



## RHA Tanker Group

# Prevention of falls from road tankers

*Guidance issued by:*  
Members of the Tanker Group  
of the Road Haulage Association Ltd  
and Health and Safety Executive

*The guidance contained here refers to all road tankers  
but specifically excludes Isotanks.*

*Where HSE Approved Codes of Practice exist covering  
specific industry arrangements, these continue  
to take precedence over this guidance document.*

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# Introduction

Falls from height are one of the most dangerous scenarios facing those involved working on road tankers whether loading, unloading or maintaining.

Incidents of this nature can and do lead to death and/or serious injury. Accordingly, companies need to protect their employee's, their reputation and ultimately keep themselves from the courts under the new Corporate Manslaughter and Corporate Homicide Act 2007 which came into effect 6th April 2008. Companies are reminded that they need to work within the confines of the Health and Safety at Work Act, 1974.

This document offers plain guidance for site and vehicle operators alike and has been revised and updated by the RHA Tanker Group in conjunction with the Health & Safety Executive.

Wherever possible the aim should be to restrict the need to get on top of a tanker unless it is absolutely necessary, and then it must be under the utmost safe conditions.

## Incident data

Tanker Group Members have conducted an annual survey since 2000 with the intention of gathering their own data to help influence casualty figures including falls. In this time members have experienced greatly reduced incidents however falls themselves still warrant attention.

As can be seen from the table below, the RHA collated information is assessed in several injury categories, the results are based on the number of incidents per million miles driven.

### RHA members: annual incident survey 2000–2008

Year	Members	Injury severe	Other severe	Total incidents	Total mileage (millions)	Incidents per million miles	Falls
2000	8	124	23	147	240.16	0.61	*
2001	13	102	115	217	185.6	1.17	10
2002	13	94	22	116	216.55	0.54	3
2003	10	53	19	72	126.23	0.57	1
2004	9	71	14	85	149.99	0.57	4
2005	9	43	12	55	132.59	0.42	16
2006	9	53	27	80	142.53	0.56	11
2007	7	43	13	56	120.72	0.46	8
2008	11	43	15	58	213.07	0.27	12

\* no record for 2000

*This research concludes that still over 10% of incidents are fatal — much higher than other reported accident types*

Research conducted between 2001 and 2005 showed that there were 38 incidents investigated by HSE, ranging from falling from a low point on a ladder to falling from a tanker top itself.

### Falls from tankers \*HSE data of investigated accidents between 2001-2005

Fall from	Death	Serious injury	Total
Top of the tanker	5	10	15
Access ladder	1	6	7
Ground level fall	0	6	6
Fall from cab	0	3	3
Fall from site ladder or tank	1	2	3
Fall from low point	0	3	3
Other	0	4	4

### Of the 15 falls from the top of the tanker

Main identified reason for fall	Deaths	Serious injury	Total
Handrails not raised	3	0	3
Inadequate gantries	0	5	5
Handrail on one side only	1	1	2
Overpressure event	0	2	2
No protection	0	1	1
Handrail gave way	1	0	1
Misuse of gantry	0	1	1

## Notes of interest from the data

HSE analysis shows that at least seven people died due to falling from a tanker between April 2001–April 2005. **This is more than one per year.**

- Three fatal falls occurred where the handrail was not raised, indicating that the handrail wasn't interlocked to the ladder and that human factors may play a significant role in these accidents.
- In most cases of falls from tanker tops, the duty holder had attempted to provide some form of fall prevention.
- In the case of falls from access ladders, the injured party was usually trying to climb and carry something at the same time.
- Fall prevention equipment must be maintained (including monitoring for corrosion, and servicing handrails to ensure they work efficiently and do not deter drivers from using them).
- Consequences of falls from inadequate gantries may have been less severe because the injured party slipped under the bottom rail, whereas they may have been more likely to pivot and fall head-first from an unguarded tanker.
- Gantries may not be suitable for all sized tankers, other measures may be necessary.

