replacing cables rather than repairing damage with connectors may be practical. If remedial action is undertaken immediately a follow up NoC letter should be sent.
	The use of domestic flat twin and earth cable in circumstances where mechanical stress and/or damage is foreseeable	PN and/or NoC	Twin and earth cable should not be used in situations where it will be subject to mechanical stress or damage. This type of cable should not be used to make extension leads or for the direct connection of portable appliances. This type of cable is designed for fixed wiring installations only. The provision of suitable cable is reasonably practicable and can often be changed immediately.
	The use of damaged electrical distribution units i.e. distribution units with damaged or missing covers allowing access to live conductors	PN and/or NoC	Equipment damaged so that potentially live conductors are exposed presents immediate danger and action should be taken to make the equipment safe. The replacement or repair of damaged distribution equipment is reasonably practicable to expect.

			Distribution equipment should be suitable for use in the environment in which it is being used. Domestic type distribution boards (consumer units) should not be in use where they are likely to get wet. A PN should be considered in circumstances where immediate repair cannot be undertaken or the area in which the distribution unit is positioned secured to prevent access. In any case, a follow NoC letter should be sent even if the matter is dealt with immediately
	Cables incorrectly terminated into electrical equipment.	PN and/or NoC	Where cables enter electrical equipment, the cable sheaths should be maintained by the connection into the equipment. Cut outs for cables should not compromise the integrity of the equipment enclosure by allowing water ingress if the equipment is outdoors or access to potentially live parts inside. The cut outs should not cause damage to the cables. Cables should not be routed into equipment through doors or covers so that it is not possible to close the doors or replace the covers. If cables appear likely to become damaged, for example by cable cores being exposed as the cables enter metallic enclosures or if covers cannot be replaced or doors closed potentially exposing live parts, enforcement action should be considered. The appropriate action will depend on the foreseeable risk. In any case, a follow NoC letter should be sent even if the matter is dealt with immediately
Mechanical			
	Passenger Security (safety critical restraint)	PN\poss. Proactive prosecution	This relates to mechanical and integrated ride safety restraints i.e. locking lap bars etc. These should be in excellent condition without loose fixings, any damage or the actual system being over-ridden. The condition of this equipment is an aspect of the DoC, though be aware like an MOT for a car the DoC relates to the day of inspection. Where defects are seen, even where it may be possible to correct quickly, this is an indication of poor maintenance regime between inspections and a prohibition notice is the expectation. Where a proactive prosecution is considered SG, input is required.

Passenger Security (non-safety critical restraint)	NOC	This relates to the chain style restraints seen on rides such as chair-o-planes etc. where the movement of the ride pushes the rider back into the seat and the restraint is for confidence and/or to prevent riders jumping from the ride as it operates. Securing of the restraint chain\lead should not be by dog-lead clip style fixing and any clip used should require dexterity to open it e.g. spring-loaded twist lock style karabiners. Where clips are seen to be easy to open due to weak or worn springs or the easy to open dog lead style verbal advice should be given at the time of the visit and followed up with an NOC
Safety Critical Bolts	PN (where bolts are not suitable at pivot points)	This relates to the replacing of high tensile fastenings i.e. bolts with strength designations on the heads etc. with unmarked fastenings which will not have the same strength. There is also an issue where bolts are used as pivots on twisting connections where strength is critical. Threaded bolts are meant for joining non-moving parts. Questions should be asked about the use of bolts as pins and where doubt remains request SG Mech support.
Ride Furniture Damaged	PN and/or NoC	This can relate to missing rails on cars or ride framework, bent or damaged ride make up, signage etc. Action will depend upon the foreseeable risk judged but such errors can be seen as the operator not having a robust on-going maintenance regime. Where the issues can be rectified at the time of the visit then verbal advice followed by an NOC is the expected outcome. Where the issues present a clear danger to either employees or public and cannot be corrected at the time then a PN should be considered.
Ride Packing\Use of Jacks	NOC/ consider IN depending upon arrangement seen. SG support for IN advised.	Invariably the ground upon which travelling rides stand changes from week to week and as such packing is used to steady/level rides. With traditional rides i.e. waltzers/carousels etc. it is common to use blocks but independent jacks, not fitted to or part of the ride, may be used. Where jacks are seen extended on top of blocks questions should be asked as to how they are suitable for use and operator should be able to say why the motion of the ride will not dislodge the jack or jacks. Where there is no information then an NOC should be considered along with an IN for improved control measures on the provision of packing as a means of reducing the risk to riders and operators. Just because there is no information does not mean the arrangement is dangerous. Where an inspector has serious concerns relating to the arrangement for ride levelling and packing then SG support should be considered either by a second visit to the ride or use of technology at the time of initial visit e.g. digital photos\facetime.

