

Crane Industry Code of Practice

A Registered Industry Code of Practice under Section 706 of the Heavy Vehicle National Law

DRAFT

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FOREWORD

This Registered Industry Code of Practice (RICP), known as the Crane Industry Code of Practice (Crane Code), was developed in accordance with the Guidelines for Industry Code of Practice under Section 705 of the Heavy Vehicle National Law (HVNL) and assessed as qualifying for registration by the National Heavy Vehicle Regulator (NHVR) under Section 706 of the HVNL.

An approved RICP is a practical guide to achieving the standards of heavy vehicle safety and compliance required under the HVNL and the various Heavy Vehicle National Regulations (HVNR). A Registered Industry Code of Practice applies to anyone who has a duty of care in the circumstances described in this Code.

The Crane Industry Council of Australia (CICA) is the peak industry body in Australia representing the crane industry. The Crane Code has been developed by CICA in consultation with the industry, through various public forums involving a wide range of industry participants.

A draft of this Code of Practice was released for public consultation on 3rd April 2019 and was endorsed by the National Heavy Vehicle Regulator for registration on **day month 2019 (TBA)**.

SCOPE AND APPLICATION

This Crane Code applies to the responsible entities or persons or parties in the supply chain, known as the Chain of Responsibility (CoR), and will consider and assess risks and control measures that are specific to the crane industry and crane operations, focussing particularly on:

- Roadworthiness
- Mass and Dimension Configuration
- Load Security
- Road Travel Competency

The Crane Code also provides clarifications on unique operating situations for transport activities within the crane industry and the risks and control measures identified in the Master Code that are not applicable for the crane industry includes:

- Fatigue
- Mobile Crane Loading/Unloading other Vehicles

HOW TO USE THIS REGISTERED INDUSTRY CODE OF PRACTICE

This Crane Code is a voluntary practical guide that identifies appropriate and effective practices used by the crane industry to achieve compliance with heavy vehicle laws that contain 'Chain of Responsibility' (CoR) provisions. The primary focus of the Crane Code is to propose control measures that can be incorporated into the Safe Management System (SMS) developed by the parties in the CoR to control, eliminate or minimize risks within their own business.

This Crane Code should be used in conjunction with the Master Code. Contents in the Master Code are not included in this Crane Code to avoid duplication. Risks and risk control measures stated in the Master Code and this Crane Code should both be followed. This Crane Code takes precedence over the Master Code when it comes to crane specific contents. This code does not override or replace the requirements of the Road Traffic Act or the Heavy Vehicle Nation Law (HVNL) Law.

The examples of specific controls included in this section of the Code are possible ways to control risk – there may be other ways to control the risk that are equally effective. Throughout this document, the word '**should**' is used to indicate a recommended course of action, while '**may**' is used to indicate an **optional** course of action. This Code includes references to sections of the HVNL and Regulations which set out legal requirements. These references are not exhaustive. The words '**must**' or '**mandatory**'

indicate that a **legal requirement exists and must be complied with**.

Examples and Case Studies were used to explain situations unique to the crane industry, these examples are highlighted in grey with Italic font as below:

Example or e.g.

Under the crane specific scope section, some recommendations and explanations are listed under Notes. These notes are industry experiences and industry best practice. These notes are highlighted in grey with Italic font as below:

Notes

1. INTRODUCTION

1.1 Purpose

This Code of Practice has been established to provide a framework to reduce the breach of road transport laws around all aspects of road safety and compliance. This document does not constitute policies and procedures for use within the crane industry and the operation of a business, individual businesses will need to develop their own Policies and Procedures.

1.2 Parties Covered under this Crane Code

Refer to the Master Code Chapter 1.3 and 4.2 for parties in the CoR. For the crane industry, the CoR parties in relation to a mobile crane include:

- (a) the employer of the:
 - the driver/operator of the crane,
 - the driver of the crane supporting vehicle
- (b) the prime contractor of the driver/operator or driver;
- (c) the business/person controlling the crane or crane supporting vehicle;
- (d) the scheduler of goods/equipment for transport by the crane or crane supporting vehicle, the scheduler of its driver/operator;
- (e) the consignor/principal contractor of goods/equipment for transport by the crane or crane supporting vehicle;
- (f) the consignee/principal contractor of goods/equipment for transport by the crane or crane supporting vehicle;
- (g) the loading manager of goods/equipment for transport by the crane supporting vehicle;
- (h) the loader of goods/equipment on to the crane or crane supporting vehicle; and
- (i) the unloader of goods/equipment from the crane or crane supporting vehicle.

Example: A tower crane is being delivered to a building site. The construction company has contracted out the crane to a crane hire company. They, in turn, have contracted out the transportation of the crane to a transport contractor. When the crane has done its job, the same transport contractor will deliver the crane back to the crane hire company. Parties in the Chain of Responsibility can include:

- a) The crane hire company owner & manager*
- b) The owner/manager of the transport contractor*
- c) The construction company who hire the crane*
- d) The site manager of the construction site*
- e) The scheduler of the transport company*

- f) The driver(s) of the transport vehicles used to transport the crane and its components
- g) The loaders employed by the crane hire company
- h) The loading manager of the crane hire company
- i) The unloaders at the construction site
- j) The loaders at the construction site when the crane is being returned
- k) The loading manager at the construction site when the crane is being returned
- l) The unloaders at the crane hire company when the crane is being returned

Note: It is the performance of any of these functions, whether exclusively or occasionally, that determines whether a person falls within any of these definitions, rather than their job title or contractual description.

The driver/operator of a heavy vehicle is not a party covered under this Crane Code. Refer to the Master Code Chapter 1.3 for driver/operator responsibilities.

A person may be a party in the CoR chain for more than one capacity.

Example: A person may be an employer, a driver/operator, and a consignor at the same time and be subject to duties in each of the capacities.

Note: under CoR Legislation, a person may be liable for a breach in one or more capacities.

2. DEFINITIONS

Code of Practice

A code of practice is a general term usually used to describe a set of requirements issued by a regulator in relation to a particular industry or activity. Codes of practice exist under many different types of law, and in particular health and safety related law. A code of practice that does not satisfy the definition under section 706 of the HVNL is not a Register Industry Code of Practice (RICP). For example, the National Code of Practice for Heavy Vehicle Modifications is not an RICP; however, industry could use the National Code of Practice for Heavy Vehicle Modifications to develop the content of an RICP. Another example is a code of practice concerning fatigue in relation to Work Health and Safety laws. This cannot be used as a guide to compliance with the fatigue requirements under the HVNL.

Commonwealth Gazette notice

A notice published in the Commonwealth of Australia Gazette (a printed publication of the Commonwealth Government of Australia). Gazette notices contain a range of information about legislation, including proclamations and notices of Commonwealth government departments and Courts, and other notices, for example amendments or exemptions to legal duties.

CoR

Chain of Responsibility. The chain of responsibility describes parties within the supply chain which have responsibility under the HVNL. These parties will include the employers of a driver, prime contractors, operators, schedulers, loading managers, consignors, consignees, packers, loaders and unloaders. A driver is not a party of the chain of responsibility but does play a critical role in the safety of road transport activity and has their own specific legal obligations under the HVNL. A person or business may fall in the chain of responsibility in more than 1 capacity.

Consignee

- (a) A person who, with that person's authority, is **named or otherwise identified** as the intended consignee of the goods/equipment in the transport documentation relating to the transport of the goods by road; or
- (b) A person who **actually receives** the goods/equipment after completion of their transport by road but does not include a person who merely unloads the goods.

Example: In the tower crane example, the consignee is the construction company with the person responsible being the site manager.

Consignor

- (a) A person who, with that person's authority, is **named or otherwise identified** as the consignor of the goods/equipment in the transport documentation relating to the transport of the goods/equipment by road; or
- (b) A person who **engages an operator** of a crane or vehicle or combination, either directly or indirectly or through an agent or another intermediary, **to transport** the goods/equipment by road; or
- (c) A person who has **possession of, or control over**, the **goods** immediately before the goods/equipment are transported by road; or
- (d) A person who **loads** a crane or vehicle with **the goods/equipment**, for transport by road, at a place where goods/equipment are stored or temporarily held and that is unattended (except by a driver of the vehicle, a trainee driver or any person necessary for the normal operation of the vehicle) during loading; or
- (e) If paragraphs (a) to (d) do not apply to the person or anyone else, and the goods/equipment are imported into Australia — a person who **imports the goods/equipment**.

