SAFE OPERATION OF Ro-Ro TERMINALS

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SAFE OPERATION OF Ro-Ro TERMINALS

Agenda for presentation

**Infrastructure and Equipment**
- Separation of people and equipment
- Traffic routes
- Marshalling and Parking areas
- Quay edges
- Shore Ramps and Mobile Equipment
- Paved Areas

**Terminal Operations**
- General
- Control of Operations
- Vehicle Marshalling and Parking
- RoRo Operations
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Infrastructure and Equipment

A typical plan of a RoRo Terminal

Gatehouse

Trailer Park

Linkspan or Ramp
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Infrastructure and Equipment

A typical RoRo Ship
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Infrastructure and Equipment

Separation of people and equipment
- People should be segregated from port and road vehicle (truck) & mobile equipment operations
  - All non port workers
  - Port workers where practicable
- Walkways should be provided for pedestrians
  - Wide enough for the number of people
  - Clearly marked with unambiguous markings and signs
  - Obstructions should be clearly marked/signed
- Checkers & other port workers should not be permitted to work
  - in circulation roadways
  - on shore ramp roadways
  - in areas where port equipment or vehicles are working
- Truck drivers should remain in cabs except when dropping or picking up trailer from bay
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Infrastructure and Equipment

Traffic routes

- Clearly marked circulation roadways should be provided
  - Lanes should be at least 5m wide and wider at corners
  - Roadways should generally be at least two lanes wide to allow passing of stationary or broken down vehicles
  - Roadways between trailer bays should be wide enough to allow safe pick up or drop off of trailers
- Circulation roadways should be one way (unidirectional)
- Along quays a roadway should be provided for maintenance and emergency vehicles
- A minimum of 2m should be left along quaysides to protect personnel
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Infrastructure and Equipment

Marshalling and Parking areas

- All non port workers should be segregated from port vehicle and mobile equipment operations
- Where practicable port workers should be separated from port vehicle and mobile equipment operations
- Walkways should be provided for pedestrians
  - Wide enough for the number of people
  - Clearly marked with unambiguous markings and signs
  - Obstructions should be clearly marked/signed
- Truck drivers, checkers and other port workers should not be permitted to work in trailer parks and accompanied vehicle marshalling lanes
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Infrastructure and Equipment

Quay Edges

- Where possible open edges of quays should have handrailing
  - with gaps to allow access to mooring bollards
  - with reasonable clearances to mooring ropes
- Access for ship’s crew should be segregated from port vehicle areas
  - For security and safety this may require fencing
- A roadway for maintenance and emergency vehicles should be provided
- The seaward side of this roadway should have a continuous barrier:
  - sufficiently robust to prevent port vehicles from falling into the water
  - wall or barrier not less than 300mm high
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Infrastructure and Equipment

Shore Ramps and Mobile Equipment

- Shore ramps to be sloped or shaped
  - to accommodate ship ramps and finger flaps
  - to make a smooth transition
- Adjustable shore ramps need special provisions for safe use
- Mobile Equipment
  - Internal movement vehicles
    - Port tractors
    - Ships’ trailers
    - Rolltrailers
    - Cassettes
  - Fork lift trucks
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Infrastructure and Equipment
Shore Ramps and Mobile Equipment

- Adjustable shore ramps need special provisions for safe use
  - Briefing Pamphlet No.17
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Infrastructure and Equipment

Paved Areas

- Trailer parks (with trailer bays)
- Marshalling areas (with marshalling lanes)
- Paving
  - Suitable surface to prevent trailer legs/wheels damage
  - Reasonably level
  - Well drained
- Lighting (suitable for use of area)
  - Marshalling areas (minimum 50 lux)
  - Trailer parks (minimum 10 lux)
- Marking
  - Roadways, lanes and bays to be marked with white or yellow lines
  - Pedestrian routes to be marked
- Protection
  - Obstructions to have robust barriers or bollard protection
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Terminal Operations

General

- Safe systems of work
  - Identify hazards
  - Assess risks
  - Develop safe system of work/procedures
  - Planned maintenance system
  - Training for:
    - drivers
    - maintenance staff
    - equipment operators
  - Implement, supervise, monitor, review and feedback
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Terminal Operations

Control of Operations
- Gatehouses
  - Barriers
  - Documentation checks
  - Payments
  - Queuing areas
- Weighbridges
  - Required by SOLAS rules if ferry or RoPax
- Inspection
  - Vehicle checks on entry
  - Camera frame
  - Number plate recognition
  - Search facilities
  - Exit search, Customs, Immigration
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Terminal Operations

Control of Operations

- Security
  - Fencing (to ISPS requirements)
  - Gates controlled
- Freight Office
  - Documentation
  - Trailer bay allocation
  - Trailer dwell time management
- Traffic control
  - Speed restrictions
  - One way circulation
  - Limit intersections/crossovers
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Terminal Operations

Vehicle Marshalling and Parking

- Allocate lanes for accompanied vehicles
- Allocate trailer bays
- Separate Dangerous Goods
- Facilities for damaged trailers
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Terminal Operations

Vehicle Marshalling and Parking

Signage
- Clear of vehicle swept paths
- Overhead sign gantries
- Clear directions/information
- Speed limit signs
- Destination signs
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Terminal Operations

Vehicle Marshalling and Parking

Pedestrian access
- People should be segregated from port vehicle and mobile equipment operations
  - All non port workers
  - Port workers where practicable
- Walkways should be provided for pedestrians
  - Wide enough for the number of people
  - Clearly marked with unambiguous markings and signs
- Obstructions should be clearly marked/signed
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Terminal Operations

Vehicle Marshalling and Parking

Mobile Equipment
- Driver competence and training
- Fumes on ships vehicle decks
- Fuelling of internal movement vehicles (port tractor units)
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Terminal Operations

RoRo Operations

- Abnormal loads
- Project cargo
- Trade vehicles
- Trailers
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Terminal Operations

RoRo Operations

- Abnormal loads
- Project cargo
- Trade vehicles
- Trailers
  - Trailers legs
    - Raising and lowering
    - Parking brakes on
    - Trestles on ships
    - Lashing
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Refer to:

International Safety Panel Briefing Pamphlet No. 10

“SAFE WORKING AT RO-RO TERMINALS”

International Safety Panel Briefing Pamphlet No. 17

“SHORE RAMPS AND WALKWAYS”

Thank you for your attention

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