Ride Operator			
	Lack of suitable and sufficient supervision of the ride including loading and unloading of the ride, including the application of any height restrictions and/or the checking of restraints etc.	PN and/or NoC	If the matter requiring attention cannot be immediately rectified, then PN should be served if the failings constitute and immediate and serious risk of personal injury. If the matter requiring attention can be dealt with immediately, and levels of adequate supervision can be demonstrated either through a verbal undertaking and/or observation of the ride in operation a follow up NOC letter should be sent addressing the issues.
	Inadequate arrangements to deal with rider misbehaviour e.g. permitting or encouraging passengers to stand up or walking across the drum whilst Tagada ride in operation	PN and/or NoC	If the matter requiring attention cannot be immediately rectified, then PN should be served if the failings constitute and immediate and serious risk of personal injury. If the matter requiring attention can be dealt with immediately a follow up NOC letter should be sent addressing the issues.
	Operators permitting the use of their machines in an unsafe manner i.e. crazy frog rides being run in reverse and/or the foot pedal is operational allowing the control system to be overridden and the arms bounced excessively	PN and/or NoC	If the matter requiring attention cannot be immediately rectified, then PN should be served if the failings constitute and immediate and serious risk of personal injury. If the matter requiring attention can be dealt with immediately a follow up NOC letter should be sent addressing the issues.
	Inadequate or absent emergency procedures for the safe evacuation of users in the event of either a mechanical breakdown or other emergency situation of ride or attraction	IN	Ride operator unable to demonstrate adequate and realistic arrangements for the safe evacuation of users in the event of a mechanical breakdown or emergency situation. Consideration should be given to the provision of suitable rescue equipment and the training provision for the person(s) undertaking the rescue. Rescue arrangements should not only be reliant on the emergency services.

	Inadequate arrangements for the segregation of members of the public from the ride i.e. unsupervised means of access and egress onto the ride. Includes inadequate perimeter fencing.	PN and/or NoC	If the matter requiring attention cannot be immediately rectified, then PN should be served if the failings constitute an immediate and serious risk of personal injury. If the matter requiring attention can be dealt with immediately a follow up NOC letter should be sent addressing the issues.
	Working at height where it is reasonably practicable to carry out the work without working at height	IN / PN	Enforcement action will depend on the level of risk as to how quickly the work at height should cease.
	Working at height is taking place where control measures higher in the work at height hierarchy are not in place but are reasonably practicable to achieve	IN / PN	The work at height hierarchy should be applied to the task to determine the safest reasonably practicable way of working safely at height. Ladders are near the bottom of the hierarchy and should not be accepted as a default option where other measures are safer and reasonably practicable. Where unsafe work at height practices are observed they should be prohibited.
	Work at height access equipment or accessories (tower scaffolds, pedestals, pop-ups mini towers, ladders, ropes, walk lines, carabiners, harnesses etc.) are in an unsafe condition	PN	If there is a risk of persons falling distance liable to cause serious personal injury from use of unsafe equipment then its use should be prohibited
	Ladder or other access equipment in poor condition	PN	Ladders used on site should be "industrial class" and be in good condition. Poorly maintained ladders e.g. with missing feet, damaged rungs or stiles should not be used.
	Based on the level of risk it is reasonably practicable for hazardous manual handling / repetitive tasks to be eliminated or reduced as far as is reasonably practicable.	IN	Hazardous manual handling task that pose a risk of serious personal injury can often be eliminated by the provision of mechanical aids
Organiser (Fairground Controller)			
	No risk assessment in place to assess risk caused by workplace transport movements during set up and dismantling phase	NoC	A plan showing the site layout often accompanies the workplace transport risk assessment and is a useful visual aid to show traffic routes etc. Even when vehicles are operating in a field with pickers a risk assessment should be carried out to identify and address significant risk
	The findings of the workplace transport risk assessment have not been communicated to employees	NoC	While some of the risks identified in the risk assessment may be addressed through provision of barriers, walkways etc. it is still important that the risks and control measures are communicated to employees

	and operators working on the site during the set up and dismantling phase		
	Inadequate segregation of pedestrians and vehicles during the set up and dismantling phase	PN and/or NoC	Enforcement action will depend on the level of risk. Workplace transport and pedestrians should be segregated so far as is reasonably practicable.
	Fairground rides placed too close to each other so that it is not possible for perimeter fencing to be positioned in such a way to prevent access to dangerous moving parts, or the safety envelope of the rides is compromised	PN and/or NoC	If the matter requiring attention can be dealt with immediately a follow up NoC letter should be sent on the ride operators addressing the issues, otherwise a PN should be served. A NoC letter should also be sent upon the Fairground Controller where there is sufficient evidence to demonstrate that they have failed in their duties i.e. inadequate provision of space for rides or adequate means to demarcation for each of the rides.

Inflatables (Bouncy castles, slides etc.)		
Inflatables not properly secured (e.g. not all tie-down points used or inadequate stakes/ballast, tie down points damaged and not in use),	PN and/or NOC	Check PIPA tagged/ADIPS Doc. Check operator manual for information that inflatable complies with BS EN 14960:2013 Inflatable play equipment. Safety requirements and test methods
No means of measuring wind speed available (anemometer)	PN and/or NOC	BS EN 14960 recommends that the maximum windspeed in which inflatable play equipment should be used outdoors is 38 km/h which is Force 5 on the Beaufort Scale (small trees in leaf begin to sway).
Electrical equipment including blowers in poor condition	PN and/or NOC	