Example: In the tower crane example, the consignor would be the crane hire company.

Crane Crew

In this Crane Code, crane crew includes the following:

- (a) Crane operator, a competent person having complete physical control of a crane or hoist. The crane operator can perform tasks including driving the crane on road (with appropriate heavy vehicle license) and operating the crane for lifting tasks.
- (b) Dogger/rigger, a competent person who applies slinging techniques including the selection and inspection of lifting gear, and the directing of a crane/hoist operator in the movement of a load when the load is out of the operator's view. In reality, crane operators performing lifting operations on site are teamed up with doggers and/or riggers. The doggers/riggers are the key members in the lifting operation as they are responsible for deciding where to place the load at the destination, the crane operator does not make any decision outside the crane cabin.

With appropriate heavy vehicle license, **both the crane operator and the dogger/rigger can drive the crane or the crane supporting vehicle on road.**

Crane Supporting Vehicle

A heavy vehicle used to provide ancillary services to crane operation, this includes specially designed counterweight trucks and trucks carrying rigging gear, crane boom sections, or any lifting accessories.

Crane Hire Company /Transport Company

A transport company is a person or body, incorporated or not, providing transport services for hire or reward, a team of **transportation** specialists providing a range of heavy haulage, **transport** and distribution **services**.

A crane hire company is a **lifting service specialist** required to lift a range of materials/equipment utilizing an appliance intended for raising or lowering a load and moving it horizontally.

Driver/Operator

- (a) A reference to a driver/operator is a reference to the driver of a crane supporting vehicle used to provide ancillary services to crane operation, or the driver/operator of a crane. This includes an employed driver/operator and a self-employed driver/operator. "Driver" is defined in the CoR Legislation. Under the Crane Code, this is extended to the driver/operator of a crane or the driver of the crane supporting vehicle.
- (b) An employed driver/operator is a person who is employed by someone else to drive a vehicle for hire or reward. (Labour hire)
- (c) A self-employed driver/operator is a person who is not an employed driver but is driving a vehicle for hire or reward. (Owner operator)

Example: In the tower crane example, driver/operator would be the driver of the truck doing the transportation.

Employer

A person who engages someone else to drive a vehicle for hire or reward under a contract of employment, apprenticeship or training.

Example: In the tower crane example, the employer would be the transportation company which has been contracted to deliver the tower crane from the crane hire company to the construction site. They may have engaged the driver as either an employee or a subcontractor.

Greenfield

The term greenfield is used in the construction industry to reference land that has never been used (e.g. green or new), and often there is no existing structure at the site.

Heavy Vehicle (Definition)

Definition of a heavy vehicle:

- WA – all vehicles used in a commercial manner
 - All registered heavy vehicles
 - Utilities, Vans, Trailers (under 4.5t GVM)
 - Ancillary servicing vehicles, e.g. utes, small trucks etc.
- NSW, NT, Qld, SA, Tas, Vic, –
 - All heavy vehicles over 4.5t

Example: In the tower crane example, a vehicle over 4.5t (WA: All vehicles) and is used to deliver any components of the tower crane to the construction site is classed as a heavy vehicle used for hire or reward.

IAP

The Intelligent Access Program (IAP), IAP is a vehicle tracking system used to monitor heavy vehicles. Vehicles are monitored to ensure they adhere to approved routes, at approved times and are not operating on inappropriate roads.

Loader

A person loads goods in a heavy vehicle, and is a loader of goods in a heavy vehicle, is a person who:

- a) loads the vehicle, or any container that is in or part of the vehicle, with the goods for road transport;
- b) loads the vehicle with a freight container, whether or not it contains goods, for road transport.
- person who loads a vehicle or combination with goods for transport by road; or

Example: In the tower crane example, loaders can include anyone loading crane components onto the transportation vehicle.

Loading Manager

- (a) A person who manages, or is responsible for the operation of, a site or premises where vehicles are loaded or unloaded; or
 - (b) A person who supervises manages or controls any activity undertaken by a loader or unloader.
- Example: In the tower crane example, the loading manager would be the person responsible for the trip plan, permits, load restraint, and mass management.*

Lift Plan

A lift plan is a written document that specifies the requirements and resources necessary to safely and efficiently perform the lifting task

Mobile Crane

A mobile crane is a plant that is capable of travelling over a supporting surface without the need for fixed runways (i.e., railway tracks) and relies only on gravity for its stability. In this Crane Code, cranes mean mobile cranes.

Mobile cranes are purpose-built plants that are designed to perform lifting tasks. Cranes are design and plant registered according to International Standards. Driving and operating mobile cranes are two separate tasks and require different skill sets. As shown in the picture below (Figure 1), when driving the mobile crane on road, the driver/operator is positioned in the driving cabin, when operating the crane for lifting tasks; the crane operator is positioned in the operating cabin. Even for the crane types that do not have separate cabins, the skills required are still different, see a picture of an articulated crane dashboard below (Figure 2).

This Crane Code covers the following types of plant-based mobile cranes:

- (a) All terrain cranes
- (b) Articulated cranes
- (c) Hydraulic truck cranes
- (d) Rough terrain/city cranes

Cranes that are truck-based, namely **vehicle loading cranes are not covered in this code.**

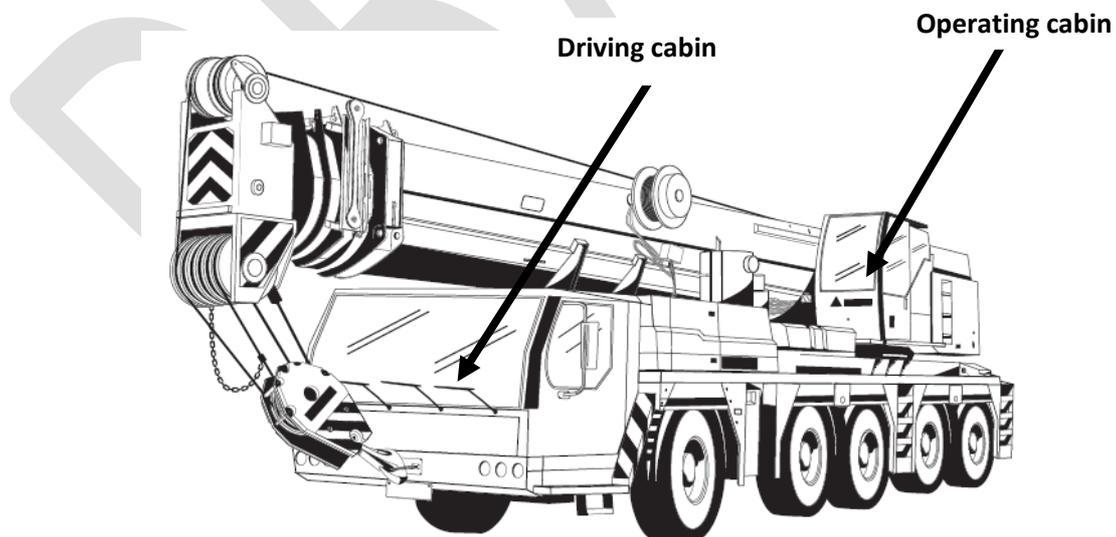


Figure 1 Example mobile crane (all-terrain crane) model



Figure 2 Example mobile crane (articulated crane) dashboard picture
Left-Road travel mode, Right – Crane mode

Master Code

The Master Code is a Registered Industry Code of Practice that identifies compliance risk types and their best practice response measures for the heavy vehicle industry as a whole. Specifically, the Master Code addresses risk types regarding Speed; Fatigue; Mass, Dimension, and Loading; and Vehicle Standards transport activities as defined by the Heavy Vehicle National Law. The Master Code is voluntary and applies to all types of heavy vehicle and loads covered by the HVNL.

NTC Load Restraint Guide

National Transport Commission Load Restraint Guide, it provides transport drivers, operators, and other participants in the transport chain of responsibility with basic safety principles which should be followed for the safe carriage of loads on road vehicles.

