

Management of Maintenance, Modification and Repair

of industrial doors, domestic garage doors,
automated gates & traffic barriers





dhf Best Practice Guide: Management of Maintenance, Modification and Repair of industrial doors, domestic garage doors, automated gates & traffic barriers

Introduction

This document refers to industrial doors, domestic garage doors, automated gates and traffic barriers. To simplify the text, the document uses the term “**system**” to mean and include all types listed. Those with responsibility for these systems include owners, workplace managers, landlords, site occupiers on whose premises systems exist, together with managing agents and facilities managers with contractual responsibilities for such systems. In this document, the term “**system manager**” is used to describe all those with the ongoing responsibility for the system.

Any person conducting maintenance, repair or modification of a system is referred to as the “**maintenance contractor**” in this document.

A system manager or person with ownership/management responsibilities for a system has various criminal and/or civil legal responsibilities for its safety, depending on the nature of the site. A maintenance contractor working on a system has criminal and civil legal responsibilities both during maintenance, repair or modification work and on completion of the works (see page 4 “The law”).

Health and safety law requires that reasonable and practicable steps are taken to provide safety; this level of safety is generally accepted to be that described by current product specific standards and other publicly available information (eg DHF TS 011:2016ⁱ).

NOTE: As the current range of standards affecting these systems has been found to be somewhat confusing and in certain cases deficientⁱⁱ, dhf has produced DHF TS 011:2016 which is a code of practice that covers automated gate and traffic barrier installation, maintenance, modification and repair to clarify the situation in relation to gates and barriers.

There will always be some discussion about just how unsafe a given system actually is and the conversation often gets steered towards the likelihood of occurrence of an incident. Where children or untrained persons are potentially affected, the emphasis of the risk assessment must be on degree of harm rather than likelihood of occurrence; in many cases, it is foreseeable that children could play on or around these systems or that untrained persons might encounter them. The current range of standards and codes of practice covering industrial doors, garage doors, automated gates and traffic barriers have

generally dealt with this element and therefore a system is either safe or not safe in accordance with the relevant standard or code.

Despite this, it is possible to discriminate to some degree and not all hazards will necessarily result in a system needing to be taken out of service:

- Where a hazard is classified as “Safety Critical”, the system must not be returned to service by a maintenance contractor or, for that matter, by a system manager.
- Where a hazard is classified as “Requiring Improvement”, the system could possibly be left in service at the discretion of the maintenance contractor and/or the system manager.

NOTE: Examples of hazards classified as Safety Critical or Requiring Attention are listed in the table at the end of this document.

In either case, the system manager must be fully informed and an unsafe system notice issued. Where a hazard has been classified “**Requiring Attention**” and the system is left in service, the system manager remains potentially liable to criminal prosecution or civil legal action in the event of a near miss or injury incident and hence must be given the opportunity to take the system out of service.

dhf recommends the following process to manage maintenance, repair and modification works:

Step 1

Before going to site, the maintenance contractor must explain to the system manager that, as a duty of care to themselves, the system must be taken out of service for initial electrical and structural safety checks prior to the actual work or assessment process. If, during maintenance or assessment work, the system proves to be below an acceptable standard of safety, it will not be put back into service by the maintenance contractor.

ⁱ DHF TS 011:2016 Code of practice for the installation, repair, maintenance and modification of powered gates and traffic barriers. Visit the publications section : www.dhfonline.org.uk

ⁱⁱ In July 2015, the European Commission declared that EN 13241-1 covering industrial doors, garage doors, gates and traffic barriers does not fully address all of the Essential Health and Safety Requirements of the Machinery Directive. <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015D1301&from=EN>

Step 2

- i) Once on site, the maintenance contractor must assess the system for safety before starting work, in so far as is possible in its current condition.
- ii) The maintenance contractor must also assess the extent of work requested to be done by the system manager in terms of its likely impact on the safety of the system.

If step 2 reveals that the system will be safe on completion of the proposed work, then the maintenance contractor can continue with the contracted work. If it subsequently becomes obvious during the work that the system will not after all be safe on completion, the maintenance contractor must not put the system back into service.

If step 2 reveals that the proposed work will not result in a safe system:

- i) The maintenance contractor must explain all the exposed hazards to the system manager, verbally and, as soon as possible, in writing.
- ii) The maintenance contractor must also explain to the system manager what additional work (if any) might be necessary to properly diagnose the hazards; it may prove necessary to replace or adjust drive units, control boards, hinges or rolling gear, etc before a complete assessment is possible.
- iii) The maintenance contractor must inform the system manager in writing of the measures that will be necessary to make the system safe.

