

THE AMUSEMENT DEVICE SAFETY COUNCIL

**THE AMUSEMENT DEVICE
INSPECTION PROCEDURES SCHEME**

**ADIPS REQUIREMENTS FOR REGISTRATION
OF INSPECTION BODIES**

Approved by the ADSC
24/03/2011

1. Introduction

- 1.1. This document defines the requirements for the registration under ADIPS of independent Inspection Bodies (see *BS EN ISO/IEC17020 - 2004*) so that they may perform inspections within the amusement industry.
- 1.2. It is the Inspection Body that primarily registers with ADIPS; however an Inspection Body might be constituted of a single registered inspector or a number of registered inspectors.
- 1.3. Each inspector within an Inspection Body shall also be individually registered under the requirements of this document.
- 1.4. The term used for inspection in this document is as defined in *BS EN ISO/IEC17020 - 2004* and as required by *Fairgrounds & Amusement Parks - Guidance on Safe Practice (HSG175)*.
- 1.5. The Amusement Device Inspection Procedures Scheme (ADIPS) covers four types of inspection as listed below.

2. Inspection types (Pre-use)

- 2.1. Pre-use inspections are carried out for all relevant disciplines before an amusement device is used for the first time in GB, or after any safety critical modification/s to an existing amusement device. These are:
 - 2.1.1. **Design Review:** Assessment of a design prepared for a device to confirm that the designer has adequately addressed all issues that may affect the safety of the device that will be relevant throughout its intended operational life.
 - 2.1.2. **Assessment of Conformity to Design:** Confirmation that the safety critical components of a manufactured device conform to the relevant design.
 - 2.1.3. **Initial Test:** A check that the safety critical components of an amusement device function as intended.

3. Inspection types (In-service)

- 3.1. In-service inspections are carried out regularly during the lifetime of an amusement device.
 - 3.1.1. **In-Service Annual Inspection:** A check on the safety critical components of an amusement device to ensure that they have not deteriorated to an extent liable to cause danger and an assessment of the fitness of an amusement device for continued further use during its operational life.

4. Types of Inspection Body

- 4.1. Only "Type A" or "Type C" Inspection Bodies (as defined in *BS EN ISO/IEC 17020 - 2004*) may register with ADIPS.

5. Registration

- 5.1. Inspection Bodies complying with this document may apply for inclusion on the ADIPS register of Inspection Bodies.
- 5.2. The minimum criteria for an Inspection Body to be registered with ADIPS shall be defined by:
 - 5.2.1 ADIPS Requirements for Registration of Inspection Bodies; and
 - 5.2.2 BS EN ISO/IEC 17020 - 2004 - General criteria for the operation of various types of bodies performing inspection; and
 - 5.2.3 IAF/ILAC-A4: 2004 – Guidance on the Application of ISO/IEC 17020.
 - 5.2.4 UKAS RG0 – Guidelines on the competence of personnel undertaking engineering inspections.
 - 5.2.5 Fairgrounds & Amusement Parks - Guidance on Safe Practice (HSG175); and
 - 5.2.6 Such rules and standing orders as issued from ADIPS from time to time.
- 5.3. Registration shall be annual by submitting the appropriate registration documents to ADIPS.
- 5.4. Proof of qualifications shall be submitted for initial registration, and subsequently if material changes have taken place.
- 5.5. For new applicants Inspection Bodies shall :
 - 5.5.1 Submit a detailed record of their career history, education and training records.
 - 5.5.2 Submit satisfactory references from employers that demonstrate suitable competence.
 - 5.5.3 Submit an individual training plan (usually 12 months) including details of any supervision arrangements.
 - 5.5.4 Be assessed by the ADIPS Registration Group
- 5.6. Inspection Bodies who have registered with ADIPS to the requirements defined in section 6.6 of this document are not subject to section 5.5 above.
- 5.7. Inspection Bodies shall maintain a permanently constituted and updated Quality System containing the documentation required by *BSEN ISO/IEC 17020: 2004* and any requirements of this document. The sections of these quality systems relating to qualifications and training shall be submitted to the ADIPS office with each year's registration using the appropriate ADIPS registration forms.
- 5.8. Subject to all rules, regulations and standing orders of ADIPS an Inspection Body that attains accreditation by UKAS in compliance with this document shall qualify for registration with ADIPS for the relevant disciplines.