Operator (NHVR Definition) – NOT APPLICABLE FOR THIS CODE

- (a) An operator of a hire or reward vehicle is a person who is responsible for controlling or directing the operations of:
- (i) In the case of a vehicle (including a vehicle in a combination) — the vehicle; or
 - (ii) In the case of a combination — the towing vehicle in the combination.
- (b) A person is not an operator merely because:
- (i) The person owns a vehicle or combination; or
 - (ii) The person drives a vehicle or combination; or
 - (iii) The person maintains, or arranges for the maintenance of a vehicle or combination; or
 - (iv) The person arranges for the registration of a vehicle.

The equivalent party for “Operator” in the CoR for this Crane Code is the **crane hire company**.

Operator (Crane Code Definition)

An operator is the **driver/operator of the mobile crane**.

Packer

A person packs goods, and is a packer of goods, if the person:

- (a) put the goods in packaging, even if that packaging is already on a vehicle;
- (b) assembles the goods as packaged goods in an outer packaging, even if that packaging is already on a vehicle;
- (c) supervises an activity mentioned in paragraph (a) or (b); or

(d) manages or controls an activity mentioned in paragraph (a), (b) or (c).

Example: In the tower crane example, the packers will be anyone packing items into containers, cages, and stillages etc. which are then loaded onto a transportation vehicle at some later time. When packing up the crane components, this could include dogmen/riggers and construction workers.

Parties covered under Compliance & Enforcement

The following people are parties in the CoR chain in relation to any hire or reward vehicle:

- (a) Driver/operator of the hire or reward vehicle/crane
- (b) Employer of the driver/operator of the vehicle/crane
- (c) The prime contractor of the driver/operator or the crane hires company
- (d) The business/person controlling the crane or crane supporting vehicle
- (e) The scheduler of goods/equipment parts for transport by the vehicle/crane, and the scheduler of its driver/operator
- (f) The consignor of goods/equipment for transport by the vehicle/crane
- (g) The consignee of goods/equipment for transport by the vehicle/crane
- (h) Loading Manager of goods/equipment for transport by the vehicle/crane
- (i) The loader of goods/equipment parts on to the vehicle/crane
- (j) Unloader of goods from the vehicle/crane

Among the parties above, (a) is not covered under the Master Code or the Crane Code, (b) to (j) are covered under the Master Code and the Crane Code

SOP's, JSA's, SWMS, WI's

Detailed, specific instructions are needed to ensure that all workers are able to comprehend, apply and comply with instructions on how safely and legally loads can be carried on the road. Companies may already have several of these in place under various headings within their business. Common terms for these are below:

- SOP's – Standard Operating Procedures
 - *A written procedure prescribed for repetitive use as a practice, in accordance with agreed upon specifications aimed at obtaining the desired outcome.*
- JSA's - Job Safety Analysis
 - *Job Safety Analysis (JSA) simply means looking at the work task and considering what is the safest way to complete it. It is a way of becoming aware of the hazards involved in doing the job and taking action to prevent an injury.*
- SWMS - Safe Work Method Statements
 - *This is a document that sets out the high-risk construction work activities to be carried out at a workplace, the hazards that may arise from these activities, and the measures to put in place to control the risks.*
- WI's - Work Instruction
 - *A work instruction describes in detail how an individual shall perform a given task of a procedure. A work instruction is sometimes used to provide further detail on specific tasks within a procedure.*

Prime Contractor

A person is a prime contractor if they engage the driver to drive the vehicle under a contract for services.

Example: In the tower crane example, the prime contractor would be the transportation company.

Roadworthiness

A property or ability of a vehicle to be in a suitable operating condition to meet acceptable standards for performing safe transport activities.

Scheduler

A person is a scheduler who schedules the transport of any goods or passengers by a heavy vehicle or schedules the work times and rest times of the vehicle's driver/operator.

In the crane industry, scheduler usually means the allocator.

Example Scenario: Scheduler must ensure that schedules do not put pressure on drivers/operators to exceed the speed limit. The scheduler must ensure that appropriate time frame is factored for the job to be completed without requiring the driver to speed, overload and or breach fatigue criteria.

Site

An owned or leased property where a business has overall management control or influence.

Site Manager

A manager or authorized person in charge of an individual site at a given location.

Special Purpose Vehicles (SPV)

A Special Purpose Vehicle (SPV) is defined as a motor vehicle or trailer, other than an agricultural vehicle or a tow truck, built for a purpose other than carrying goods such as a mobile crane, a crane supporting vehicle, a concrete pump or drill rig.

Subcontractor

A party or individual who enters into an agreement to work for a Prime Contractor.

Subcontractors need to be able to demonstrate their compliance with this Crane Code via the following:

- a. Subcontractors become part of the Principal contractor system and accreditation, or
- b. Subcontractors have their own system and accreditation and supply the principal with such evidence, or

An approved alternative that satisfies the compliance requirements

Supply Chain/Logistics Chain

The activities supporting transport including; driving, packing loading, scheduling, transportation and receiving.

Transport activities

Transport activities encompasses the 'business practices' and components of a transport business (for example, physical, management, labour and service), and the associated activities for which the parties in the Chain of Responsibility are expected to be responsible – for example, driving, directing, employing or contracting drivers, or consigning, scheduling, packing, loading, unloading and receiving goods. Transport activities also include carrying out other activities associated with the use of a heavy vehicle (such as maintaining or repairing the vehicle). See Master Code 2.2 for definition of transport activities.

Unloader

A person unloads goods in a heavy vehicle, and is an unloader of goods in a heavy vehicle, if the person is a person who: a. unloads from the vehicle, or any container that is in or part of the vehicle, goods that have been transported by road; or b. unloads from the vehicle a freight container, whether or not it contains goods, that has been transported by road.

Vehicle for hire or reward

When a vehicle is used to transport any product as a reward of some kind or is directly hired for the purpose, this is deemed as a "Hire or Reward vehicle" E.g... Hiring a taxi truck to move an item from one place to another as a one-off is 'Hire & Reward', contracting a major transport company on a long-term basis to move goods is also 'Hire & Reward'.

Vehicle used in a commercial manner

A vehicle does not have to be commercially registered to be used in a commercial manner. Regardless of registration class, where a vehicle is used in the conduct of a commercial enterprise, it is deemed to be commercial.

3. ROLES AND RESPONSIBILITIES

3.1 Structure of this Code

This Code identifies the types of risk for the crane industry for the core responsibilities of CoR. These are outlined in Sections 4. The Code is structured to identify and address the risks associated with each activity and responsibility that is covered by HVNL, against the role of each party in the Chain of Responsibility.

Sections 4 of this Code is structured as follows:

- **What is the risk?**
The risks that are specific to mobile cranes traveling on the road
- **What does the law say?**
A summary of the relevant parts of the duties under the HVNL.
Note: the HVNL is not quoted in its entirety in these sections of this Code. Duty holders should refer to the HVNL for more detail.
- **What you can do?**
The suggested controls identified for each type of risk available to each party in the supply chain (see notes below on selecting controls). The examples of specific controls included in this section of the Code are possible ways to control risk – there may be other ways to control the risk that are equally effective.

A Note on Selecting Controls: It is each duty holder's responsibility to assess the suggested controls contained in this Code and select the appropriate controls. Not all the controls suggested in this Code may be required and/or you may be able to develop other controls that are equally effective. The examples are provided for explanatory purposes; they are not prescriptive and are intended to highlight possible methods based on known industry practices and real-world examples. The examples presented in this Code are not an exhaustive list of all measures that can be implemented to control risk – there may be other ways to control risk.

3.2 The Role of CoR Parties

The below table (Table 1) is an example that can be used to identify CoR roles. Once you know your role (or roles) in the CoR, use Table 2 below as a quick reference guide to the relevant sections of this Code setting out suggested controls applicable to your role or roles.

