

## SIP 012 - GUIDANCE ON RO-RO PASSENGER AND CRUISE OPERATIONS



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## 1. INTRODUCTION

- 1.1. The Health and Safety Executive provided support to Port Skills and Safety in producing this guidance, which is aimed at improvements within the Ports industry. This guidance may go further than the minimum you need to do to comply with the law with regard to health and safety.
- 1.2. It is for companies operating in the UK ports industry with responsibility for the safe design, construction, operation, management and maintenance of ports and terminal facilities and management of port and terminal activities. It will also be useful to employees and their representatives.
- 1.3. Following the guidance is not compulsory and you are free to take other action. But if you do follow the guidance you will normally be doing enough to comply with the law. Health and Safety Inspectors seek to secure compliance with the law and may refer to this guidance. If the guidance goes beyond compliance, then this will be clearly identified.
- 1.4. Regulations in this document are referred to by title but not year, because they are amended from time to time and the reader should always seek the current version. Acts are given a year as they tend to change less frequently. The list of references at the end of this document however does include a year that was correct at the time of publication.
- 1.5. This guidance covers Ro-Ro, passenger and cruise operations. The term Ro-Ro refers to an operation in which cargo is driven on or off, i.e. rolled on and rolled off. Passenger and cruise operations are the movement of passengers with or without their vehicles and the handling of passengers through ports with or without their luggage. This guidance also covers activities that are not carried out at dedicated passenger terminals.

## 2. REGULATORY FRAMEWORK AND GUIDANCE

- 2.1. The two principal relevant pieces of law are the [Health and Safety at Work etc. Act \(HSWA\) 1974](#), and the [Management of Health and Safety at Work Regulations \(MHSWR\)](#), which set out the basic requirements to ensure, so far as is reasonably practicable, the health, safety and welfare of all involved.
- 2.2. Port specific, Merchant Shipping and other legislation applies and should be referred to.
- 2.3. Approved Code of Practice (ACOP) L148 'Safety in Docks' was introduced on 6 April 2014: <http://www.hse.gov.uk/pubns/books/l148.htm>
- 2.4. The PSS/HSE Safety in Ports guidance suite, available from the PSS website at: <https://www.portskillsandsafety.co.uk/resources> is an important supplement to Safety in Docks ACOP L148.

- 2.5. The guidance is aimed at routine operations and does not cover some of the specialised and high risk activities associated with handling dangerous goods and hazardous cargoes, or major hazards sites which are subject to the Control of Major Accident Hazards Regulations for which specialist advice may be required.
- 2.6. Reference can also be made to the International Labour Organisation's (ILO) Code of Practice on Safety and Health in Ports (ILO 152):  
[http://www.ilo.org/sector/activities/sectoral-meetings/WCMS\\_546257/lang--en/index.htm](http://www.ilo.org/sector/activities/sectoral-meetings/WCMS_546257/lang--en/index.htm)

