<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>PACKAGE TYPE</th>
<th>POTENTIAL ISSUE</th>
</tr>
</thead>
</table>
| Acceptance of Package types for transport | **Limited quantities (LQ)** – shrink wrapped trays or boxes < 30kg each, e.g. aerosols, paint tins, mixed goods, typically PGII/III container size <5L, Retail Distribution Loads (RDL) | • Non-approved inner packaging, e.g. jar, sample vial or test-tube, has potential to break and leak into adjacent packaging  
• Flimsy shrink-wrapping and unrestrained items on trays → physically impacting other goods and causing unintended reactions  
• LQ consigned in large packages exceeding the 5L limit posing greater fire hazards on mixed loads  
• Dangerously incompatible goods in box, e.g. oxidisers with solvents → heating/melting containers and rapid fire incident  
• Co-transporting incompatible goods with RDL at placard load levels → increasing frequency of reaction  
• Application of LQ placarding to loads in excess of package size limits |
| | **Pallets of packages** – steel drums, textile bags, fibreboard boxes, jerricans, plywood boxes, articles (batteries, aerosols, air bags etc.) | • Non-approved packaging exposed to stress failure with normal transport vibration  
• Physical impacts of palletising – squash, deform, pressurise, rupture, leak  
• Restraint mechanism affects package integrity, e.g. steel bands tightened on plastic drums can rupture  
• Overpacking technique obscures incompatible goods accommodated by Mixed DG bumblebee |
| | **Segregation Devices & Packages, e.g. Type I, Approved type II, Large Packagings, Segregation Packaging** | • Non-approved segregation devices allow goods to escape confinement  
• Poor stowage and dunnage configuration allows package movement → corrosive goods adversely affecting structure  
• Dangerously incompatible goods co-located inside segregation devices  
• Mechanical handling of custom-fabricated Type I segregation devices (450 kg limit) compromises integrity  
• Approved Type II segregation devices not maintained – sides perforated by forklift tynes, panels loosened, closures bent  
• Large Packaging loaded in excess of rated load capacity → failure and leakage of goods  
• Segregation Packaging not secured, i.e. removable head drums not tightened properly meaning goods not contained |
| | **Cylinders <500 L individual e.g. 22L exchange LPG, G-size welding gases** | • Non-approved cylinders/ exported cylinders w/o burst discs/ PRV  
• Expired cylinders, i.e. service interval exceeds AS2030/ AS3788 period → unknown status of valves/ regulators/ fixtures  
• Cylinders over-filled by local operators exceeding mass-filling ratios → over-pressurised and venting  
• Single cylinders shrink-wrapped onto pallets not adequately restrained  
• Stillage design faults → forking grooves absent; large gaps, low rails or inadequate internal restraint allow cylinder movement  
• Manifold packs – only Div. 2.2 exempt from placardable unit rules  
• Projectiles as a result of valve or burst-disc malfunction  
• Temperature effects on cylinders → toxic, flammable or asphyxiating emissions released into cargo transport unit |
### Pressure Vessels > 500 L individual e.g. chlorine drums, ammonia tanks, insulated helium tanks
- Non-approved cylinders/ exported cylinders w/o burst discs/ PRV
- Expired cylinders, i.e. service interval exceeds AS2030/ AS3788 period → unknown status of valves/ regulators/ fixtures
- Cylinders over-filled by local operators exceeding mass-filling ratios → agitation/ increased temp. exceeds relief valve pressure
- Protection of valves absent → presents handling risk of shearing valve → liquid/ vapour release
- Fusible plugs for toxic goods → visual inspection showing extruded or deformed plug → risk of overpressure ejection plug
- Refrigeration jackets – insulated jacket with perforations/ vacuum loss/ insulator compression → heat ingress & overpressure