CoR Roles Crane Industry Roles	Employer	Prime Contractor	Vehicle Operator	Scheduler	Consignor	Consignee	Loader/unloader	Loading manager	Packer	Driver
Senior Manager	Y	Y								
Operational Manager	Y	Y	Y	Y	Y	Y		Y		
Crane/Yard Supervisor		Y	Y	Y	Y	Y	Y	Y		
Cranes and Transport Fleet Controller/Scheduler		Y	Y	Y	Y	Y				
Crane Operator			Y				Y		Y	Y
Dogman/Rigger							Y		Y	Y
Truck Driver			Y							Y
Purchasing Employee				Y	Y	Y				

Table 1 Example of parties in the Chain of Responsibility

CoR party	Section of this Code
Employer	4.2.3.1
Prime Contractor	4.3.3.1
Crane Hire Company	4.4.3.1
	4.5.3.1
	4.6
	4.7
Scheduler	4.2.3.2
	4.3.3.2
	4.4.3.2
	4.5.3.2
	4.6
	4.7
Consignor and Consignee	4.2.3.3
	4.3.3.3
	4.4.3.3
	4.5.3.3
	4.6
	4.7
Loader/unloader/packer/loading manager	4.2.3.4
	4.3.3.4
	4.4.3.4
	4.5.3.4

	4.6
	4.7

Table 2 Quick Reference Guide by CoR party

4. INDUSTRY SPECIFIC

4.1 General

The Crane Code of Practice has been written to stand on its own as a Registered Industry Code of Practice. Although independent, it will relate to the Master Code of Practice. This section includes crane specific items identified by the industry.

4.2 Roadworthiness

4.2.1 What is the risk?

The roadworthiness concept is to ensure cranes and crane supporting vehicles are safe to use on the road. Roadworthiness is undertaken to help minimize the possible hazards to road users and detect any wear, deterioration, and alternations that could adversely affect the safety of the vehicle and its compliance with the Standard for Registration.

Hazards and risks associated with crane and crane supporting vehicle roadworthiness include:

Hazard	Risk
(a) The driver/operator did not set the crane or crane supporting vehicle to a suitable road traveling condition/configuration under manufactures instructions, this includes: <ul style="list-style-type: none">- did not stow crane outriggers in a traveling position- did not restrain rigging gearbox correctly- did not restrain timbers (used as crane outrigger mat) correctly- did not restrain hook blocks correctly	The vehicle could cause an accident or would be unable to avoid an accident. Unpinned outriggers could extend and collide with pedestrians, other vehicles and/or occupants, infrastructure or other property Unrestrained rigging gear, hook blocks or support timbers etc could fall from the crane and strike pedestrians, other vehicles and/or occupants or other property
(b) Did not conduct periodic Third-Party inspection as specified in the Australian Standards.	Cranes road travel performance could be compromised and result in a mechanical failure and subsequent accident.
(c) Damage, wear, and deterioration of critical roadworthy components caused by site lifting activities.	
(d) Hazards caused by State-based regulations, this includes hazards associated with the use of crane dollies:	The dolly assembly could increase mechanical component wear, impact vehicle performance and

<ul style="list-style-type: none"> - quality of the design and construction of the dolly - wear and tear to crane slew ring - decoupling or detaching of the crane dolly - damage to road signs or other vehicles due to crane boom overhang within the dolly configuration 	<p>damage infrastructure.</p> <p>The dolly could detach from the crane and collide with pedestrians, other vehicles and/or occupants, infrastructure or other property</p>
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Based on industry experiences, components that are at higher risks of affecting crane and crane supporting vehicle roadworthiness and impact the safety of drivers, other road users and the general public include the following:

- Power Steering Cylinders
- Steering Components - Lugs/Pins
- Suspension System
- Clearance Lights
- Tyres
- Windscreen
- Brakes

4.2.2 What does the law say?

HVNL Section 26C – Primary Duty

Each party in the Chain of Responsibility for a heavy vehicle must ensure, **so far as is reasonably practicable**, the safety of the party’s transport activities relating to the vehicle. Each party must, so far as is reasonably practicable–

- eliminate public risks and, to the extent, it is not reasonably practicable to eliminate public risks, minimize the public risks; and
- ensure the party’s conduct does not directly or indirectly cause or encourage– the driver of the heavy vehicle to contravene this Law; or another person, including another party in the Chain of Responsibility, to contravene this Law.

HVNL Section 60 – Compliance with Heavy Vehicle Standards

A person must not use, or permit to be used, on a road a heavy vehicle that contravenes a **heavy vehicle standard** applying to the vehicle.

HVNL Section 89 – Safety requirement

A person must **not use**, or permit to be used, on a road a heavy vehicle that is **unsafe**.

4.2.3 What you can do

4.2.3.1 Employer, Prime Contractor, and Crane Hire Company

What you can do?	Consider
Confirm the crane/crane supporting vehicle is fit for travelling on road and identify a crane/crane	<ul style="list-style-type: none"> • Conduct pre-operational inspection • Provide a pre-operational inspection template to the

<p>supporting vehicle that is not fit for use before any road travel</p>	<p>driver/operator, the template should:</p> <ul style="list-style-type: none"> - include a list of items that should be checked together with an acceptance criterion - distinguish items for roadworthiness inspection and items for lifting operations inspection: roadworthiness inspection should be conducted before the driver/operator drives the crane or the crane supporting vehicle on road; lifting operations inspection should be conducted before performing lifting tasks on site - include checks for conditions of items listed above in Section 5.1.2 in the template • Have training activities in place to assist the driver/operator to: <ul style="list-style-type: none"> - conduct pre-operational inspections for the different type, manufacture, make and model of cranes - use the pre-operational inspection template. - record and report pre-operational inspection findings • Employ certified third-party inspection body to conduct periodical Third-Party inspections to relevant Australian Standards for cranes annually. Any findings (<i>i.e. faulty items</i>) in relation to roadworthiness and vehicle standards from the inspection shall be rectified, verified and recorded. Keep records of the inspection and corrective actions (<i>i.e. repair reports</i>) for future reference and/or review.
<p>Assess the competency of the driver/operator</p>	<ul style="list-style-type: none"> • Have a process in place to verify and record the competency of the driver/operator for: <ul style="list-style-type: none"> - configuring different type, manufacture, make and model of cranes for road travel. - driving different type, manufacture, make and model of cranes on road. - conduct pre-operational inspection • A skills/qualification matrix should be developed to ensure that skill sets of individual driver/operator are matched to the requirements of cranes, SPV, PBS, and heavy vehicles
<p>Crane Operator's Manual (in English) is available for reference.</p>	
<p>Confirm the crane dolly is fit for use and identify a crane dolly that is not</p>	<ul style="list-style-type: none"> • Verify the quality of the design and construction of the crane dolly

fit for use before any road travel.	<ul style="list-style-type: none"> Inspect and record the condition of the dolly before use
Assess the risks associated with a crane traveling with a dolly	<ul style="list-style-type: none"> Have a procedure in place for when crane dolly is used for the crane to travel on road. The procedure should include: <ul style="list-style-type: none"> risk assessment template for cranes travel with dollies specify that follow manufacturer's instructions for: <ul style="list-style-type: none"> crane configuration for traveling with dollies attaching and detaching the dolly to the crane

4.2.3.2 Scheduler

What you can do?	Consider
Make sure that schedules allow for timetabling of pre-operational inspection and periodic inspection	<ul style="list-style-type: none"> Employee work time and vehicle travel routes should be scheduled in such a way to allow for sufficient time to complete crane and crane supporting vehicle pre-operational inspection Crane operations should be scheduled in such a way to allow time for periodic Third Party Inspections
Make sure route (journey) plans take into consideration requirements for cranes travelling with dollies	<ul style="list-style-type: none"> If the crane must travel with a dolly on road, travel routes should be planned and inspected to ensure that the vehicle combination will not cause any danger to other road users. <i>For example, check the turning circle of the vehicle combination to see whether it can safely go past roundabouts and turning points</i>

4.2.3.3 Consignor and Consignee

What you can do?	Consider
Make sure you have a review process in place to check the crane provided by the third-party had inspections done	<ul style="list-style-type: none"> Commercial arrangements (terms of consignment, contracts, and agreements) should include requirements for mobile cranes to have: <ul style="list-style-type: none"> pre-operational inspections done and recorded periodical third-party inspections are done to relevant Australian Standards by certified third-party inspection body

4.2.3.4 Loader/unloader/packer/loading manager

- Refer to section 4.7

4.3 Mass and dimension configuration

4.3.1 What is the risk?

The mass and dimension requirements set out in the HVNL, Gazette notices, permits and other documents issued by road authorities for cranes and crane supporting vehicles are to decrease risks from excessively loaded or excessively large heavy vehicles on road.