### 3. HEALTH

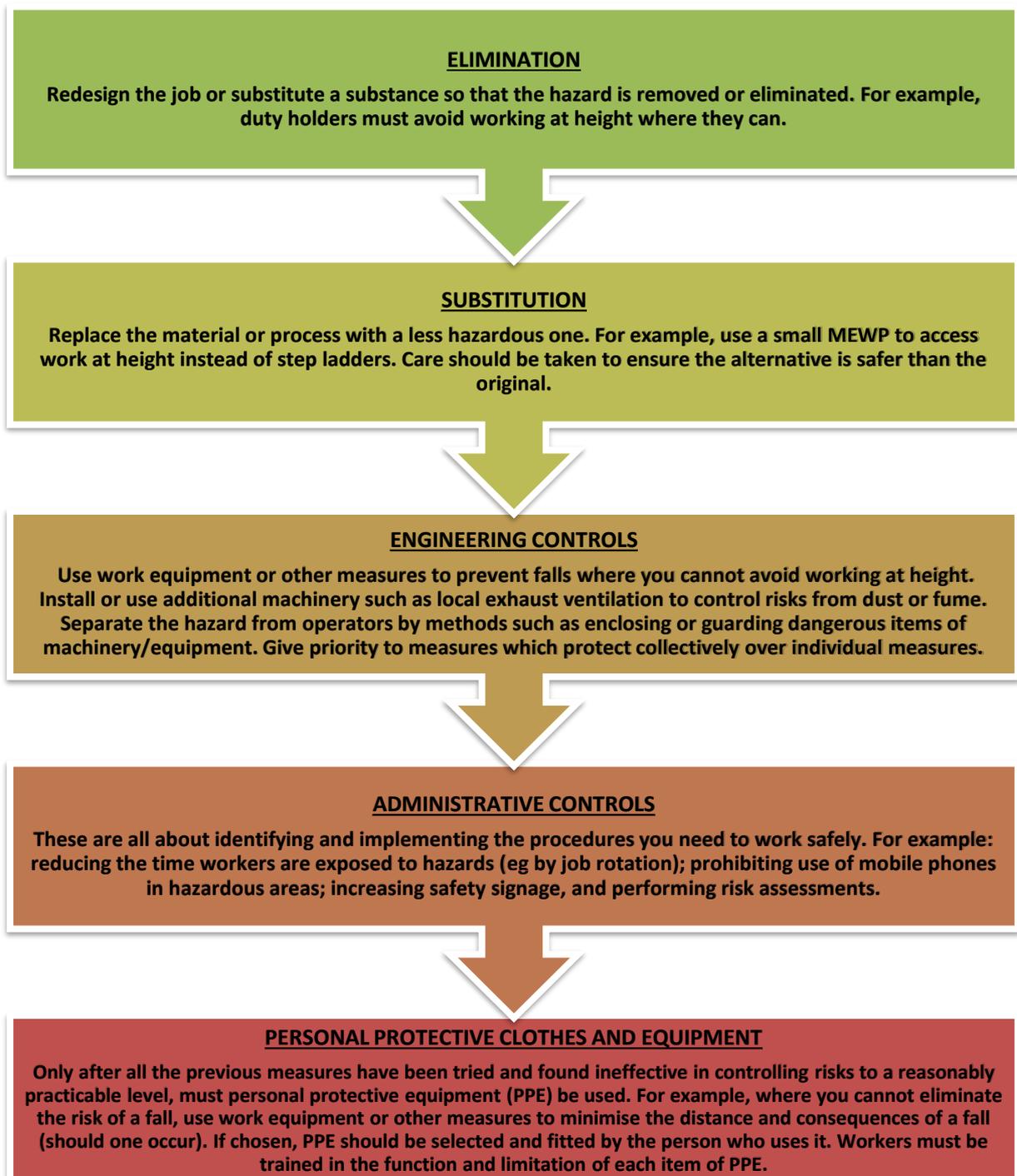
- 3.1. The wide range of activities in ports can give rise to possible health risks such as exposure to dusty cargoes; back injuries, sprains and strains from lifting and handling, pushing and pulling; noise and vibration. There is specific legislation including the Control of Substances Hazardous to Health Regulations, the Control of Noise at Work Regulations, the Manual Handling Operations Regulations and Personal Protective Equipment at Work Regulations.
- 3.2. While there is reference to some specific health risks in these guidance documents, it is not possible to cover all the issues. Further information and guidance on the identification, assessment and reduction or avoidance of such risks can be found on the HSE website at:
  - 3.2.1. Ports web pages:  
<http://www.hse.gov.uk/ports/index.htm>
  - 3.2.2. Control of Substances Hazardous to Health:  
<http://www.hse.gov.uk/coshh/index.htm>
  - 3.2.3. HSE Whole Body Vibration in Ports Information Paper  
<http://www.hse.gov.uk/vibration/wbv/ports.pdf>
  - 3.2.4. Musculoskeletal disorders (MSDs)  
<http://www.hse.gov.uk/msd/index.htm>
  - 3.2.5. Noise at Work  
<http://www.hse.gov.uk/noise/>
  - 3.2.6. Personal Protective Equipment  
<http://www.hse.gov.uk/toolbox/ppe.htm>
  - 3.2.7. Vibration at Work  
<http://www.hse.gov.uk/vibration/>

### 4. RISK ASSESSMENT

- 4.1. Risk Assessments must be undertaken in accordance with the Management of Health and Safety at Work Regulations. The risk assessment must consider the risks – not only to permanent employees but also to others including non-permanent employees (NPE's), ship's crew, security staff, border agency staff, passengers,

visitors and anyone who may be affected by the activity. The appropriate control measures must be introduced and should consider collective measures ahead of personal or individual measures.

- 4.2. Risks should be reduced to as low as is reasonably practicable by taking preventative measures in order of priority below. The diagram below sets out an ideal order to follow when planning to reduce risk.



Reference: HSE Leadership and Worker Involvement Toolkit. Available at

<http://www.hse.gov.uk/construction/lwit/assets/downloads/hierarchy-risk-controls.pdf>