Step 3

The maintenance contractor must then request clearance from the system manager to complete both the contracted work and the required safety upgrade work. If the system manager requires that the maintenance contractor completes only the contracted maintenance work (some client organisational, procurement, tendering or contractual issues may dictate this) then the maintenance contractor must not put a system with "safety critical" defects back into service and only leave a system with "requiring improvement defects" in service with written permission from the system manager. The maintenance contractor must explain to the system manager how service can be restored (eg explain where the switch is or how it has been secured against collapse). In this case, it would be reasonable for the contractor to assume that the required safety upgrade work is intended to be undertaken later. The contractor should also inform the system manager in writing (using the unsafe system notice) that there could be legal consequences for them in the event of an incident involving the system if it is returned to service in its current state.

Step 4

If, on a subsequent visit, the maintenance contractor finds the system is still in service in an unsafe condition, the process must be repeated and the system manager re-informed in writing of the potential hazards and of the potential consequences present. The maintenance contractor must not be the person who puts the system back into service in an unsafe condition at any stage.

Mitigating action

Although a maintenance contractor must never put a potentially dangerous system back into service, in many cases, a system could revert to manual use or be controlled in hold-to-run in order to maintain security at the site. This cannot of course be achieved where the problem is potential structural failure.

Conclusion

It must be understood that, in the event of an incident with a system, the ensuing investigation will assess the input and actions of all parties associated and no guarantee of the outcome can be given. The investigation will establish who did what, what did those involved know about the condition of the offending system and then what action could they have reasonably taken or did they take to prevent the occurrence? Clearly, it will be very important that those with a responsibility to inform (primarily the maintenance contractor) have done so in a very clear and precise manner.

It is advised that, when informing about defects affecting a system, this information is not confused with a quote to improve it; hence, it will be better if these two functions are contained in two separate documents. The unsafe system warning document must be just that and not be ambiguous in any way. To this end, **dhf** offers its members a suggested document template to cover the informing of safety element of the process.

It must also be noted that if a maintenance contractor continues to arrive at a given site repeatedly to find that the system is still in use in an unsafe condition, at some point it will begin to look as if the system manager and the maintenance contractor are colluding to maintain an unsafe condition. In order to avoid this, and in the overall pursuit of safe systems, we would advise that if at the third visit to the site, the system manager is still resisting safety improvements, then the maintenance contractor will have to consider in greater detail the risks involved in their continued involvement. It will be advisable at this stage to request a formal meeting with the system manager to discuss their ongoing intentions for safety of the system and to explore the possibility of staged improvements or other hazard mitigation strategies. **dhf** can offer its members support and guidance at this stage on a case by case basis.

Ultimately, if a system manager is clearly refusing to have a site made safe, then **dhf** would advise that the relationship may need to be ended and that the relevant authorities (eg HSE, HSA or Local Authority Environmental Health Department) be informed. **dhf** can again offer considerable support to members at this very final and ultimately undesirable stage.

The law

Legislation Applicable in England, Scotland and Wales

Regulations 5 and 18 of the Workplace (Health, Safety and Welfare) Regulations 1992 require that doors, gates and barriers at workplaces are safe and subject to a system of maintenance (system manager responsibility).

Section 3 of the Health and Safety at Work Act 1974 requires that employers and the self-employed as part of their work ensure that systems in their care are safe (eg landlords, workplace managers, owners, managing agents, facilities managers and maintenance contractors).

Legislation Applicable in Northern Ireland

Regulations 5 and 18 of the Workplace (Health, Safety and Welfare) Regulations 1993 require that doors, gates and barriers at workplaces are safe and subject to a system of maintenance (system manager responsibility).

Article 5 of the Health and Safety at Work Order 1978 requires that employers and the self-employed as part of their work ensure that systems in their care are safe (eg landlords, workplace managers, owners, managing agents, facilities managers and maintenance contractors).

Legislation Applicable in the Republic of Ireland

If the premises are a workplace, there are specific duties to maintain the system in a safe condition under the Safety, Health and Welfare (General Applications) Regulations 2007 (system manager responsibility).

If the system is controlled by a person engaged in a trade, business or other undertaking (whether for profit or not), then that person will have duties under the Safety, Health and Welfare at Work Act 2005. This may, for example, include landlords, managing agents, workplace owners/managers, facilities managers and maintenance contractors. Landlords of rented houses will additionally have duties under the Housing (Standards for Rented Houses) Regulations 2008.

In appropriate cases, a charge of reckless endangerment under the Non-Fatal Offences Against the Person Act 1997 may be considered.

NOTE: The lists of applicable legislation are not exhaustive; other criminal legislation may well apply at any given location dependent on the precise details of the system and its location.

All areas

Any person, maintenance contractor or system manager, may be subject to civil claims for negligence if something they do, or fail to do, results in injury or damage to the property of a third party.