Decreasing these risks improves public safety and minimises any adverse impact from excessively loaded or excessively large heavy vehicles on road infrastructure or to public amenity.

Hazards and risks associated with crane and crane supporting vehicle mass and dimension configuration include:

Hazard	Risk
(a) Cranes and crane supporting vehicles carrying additional counter-weight fly jib, or rigging gears that cause vehicle overweight	Hazards identified could: <ul style="list-style-type: none">• increase mechanical component wear• impact vehicle performance and• damage infrastructure
(b) Driver/operator did not confirm the vehicle weight and dimension after re-configuring the machine for specific lifting activities	
(c) Driver/operator does not have a SPV permit or Gazette notice available or does not understand permit or Gazette notice requirements on mass and dimension	
(d) Overweight caused by modifications made to the vehicle without assessment, usually in the case of installing additional rigging gearboxes on the crane	

4.3.2 What does the law say?

HVNL section 26C – Primary Duty

Each party in the Chain of Responsibility for a heavy vehicle must ensure, **so far as is reasonably practicable**, the safety of the party's transport activities relating to the vehicle. Each party must, so far as is reasonably practicable–

- eliminate public risks and, to the extent it is not reasonably practicable to eliminate public risks, minimize the public risks; and
- ensure the party's conduct does not directly or indirectly cause or encourage– the driver of the heavy vehicle to contravene this Law; or another person, including another party in the Chain of Responsibility, to contravene this Law

HVNL Section 96 – Compliance with Mass Requirements

A person who drives, or permits another person to drive, a heavy vehicle on a road must ensure the vehicle, and the vehicle's components and load, comply with the **mass requirements** applying to the vehicle.

HVNL Section 102 – Compliance with dimension requirements

A person who drives, or permits another person to drive, a heavy vehicle on a road must ensure the vehicle, and the vehicle's components and load, comply with the **dimension requirements** applying to the vehicle.

4.3.3 What can you do?

Cranes and support vehicles traveling on road should follow the mass and dimension limitation on the relevant Gazette notice, permits or other documents issued by road authorities for the crane.

Crane accessory components (counterweight/equipment movement) are indivisible weights. Crane supporting vehicles carrying indivisible loads are considered SPV vehicles when it comes to mass configuration.

4.3.3.1 Employer, Prime Contractor and Crane hire company

What you can do?	Consider
Identify the mass, dimension and loading requirements (such as tare, gross and axle weights, widths and lengths) that apply to each crane or crane supporting vehicle and communicate these with relevant CoR parties	<ul style="list-style-type: none"> • Have a process in place to: <ul style="list-style-type: none"> - verify the mass and dimension limitation on the relevant Commonwealth Gazette notices, permits or other documents issued by road authorities are followed - outline the control measures implemented • Cranes as indivisible weights have a limited number of components that can be removed or replaced from the crane for road travel. These components usually have known weights specified by the manufacturer. If a different crane configuration is needed, confirm the vehicle weight and dimension after re-configure the machine by: <ul style="list-style-type: none"> - the manufacturer's instruction on mass for different configuration is available, follow the manufacturer's instructions, or - calculations and modelling of mass distribution for plant gross mass and individual axle mass, or - re-weighing the plant or the vehicle
Provide driver/operator with accurate load weights and dimensions before or at the point of loading (refer Sections 186 and 187 of the HVNL)	<ul style="list-style-type: none"> • Have a system in place to have Gazette notice or permits available and accessible for over mass vehicles. <i>For example, keep a copy of the Commonwealth Gazette notices or permits in the driver's cabin.</i> • A skills/qualification matrix should be developed to

	<p>ensure that skill sets of individual driver/operator are matched to the requirements of cranes, SPV, PBS, and heavy vehicles</p> <ul style="list-style-type: none"> • Training activities in place for the driver/operator to understand Commonwealth Gazette notices and permit conditions.
Crane Operator's Manual (in English) is available for reference	

4.3.3.2 Scheduler

What you can do?	Consider
Schedule cranes or crane supporting vehicles that match the mass, dimension and loading requirements for the particular job	<ul style="list-style-type: none"> • Cranes and crane supporting vehicles must be scheduled in such a way as to allow only machines compliant with Commonwealth Gazette notices or permit mass and dimension limits to be used
Check route permits and conditions will be met prior to a journey commencing and notify relevant supply chain parties	<ul style="list-style-type: none"> • Compliance to Commonwealth Gazette notices and local mass restrictions

4.3.3.3 Consignor and Consignee

What you can do?	Consider
Make sure you have a review process in place to check the crane or crane supporting vehicle owned or provided by the third party, meet mass and dimension limit requirements	<ul style="list-style-type: none"> • Commercial arrangements (terms of consignment, contracts, and agreements) should include requirements to have appropriate Commonwealth Gazette notices or permits for the crane or the crane supporting vehicle to travel on road

4.3.3.4 Loader/unloader/packer/loading manager

- Refer to section 4.7

4.4 Load Security

4.4.1 What is the risk?

Incorrectly positioned or restrained parts or loads from cranes and crane supporting vehicles can endanger the lives of other road users and pedestrians through a direct collision or by causing other drivers to swerve to avoid it, this increase the risk of serious injuries and fatalities to the road users and pedestrians, damage to road infrastructure and the environment.

Hazards and risks associated with crane and crane supporting vehicle load security include:

Hazard	Risk
(a) Fire extinguisher frame allowing extinguisher to	The load could fall from the vehicle

detach	and hit another road user, a pedestrian or damage infrastructure
(b) Incorrect restraint rigging gear due to rigging gearbox lid damaged or non-existent	
(c) Outrigger pins are broken or missing, outrigger pad incorrectly pinned	
(d) Hook blocks restraint with faulty or undersized chains or ropes	
(e) Counterweight block pinned incorrectly	
(f) Crane second winch pinned incorrectly	
(g) Toolbox on the side of the crane not locked	

4.4.2 What does the law say?

HVNL Section 26C – Primary Duty

Each party in the Chain of Responsibility for a heavy vehicle must ensure, **so far as is reasonably practicable**, the safety of the party's transport activities relating to the vehicle. Each party must, so far as is reasonably practicable –

- eliminate public risks and, to the extent it is not reasonably practicable to eliminate public risks, minimize the public risks; and
- ensure the party's conduct does not directly or indirectly cause or encourage– the driver of the heavy vehicle to contravene this Law; or another person, including another party in the chain of responsibility, to contravene this Law

HVNL Section 110 - National regulations may prescribe loading requirements

- The national regulations may prescribe requirements (the **loading requirements**) about securing a load on a heavy vehicle or a component of a heavy vehicle
- Without limiting subsection (1), the loading requirements may include requirements about the restraint or positioning of a load or any part of it, on a motor vehicle or trailer

HVNL Section 111 – Compliance with loading requirements

A person who drives, or permits another person to drive, a heavy vehicle on a road must ensure the vehicle, and the vehicle's components and load, comply with the **loading requirements** applying to the vehicle (Section 111).

4.4.3 What can you do?

The Crane Manufacturer's instructions must be followed when preparing a crane or crane supporting vehicle for road travel. Maintenance and inspection of vehicles should be conducted following the manufacturer's instructions and Australian Standards. Pre-operational checks on potential hazard items should be conducted to identify faulty or inadequately restrained equipment.

When transporting crane components with trucks or trailers, crane hire companies should provide clear instructions on how loads should be restrained, including drawings of the type of restraint

required, number of tie-downs and attachment points. Loads, fixing points and tie-downs should be inspected by the crane hire company prior to departure. Follow the NTC Load Restraint Guide (or local equivalent) when designing or selecting a load restraint method or system.

Choosing a suitable vehicle, positioning the load correctly, using suitable restraint equipment, providing adequate load restraint, using appropriate driving methods and paying attention to the ground conditions, are the key factors in transporting loads safely.