### Intermediate Bulk Containers (IBC) e.g. Flexible BulkaBag for AN (FIBC), Plastic Composite IBCs for corrosives, Stainless steel IBCs for solvents.
- FIBCs are perforated on pallets or floor of cargo transport unit → solid spillage of toxic, oxidising or flammable solids
- Bottom outlet valves on liquid goods are prised open → spillage
- Filling lids are cross-threaded → liquid splash or vapour emission
- Composite IBCs mechanically damaged → perforated by forklift tynes or squashed by pallets resting directly on plastic inner
- Outer cage of composite IBCs are damaged by mechanical handling → exposing plastic inners to wearing on trailer metal floor
- Maximum Permitted Gross Mass exceeded during filling → IBC failure
- Maximum permitted stacking load is exceeded → IBC failure
- Plastic IBCs used past 5yr expiry → UV embrittlement and material failure
- Corrosive product incompatible with internal surface/ surface coating → deform or dissolve IBC shell
- High vapour pressure liquids in excess of IBC rating → over-pressurised IBC and release of contents through seams or outlets
- Imported IBCs with GHS markings at exclusion of DG Labelling & Marking
- Imported IBCs have no EIPs for use in Australian transport system

### Portable Tanks (1- 25 kL) (PT) e.g. 4kL off-shore solvent tanks, 20 kL ISOTAINERS
- Non-approved PT/ exported PT w/o burst discs/ PRV
- Corrosive product incompatible with internal surface/ surface coating → deform or dissolve tank shell
- Frame and tank not subjected to Dynamic Longitudinal Impact Test means resistance to braking/ transport collision unknown
- PT being used beyond certified inspection service period → valve or fixture failure
- PT over-filled by local operators exceeding mass-filling ratios → over-pressurised and venting
- Contaminated PT e.g. residue from last chemical fill reacting with contents → heat/ gas evolution/ precipitation
- Maximum permitted stacking load is exceeded → PT failure
- Maximum Permitted Gross Mass exceeded during filling → PT failure
- Inadequate twist-lock configuration on PT → alternate anchoring method required