6. Training and Competence – Inspection Bodies

- 6.1. The inspection body shall establish a documented training system to ensure that the training of its personnel, in the technical and administrative aspects of the work in which they will be involved, is kept up-to-date in accordance with its policy.
- 6.2. The training required shall depend upon the ability, qualifications and experience of persons involved, or as defined by the ADIPS Registration Group.

- 6.3. The inspection body shall specify the necessary stages of training and competence for each of its personnel. These may include:
 - 6.3.1 An induction period;
 - 6.3.2 A supervised working period with experienced inspectors;
 - 6.3.3 Continued personal development training;
 - 6.3.4 Training and assessing against competence criteria.
- 6.4. For each member of its personnel the Inspection Body shall maintain records of qualifications, training and experience, and records to show how they were authorised to perform specific inspection activities, in its quality file.
- 6.5. The Inspection Body shall be able to demonstrate that it has identified the competencies required to undertake the range of inspection activities covered by its scope of accreditation and that it has processes in place to train, assess and monitor staff against these competencies. UKAS RG0 publication provides a framework for a competence management system for Inspection Bodies.
- 6.6. Inspection Bodies involved in training, may apply to register with ADIPS as Trainer/Assessor Inspection Bodies and shall demonstrate their commitment to comply with the relevant sections of this document and RGO – Guidelines on the competence of personnel undertaking engineering inspections
- 6.7. Inspection Bodies applying for this route shall have the relevant sections of their quality file assessed by ADIPS.
- 6.8. Trainer/Assessor Inspection Bodies may provide training for the inspection activities covered by the scope of its accreditation.

7. Training and Competence - Inspectors

- 7.1. Persons responsible for inspection shall have appropriate qualifications, training, experience and a satisfactory knowledge of the requirements of the inspections to be carried out.
- 7.2. They shall have the ability to make professional judgements as to conformity with general requirements using examination results and to report there on.
- 7.3. They shall also have relevant knowledge, as necessary, of the technology used for the manufacturing of the products inspected, of the way in which the products or processes submitted to their inspections are used or are intended to be used, and of the defects which may occur during use or in service.
- 7.4. They shall understand the appropriateness of inspection methods and procedures.
- 7.5. They shall be able to interpret and apply the appropriate Legislation, Regulations, Codes of Practice, National or International Standards and Guidance to inspection work covered by their scope of accreditation.
- 7.6. They shall understand the significance of deviations found with regard to the normal use of the products or processes concerned.
- 7.7. They shall appreciate the limits of their own knowledge and the conditions under which they are to work, and to whom they can refer to for guidance when encountering a situation beyond the limits of their competence.

8. Supervision

- 8.1. The inspectors involved in supervision, as defined below, need not necessarily be from the same registered inspection body.
- 8.2. Supervision shall be provided by suitably qualified and experienced personnel.
- 8.3. The supervisor is responsible for:
 - 8.3.1 Ensuring all activities in the trainee's training plan are adequately dealt with.
 - 8.3.2 Ensuring there are reports on the trainee's progress in accordance with the training plan.
 - 8.3.3 Training and monitoring the trainee's competence.
 - 8.3.4 Assessing the trainee's competence.
- 8.4. The ADIPS Registration Group shall agree upon:
 - 8.4.1 The duration and period/frequency of any supervision type.
 - 8.4.2 The supervising inspector or inspectors.
- 8.5. Occasional Supervision
 - 8.5.1. Working directly alongside the supervising inspector at least 1 full day per month.
 - 8.5.2. Access to the supervising inspector at all times.
- 8.6. Frequent Supervision
 - 8.6.1. Working directly alongside the supervising inspector for at least 1 full day per week.
 - 8.6.2. Access to the supervising inspector at all times.
- 8.7. Constant Supervision
 - 8.7.1. A period of inspection of Amusement Devices working directly alongside a supervising inspector.
- 8.8. The ADIPS Registration Group may determine, at their discretion, situations where less frequent or more frequent direct contact with a supervisor is appropriate.