4.4.3.1 Employer, Prime Contractor and Crane Hire Company

What you can do?	Consider
<p>Confirm the crane/crane supporting vehicle is fit for traveling on road and identify a crane/crane supporting vehicle that is unsafe before the operation</p>	<ul style="list-style-type: none"> • Conduct pre-operational inspection • Provide a pre-operational inspection template to the driver/operator, the template should: <ul style="list-style-type: none"> - include a list of items that should be checked together with acceptance criteria - distinguish items for roadworthiness inspection and items for lifting operations inspection: roadworthiness inspection should be conducted before the driver/operator drives the crane or the crane supporting vehicle on road - lifting operations inspection should be conducted before performing lifting tasks on site • Have training activities in place to assist the driver/operator to: <ul style="list-style-type: none"> - conduct pre-operational inspections for the different type, manufacture, make and model of cranes - use the pre-operational inspection template. - record and report pre-operational inspection findings • Employ certified third-party inspection body to conduct periodical third-party inspections to relevant Australian Standards for cranes annually. Any findings (<i>i.e. faulty items</i>) from the inspection shall be rectified, verified and recorded. Keep records of the inspection and corrective actions (<i>i.e. repair reports</i>) for future reference
<p>Verify crane components are placed, secured and restrained in compliance with a loading requirement applying to the vehicle</p>	<ul style="list-style-type: none"> • Include checks for the conditions of load restraining mechanisms in the pre-operational inspection, this includes checks for the outrigger pad pins, the condition of the rigging gearbox, the condition of the fire extinguisher frame • Conduct load restraining checks on crane outrigger,

	<p>crane counterweights and crane secondary winch before driving the crane on the road, if they were previously used for lifting activities</p> <ul style="list-style-type: none"> • Provide appropriate lashing equipment for restraining crane hook blocks
Crane Operator's Manual (in English) is available for reference.	

4.4.3.2 Scheduler

What you can do?	Consider
Make sure that schedules allow for timetabling of pre-operational inspection and periodic inspection	<ul style="list-style-type: none"> • Employee work time and vehicle travel routes should be scheduled in such a way to allow for sufficient time to complete crane and crane supporting vehicle pre-operational inspection <ul style="list-style-type: none"> • Crane operations should be scheduled in such a way to allow time for periodic third-party inspections

4.4.3.3 Consignor and Consignee

What you can do?	Consider
Make sure you have a review process in place to check the crane or crane supporting vehicle owned or provided by the third party meet load restraint requirements when travelling on the road.	<ul style="list-style-type: none"> • Commercial arrangements (terms of consignment, contracts, and agreements) should include requirements for mobile cranes to have: <ul style="list-style-type: none"> - pre-operational inspections done and recorded - periodic third-party inspections are done to relevant Australian Standards by certified third-party inspection body

4.4.3.5 Loader/unloader/packer/loading manager

- Refer to section 4.7.

4.5 Road Travel Competency

4.5.1 What is the risk?

The road travel competency concept is to ensure driver/operator of cranes and crane supporting vehicles can drive the heavy vehicle safely on the road. Driver/operator's road travel competency should be verified to help minimize the possible hazards to road users and road infrastructures.

Hazards and risks associated with operator/driver road travel competency include:

Hazard	Risk
--------	------

(a) Driver/operator does not have the correct heavy vehicle license to drive the specific crane model on the road	A driver could have an accident resulting in serious injury or death for the driver and other road users
(b) Driver/operator unfamiliar with the crane type or model they are driving	
(c) Driver/operator does not understand permit or Gazette notice requirements	This could increase mechanical component wear, impact vehicle performance and damage infrastructure
(d) Driver/operator does not have skill sets to perform pre-operational checks for different crane types or crane models	The vehicle could cause an accident or be unable to avoid an accident

4.5.2 What does the law say?

HVNL Section 26C – Primary Duty

Each party in the Chain of Responsibility for a heavy vehicle must ensure, **so far as is reasonably practicable**, the safety of the party’s transport activities relating to the vehicle. Each party must, so far as is reasonably practicable (Section 26C)–

- eliminate public risks and, to the extent, it is not reasonably practicable to eliminate public risks, minimize the public risks; and
- ensure the party’s conduct does not directly or indirectly cause or encourage– the driver of the heavy vehicle to contravene this Law; or another person, including another party in the chain of responsibility, to contravene this Law

4.5.3 What can you do?

This section relates to operator/driver competence for road travel and covers crane and crane supporting vehicles, in addition the application of specialist skills required by an operator/driver in relation to the nuances of crane operation.

Other than the mandatory qualifications (licences etc.) required by road authorities, drivers/operators should also be able to demonstrate competence in driving and operating skills for the specific crane model they are assigned to as skills required to drive/operate different cranes can be different. Driver/operator’s skill sets should be verified and documented.

4.5.3.1 Employer, Prime Contractor and Crane Hire Company

What you can do?	Consider
Make sure any person who drives the crane or crane supporting vehicle on the road have skills and experience to enable them to safely drive the vehicle on road without putting the vehicle and other road	<ul style="list-style-type: none"> • Have a process in place to verify driver/operator’s heavy vehicle licenses for the specific type and model of crane they are driving • Develop a skills/qualification matrix to ensure that skill sets of an individual driver/operator are matched to the requirements of cranes, SPV, PBS

users in danger	<p>and heavy vehicles</p> <ul style="list-style-type: none"> • Have a system in place to verify driver/operator's competencies for driving the specific model of the crane on the road • Training activities in place for <ul style="list-style-type: none"> - pre-operational inspection skills - understanding Gazette notice, legal permit requirements along with IAP - driving an over mass crane • A process in place for driver/operators to pass a knowledge test on their understanding of legal permit requirements and IAP Rules
Crane Operator's Manual (in English) is available for reference.	

4.5.3.2 Scheduler

What you can do?	Consider
Make sure route (journey) plans take into consideration the driver/operator's road travel competency	<ul style="list-style-type: none"> • Plan trips and jobs with consideration of the qualification and skill set of the driver/operator. The driver/operator should be competent to drive the type and model of cranes and crane supporting vehicles assigned

4.5.3.3 Consignor and Consignee

What you can do?	Consider
Make sure you have a review process in place to check the driver/operator's road travel competency	<ul style="list-style-type: none"> • Have a process in place, to verify driver/operator's heavy vehicle licenses for the specific type and model of crane they are driving • Have a system in place to verify driver/operator's competencies for driving the specific model of the crane on the road

4.5.3.4 Loader/unloader/packer/loading manager

What you can do?

- Refer to section 4.7.

4.6 Fatigue

Fatigue is mental or physical exhaustion that stops a person from functioning normally. Although fatigue is mainly caused by a lack of sleep, a person may also become fatigued through prolonged

periods of physical or mental effort, illness, illicit drugs, some “over the counter” or prescribed medications, if not given sufficient time to rest and recover.

4.6.1 What does the law say?

HVNL Section 26C – Primary Duty

Each party in the Chain of Responsibility for a heavy vehicle must ensure, **so far as is reasonably practicable**, the safety of the party’s transport activities relating to the vehicle. Each party must, so far as is reasonably practicable–

- eliminate public risks and, to the extent it is not reasonably practicable to eliminate public risks, minimize the public risks; and
- ensure the party’s conduct does not directly or indirectly cause or encourage– the driver of the heavy vehicle to contravene this Law; or another person, including another party in the chain of responsibility, to contravene this Law

HVNL Section 26E – Prohibited Requests and Contracts

A person must not ask, direct or require (directly or indirectly) the driver of a heavy vehicle or a party in the Chain of Responsibility to do or not do something the person knows, or ought reasonably to know, would have the effect of causing the driver–

- to drive a fatigue-regulated heavy vehicle while impaired by fatigue; or
- to drive a fatigue-regulated heavy vehicle while in breach of the driver’s work and rest hours option; or
- to drive a fatigue-regulated heavy vehicle in breach of another law in order to avoid driving while impaired by fatigue or while in breach of the driver’s work and rest hours option

A person must not enter into a contract with the driver of a heavy vehicle or a party in the Chain of Responsibility that the person knows, or ought reasonably to know, would have the effect of causing the driver, or would encourage the driver, or would encourage a party in the chain of responsibility to cause the driver–

- to drive a fatigue-regulated heavy vehicle while impaired by fatigue; or
- to drive a fatigue-regulated heavy vehicle while in breach of the driver’s work and rest hours option; or
- to drive a fatigue-regulated heavy vehicle in breach of another law in order to avoid driving while impaired by fatigue or while in breach of the driver’s work and rest hours option

