

Engineering Standard

Rolling Stock and Plant

CRN RS 016

ROAD-RAIL VEHICLE, TRAILER, TROLLEY & QUADRICYCLE CERTIFICATION & RE-CERTIFICATION

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Document control

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1.6	20/03/20	Updated list of approved certifiers
1.7	4/06/20	Updated list of approved certifiers

Summary of changes from previous version

Section	Summary of change
Appendix 5	Updated list of approved certifiers

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1 Purpose and Scope

This standard details the requirements for road-rail vehicle, trailer, trolley and quadricycle certification and re-certification for operation on the CRN, including all main lines, sidings, and worksites.

2 Definitions

AEO (Authorised Engineering Organisation)	An engineering person or entity that has been certified as an AEO by the Asset Standards Authority of Transport for NSW
CRN	NSW Country Regional Rail Network
Evidence of Compliance	Supporting documents issued by a competent body or person that certifies that a particular piece of rolling stock has been inspected and tested for compliance with the appropriate interface standards and is considered safe to operate on the CRN
EWP	Elevated Work Platform (eg Cherry picker)
GVM	Gross Vehicle Mass
Quadricycle	A small self-propelled ride-on track vehicle, including trikes, which can be easily removed from the track
Rail Guidance System	A dedicated piece of equipment fitted to a road vehicle specifically designed to provide safe guidance of the vehicle when it operates on railway track.
Road-rail Vehicle	A vehicle designed essentially for operation on road but fitted with rail guidance equipment to permit the vehicle to be readily converted to operate on rail.
RIVR Number	Rail Industry Vehicle Registration Number. A unique serial number allocated to road-rail vehicles and trailer/trolleys when they are first certified for operation on rail.
Road-rail Trailer	In the context of this document, a road-rail trailer is a small non-powered vehicle designed essentially for road but fitted with rail wheels which enables it to be hauled on rail by a road-rail vehicle or rail-bound infrastructure maintenance vehicle.
“T” Notes	Notes covering operating restrictions and listed in Sections 11 and 12 of the CRN Train Operating Conditions (TOC) Manual
Rail Trailer	In the context of this document, a rail trailer is a small non-powered vehicle fitted with rail wheels which enables it to be hauled on rail by a road-rail vehicle or rail-bound infrastructure maintenance vehicle.
Rail Trolley	In the context of this document, a rail trolley is a small four wheeled vehicle fitted with rail wheels which enables it to be moved by hand on rail by infrastructure maintenance personnel.
Trike	A small three wheeled self-propelled vehicle historically used for transporting a track worker on rail.
VIN	Vehicle Identification Number which is applicable to all road vehicles

3 References

3.1 Australian and International Standards

AS 1418 – Cranes, hoists and winches
AS 2550 – Cranes, hoists and winches - Safe use
AS 7500 series – Railway Rolling Stock

3.2 Applicable CRN Standards

CRN RS 006 – Minimum Operating Requirements for Road-Rail Infrastructure Maintenance Vehicles
CRN RS 007 – Minimum Operating Requirements for Infrastructure Maintenance Trolleys, Trailers and Portable Plant
CRN RS 008 - General Interface Requirements for Rolling Stock
CRN RS 010 - Vehicle Acceptance Test and Inspection Requirements
CRN RF 006 – Road-rail Infrastructure Maintenance Vehicle Certification Request Form
CRN RF 007 – Trolley, Trailer and Quadricycle Certification Request Form

3.3 Other References

Australian Code of Practice, Roll 41-1, Guidelines for the Safe Operation of Road-Rail Vehicles

4 Standard Requirements

4.1 General

All road-rail vehicles, rail trailers, trolley and quadricycles must comply with the requirements specified in CRN Standards CRN RS 006 and CRN RS 007, respectively, in order to gain acceptance and be certified to operate on the CRN or CRN worksites. Each application for initial vehicle acceptance shall be accompanied by a relevant Certification Request Form as specified above. The Request Form provides data relevant to the vehicle for the CRN Manager to assess the vehicle's suitability for operation on the CRN.

4.2 Road-Rail, Trailer, Trolley and Quadricycle Vehicle Certification

For any road vehicle that has been manufactured or modified to also operate on rail, the owner and/or operator of the vehicle shall obtain an engineer's certification, validating the design, construction and/or installation of the rail guidance equipment and associated modifications, and shall provide evidence of a documented maintenance and inspection regime for the vehicle, in order to gain approval to operate on the CRN.