### Multiple Element Gas Containers (MEGC) used for liquefied or compressed gas transport, e.g. hydrogen, nitrogen, liquefied ethane
- Non-approved cylinders/ exported cylinders w/o burst discs/ PRV
- Frame and tank not subjected to Dynamic Longitudinal Impact Test means resistance to braking/ transport collision unknown
- Burst disc outlet angled to deliver exhausted gas onto tubes above → flame impingement increases BLEVE potential for Div. 2.1
- MEGC over-filled by local operators exceeding mass-filling ratios → over-pressurised and venting
- Maximum permitted stacking load is exceeded → MEGC failure
- Inadequate twist-lock configuration on MEGC → alternate anchoring method required
<table>
<thead>
<tr>
<th><strong>Freight Containers (FC)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>e.g. multi-loads of packaged goods on pallets, IBCs or 1kL Portable Tanks</td>
<td></td>
</tr>
<tr>
<td>• Non-approved FC i.e. not accepted by Convention for Safe Containers</td>
<td></td>
</tr>
<tr>
<td>• FC not subjected to Dynamic Longitudinal Impact Test means resistance to braking/transport collision unknown</td>
<td></td>
</tr>
<tr>
<td>• Fumigated units not placarded for asphyxiating danger adversely affect loaders and personnel de-stuffing FC</td>
<td></td>
</tr>
<tr>
<td>• Exposure of Div. 4.2 or Div. 4.3 IBCs to moisture/air leads to flammable or toxic atmosphere developing in FC</td>
<td></td>
</tr>
<tr>
<td>• Leakage of asphyxiating gases of Div. 2.2 or toxic gases of Div. 2.3 cylinders → elevated unloading hazard for personnel</td>
<td></td>
</tr>
<tr>
<td>• Poor stowage and dunnage configuration in FC allows package movement → perforated goods potentially affecting FC structure</td>
<td></td>
</tr>
<tr>
<td>• Goods stacked against door or loosely in second layer creates falling and pinch hazard for unloader</td>
<td></td>
</tr>
<tr>
<td>• Exceed maximum stacking weight → FC frame or panel failure</td>
<td></td>
</tr>
<tr>
<td>• Inadequate twist-lock configuration on FC → alternate anchoring method required</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Bulk Containers</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(BK1– Sheeted, BK2 – Closed, BK3 – Flexible) for transport of bulk solids exceeding 1m³, e.g. FC of AN, bulk bins of Sulphur, rototainers of heavy mineral concentrates</td>
<td></td>
</tr>
<tr>
<td>• Non-approved FC, i.e. not accepted by Convention for Safe Containers, used to transport bulk solids</td>
<td></td>
</tr>
<tr>
<td>• Liner incompatible with goods → corrosive or oxidising goods affecting integrity of bulk container</td>
<td></td>
</tr>
<tr>
<td>• BK1 tarpaulin perforated by goods or mechanical handling → loss of solids in-transit due to airflow over surface</td>
<td></td>
</tr>
<tr>
<td>• BK3 flexible surface permeable to goods → loss of solids in-transit</td>
<td></td>
</tr>
<tr>
<td>• BK3 flexible surface perforated by coarse goods → loss of solids in-transit</td>
<td></td>
</tr>
<tr>
<td>• Hinged sides on Bulk Container or tilting lids on rototainers are inadequately locked or hinges damaged → loss of solids in-transit</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Off-shore containers (OS)</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>e.g. Cylinder manifold packs, IMDG-rated packaged goods containers</td>
<td></td>
</tr>
<tr>
<td>• Non-approved OS i.e. not accepted by CSC or IMDG certifiers</td>
<td></td>
</tr>
<tr>
<td>• OS not subjected to Dynamic Longitudinal Impact Test means resistance to braking/transport collision unknown</td>
<td></td>
</tr>
<tr>
<td>• Fumigated units not placarded for asphyxiating danger adversely affect loaders and personnel de-stuffing OS</td>
<td></td>
</tr>
<tr>
<td>• Poor stowage and dunnage configuration in OS allows package movement → perforated goods potentially affecting OS structure</td>
<td></td>
</tr>
<tr>
<td>• Goods stacked against door or not restrained by internal cargo nets creates falling and pinch hazard for unloader</td>
<td></td>
</tr>
<tr>
<td>• Exceed maximum stacking weight → OS frame or panel failure</td>
<td></td>
</tr>
<tr>
<td>• Slings/cables/shackles on OS roof not rated → mechanical handling or lifting failures injuring loader</td>
<td></td>
</tr>
<tr>
<td>• Inadequate twist-lock configuration on OS → alternate anchoring method required</td>
<td></td>
</tr>
<tr>
<td>• Goods inside half-height open-top OS inadequately restrained → projecting goods out of container</td>
<td></td>
</tr>
<tr>
<td>Acceptance of inherent DG hazard</td>
<td>CLASS</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-------</td>
</tr>
</tbody>
</table>
|                                 | Class 1 | Explosive | • Co-transport of incompatible explosives → consider Divisions and Compatibility Groups  
• Category 1, 2 & 3 loads carted in excess of vehicle aggregate or vehicle licence  
• Co-transport of explosives incompatible with other dangerous goods  
Refer Australian Explosives Code (AEC 3) for compliance measures; Refer Part 10 of Dangerous Goods Safety (Explosives) Regulations 2007  
| Div. 2.1 Flammability | Leakage of gas into unventilated cargo transport unit forms flammable atmosphere  
• Pyrophoric gas release e.g. phosphine igniting on contact with air → corrosive products  
• Dissolved gases, e.g. acetylene, become unstable due to vibration shock/ excess heat |
| Div. 2.2 Compressed gas (energy)/ Asphyxiant/ Cryogenic | Potential energy stored → rapid valve release injures personnel/ affects other goods  