4.6.2 Cranes

The definition of fatigue-regulated vehicle is specified in the HVNL law Chapter 1, Part 1.2, Clause 7, quoted as below:

7. Meaning of *fatigue-regulated heavy vehicle*

- (1) For the purposes of this Law, a heavy vehicle is a ***fatigue-regulated heavy vehicle*** if it is any of the following—
- (a) a motor vehicle with a GVM of more than 12t;
 - (b) a combination with a GVM of more than 12t;
 - (c) a fatigue-regulated bus

- (2) However, subject to subsection (3), a heavy vehicle is not a ***fatigue-regulated heavy vehicle*** for the purposes of this Law if it is any of the following—
- (a) a motor vehicle that—
- (i) is built, or has been modified, to operate primarily as a machine or implement off-road, on a road-related area, or on an area of road that is under construction; and
 - (ii) is not capable of carrying goods or passengers by road;

Examples for the purposes of paragraph (a)—

agricultural machine, backhoe, bulldozer, excavator, forklift, front-end loader, grader, motor vehicle registered under an Australian road law as a special purpose vehicle (type p)

(b) a motorhome

- (3) For the purposes of this Law, a truck, or a combination including a truck, that has a machine or implement attached to it is a ***fatigue-regulated heavy vehicle***—
- (a) if the GVM of the truck or combination with the attached machine or implement is more than 12t; and
- (b) whether or not the truck or combination has been built or modified primarily to operate as a machine or implement off-road, on a road-related area, or on an area of road that is under construction.

Example for the purposes of subsection (3)—

a truck to which a crane or drilling rig is attached

- (4) For the purposes of subsection (2)(b), a ***motorhome***—
- (a) is a rigid or articulated motor vehicle or combination that is built, or has been modified, primarily for residential purposes; and
- (b) does not include a motor vehicle that is merely a motor vehicle constructed with a sleeper berth.
- (5) For the purposes of this section, the GVM of a combination is the total of the GVMs of the vehicles in the combination.

Mobile cranes are purpose-built plants that are designed to perform lifting tasks, they are design and plant registered according to International Standards.

Mobile cranes are machines built to operate primarily as lifting devices off-road, lifting activities performed by mobile cranes are completed primarily off-road and can sometimes operate in road-related areas or on an area of road that is under construction.

Mobile cranes only access roads as a motor vehicle when travelling to, from or between job locations, the distance traveled is generally within close proximity to the crane hire company's crane yard.

Most of the mobile cranes are only capable of carrying one passenger, the passenger seat is only ever occupied by a crane crew member (dogger/rigger), who is necessary for the operation of the machine as lifting device. The passenger seat is not always occupied as a dogger/rigger may travel in a crane supporting vehicle or be supplied on-site by a client. Currently, in most States, mobile cranes are registered as Type P special purpose vehicle.

Based on the facts above, according to the HVNL law Clause 7(2), mobile cranes covered in this Crane Code are **not fatigue-regulated vehicles**.

Note: Clause 7(3) is not applicable to mobile cranes, as a crane carrier is a purpose-built machine body, it is not a truck.

As mobile cranes (covered under this Crane Code) are **not fatigue-regulated heavy vehicles** under the HVNL Law. It is **NOT** a requirement under the HVNL to manage the fatigue of the driver/operator of the mobile cranes in accordance with the applicable work and rest hours option (section 243 of the HVNL), and it is **NOT** a requirement under the law for the mobile crane driver/operator to maintain a work diary (section 293 of the HVNL).

Due to the nature of the mobile crane industry (mobile cranes are special purpose plant designed and used for lifting tasks), crane driver/operator fatigue should be **regulated under the WHS law/regulation**, this will ensure the risk management process is consistent for all the areas of the crane operation (driving on road, setting-up, lifting, packing up), and all risks associated with crane operations are managed under one system. As crane driver/operator fatigue is managed under the WHS law/regulation, the risk control measures listed in the Master Code **DO NOT** apply to mobile cranes under this crane code.

4.6.3 Crane Supporting Vehicles

Crane supporting vehicles are heavy vehicles used to provide ancillary services to crane operation, this includes any specially designed counterweight trucks and trucks carrying rigging gear, crane boom sections, or any lifting accessories. Crane supporting vehicles are usually driven by crane crew members. Crane supporting vehicles are fatigue-regulated vehicles as per the HVNL law definition.

Crane Crew members who drive a crane supporting vehicle should record **work hours** in the National Driver Work Diary if they drive outside a radius of 100km from where they base (100+km work) under standard hours. It is not required by law to obtain or record in a work diary if the driver always does local work (driving only within a 100km radius of base) under standard hours.

The following definition of **work** in relation to a fatigue-regulated vehicle is quoted from HVNL, Chapter 6, Part 6.1, Clause 221

work, in relation to a fatigue-regulated heavy vehicle, means—

- (a) drive a fatigue-regulated heavy vehicle; or
- (b) instruct another person to drive, or supervise another person driving, a fatigue-regulated heavy vehicle; or
- (c) perform another task relating to the use of a fatigue-regulated heavy vehicle, including, for example—
 - (i) load things onto, or unload things from, the heavy vehicle; and
 - (ii) inspect, service or repair the heavy vehicle; and
 - (iii) inspect or attend to a load on the heavy vehicle; and
 - (iv) if the heavy vehicle is a bus, attend to passengers on the bus; and
 - (v) clean or refuel the heavy vehicle; and
 - (vi) perform marketing tasks in relation to the use of the vehicle; and

Examples for the purposes of subparagraph (vi)—

 - arranging for the transport of goods or passengers by the heavy vehicle
 - canvassing for orders for the transport of goods or passengers by the heavy vehicle
 - (vii) help another person to perform, or supervise another person performing, a task mentioned in any of subparagraphs (i) to (vi); and

(viii) record information or complete a document, as required under this Law, a corresponding fatigue law or otherwise, in relation to the use of the vehicle; or

(d) occupy the driver's seat of a fatigue-regulated heavy vehicle while its engine is running.

Work hours required to be recorded in the National Driver Work Diary are work hours for work activities listed above. Other crane crew work activities including toolbox meeting, rigging the crane, rigging the load, dogging work, operating the crane to perform lifting tasks, pack up the crane for road travel, etc., are not work activities in relation to a fatigue-regulated heavy vehicle.

In the case that after the crane crew drive the crane supporting vehicle to the destination site and all work activities defined under the HVNL in relation to a fatigue-regulated has been done, the crane crew member keeps the engine of the crane supporting vehicle running due to safety reasons, *for example, crane crew members working at greenfield locations where the use of the cabin is often the best location for a climate controlled break area*, the hours spent in the cabin are not work hours.

Work activities not performed in relation to a fatigue-regulated heavy vehicle (as listed above) **DO NOT** need to be recorded in the National Driver Work Diary.

4.7 Mobile cranes loading/unloading other heavy vehicles

When it comes to mobile cranes loading/unloading another heavy vehicle, as the crane and the crane crew members are engaged in the process of loading or unloading a heavy vehicle, according to the definition of loader/unloader in the Master Code, the crane crew members are the loader/unloader in this operation, but due to the nature of the crane operation, the crane crew members shall only take a unique part of the loader responsibilities in the supply chain.

When mobile cranes are used to load/unload other heavy vehicles, the crane, together with the crane crew, is effectively a tool used by the loader/unloader or the loading manager. The crane operator follows the instruction from the rigger/dogger for the positioning of the load, the same as when they perform lifting tasks on site. The rigger/dogger follows the instruction on the load distribution plan supplied by the heavy vehicle owner/operator or the instruction of the heavy vehicle driver, the same as following lift plans when they perform lifting tasks on site.

Crane crews are trained and qualified to operate cranes and directing cranes for lifting tasks, they are not trained and qualified to identify and verify vehicle GVM and load limits. Cranes may equip with load moment indicators (LMI), for indicating visually or audibly, or both, to the crane operator when **the rated capacity is approached and reached**. The LMI is an operator aid only, it is not capable to provide the reliable weight of the load.