List of hazards classified as **RED - Safety Critical** or **AMBER - Requires Improvement**

Red - Safety Critical Do not return to service	Amber - Requires Improvement Could be left in service
Structural failure imminent	Minor structural improvement necessary
Crush, shear, draw-in or impact hazard not protected below 2.3m above permanent access level	Crush, shear, draw-in or impact hazard not protected but between 2.3m and 2.5m above a permanent access level
Dynamic force (Fd 400/1400N) or dynamic time (Td 0.75s) over maximum by more than 25%	Dynamic force (Fd) or dynamic time (Td) over maximum by less than 25%
- Fd 400N (crush, shear and draw-in hazard) = 500N or more	- Fd 400N (crush, shear and draw-in hazard) = up to 499N
- Fd 1400N (impact hazard) = 1750N or more	- Fd 1400N (impact hazards) = up to 1749N
- Td 0.75 (all hazards) = 1 second or more	- Td 0.75 = up to 0.99 second
Static force (Fs no more than 150N) exists in excess of 10s	Static force (Fs no more than 150N) exists between 5 and 10 seconds
Rolling grill or perforated rolling shutter without hood, protective beam or force limitation to prevent lifting	Safe edge/light curtain installed, performance is correct but does not achieve category 2 or 3
Headgear of vertically acting door not accessible for inspection	Hinge strength unknown but judged to be safe currently
Vertically acting door with no fall-back protection	Two hinge swing system with inverted top hinge, but appears structurally sound
Hold-to-run in use but some hazards not visible	Hold-to-run by radio fob
Hold-to-run with overtravel exceeding 125mm	Hold-to-run with overtravel up to 125mm
Sliding system without adequate travel stops	Swing door or gate without travel stops
Structural failure due to wind probable	Wind strength unknown but appears safe
Safety fence provided but easily defeatable (reach over/through)	Safety fence mesh size/clearance not to ISO 13857 but only defeatable by extreme action
Wicket door without cut out switch wired to stop circuit	Safety brake, cable break device or slack cable device not wired to stop circuit
Safe edge fails test piece test and is more than 140mm from moving leaf at a sliding gate draw in hazard	Safe edge fails test piece test but less than 140mm from moving leaf at draw in hazard
System protected solely by horizontal photo beams (no force limitation, light curtain/photo scanner or hold to run)	Vertically acting door with dual spring suspension, appears to be in balance but unable to positively verify both springs present
Suspension element of vertically moving door terminally worn or damaged (chain, rope or strap) e.g. steel wire rope with broken strands	Insufficient photo beams to supplement force limitation
	Danger of vehicle impact or impact to vehicle
	Insufficient visibility in darkness
	Insufficient signage or ground markings
ELECTRICIAL	
Class 1 electrical equipment not earthed	Class 1 electrical equipment, wiring, earthing and fuse all suitable, RCD required but not fitted
Exposed live conductors	Unprotected cable in good condition
Damaged cabling - safety or power circuit	IP rating incorrect but appears safe currently
Disconnection time at earth fault beyond safe limits	

NOTE: this list is not exhaustive; other safety critical or requiring attention hazards may well exist. Where this occurs, the ethos of this list must be applied based on a local risk assessment. For all hazards, whether safety critical or requiring improvement, the system manager must be informed in writing and an unsafe door/gate notice issued.

Example of unsafe system notice

Your Logo

Unsafe System Warning Notice

Date: [insert]

Dear: [insert client name] Job reference number: [insert]

System Type: [insert industrial door, domestic garage door, gate or barrier]
Reference: [insert]
Location: [insert]

In our opinion, the above system is currently not safe for operation.

Continued use of this system may result in damage to property or injury to users or members of the public generally.

Overleaf is a list faults we consider necessary to be rectified before the system can be regarded as safe in operation.

We also attach an estimate of the cost of this work if undertaken by us.

You are reminded that, as the system manager, you have a legal duty of care to users and to visitors to the premises (including trespassers). If the system is not maintained in a safe condition, any party whose property is damaged, or who is injured by the gate is likely to be able to sue for damages. If you have insurance covering such risks, your insurance contract is likely to oblige you to disclose material facts to your insurer such as, in this case, the fact that the gate is not considered safe.


Depending on location and use, there may well also be responsibilities for the system manager under health and safety law (see over for details). Failure to meet duties imposed by health and safety legislation could result in criminal proceedings.

Due to our own responsibilities under criminal law as a system maintainer, we are unable to leave a system with "safety critical" defects in service. Where a system has lesser safety issues that are rated as "requiring improvement", we may leave the system in service at your discretion. Where a system with defects requiring improvement is left in service, there may well still be legal liabilities for the system manager in the event of an incident resulting in damage to property or injury. We strongly advise that all safety related defects are resolved with immediate effect to protect the interests of both the system manager and users of the system.

The system has been left [insert condition]
[e.g. "switched off", "set to hold to run control", "as found", "secured against collapse" etc.]

Yours faithfully: [insert] Signature: [insert]

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Your Logo

Applicable Legislation in England, Scotland & Wales

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Note: The lists of applicable legislation are not exhaustive; other criminal legislation may well apply at any given location dependent on the precise details of the system and its location.

Exposed system hazards - SC = Safety Critical - RI = Requiring Improvement:

1. SC/RI
2. SC/RI
3. SC/RI
4. SC/RI
5. SC/RI
6. SC/RI

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