• Leakage of gas into unventilated cargo transport unit forms asphyxiating atmosphere  
• Elevated combustibility of fuels if oxidising gases leak, e.g. O₂, N₂O  
• Extremely low temperature of refrigerated gases (below –90°C) → cold burns |
| Div. 2.3 Toxic Gas | Leakage of gas into unventilated cargo transport unit forms toxic atmosphere  
• LC50 values are very low; IDLH contours around cylinders and cargo transport units  
• Leakage of cylinders in public places, assembly areas or depots leads to acute poisoning of staff or public fatalities |
| Class 3 Flammability | Leakage of liquid into unventilated cargo transport unit forms flammable atmosphere  
• Liquids transported at temperatures exceeding boiling point → pressurised containers  
• Nominally empty containers often high ignition risk due to flammable mixture |
| Div. 4.1 Flammability | Heat sources may be sufficient to ignite solids → difficult extinguishing  
• Dust explosion by initiation of finely divided metals and organic compounds  
• Decomposing self-reactive substance → evolution of toxic gases or vapours  
• Self-accelerating decomposition temperature exceeded in cargo transport unit |
| Div. 4.2 Spontaneous Combustion | Self-heating substances absorbing energy from transport conditions → bursting package  
• Pyrophoric solids or liquids breaching hermetic sealed package → ignition in air  
• Self-accelerating decomposition temperature exceeded in cargo transport unit |
| Div. 4.3 Flammability if wetted/ Toxic gases possible | Contact of goods with water releases flammable gas into cargo transport unit  
• Moisture trapped internally in package → gas evolution that bursts package  
• Evolution of toxic gases upon wetting exposes staff, e.g. a solid fumigant aluminium phosphide absorbs water, releasing toxic phosphine gas |
| Div. 5.1 Oxidizing – O₂ source | Combustion of other materials enhanced by release of O₂ during fire.  
• Leakage onto metal fixtures and reactive surfaces increases decomposition/ oxidation  
• Contamination of oxidising liquids leads to pressurisation of containers |
| Div. 5.2 | Organic Peroxide | Thermally unstable substances → exothermic self accelerating decomposition.  
|         |                 | Liable to explosive decomposition if contaminated metal ions/organic  
|         |                 | Decomposition hazard where diluent (stabiliser) exhausted  
|         |                 | Self-accelerating decomposition temperature exceeded in cargo transport unit  
| Div. 6.1 | Toxicity | Exposure of personnel to LD50 dose (oral or dermal) or LC50 concentration (inhalation)  
|         |         | Oral ingestion, dermal contact or inhalation of dusts, mists or vapours  
|         |         | Failure of cylinder valve for “toxic by inhalation” goods → acute inhalation risk for staff and bystanders in-transit  
| Div. 6.2 | Infectious | Category A: An infectious substance which is transported in a form that, when exposure to it occurs, is capable of causing permanent disability, life-threatening or fatal disease in otherwise healthy humans or animals.  
|         |         | Category B: An infectious substance which does not meet the criteria for inclusion in Category A. Infectious substances in Category B must be assigned to UN 3373, except for medical or clinical wastes containing infectious substances in Category B (UN3291)  
|         |         | Refer to WA Health Department for guidance: www.health.wa.gov.au  
| Class 7 | Radioactivity | Exposure of personnel to radiation from radionuclide decay, i.e. alpha/beta/gamma evolution → irradiation of staff and adjacent public  
|         |         | Damage to packaging creates exposure route, e.g. packaged source damaged → radionuclide environmental release → inhalation/ingestion  
|         |         | Refer to Radiation Health Branch: www.health.wa.gov.au  
| Class 8 | Corrosivity | Chemical action causes severe damage when in contact with living tissue, i.e. eyes, skin, mouth, lungs (corrosive vapour inhalation)  
|         |         | Chemical reactivity of corrosive substance dissolves metals → loss of containment and impact upon other goods  
|         |         | Evolution of flammable gas hydrogen when metals dissolved by acid or alkali, e.g. hydrochloric acid on steel or sodium hydroxide on aluminium  
|         |         | Evolution of toxic gases resulting from reactions, e.g. chlorine from hypochlorite solutions, or nitrogen dioxide from nitric acid  
| Class 9 | Miscellaneous | Substances which, on inhalation as fine dust, may endanger health  
|         |         | No comprehension of chemical or physical hazards associated  
|         |         | Substances evolving flammable vapour  
|         |         | Flammable atmosphere formed in unventilated cargo transport unit  
|         |         | Lithium batteries and Capacitors  
|         |         | Fire potential if perforated; electrical hazards  
|         |         | Substances and articles which, in the event of fire, may form dioxins  
|         |         | Toxic by-products affecting staff  
|         |         | Substances offered for transport at elevated temperatures  
|         |         | Increased fire hazard to adjacent plant and goods; solidification potential  
|         |         | Life-saving appliances  
|         |         | Air-bags and pneumatic devices – compressed gas and explosive initiator  
|         |         | Environmentally hazardous substances  
|         |         | Transport & unloading around aquatic environments or wetlands  