9. Inspector Qualifications

- 9.1. The various types of inspection shall be conducted by suitably qualified, experienced and trained inspectors as described in Appendix 1.
- 9.2. In addition to the above, all applicants meeting the requirements of Appendix 1 shall have satisfactorily completed any training, courses or assessments as required by ADIPS.

Appendix 1 – Qualification Groups

10. General

10.1. The qualification groups below relate to individual applicants for registration within Inspection Bodies and assume that the defined experience and training are in a discipline specifically related to the task being carried out.

Qualification Groups	
Inspection Type	Minimum Qualification Group
Design Review	2
Assessment of Conformity to Design	3
Initial Test	3
In-Service Annual Inspection	3
In-Service Annual Inspection (simple device)	S

10.2. Applicants shall indicate, using the appropriate ADIPS registration forms, the Qualification Groups, Inspection types and specific disciplines for which they require registration.

10.3. Inspection disciplines covered by the scheme are as follows:

- Structural
- Mechanical
- Machine Dynamics
- Electrical
- Control Systems
- Hydraulic
- Pneumatic
- Civil
- NDT

Others as from time to time deemed necessary by ADIPS.

11. Group 1

11.1. Chartered Engineer - A recognised academic qualification in a relevant field of engineering or recognised status via a relevant engineering institution.

11.2. The applicant should be able to demonstrate suitable experience in the relevant inspection processes.

12. Group 2.

12.1. Incorporated Engineer - A recognised academic qualification in a relevant field of engineering or recognised status via a relevant engineering institution. The applicant should be able to demonstrate experience in the relevant inspection process for amusement devices.

12.2. Or:

*At least 5 years' relevant experience, prior to 1995 in the discipline concerned and knowledge of Legislation, Regulations, Codes of Practice, National or International Standards and Guidance, and an understanding of the equipment and plant concerned and any effects from operation of the system/equipment in the relevant inspection process for amusement devices, and having held a senior position of responsibility. **This category is closed to new applications.***

13. Group 2T

13.1. As section 12 above, without sufficient experience in the industry as required in Group 2.

13.2. A Group 2T inspector shall be able to undertake Group 3 work by application and subject to the requirements of the ADIPS Registration Group

13.3. A Group 2T inspector shall work under appropriate supervision.

14. Group 3

14.1. Engineering Technician - A recognised academic qualification in a relevant field of engineering or recognised status via a relevant engineering institution

14.2. The applicant shall have spent a minimum of 1 year working within the relevant inspection process for amusement devices and any extra period if decided upon by the ADIPS Registration Group.

14.3. Or:

*Employed for 3 years prior to 1995 in relevant inspection process for amusement devices. **This category is closed to new applications.***

15. Group 3T

15.1. As section 14 above, without experience of amusement devices as required in group 3; or

15.2. In lieu of the academic qualifications of Group 3, a recognised relevant engineering apprenticeship.

15.3. A Group 3T inspector shall work under appropriate supervision.

16. Group S (Simple Devices only)

16.1. Applicants applying for registration in Group S might not have attained the minimum qualifications of other groups, but shall have attained a sufficient level of relevant general engineering experience.