Trailers, trolleys and quadricycles (including trikes) manufactured for operation on rail shall have appropriate design and construction details provided to enable the vehicles to be assessed for structural integrity and safe operation. In order to gain approval to operate on the CRN, evidence of a documented maintenance and inspection regime for the vehicle shall be provided.

Vehicle certification with the CRN Manager will be dependent on the vehicle having appropriate and auditable maintenance and inspection records. Such vehicles shall have their rail operating suitability status re-certified annually in accordance with section 4.7 of this standard.

The worksite supervisor/track manager is responsible for ensuring that road-rail vehicles, trailers, trolleys and quadricycles are certified for operation on the CRN and that each vehicle pre-operation inspection checklist is sighted and endorsed by the worksite supervisor/track manager's representative, before such vehicles are placed on rail. Such documents shall be retained and filed by the owner/operator for audit purposes.

4.3 Engineering Certification

An engineering certification is required for all road-rail, trailer, trolley and quadricycle vehicles before such vehicles will be accepted for operation on the CRN. The certification shall be in the form of an Engineering Report that assesses the integrity of the rail guidance equipment and its attachment to the vehicle, and the integrity of the vehicle structure to carry the nominated maximum load capacity.

An Engineering Report is only required once in the life of a vehicle, unless the vehicle configuration changes, then a new Engineering Report is required.

4.3.1 Types of Engineering Reports

The complexity and detail required in an engineering report will depend on the circumstances surrounding the proposed vehicle. The following categories specify the level of detail required:

- Category A - For newly acquired / built / manufactured vehicles including any vehicle built / manufactured / assembled after 1 March 2011) - A full Engineering Report will be required as detailed in section 4.3.1.1.
- Category B - For existing vehicles new to the CRN (but registered with the Asset Standards Authority) - An Engineering Inspection report is required. The inspection will be a condition-based inspection which shall be more thorough than the standard yearly recertification inspection. Refer to Section 4.3.1.2.
- Category C - For existing vehicles already in the CRN or ASA TOC Manuals - The standard yearly inspection carried out during the yearly recertification process, but including an assessment of suspension and bearing capacity, in addition to an inspection for condition and non-engineered repairs/modifications.

4.3.1.1 Category A - Vehicles newly fitted with road-rail equipment

A full Engineering Report will be required for newly acquired / built / manufactured road-rail and trailer/trolley vehicles.

The engineering report shall address the following requirements:

- An assessment of the base vehicle's suitability to meet the proposed on-track task.
 - ~ This should look at such aspects as the rolling stock outline, the vehicle GVM, axle load distribution, tyre configuration (where applicable) and the potential changes in bending moments and shear forces acting on the chassis structure.
- An assessment of the rail guidance equipment and mounting design for its suitability to support and guide the vehicle which shall cover:
 - ~ Structural integrity of the rail equipment for the expected loading
 - ~ Method of attachment to the vehicle and attachment integrity
 - ~ Structural integrity of the vehicle chassis (due to the difference in load paths of the rail guidance gear compared to the standard suspension)
 - ~ System geometry and method of locking (e.g. over centre design)
 - ~ Suspension design adequacy in terms of spring capacity and optimum operating range
 - ~ Rail wheel design for expected loading and load eccentricity, including wheel diameter, tread profile, bearing capacity, etc
- An assessment of ancillary equipment added to the vehicle to produce its on-track functionality.
 - ~ Assessment of the integrity of add-ons such as elevated work platforms (EWPs), securing devices, vehicle stability for elevated and/or eccentric loading, cranes.
- Check rail guidance and ancillary equipment design for relevant standards compliance.
 - ~ Confirmation that the relevant components have been designed to an acceptable recognised standard (eg AS, ISO, UIC, AAR or equivalent)
- Inspection of the final vehicle construction / assembly.

- ~ A visual inspection of the finished vehicle for compliance with the design drawings and structural assessment.
- ~ A review of test and inspection records for compliance with the track owner/manager's interface standards.
- The report shall clearly state what on-track function/s the vehicle was designed for.
 - ~ Include diagrammatic / photographic evidence of the vehicle and its attachments
 - ~ Include WorkCover design registration for EWP's, where applicable
- If road/rail guidance equipment is being reused from another vehicle, each component of the guidance equipment shall be crack tested. Any cracked components shall be replaced or repaired.
 - ~ A repaired component integrity assessment shall be included in the Engineering Report
- The Engineering Report shall contain a signed statement from an Authorised Engineering Organisation (AEO) or equivalent, certifying that the vehicle design and construction has been assessed and is deemed safe to operate on track.