The loader/unloader responsibilities specified in the Master Code includes risk control measures that cannot be implemented by the crane crew members as the crane crew members only have limited controls of the loading/unloading process. The loader/unloader responsibilities specified in the Master Code **DO NOT** apply to the crane hire company or the crane crew members who are engaged in the process of loading or unloading a heavy vehicle owned by a third party company, instead, the following control measures are identified for the crane hire company and the crane crew members as the loader/unloader under the CoR.

4.7.1 What you can do

- Crane companies should have a procedure in place for when cranes are used to load/unload other heavy vehicles:
 - the procedure shall include a template for risk assessments on lifting activities

- the procedure shall specify the responsibilities of the crane hire company, the crane crew member and the responsibilities of the loading manager appointed by the heavy vehicle owner/operator under CoR.
- the procedure shall specify the type of documents provided to the crane crew members for the lift
- training on procedure implementation should be provided to the crane crew members, *i.e.*, **toolbox meetings**
- Crane companies should specify in the crane hire contract that:
 - the heavy vehicle owner/operator shall provide personnel as the loading manager or equivalent to supervise the loading/unloading activities performed by mobile cranes and crane crew members, the loading manager shall take full loader/unloader responsibilities specified in the Master Code
 - documented load mass and dimension, load distribution plans and diagrams, procedures and work instructions should be provided by the owner/operator of the heavy vehicle, or if this is not available, the crane crew should follow the instruction of the heavy vehicle driver on load mass and load placement
 - the owner/operator of the heavy vehicle is responsible for the accuracy of any document supplied to the crane hire company
- Crane companies should make all relevant documents available to the crane crew members before sending them out for the lifts
- Crane crew members should inform the loading manager any visual observations of unsafe situations
- Crane crew members should inform the loading manager if there is any visible damage to the load or the load packaging during the lifting operation
- Crane crew members should follow instructions from the loading manager for load positioning and distribution, make adjustments to load positioning and distribution upon request by the loading manager

Case Study

A tower crane is being delivered to a building site. The construction contractor A has contracted out the crane to a crane hire company B. They, in turn, have contracted out the transportation of the crane to a transport company C.

Scenario 1

The transport company C hired a mobile crane from the crane hire company D to load tower crane components onto the trucks. These trucks are owned by the transport company C.

In this case:

The transport company C should:

- *take the Loading Manager, Loader, Unloader responsibility under the Master Code*
- *assign a Loading manager, the Loading manager is then responsible for supervising, managing or controlling all the loading/unloading activities carried out by the crane hire company D*

Note: The Loading manager should be someone who is competent to manage the entire loading/unloading process, i.e. the truck driver

- *provide documented tower crane component mass and dimension to crane hire company D*
- *provide documented load distribution plans and diagrams to crane hire company D*

Crane Hire company D should:

- *take lifting (loading) part of the Loader/Unloader responsibility under the Crane Code*

- *select an appropriate crane (only select cranes that are under safe working condition) and crane crew members (with the correct High-Risk Work Licences) for the lifting task based on load information provided by transport company C*
- *conduct risk assessment for the lifting task, risks identified from the risk assessment should be communicated to all crane crew members participated in the lifting task*
- *produce a lift plan for the lifting task if necessary, the lift plan should be followed by all crane crew members*
- *work with and coordinate with the loading manager from transport company C on lifting tasks*
- *the crane crew members set up the crane on site, perform the lifting task and follow the instruction from the loading manager (or the truck driver) for load placement on the truck*

Scenario 2

The transport company C uses its own mobile crane to load tower crane components onto their trucks.

The transport company C should:

- *take the Loading manager, Loader, Unloader responsibility under the Master Code*
- *take lifting (loading) part of the Loader/Unloader responsibility under the Crane Code*

5. CODE ADMINISTRATION

Participant Compliance Committee (PCC) is responsible for the administration of the Crane Code and reviews, changes and updates will be conducted as per the review procedure.

A register of committee members will be maintained by CICA.

Proposed updates to the code will be communicated to all relevant stakeholders; this consultation process will provide an opportunity for comment and discussion on proposed updates before the update is adopted as part of the code.

The CICA PCC will meet bi-annually or as required to review the code. Minutes will be taken and be made available to members. It is intended that the PCC through the CICA Executive will consult with the industry to ensure the code addresses the current requirement of statute law and the needs of the industry.

6. REVIEW PROCEDURE

Purpose

The purpose of this procedure is to ensure that the Crane Code of Practice is current and effectively addresses the obligations determined by the applicable legislation

Scope

This procedure applies to the review process to be followed by members and the CICA PCC

Procedure:

1. Legislative updates are reviewed and assessed by the PCC to determine any required changes to the code
2. Where a change is not required, the decision is documented in the minutes of the meeting
3. Where a change is required, the update will be made to the code with the detail of the amendment communicated to members of the Crane Code
4. CICA will publish information regarding the relevance of the change and information for procedural change or further training that may be required
5. The Crane CoR will be held and administered by the CICA PCC
6. No greater than 3 years from the date of signing

7. KEY CONTACTS

The key contact for the Code is: The Crane Industry Council of Australia (CICA)

Contact details	
Postal address	PO Box 136, Mount Waverley, Victoria, 3149
Street address	Unit 10, 18-22 Lexia Place, Mulgrave, Victoria, 3170
Telephone	+61 3 9501 0078
Fax	+61 3 9501 0083
Email	admin@cica.com.au

8. REFERENCES

Compliance and Enforcement Legislation

FEDERAL

National Road Transport Reform (Compliance and Enforcement) Act 2003
Incorporated into the Road Transport Reform (Heavy Vehicle Registration) Act 1997
Incorporated into the Road Transport Reform (Vehicles and Traffic) Act 1998

WESTERN AUSTRALIA

Road Traffic (vehicles) Act 2012
OCCUPATIONAL SAFETY AND HEALTH ACT 1984

VICTORIA

Road Transport Reform (Compliance and Enforcement) Act 2005
Incorporated into the Road Safety Act 1986

NEW SOUTH WALES

Road Transport Reform (Compliance and Enforcement) Act 2005
Incorporated into the Road Transport (General) Act 2005

QUEENSLAND

Transport Legislation Amendment Act (no. 43) 2007

TASMANIA

Heavy Vehicle Road Transport Act No. 19 2009

SOUTH AUSTRALIA

Statutes Amendment (Road Transport Compliance and Enforcement) Act 2006
Incorporated into the Road Traffic Act 1961

NORTHERN TERRITORY

Not legislated, relying on Industry and non-mandatory Code of Practice

AUSTRALIAN CAPITAL TERRITORY

Not legislated, relying on Industry and non-mandatory Code of Practice

AUSTRALIAN STANDARDS

AS2550

Occupational Health and Safety Legislation Act 1985 (with revision) Road Transport Legislation

9. CODE DEVELOPMENT SCHEDULE

Version	Date	Parties Consulted
Consultation pre-development of Draft 1 (Prior to 13/11/2017)	08/09/2017	Invitation for Participation in Stakeholder Group to Develop an Industry Code of Practice for Road Safety
	22/09/2017	Industry Code of Practice Stakeholder Group Sydney
	19/10/2017	National Reference Group State branch representatives
Consultation Draft 1	13/11/2017	First draft issued to the Stakeholder group for review
	29/11/2017	Draft review meeting with NHVR and Master Code developer, Brisbane
Consultation Draft 2	12/01/2018	Internal only
Version 2.1	24/01/2018	Stakeholder group
	31/01/2018	Draft review meeting with NHVR and Master Code developer, Melbourne
	21/02/2018	National Reference Group State branch representatives
Consultation Draft 3	14/03/2018	Internal only
Version 3.1	27/03/2018	Stakeholder group
	20/04/2018	Draft review meeting with NHVR, Brisbane
Consultation Draft 4	08/06/2018	Stakeholder group
Version 4.1	25/07/2018	National Reference Group State branch representatives
	07/08/2018	Draft review meeting with NHVR, Brisbane
Version 4.2	17/10/2018	National Reference Group State branch representatives
Consultation Draft 5	01/02/2019	Draft issued to the Stakeholder group for review
Version 5.1	27/02/2019	National Reference Group State branch representatives
Version 5.2	25/03/2019	Final draft Submit for assessment

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