- 4.3. Risk assessments must be reviewed:
- Regularly
  - Immediately after any incident
  - When there are significant changes to the operation
- 4.4. Most accidents and near misses can be avoided if the risks from the work are suitably and sufficiently assessed and appropriate control measures adopted.
- 4.5. A risk assessment should record the significant hazards and risks of an operation together with the relevant control measures. In port operations risk assessments should consider changes such as tidal changes, weather, trim, list, load/cargo and vessel dynamics.
- 4.6. Planning and work execution is discussed in HS(G) 177, Managing Health and Safety in Dockwork: <http://www.hse.gov.uk/pubns/books/hsg177.htm>
- 4.7. The Health and Safety at Work Act 1974 applies on board a ship when shore-based workers are engaged in cargo handling or other tasks on board. Cargo handling may include, but is not limited to:
- Loading, unloading, stowing, unstowing, pouring, trimming, classifying, sizing, stacking, unstacking
  - Composing and decomposing unit loads
  - Services in relation to cargo or goods such as tallying, weighing, measuring, cubing, checking, receiving, guarding, delivering, sampling and sealing, lashing and unlashng.
- 4.8. The Health and Safety at Work Act 1974 applies to the Master and ship's crew when working with shore-based personnel on board ship.
- 4.9. A signed agreement or an agreed and recorded system of work with the master of each vessel is recommended. This is not a legal requirement but may help to ensure effective co-ordination with other parties.
- 4.10. Regulations made under the Health and Safety at Work Act 1974; such as:
- The Management of Health and Safety at Work Regulations
  - The Lifting Operations and Lifting Equipment Regulations
  - The Provision and Use of Work Equipment Regulations
- do **not** apply to a master or crew of a ship, or any persons employing them, in relation to:
- Safe access, plant and equipment which remain on board the ship
  - Any undertakings or work which are carried out on board ship solely by the master and the crew.

Instead, the Merchant Shipping Act 1894 and related Merchant Shipping Regulations impose similar duties on board ship in UK territorial waters.

- 4.11. A ship's Master has duties under the Health and Safety at Work Act 1974 in relation to the ship's crew who are put ashore to perform their own tasks. For example, loading ship's stores or carrying out maintenance work on their ship. Those duties extend to plant and equipment (for example a forklift truck) under the Master's control being used ashore by ship's crew, or when used by shore-based workers ashore or on-board ship.

## 5. CONSULTATION, COOPERATION AND COORDINATION

- 5.1. **Consultation:** Employers have a duty to consult with their employees, or their representatives, on health and safety matters. By gaining worker involvement on health and safety through two-way communication, concerns can be raised and solved together and views and information can be sought and exchanged in a timely manner.

5.1.1. See HSE pages: Consulting and involving your workers  
<http://www.hse.gov.uk/involvement/index.htm>

- 5.2. **Cooperation and Coordination:** Cooperation and coordination between shipside and landside employers is required. Employers must therefore carry out risk assessments and develop safe systems of work (in consultation with the workers involved) that all parties agree to, so that the respective employers can co-operate effectively with each other.

## 6. SLINGING AND LIFTING OPERATIONS - GENERAL

- 6.1. All lifting operations in ports are subject to specific legislation including The Lifting Operations & Lifting Equipment Regulations (LOLER), The Provision & Use of Work Equipment Regulations (PUWER), The Merchant Shipping and Fishing Vessel (Lifting Operations & Lifting Equipment) Regulations (LOLER) and The Merchant Shipping & Fishing Vessels (Provision and Use of Work Equipment) Regulations (PUWER). Some typically used lifting equipment in Ro-Ro operations is identified below

- 6.2. So as not to cause confusion with the different terms used to describe lifting equipment, LOLER clearly uses the following definitions:

- **"Lifting equipment"** means work equipment or machinery for lifting or lowering loads and includes the attachments used for anchoring, fixing or supporting it, for example vehicle lifts, side port cargo lifts, hanging car decks and ramps
- **"Accessory for lifting"** or **'lifting accessories'** means work equipment for attaching loads to lifting equipment or machinery for lifting

- 6.3. In the port industry accessories for lifting are sometimes referred to as 'lifting accessories'
- 6.4. Ships documentation in relation to statutory inspection of lifting equipment and accessories should be checked to confirm it is certified for the intended use.
- 6.5. The Regulations aim to reduce risks to people's health and safety from lifting equipment provided for use at work. Generally, the Regulations require that lifting equipment provided for use at work is:
  - 6.5.1. Strong and stable enough for the particular use and marked to indicate safe working loads
  - 6.5.2. Positioned and installed to minimise any risks
  - 6.5.3. Used safely, i.e. The work is planned, organised and performed by competent people
  - 6.5.4. Subject to ongoing thorough examination and, where appropriate, inspection by competent people
- 6.6. Equipment and accessories that are exposed to conditions that can cause deterioration and that could lead to dangerous situations must:
  - 6.6.1. Be thoroughly examined
  - 6.6.2. In the case of lifting equipment for lifting persons, or an accessory for lifting, at least every 6 months [note: this also applies to ship's lifting equipment]
  - 6.6.3. In the case of other lifting equipment, at least every 12 months
  - 6.6.4. In either case, in accordance with an examination scheme; and each time that exceptional circumstances which are liable to jeopardise the safety of the lifting equipment have occurred
  - 6.6.5. If appropriate for the purpose, be inspected by a competent person at suitable intervals between thorough examinations
- 6.7. It is essential to identify that all lifting equipment and lifting accessories are within the correct inspection (thorough examination) period. One way of doing this is by using a system of colour coding.
- 6.8. All equipment should be checked by a competent person before use. If there is any doubt as to the suitability of lifting equipment and lifting accessories, they must be removed from use.
- 6.9. The term 'load' within LOLER includes lifting a person. Equipment used for lifting people must be designed for such use and checked prior to lifting any personnel. If using ship's equipment for lifting people, the certification and condition of the equipment must be checked by a competent person prior to use as is the case with landside equipment.