4.3.1.2 Category B – Existing road-rail vehicles that are new to the Network

An Engineering Inspection Report is required for existing road-rail and trolley/trailer vehicles that have not previously been accepted onto the CRN. This covers vehicles that have operated on other networks and would be classified as used vehicles.

The Engineering Inspection Report shall be based on a condition inspection which will be more thorough than the standard annual inspection carried out during the normal recertification process.

This Engineering Inspection Report shall include the following:

- An assessment of the base vehicle's suitability to meet the proposed on-track task.
 - ~ This should look at such aspects as the rolling stock outline, the vehicle GVM, axle load distribution, tyre configuration and the potential changes in bending moments and shear forces acting on the chassis structure.
- An inspection of the vehicle and rail guidance gear as per Appendix 2.
- A thorough crack inspection of the rail guidance gear and vehicle chassis connection to a recognised Australian NDT standard. The crack inspection shall include all welds and critical components of the rail guidance gear, its attachment, stub axles and associated bracketry.
- An assessment of bearings used in the rail wheels (fit for application and/or load).
- An assessment of the suspension components used within the rail guidance gear (flexitors, springs, rubber elements, stub axles). Fit for the application and/or load.
- If there is any evidence of failed equipment (such as fracture repairs) or added equipment that was not part of the original design, the vehicle shall be treated as a Category A vehicle, and a design assessment of the rail guidance gear and its application is required.
- The Engineering Inspection Report shall contain a signed statement from an Authorised Engineering Organisation (AEO) or equivalent, certifying that the vehicle design and construction has been assessed and is deemed safe to operate on track.

4.3.1.3 Category C – Road-rail vehicle already listed in the Network TOC Manual

This Engineering Certification is required for existing vehicles which have been approved for operation on the network prior to the standard requirement for submitting an Engineering Report.

The annual inspection carried out as part of the normal recertification process will continue to be used but supplemented by a more detailed Engineering Inspection/Assessment by a qualified engineer.

This Engineering Inspection/Assessment shall include the following:

- An assessment of the base road vehicle's suitability to meet the proposed on-track task.

- ~ This should look at such aspects as the rolling stock outline, the vehicle GVM, axle load distribution, tyre configuration and the potential changes in bending moments and shear forces acting on the chassis structure.
- An inspection of the vehicle and rail guidance gear as per Appendix 2.
- An assessment of bearings used in the rail wheels (fit for application / load).
- An assessment of the suspension components used within the rail guidance gear (flexitors, springs, rubber elements, stub axles). Fit for the application and/or load.
- If there is any evidence of failed equipment (such as fracture repairs) or added equipment that was not part of the original design, the vehicle shall be treated as a Category A vehicle, and a design assessment of the rail guidance gear is required.
- The Engineering Inspection/assessment Report shall contain a signed statement from an Authorised Engineering Organisation (AEO) or equivalent, certifying that the vehicle design and construction has been assessed and is deemed safe to operate on track.

4.4 Compliance Identification

Each certified road-rail vehicle, trailer, trolley or quadricycle will be issued with a certification label that must be attached to the vehicle in a readily visible position. For CRN operation the label shall identify the vehicle by road registration/plant number, label number, RIVR number & certifying person. The label also specifies the rail certification expiry date, GVM, maximum speed and associated operating restriction "T" Notes.

In the case of road-rail vehicles all rail guidance equipment, both front and rear, shall be fitted with compliance plates. The following information shall be recorded on the compliance plates:

- Manufacturer
- Vehicle VIN number
- Date equipment fitted.

Where the compliance plates were not fitted at the time of rail guidance equipment manufacture/installation, a suitable compliance plate shall be fitted at the next recertification inspection.

For road-rail vehicles that have been in-service for over 10 years, a fitted compliance plate, combined with internal/external crack evaluation is required.

4.5 Road-Rail, Trailer, Trolley and Quadricycles Pre-Work/Operation Inspection

All road-rail, trailer, trolleys and quadricycles shall be covered by a suitable maintenance regime appropriate to their duty cycle and work/operating environment. Once a vehicle is certified to operate on the CRN, it shall undergo a daily pre-work inspection and safety check before operation. Refer to Appendix 3 for a sample tick sheet, which may be used. Such an inspection shall include rail guidance equipment and lifting equipment such as cranes, EWP, etc. All operational defects noted during the pre-work inspection must be recorded, reported and rectified before operation of the vehicle.

4.6 Maintenance Records

The CRN Manager reserves the right to inspect road-rail vehicles, trailers, trolleys and quadricycles as well as their pre-work inspection records and log book whilst the vehicles are on CRN property.