16.2. The inspection disciplines covered by this group are structural, mechanical, hydraulics and pneumatics.

- 16.3. This is a combined qualification group encompassing all of the above disciplines.
- 16.4. Applicants for this group shall meet the qualification requirements of sections 19 and 20 below.
- 16.5. The relevance and level of the qualifying qualifications and experience shall be decided upon by the ADIPS Registration Group.
- 16.6. In lieu of the qualification levels required for other groups applicants shall:
 - 16.6.1. Be able to demonstrate that they have competence in, and suitable technical knowledge of, the engineering processes relevant to the mechanical and structural aspects of inspection of amusement devices.
 - 16.6.2. Be able to demonstrate that they have considerable direct experience, gained over a period of at least 3 years, within an engineering process relevant to the mechanical and structural aspects of amusement devices.
 - 16.6.3. Attend an interview with and be assessed by the ADIPS Registration Group.
- 16.7. Applicants for this group shall be registered to undertake tasks appropriate to their experience, but shall be supervised at a level determined by the Registration Group.

17. Non-Destructive Testing (NDT)

- 17.1. NDT practitioners must hold current approvals for the techniques used.
- 17.2. For registration they shall signify the techniques for which they are qualified.
- 17.3. There are three main qualifications commonly used in this country: ASNT (American Society for Non-Destructive Testing); PCN (Personnel Certification in Non-Destructive Testing) and CSWIP (Certification Scheme for Weld Inspection Personnel) welding inspector.
- 17.4. PCN is the preferred qualification.

18. Electrical

- 18.1. To apply for registration in order to carry out the Electrical In-Service Annual Inspection the following criteria must be met:
 - 18.1.1. New applicants – Successful completion of ADIPS Electrical Testing and Inspection Course, which has the pre-requirements of City and Guild 2382 and 2391.
 - 18.1.2. Existing Registered Inspectors – Successful completion of ADIPS Electrical Testing and Inspection Course and updating of City and Guilds courses as above for 2012 registration.

19. Structural and Mechanical

- 19.1 To apply for registration in order to carry out the Structural and Mechanical disciplines of In-Service Annual Inspection, applicants are required to have achieved a PCN Level 2 approved course in Visual Inspection by 2013 registration.

20. Hydraulics and Pneumatics

20.1 To apply for registration in order to carry out the Hydraulic and Pneumatic disciplines of In-Service Annual Inspection, applicants are required to have achieved the ADIPS Hydraulics and Pneumatics course, or demonstrate knowledge to an equivalent standard by 2012 registration.

Appendix 2 – Definitions

21. General

21.1 Further definitions are as found in Fairgrounds & Amusement Parks - Guidance on Safe Practice (HSG175). Glossary, pp. 62 – 64.

22. Simple Devices

22.1. Unless published to the contrary on the ADIPS website, simple devices are those which meet the following criteria:

22.1.1. The base of the passenger seat does not rise more than 2 metres above ground level; and

22.1.2. The passenger unit does not travel at a linear speed greater than 1.5 m per sec; and

22.1.3. The device does not rotate at more than 6rpm; and

22.1.4. Is primarily intended for the use of children up to the age of 8.

22.2. This classification shall also include simple amusement devices that are not powered.

22.3. Notwithstanding the above criteria, “simple devices” are defined as those which only present a minimal risk to the public should failures occur.

22.4. The following have been agreed as examples of simple devices.

- Tea-Cups.
- Toy Sets
- Formula/Convoy Rides.
- Swing Boats
- Astro-Glides
- Juvenile Chair-O-Planes
- Juvenile Twists
- Juvenile Waltzers
- Inflatables
- Arcades
- Fun-Houses.
- Trampolines.
- Battery Rides (Karts, boats etc.)
- Swinging Gyms
- Hand-Turned devices
- Slips and Helter-Skelters

22.5. Example of rides which do not meet the simple devices criteria are:

- Roller-Coasters
- Log-Flumes
- Twists
- Waltzers
- Dodgems
- Paratroopers
- Frog-Hoppers
- Mini-Wheels
- Bungee Trampolines
- Miamis

22.6. The classifications of registered amusement devices are determined by ADIPS. A full, up-to-date list of simple devices is available from the ADIPS website.