# Legislation

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The hazards associated with potential falls clearly dictate that the application of appropriate safety standards and risk management procedures is the priority issue for all parties involved. This will include loading/unloading, transportation, sample taking and maintenance operations. More detail is contained within the 'risk assessment' section.

There are overall requirements and legal obligations for all parties to conduct these risk assessments of operations, to reduce and/or eliminate risks to protect employees (and related personnel) and to co-operate and co-ordinate their activities to comply with statutory requirements.

These include:

- Management of Health and Safety at Work Regulations 1999
- Work at Height Regulations 2005

This guidance does not replace these regulations, obligations or duties. Every party in the distribution chain must co-operate and work together to ensure that employees and third parties are protected.

***'So far as is reasonably practicable, effective measures shall be taken to prevent any person falling a distance likely to cause personal injury.'***

# Risk assessment

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Risk assessment should be carried out by site and vehicle operators, the following points are amongst those that need to be considered in this process;

- Height of the working position, top loading being the most critical aspect.
- Frequency of access required.
- Nature of the task to be performed.
- Any equipment that needs to be carried or handled.
- The actual location where activity is to take place.
- The above would include exposure to the elements.
- Operating procedures.
- Maintenance procedures.
- Supervision.
- Experience and training of individuals concerned.
- PPE equipment, like correct supportive, non-slip footwear.

# Hierarchy of control

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**The main way to ensure safety is to not get on top of the tanker in the first place – and measures should be undertaken to ensure this.** It follows that the hierarchy of control should establish, in order, the action to be followed in all cases, to determine the most safe and practical method used:

- 1 Eliminate the need to access the tops of tankers e.g. by bottom loading and discharge facilities, or in some cases remotely operated lids on tankers (these are reasonably popular in the vacuum waste sector).
- 2 Where access to the top of tankers cannot be eliminated, ensure that fixed gantries are provided at loading and discharge facilities that incorporate secure fencing on all sides of the high level working position from which a person could fall.
- 3 Where fixed gantry loading/unloading is not reasonably practicable – and tank top access cannot be eliminated – ensure that secure fencing is provided to all sides of the walkway of the road tanker.
- 4 Use of personal fall restraint – or fall arrest systems – should be seen as the last resort, or used as an interim solution, pending application of the points above and then only if all of the previous control measures are not reasonably practicable. Where used, rigorous controls and training measures need to be applied to support this.
- 5 PPE should be regarded as a support to the controls above and in isolation – and only suitable when all other precautions are exhausted.
- 6 Written copies of the risk assessment should be made available to the relevant employee and customers. Instruction and training should be made available to employees and information given to customers.

HSE has a new section to their web-site where the safety of staff regarding falls from vehicles is looked at in much greater detail. This also covers the vehicle, management and drivers too <http://www.hse.gov.uk/fallsfromvehicles/index.htm>

# RHA/HSE guidance

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The guidance seeks to underpin the obligations described above to work to minimise the risks, with a set of practical actions which support the objectives of the RHA Tanker Group Members: to work with other parties to continually improve safety standards across the tanker industry.

**It must be emphasised that the RHA Tanker Group will seek to eliminate the need to access tank tops as the preferred course of action whenever possible. To do this the full support and co-operation of loading and delivery installation operators is critical.**

## For site operators

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There is a clear duty on the site operator to ensure the safety of all personnel operating on their sites and – where other parties share the workplace – to co-operate with them to identify, assess and minimise the risks to the health and safety of all personnel. The assessment of the identifiable risks should be realistic, take account of all tasks and must seek to prevent persons falling a distance that is likely to cause personal injury.

Given the hierarchy of control measures, the main emphasis must be for site operators to remove the need for high level access during (for example) loading, unloading, dipping and sampling operations.

Where elimination of high level access to the tanker top is not reasonably practicable – and the outcome of the risk assessment leads to the level in the hierarchy where a gantry is the appropriate control measure – then the site operator should take responsibility for providing it. To ensure that the fixed gantry is suitable for the range of tankers using the facility, site operators should co-operate with the tanker operators during the design of fixed gantries.