**Requirements for the Packaging and Transport of Pathology Specimens and Associated Materials (2013)**  
(NATIONAL PATHOLOGY ACCREDITATION ADVISORY COUNCIL)
### Consolidating DG loads

<table>
<thead>
<tr>
<th>Issue</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transport consignment form does not include DG declaration</strong></td>
<td>Consignor offering DG as general freight</td>
</tr>
<tr>
<td><strong>Transport consignment form does not require full description of DG</strong></td>
<td>Acceptance of DG based on brand name, incorrect name or lower hazard packing group</td>
</tr>
<tr>
<td><strong>Consignment system does not recognise dangerous goods</strong></td>
<td>Manual entry of Proper shipping name, UN No and Class</td>
</tr>
<tr>
<td><strong>Consignment system does not recognise UN No. or DG Classes</strong></td>
<td>No information for transport documentation, segregation or placarding</td>
</tr>
<tr>
<td><strong>Consignment system not established for nominally empty DG packages</strong></td>
<td>Acceptance of variety of partially-filled containers creating an incompatible placard load</td>
</tr>
<tr>
<td><strong>LQ not detailed by consignor with Class information</strong></td>
<td>Segregation issues</td>
</tr>
<tr>
<td><strong>Packing Group and Aggregate Quantity not identified on consignment</strong></td>
<td>Placard load not identified</td>
</tr>
<tr>
<td><strong>Overall DG Manifest (load summary) not generated</strong></td>
<td>Difficult for depot supervisor to communicate DG details through logistics chain to loaders and drivers</td>
</tr>
</tbody>
</table>

### Overpacking

- Overpacking technique with black shrink-wrap obscures incompatible goods
- Overpacking a loose collection of different-sized containers
- Overpacking cylinders – C, D, E, G size – into single stillage

### Labelling

- The labelling of the overpack does not match the contents of the consignor’s declaration of dangerous goods

### Loading DG

<table>
<thead>
<tr>
<th>Plan</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No documented load plan means pallets loaded according to consignee location</strong></td>
<td>Poorly planned loads</td>
</tr>
<tr>
<td><strong>Load plan does not indicate position of DG classes on combination</strong></td>
<td>Poor knowledge of load by company driver or sub-contractor picking up loaded trailers</td>
</tr>
</tbody>
</table>

### Achieving Effective Segregation

- Segregation practices not adopted formally in transport procedures and training
- Segregation devices and segregation packaging not available

### Effective Placarding (incl. IBC Emergency Information Panels)

- DG transport documents and DG Manifest mixed in with general freight details
- Vehicles not fitted with DG labels or “Hazchem Flip Folder”
- Product specific EIPs and amendable blank Multi-Load EIPs are not available
- Tarpaulined loads obscure IBC and Portable Tank EIPs

### Stacking Maximums breached

- Palletised DG stacked in excess of 3 metres high or stacked under denser loads
- Maximum stacking loads on IBCs ignored