- 6.10. Always have lifting equipment thoroughly examined following 'exceptional circumstances', e.g. if it is damaged or fails, is out of use for long periods, or if there is a major change in how it is used which is likely to affect its integrity.
- 6.11. The frequency of inspection might need to be increased for other reasons for example environmental factors, high frequency of use, etc. This should be identified as part of the risk assessment.
- 6.12. Hired equipment should be received with all maintenance and inspection records up-to-date. Where the length of hire extends past the inspection date, the individual responsible for the hiring should be responsible for ensuring inspections are completed and recorded.
- 6.13. Further general advice and guidance can be found on the HSE and MCA web pages – see [Lifting equipment at work - A brief guide to the law](http://www.hse.gov.uk/pubns/indg290.pdf) <http://www.hse.gov.uk/pubns/indg290.pdf> and the references at the end of this document.

## 7. HAZARDS

- 7.1. Segregating pedestrians and vehicles is a fundamental safety principle of Ro-Ro/Cruise operations and should be at the forefront of operating procedures. It is a legal requirement under the Workplace (Health, Safety and Welfare) Regulations, in particular Regulation 17 which covers the organisation of traffic routes: <http://www.legislation.gov.uk/ukxi/1992/3004/made/data.pdf>
- 7.2. The potential hazards to personnel and passengers within the port estate include but are not limited to:
- Struck or crushed by vehicles/machinery
  - Slips, trips and falls
  - Other operations in the port that may cause exposure to hazardous cargo including dust and noise
  - Ineffective or insufficient signage that may cause confusion,
  - Passengers failing to follow safe pedestrian routes, getting lost on either arrival or departure
  - Falls into water
  - Adverse weather conditions
- 7.3. Other hazards associated with personnel and passengers arising from Ro-Ro, Passenger & Cruise operations (including on the quay side shore ramp and/or linkspan) includes but are not limited to:
- Baggage trolleys, forklift truck movements in baggage halls
  - Aggressive behaviour

- unauthorised access to restricted areas
- X-ray scanners

7.4. Hazards on Ships Freight/Car Decks include but are not limited to:

- Moving plant and vehicles
- Directing passenger cars and vehicles to car lanes
- Passengers walking around getting out of vehicles
- Slips trips and falls (e.g. deck lashings and fittings)
- Noise, vibration and exhaust fumes
- Overhead obstructions and low decks
- Passengers failing to follow instructions
- Pedestrians moving around car and freight decks during load/unload operations
- Simultaneous freight and passenger operations on the same deck
- Access to/from freight deck & car decks

## 8. PLANNING

- 8.1. Ro-Ro, passenger and cruise operations should be planned and executed in a way that minimises risks to those involved in the operation, including direct employees, non-permanent employees (NPEs), ship's crew and passengers. While the handling of various types of cargo is to a great extent routine, consideration of the impact and presence of passengers in the operational environment must be considered. In these situations, a suitable and sufficient risk assessment will be required.
- 8.2. Planning of operations should include co-ordinating the interface between vehicle movements, cargo, ferry & cruise passengers, luggage handling/flows, ships stores & materials and any personnel required to be on freight and service decks. Including but not limited to lashers, other shore-based workers, ship's crew, ferry company employees, victuallers, service outlets/concessions, border control agencies and facilities management staff.
- 8.3. A cargo stowage plan on vessels and lorry/vehicle parks should include a record of the positioning of any dangerous cargo:
- On board, such cargo should comply with the requirements of the International Maritime Dangerous Goods Code (IMDG)
  - Suitable arrangements for segregation of hazardous cargo should be made on the terminal
  - Hazardous cargoes should, where possible, be segregated from vehicles and passengers.

8.4. Plans must be in place to deal with emergency situations including but not limited to:

- Management of large amounts of people
- Passengers with health issues
- Passengers with mobility restrictions or in poor health
- Vulnerable persons, new and expectant mothers
- Young children
- Animals
- Rescue and evacuation
- Leakage of hazardous cargoes
- Fire
- Contagious disease on a vessel
- Adverse weather, flood etc.
- other foreseeable events such as serious injury, explosion, etc.