Where tanker top access is required several times a week, then the site operator will normally be expected by Health and Safety Executive to provide suitable fixed loading gantries with integral secure fencing – where this is reasonably practicable. Where all parties – including all relevant site users – agree this is not reasonably practical, the provision of protection fitted to the tanker should be considered and agreed. Where fixed gantries are not practical, mobile gantries should be considered as an alternative.

## For vehicle operators

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Where tank top access is required suitable equipment should be provided on the tanker.

The following specification is recommended:

- 1** **Where the tanker is fitted with a walkway at around half height** the walkway shall be at least 350mm wide with a non-slip surface, with a minimum friction coefficient of 3.6. The open side should be securely fenced to a height of at least 1100mm above the walkway by means of a suitable guard-rail and mid-height protection. A grab rail should be fitted to the tank barrel.
- 2** **Where the tanker is fitted with a walkway or working platform at or near the top of the tank,** it shall be of adequate dimensions, in a single plane and with no tripping hazards. It should be at least 900mm wide if all round access is required or at least 600mm if one side working is specified. It shall have a suitable non-slip surface.
- 3** **Where the tank is fitted with a walkway (as 2 above)** there should be secure fencing on all sides of the platform except at the access ladder. The top of the fencing shall be at least 1100mm above the walkway/platform and it should consist of a suitable top rail and intermediate rail. The fencing should be capable of being erected and stowed from ground level without undue physical effort.

**NOTE:** The wide variety of tank designs may mean that alternative tank top working configurations are possible which provide the same levels of protection as with the above minimum standards. It is acceptable to deploy these where risk assessments clearly demonstrate that at least the same level of protection is afforded and where the following principles apply:

- The working platform is fully in-filled so as to minimise slip and trip risks.
- All round protection is provided to the operator in the event of a fall.
- The hierarchy of control is applied to determine the most appropriate system.

Where access is required for visual examination or venting via the manlid, an access ladder to each manlid, with no connecting walkway, may remove the need for access to the top of the tank. In these circumstances, access is only required to a height where the torso, rather than the whole body, is above the top of the tank.

## Industry specific detail

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### Petroleum deliveries

Most petroleum deliveries now utilise bottom loading and discharge, so there is no need for drivers to access the roof of the tank, even via gantries.

### Dairy industry

There has been considerable improvements within the dairy sector over the last 10 years, with many new vehicles now designed to totally eliminate the need to access the top of the tank for loading/unloading/sampling. Those vehicles still in operation that do not meet this design will be fitted with separate manway ladders and working platforms. They should be fitted with hand rails and fall protection, or will have a single top walkway or full walkway and will be fitted with the necessary fall protection and entry ladder.

### Chemicals

The need to be on top of tanks is removed as the majority of loading is via gantry. Vehicles should be fitted with double handrails so that safe access is available should there be a need for the driver to get on top of the tanker.

### Powders

Vehicles are loaded from gantries either by the driver or consignee loaders. Therefore drivers have no requirement to access the roof of the tank under normal circumstances. The majority of tanks which could not be fitted with double handrails when the retro-fit programme was in place were fitted with warning signs advising “No unauthorised entry” across the bottom rungs of the ladder, limiting access via the ladder.

# The RHA Tanker Group

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The Road Haulage Association Tanker Group is made up of hauliers/companies typically delivering chemicals, bulk liquid or bulk powder but also of tank manufacturer and sales/rental and storage operations. Members operate vehicles in the Tank and Tanker sector with a wide range of equipment, their drivers have the difficult task of bulk fluid haulage and are regarded as the crème de la crème of the transport industry.

The Group meets to formulate policy and working practices on industry topics, news, networking in this specialised sector and consultation on industry issues. The members have many thousands of vehicles under their control and strive towards working in as safe an environment as possible.



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