---

**DRAFT**

**INDUSTRY CONSULTATION**
<table>
<thead>
<tr>
<th>Defective Packaging</th>
<th>Identifying non-UN</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Approved packaging marking specifications not audited by competent staff → acceptance of non-approved and non-rated outer packaging</td>
<td></td>
</tr>
<tr>
<td>• Placardable units not checked for compliance plate, e.g. IMDG, Bureau Veritas certificate, CSC, etc. → acceptance of non-approved placardable units &amp; freight containers</td>
<td></td>
</tr>
</tbody>
</table>

|  | Identifying defective/ damaged/ leaking package |
|  | Examination of package integrity not undertaken by receivals staff → transport of damaged packages occurs |
|  | Quarantine of damaged or leaking containers not actioned → increased likelihood of leakage and dangerous reactions in-transit |

|  | Managing receivals |
|  | Overdrums, drum bunds and bunded areas unavailable → isolating defective/ damage/ leaking packages is difficult |
|  | Procedure for returns to consignors are not documented → confusion over responsibilities and time delays in rectifying unacceptable consignments |

|  | Dealing with handling incidents |
|  | Mechanical handling incidents create damage or leakage → extra handling work and isolating products |
|  | Overdrums or Segregation Packaging unavailable means direct waste management or product return not possible |

|  | Responding to “in-transit” |
|  | Inability to handle damaged large packaging or placardable units at regional depots → costly return journey or costly recovery of controlled waste |
|  | Overdrums or Segregation Packaging unavailable means leaking packages cannot be legally transported further → depot retains the package problem longer |

|  | Load Restraint |
|  | Procedural issues |
|  | Principles of the Load Restraint Guide 2004 are not formally adopted by the company to inform the relevant techniques required to obtain adequate restraint. |
|  | Principles of the ADG Code Chapter 8.1 Stowage and Restraint on or in Cargo Transport Units are not in practice |
|  | Principles of the ADG Code Chapter 8.2 Restraint of Cargo Transport Units on Vehicles are not in practice |

|  | Generic hazards to address – |
|  | Low friction (sandy, dusty or oily surfaces) e.g. composite IBC with metal tube outer frame on a metal trailer |
|  | High Centre of Gravity, especially for Portable Tanks transported on trailer decks exceeding 1100 mm height |
|  | Exceeding restraint rating, e.g. using a 10 mm nylon rope to secure a 2 tonne IBC |
|  | Cylindrical objects, e.g. 108 Litre LPG cylinders or 200 Litre plastic drums |
|  | Lightweight headboards – claiming blocking credits for a thin plywood headboard to reduce tie-down does not decrease actual forward forces encountered upon braking |
|  | Flimsy sides and gates, i.e. minimally-rated side frames used for secondary restraint (as required by ADG Code) are not going to resist sliding IBCs |
|  | Dunnage strength – appropriate material, thickness, shape and orientation |
|  | Inter-layer packing (e.g. rubber matting) as a means of increasing friction between container/floor and between freight layers |
|  | Chemically/ mechanically damaged or over-stretched straps → failure during normal use |

|  | Pallets of packages |
|  | Adjacent pallets of different heights means lowest pallet only restrained on trailer edge → pallet liable to pivot and shift |
|  | Corner protectors and sleeves are not available to place on pallet top sides to resist the strap tension → operator leaving strap tension below required tie-down force |
|  | Standard 2.5 tonne 50mm webbing strap mechanically tensioned to 600 kg perforates fibreboard boxes → loosening of straps in-transit |
|  | Internal restraint of packages on pallet is inadequate → drums being squeezed sideways by horizontal strap tension |
### IBCs
- Flexible IBCs are creased significantly due to solids moving internally → gradual loosening of strap in-transit
- Steel IBCs and composite metal frames have low surface friction on steel trailer → tie-down force achieved insufficient to stop sliding on acceleration/braking

### Stillages & Cylinders
- Loose vertical cylinders are horizontally restrained in square matrix meaning movement into closer packing arrangement in-transit → loosened straps
- Horizontal restraint of cylinders over and around standard unreinforced sides → panels bending and restraint loosening
- Insufficient lugs on stillages or sturdy horizontal rails for strapping → compromised restraint
- Stillages without lockdown mechanism on base or vehicle locating pins → unstable loads
- Standard stillage for G-size(50L) cylinders used for C,D,E-size → increased chance of ejection of cylinders through rail spaces