8.5. Drills and exercises should be undertaken to confirm effectiveness of these plans and reviews undertaken as necessary

See also Safety in Ports 016 Emergency planning:

[http://www.portskillsandsafety.co.uk/publications/safety\\_in\\_ports\\_guidance](http://www.portskillsandsafety.co.uk/publications/safety_in_ports_guidance)

8.6. A number of other activities may need to be considered, including but not limited to:

8.6.1. **Baggage handling:** Several issues arise from baggage handling and the ergonomic layout of the facility needs to take into consideration the movement of people, plant and baggage handling equipment, in the baggage hall

The baggage moving equipment needs to have been properly designed and fit for purpose. The operation may require specific manual handling and ergonomic assessment. Issues to be considered include but are not limited to:

- Safe use of baggage carousels
- Heights of baggage conveyors
- Specialist imports / exports or unusual items
- Heavy baggage
- Stack heights
- Examination and inspection activities such as security checks
- Manual handling risks from baggage handling: including damaged baggage and assisting passengers / staff with heavy baggage

- X-ray requirements for baggage
- 8.6.2. **Quayside activities:** General risks need to be considered before during and following the loading / discharge of vessels. Typical issues for consideration include but are not limited to:
- Management of vehicles including forklifts, other plant, HGV's
  - Control of the movement of bulky cargoes (including ships stores, baggage, fresh water)
  - Control of waste
  - Restricted traffic flows – managing vehicle and pedestrian segregation
  - Communication and instruction of safe procedures
  - Gangways and pedestrian walkways
  - Bunkering (including LNG Bunkering/fuelling operations)
  - Control measures for vehicles manoeuvring near the quay edge (e.g. wheel stops or barriers)
  - Safe access to welfare facilities
  - Security, restricted areas, access control, water side access
  - Mooring activities such as other vessels
- 8.6.3. **Movements around the terminals:** The dynamics of loading and unloading a ship can change very quickly. Typical factors include:
- Age profiles of passengers and drivers
  - Crew
  - Foot passengers,
  - Children
  - People with special / additional needs
  - Rest points for passengers in walkways and elsewhere in the port
  - Access and egress
  - Passenger information – including signage
  - All types of Vehicles including motorcycles and cycles/cyclists
  - Cargo
  - Weather
  - Tide – rise and fall of ramps
- 8.6.4. **Terminals:** The safe and efficient operation of the terminal is dependent on the cooperation between all parties. Priority loading/unloading arrangements/plans should be in place to ensure the safe efficient operation. Effective control of vehicle movements on deck and communication between ship and shore are essential. Traffic management plans should consider but are not limited to:

- Interface between all types of vehicles (including terminal and passenger vehicles and other vehicles and pedestrian)
  - Lane management
  - Park /ships plans
  - Set down areas e.g. coach park management
  - Walkways
  - Passenger control
  - Signage, including emergency procedures and muster points
- 8.6.5. In **mixed traffic operations**, planning and design should take into account the range of different types of traffic (for example car, car with caravan, HGV, coach, pedestrian, cyclist) and acceptable traffic combinations. It should also incorporate activities that might impact on traffic flow and affect safety, e.g., vehicle inspection, immigration or breakdown.

Some further considerations may include but are not limited to:

- Sifting mixed traffic flows on entry to port
- Achieving a desirable mix of traffic combinations which minimises risks, and maximises safety assurance
- Police / marshal presence
- Traffic systems e.g. Lights, barriers, segregated lanes
- Parking arrangements
- Passenger transfer arrangements (where required)

## 9. VESSEL ACCESS

- 9.1. All ships must provide a safe means of access, which must comply with the: [Merchant Shipping \(Means of Access\) Regulations](#)
- 9.2. Pedestrians and vehicles need to be suitably segregated. Some Ro-Ro ferries have segregated car decks. However if using the same decks for freight and passenger vehicles some form of segregation must be in place. Most ferry operators will suspend freight operations during passenger operations and vice versa.
- 9.3. Any measures adopted for the control of vehicle traffic (which may include traffic signallers) on vessel ramps, vehicle decks or linkspans, particularly single lane linkspans, must be strictly observed. Hand signals must be clear to passengers and drivers.
- [HSE video and information on signals:](#)
  - [The Health and Safety \(Safety Signs and Signals\) Regulations](#)

- 9.4. If separate pedestrian access is not available then vehicle, pedestrian and cyclist traffic should be segregated on ships ramps and linkspans, or traffic movements controlled. Cyclists should dismount before going over the linkspan.
- 9.5. Pedestrians requiring access to a vessel by means of the vessel ramp or internal ramps have some responsibility for their own personal safety and they must therefore observe traffic movement and only access the ramp when it is safe to do so and as instructed.
- 9.6. Linkspans, ramps and associated equipment should be safe, fit for purpose, routinely inspected and maintained.
- 9.7. Structures used by vehicles should be sufficiently rigid to be used safely
- 9.8. Linkspans and ramps should not be used at a slope greater than that for which they were designed
- 9.9. In areas where ships are loaded or unloaded, vehicles should avoid manoeuvring close to unprotected quay edges. Where the pattern of vehicle movement presents a foreseeable risk from vehicles running over the edge of a quay or other dangerous edge, suitable barriers should be provided and maintained.
- 9.10. Where practical, the edge of the quay adjacent to a linkspan or ship's ramp should be protected to prevent people from falling into the water.
- 9.11. See also SiP014 Guidance on safe access and egress in ports:  
<https://www.portskillsandsafety.co.uk/resources>