### Placardable Units – Twist Locks
- Flimsy or non-rated twist lock housing on Freight Container or Portable Tank renders twist lock inoperable
- Damaged twist lock mechanism, e.g. worn/deformed locking pin, on vehicle does not supply restraining force adequate to immobilise FC or PT

### Rope rails v. rated anchor points
- Rope rail not rated to resist multiple straps → rail bending excessively and uncertain tie-down force exerted to restrain pallets
- Suitably rated anchor points for direct restraint method not provided on vehicle → uncertain direct force exerted to restrain placardable unit or FC

### In-transit procedures

#### Breakdowns
- Driver inability to manoeuvre vehicle fully off carriageway → vulnerable to rear impact or side-swipe collision
- Inexperienced driver unfamiliar with placement of portable warning triangles to highlight immobilised vehicle → increased traffic hazard

#### Parking
- Driver parking in residential area for prolonged period, e.g. overnight or during lunch break → increased exposure to residents and possible vehicle accidents
- Parking within 15 metres of a commercial building or public assembly area → increased exposure of public, especially to vapour venting or gas release
- Parking adjacent to another DG vehicle → increased potential for fire incident propagation or incompatible goods interaction, e.g. fuel truck parked near hot bitumen sprayer

#### Rest breaks
- Vehicle not visible during rest or refreshment break taken at roadhouse → inability to keep load secure

### RTAA – unattended placard load?
- Driver doing shuttle runs of single-trailers from depot to RTAA leaving placard loads unsupervised → no load security nor ability to respond to DG incident
- Driver leaves tarpaulined load or locked freight container with Mixed Class diamond at RTAA → problematic evacuation of trailers with no indication of contents

### Journey Management Plan (JMP)
- JMP not established → routes chosen by individual drivers and sub-contractors not in accord with permitted routes and risk minimisation principles
- JMP not in place for new recruit → poorly executed delivery and low awareness of permitted routes and unloading procedures
- JMP not executed by inducted driver → fatigue management breaches and unaccounted delays
- JMP not properly conveyed from senior driver trainer/mentor to new inductee renders it ineffective
- JMP not properly established for remote travel → elevated hazard for individual driver involved in accident, breakdown or weather-related incident
### Activating Transport Emergency Response Plan (T.E.R.P.)

**Driver unaware of T.E.R.P. →** Actions undertaken inconsistent with necessary response for specific DG load involved

**Driver does not follow initial response as per EPG →** Elevates the particular hazard, e.g. attempting extinguishment of fuel pool fire by splashing water onto fire

**Communication failure – driver unable to activate ERP →** Delays in required ER reaching incident site

**T.E.R.P. responsibilities not understood by responsible officer, e.g. containment strategies, mobilisation of resources →** ER inadequate and inordinately lengthy

**Approved Emergency Responder not in place →** DG recovery action hampered, e.g. road closures lengthened unnecessarily, contaminated soil area expanded, & legal responsibilities not met

### Unloading DG at Consignee premises

**Multi-modal Handling – forklift – telehandler – container crane**
- Gross mass of container exceeds SWL rating of mechanical handling machine

**Premises configuration**
- Unloading area not flat and suitable for parking → load shifting after restraints loosened and problematic unloading of containers

**Transfer of Bulk Solids**
- Perforation of FIBCs or BK3 (flexible bulk container)

**Transfer of Liquids**
- Perforation of IBCs/ outlet tap knocked open/ filling port loosened

**Transfer of Gases – Portable Tank movement**
- Release of vapour if relief valve/ burst disc outlet fractured
- Container over-pressure if insulated jacket of cryogenic/ refrigerated liquefied gases compromised

**Transfer of Gases – Cylinder & MEGCs**
- Manifolded connections damaged or valves sheared in placement → significant compressed gas release

---

DMP welcomes comments on this template and feedback on inclusions or omissions. Send your comments to: [Stephen.lane@dmp.wa.gov.au](mailto:Stephen.lane@dmp.wa.gov.au) by 30th April 2016.