## 10. PASSENGER ACCESS – CRUISE VESSELS

- 10.1. Generally, passenger vehicles are not taken aboard cruise ships. Passengers will normally walk on to and off of the vessels via a gangway, link-span or air-bridge. However in some cases passengers may be boarding a ship at anchor and be taken out to the vessel by a tender.
- 10.2. In any event the boarding and disembarkation operation must be undertaken safely. Access routes must be safe and clear of any obstruction or trip hazards.
- 10.3. Access to and from any passenger tenders both in the port and at the ship must be managed safely, using suitable gangways, steps, accommodation ladders or other means. If weather conditions are unsuitable then passenger boarding/disembarkation may need to be suspended.
- 10.4. Passengers may often need assistance. Terminal & ship staff should be available at critical locations to assist as necessary.
- 10.5. Wheelchair access must be available. For more information and guidance see [Health and Safety for Disabled People](#) on the HSE website

- 10.6. Rest points should be provided on access routes.
- 10.7. First aid and welfare provision should be available.
- 10.8. In most cases passenger baggage will be put on/ taken off board by baggage handlers. It will be in the passenger's cabins, a baggage hall on the ship or in the terminal. Staff should be available to assist passengers with hand baggage.

## 11. RAMPS

- 11.1. Access via the ramp should be controlled at all times while vehicles are using it. The degree of control necessary may vary with the size of the ramp and number of vehicle movements. The control arrangements adopted should ensure that all pedestrians, including seafarers and other persons visiting the ship, are segregated effectively from vehicle movements
- 11.2. The traffic movement system should be appropriate for the circumstances. It needs to include regulation of the traffic between the ship and shore. Any system that is set up should be adequately supervised and monitored. Ramps used by vehicles should not be used for pedestrian access. Unless there is suitable segregation of vehicles and pedestrians. Segregation can be achieved by a separate walkway, either a pavement or protected by a suitable barrier, or by ensuring that pedestrians and vehicles do not use the ramp at the same time. This may be achieved by not allowing vehicle movements until all passengers have disembarked, a temporary halt to vehicle movements to allow pedestrians safe passage or moving people through the area by vehicle. Whenever possible, the use of such ramps for pedestrian access should be avoided, and such access should be routed via a separate gangway or accommodation.
- 11.3. The ramp controller should ensure that when vehicles are using internal ramps, pedestrians are prevented from doing so. The traffic movements should be stopped to enable them to transit the ramp. Other control measure that could be considered include: the use of hand signals or traffic light systems.
- 11.4. Ramps should be maintained at an optimum angle by means such as automatic control systems or by the manual operation of the ramp's operating machinery. The ramp will need to be monitored and controlled in adverse weather conditions.
- 11.5. See also SiP014 Guidance on safe access and egress in ports: <https://www.portskillsandsafety.co.uk/resources>

## 12. LINKSPANS

- 12.1. Linkspans are used to provide a safe means of access between ship and shore at all states of tide. They can be designed for use by people or vehicles. In some cases, they can be used for both people and vehicles, provided adequate segregation is provided or operations are staggered

- 12.2. Linkspans design can vary significantly they can be linked to a floating pontoon that is ballasted to be compatible with the ship or ships berthed to them. Alternative designs involve a ramp or walkway lifted or lowered as required either hydraulically or operated by a wire hoist mechanism. Some are automatic and adjust to the rise and fall of the ship and tide and changes of trim/list automatically whereas others require manual adjustment.
- 12.3. Whatever design is adopted linkspans must be properly designed and fit for purpose and capable of withstanding the loads that they will be subjected to during use.
- 12.4. Linkspans must be properly maintained to ensure they are and remain safe. The Provision and Use of Work Equipment Regulations and Lifting Operations and Lifting Equipment Regulations may apply. Thorough examinations of linkspans should be undertaken at appropriate intervals.
- 12.5. Floating linkspans may need to be approved by maritime classification societies.
- 12.6. Ports and terminals should ensure linkspans are only used as designed. Heavy loads could cause significant damage and cause linkspans to fail or become unsound. The total weights as well as axle loads need to be considered to ensure loads are acceptable and complex engineering calculations maybe required ensuring structural safety.
- 12.7. Operators of link-spans must be trained and competent and where appropriate certified to operate the link-span. Inappropriate operation may cause damage and/or make the link-span unsafe to use.
- 12.8. Controls should be in place to ensure that ships are safely moored and do not move when alongside and a linkspan connected as significant damage may occur if the ship moves. Ships should not test engines unless suitable precautions are in place.

See MAIB report into Ben-My-Chree accident:

[http://www.maib.gov.uk/cms\\_resources.cfm?file=/BenMyChreeReport.pdf](http://www.maib.gov.uk/cms_resources.cfm?file=/BenMyChreeReport.pdf)

- 12.9. Linkspans should have suitable surfaces for both pedestrians and vehicles to use it safely
- 12.10. The angle that the linkspan achieves must be within design limits of the linkspan itself and not endanger the equipment and people using it.
- 12.11. Linkspan safety:
  - [HSE](#)
  - [Ship-to-shore Linkspans and Walkways \(C518\)](#) (This is only available for purchase)
- 12.12. All moorings need to be maintained to limit the possibility of inadvertent ship-shore separation.

### **13. WORKING IN THE PROXIMITY OF VEHICLES - PERSONNEL SAFETY**

- 13.1. All personnel involved in loading and discharging of Ro-Ro, passenger and cruise vessels should wear personal protective clothing and equipment as identified in a risk assessment, such as hi-visibility clothing and safety footwear.
- 13.2. Noise levels on vehicle decks may be excessive; therefore, a noise assessment should be carried out in order to determine noise levels and any appropriate control measures required. Care should be taken when selecting personal hearing protection to ensure that its attenuation does not prevent the wearer hearing communications such as whistles signals, vehicle horns and reversing alarms.
- 13.3. Ro-Ro decks may have potential trip hazards such as deck fittings, treads, lashing points, ribs or deck gratings. Personnel must be aware of loose lashings, chains and other trip or slip hazards on the deck. Trestles, lashings and chains should be properly stowed where practicable. Stowages may be simple rails, trolleys or racks.
- 13.4. All personnel working on-board decks should have a means to stop a vehicle in an emergency or attract attention if required. For example, the use of whistles and a pre-determined signal.
- 13.5. A system must be in place to safely manage the movement of vehicles on freight & car decks, taking into consideration speed, restricted driver visibility, safe stowage or positioning and other activities being carried out at the same time. Different systems may be required for cars, accompanied freight and unaccompanied freight. Particular attention should be given to the fact that some drivers' first language may not be English
- 13.6. Freight drivers must not move their vehicles without suitable communication from the designated signaller.
- 13.7. The designated signaller guiding a vehicle into a final position should ensure that they are in communication with the driver, either directly visible, via vehicle mirrors or by whistle. The designated signaller must position themselves clear of the vehicle movement and avoid the risk of being trapped or crushed
- 13.8. Signals should be agreed and understood. Normally a loud long blast on a whistle or the hand signal below indicates emergency stop.



Emergency Stop Signal

- 13.9. Clear and unambiguous control measures are required in these situations. As well as the driver's responsibility not to move unless instructed or if the banksman moves away. Sufficient staff should be available to control passenger vehicle activities.

## 14. VENTILATION

- 14.1. Prior to operations commencing on enclosed decks it is essential that the ships ventilation system is operating. If in doubt, then this should be reported immediately to the Ships Office
- 14.2. Operations should be controlled to minimise the number of vehicles with engines running on the vessel at the same time. On car decks, engines should not be started or left running until the vehicle is ready for discharge.
- 14.3. When monitoring atmospheres on vehicle decks for noxious substances the safe levels indicated in [EH40 "Workplace exposure limits"](#) should be used.
- 14.4. See also SiP015 Guidance on confined spaces in ports:  
[http://www.portskillsandsafety.co.uk/publications/safety\\_in\\_ports\\_guidance](http://www.portskillsandsafety.co.uk/publications/safety_in_ports_guidance)

## 15. COMPETENCE, INFORMATION, INSTRUCTION, TRAINING SUPERVISION

- 15.1. All persons engaged in port operations must be suitably trained and assessed as competent for the role that they are required to perform.
- 15.2. All persons must be provided with adequate information, instruction, training and supervision. This includes non-permanent employees (NPEs).
- 15.3. All persons involved in operations must know who is in charge of the operation. This is particularly important where NPEs or ship's crew are working alongside permanent

employees. Operations can involve permanent staff and NPE of various organisations. To ensure a safe operation there must be clear rules and/or agreements as to how the site operation is conducted.

- 15.4. Supervisors should be trained, competent and experienced and have access to relevant competent advice and assistance.

## 16. RELEVANT LEGISLATION AND GUIDANCE

- 16.1. Relevant legislation and guidance include but are not limited to the following. Please note that these are the correct versions at the time of publishing but the reader should always seek out the most current version.

- 16.2. The current versions of other PSS Safety in Ports Guidance documents can be found at: <https://www.portskillsandsafety.co.uk/resources>

- 16.2.1. Consulting and involving your workers:  
<http://www.hse.gov.uk/involvement/index.htm>
- 16.2.2. Control of Vibration at Work Regulations 2005  
<http://www.hse.gov.uk/vibration/wbv/regulations.htm>
- 16.2.3. Health and Safety at Work etc. Act (HSWA) 1974  
<http://www.hse.gov.uk/legislation/hswa.htm>
- 16.2.4. Health and Safety (Safety Signs and Signals) Regulations 1996;  
<http://www.hse.gov.uk/pubns/books/l64.htm>
- 16.2.5. Health and Safety for Disabled People  
<http://www.hse.gov.uk/disability/index.htm>
- 16.2.6. HSE Whole Body Vibration in Ports Information Paper  
<http://www.hse.gov.uk/vibration/wbv/ports.pdf>
- 16.2.7. International Labour Organisation's (ILO) Code of Practice on Safety and Health in Ports (ILO 152):  
[http://www.ilo.org/sector/activities/sectoral-meetings/WCMS\\_546257/lang--en/index.htm](http://www.ilo.org/sector/activities/sectoral-meetings/WCMS_546257/lang--en/index.htm)
- 16.2.8. Lifting Equipment at Work:  
<http://www.hse.gov.uk/pubns/indg290.htm>
- 16.2.9. Lifting Operations and Lifting Equipment Regulations (LOLER) 1998;  
<http://www.hse.gov.uk/work-equipment-machinery/loler.htm>
- 16.2.10. Load Security HSE web page:  
<http://www.hse.gov.uk/logistics/load-security.htm>
- 16.2.11. Management of Health and Safety at Work Regulations 1999;  
<http://www.hse.gov.uk/managing/index.htm>
- 16.2.12. Managing Health and Safety in Dockwork HS(G) 177  
<http://www.hse.gov.uk/pubns/books/hsg177.htm>

- 16.2.13. Merchant Shipping (Hatches and Lifting Plant) Regulations 1988;  
[http://www.opsi.gov.uk/si/si1988/Uksi\\_19881639\\_en\\_1.htm](http://www.opsi.gov.uk/si/si1988/Uksi_19881639_en_1.htm)
- 16.2.14. Merchant Shipping (Safety at Work) (non UK Ships) Regulations 1988;  
[http://www.opsi.gov.uk/si/si1988/Uksi\\_19882274\\_en\\_1.htm](http://www.opsi.gov.uk/si/si1988/Uksi_19882274_en_1.htm)
- 16.2.15. Merchant Shipping and Fishing Vessel (Lifting Operations and Lifting Equipment) Regulations (LOLER) 2006  
<http://www.opsi.gov.uk/si/si2006/20062184.htm>
- 16.2.16. Merchant Shipping and Fishing Vessel (Provision and Use of Work Equipment) Regulations (PUWER) 2006  
<https://www.gov.uk/government/publications/guidance-applying-vessel-equipment-regulations-loler-and-puwer>
- 16.2.17. Musculoskeletal disorders (MSDs)  
<http://www.hse.gov.uk/msd/index.htm>
- 16.2.18. Noise at Work  
<http://www.hse.gov.uk/noise/>
- 16.2.19. Personal Protective Equipment  
<http://www.hse.gov.uk/toolbox/ppe.htm>
- 16.2.20. Ports web pages  
<http://www.hse.gov.uk/ports/index.htm>
- 16.2.21. Provision and Use of Work Equipment Regulations (PUWER) 1998;  
<http://www.hse.gov.uk/work-equipment-machinery/puwer.htm>
- 16.2.22. Safety in Docks ACOP L148  
<http://www.hse.gov.uk/pubns/books/l148.htm>
- 16.2.23. Vehicles at work  
<http://www.hse.gov.uk/workplacetransport/index.htm>
- 16.2.24. Working at Sea - Maritime & Coastguard Agency  
<http://www.mcga.gov.uk/c4mca/mcga07-home/workingatsea.htm>
- 16.2.25. Work at Height Regulations 2005  
<http://www.hse.gov.uk/work-at-height/index.htm>
- 16.2.26. Merchant Shipping (Means of Access) Regulations  
<http://www.legislation.gov.uk/uksi/1988/1637/contents/made>
- 16.2.27. The Health and Safety (Safety Signs and Signals) Regulations  
<http://www.legislation.gov.uk/uksi/1996/341/contents/made>
- 16.2.28. MAIB report into Ben-My-Chree accident:  
[http://www.maib.gov.uk/cms\\_resources.cfm?file=/BenMyChreeReport.pdf](http://www.maib.gov.uk/cms_resources.cfm?file=/BenMyChreeReport.pdf)
- 16.2.29. Ship-to-shore Linkspans and Walkways (C518)  
<https://www.ciria.org/ItemDetail?iProductCode=C518&Category=BOOK&WebsiteKey=3f18c87a-d62b-4eca-8ef4-9b09309c1c91>

## 17. DOCUMENT AUTHORS

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## 18. FURTHER INFORMATION

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