Vehicle owner/operators/maintainers shall retain comprehensive vehicle maintenance and inspection records, for audit purposes. The CRN Manager reserves the right, from time to time, to audit such records and check for compliance with maintenance processes.

4.7 Road-Rail Vehicle, Trailer, Trolley and Quadricycle Annual Re-certification

Road-rail vehicles, trailers, trolleys and quadricycles will be required to be re-certified on an annual basis for operation on the CRN. This will require owners/operators to have their vehicles tested and inspected annually, to verify that the vehicle continues to meet the CRN minimum operating requirements specified in the relevant vehicle standard.

Test/inspection results are recognised only if undertaken by one of the CRN Manager's Approved Certifying Companies. All re-certifications must be accompanied by a completed Re-certification Checklist (Refer to Appendix 2 for a sample checklist). Refer to Appendix 5 for a listing of currently approved Certifying Companies.

For road-rail vehicles fitted with cranes, hoists or winches, such equipment shall comply with the requirements for selection, operation and maintenance as specified in AS 1418 and AS 2550. The equipment history and age must be listed on an identification plate securely attached to the relevant equipment.

4.8 Elevating Work Platform (EWP) Road/rail Combinations

OHS Regulations require that high risk plant, including boom-type EWPs and scissor lifts with a platform movement greater than 2.4 meters, be design registered in NSW before use. Once a design registration has been obtained, alterations that affect the safety of the vehicle must not be made until the alteration has been approved by WorkCover. For EWPs such alterations include anything that affects the stability, centre of gravity, speed of travel, and/or safety features such as brakes, level indicators and motion-limiting switches. Attaching an EWP to the back of a flatbed truck affects all of the above and could lead to failure of the EWP.

Elevated work platform equipment chained to a flatbed road/rail vehicle will not be design registered, and therefore is PROHIBITED for use on the CRN.

The combined telehandler/work platform must comply with the requirements of AS 1418.10 and be design registered with WorkCover NSW.

4.9 Vehicle De-certification

Road-rail, trailer, trolley and quadricycle vehicles will be de-certified under any of the following circumstances and must undergo the re-certification process before the vehicle certification will be restored:

4.9.1 Inspection Overdue

Owner/operators failing to re-certify their vehicles before the re-certification expiry date will result in de-certification from the Road-rail Vehicle Certification database. Vehicles failing in tests or inspections during the re-certification process will also be de-certified until corrective actions have been undertaken and the vehicle is re-tested to certify compliance with the standards.

4.9.2 Worksite (Including Track) Incidents

Following any worksite incidents such as derailments, collision or heavy impact to the rail guidance system involving road-rail, trailer, trolley and quadricycle vehicles, the vehicle/s involved will automatically become de-certified and will remain de-certified until the vehicle/s is/are re-inspected/tested by an Approved Certifying Company.

4.9.3 Road-Rail, Trailer, Trolley and Quadricycle Vehicle Modifications

Where a vehicle is substantially modified (e.g. change in equipment mounting, or an addition or removal of equipment, such as cranes) from its original design, the vehicle will be automatically de-certified and will remain de-certified until such time as the modification is assessed by an approved certifying company and competent engineer, where applicable.

4.10 Competence of Road-rail, Trailer, Trolley and Quadricycle Equipment Maintainers and Certifiers

Companies that maintain and/or certify road-rail, trailer, trolley and quadricycle vehicles, proposed for operation on CRN must be in a position to demonstrate the relevant competencies of their personnel to maintain and certify such vehicles. Competencies include:

- Qualified in a relevant trade with knowledge of the purpose and safety requirements applicable to rail equipment fitted to road-rail, trailer, trolley and quadricycle vehicles.
- Completely familiar with the construction, functionality, maintenance and inspection requirements of rail specific guiding and/or traction and braking equipment fitted to such vehicles.
- Familiar with all operating controls and safety functions installed on the vehicle.
- Capable of competently checking the operation of the rail equipment.
- Competent as assessed and authorised by the CRN Manager in carrying out the testing requirements necessary to establish compliance with the specified acceptance criteria.

Competent persons or entities employing such persons shall retain and maintain evidence of their acquired competency in order to satisfy the CRN Manager's audit requirements.

4.11 Re-use or Recycling of Rail Guidance Systems and Associated Equipment on New Vehicles

In order to install rail guidance systems onto a different vehicle from that which it was originally fitted, as a result of vehicle disposal or change in ownership, vehicles will be required to undergo re-assessment by the CRN Manager or an Approved Certifying Company to determine its suitability for operation. For any rail guidance systems that has been in-service for over 10 years, an internal/external crack evaluation must be performed before the vehicle can be re-certified.

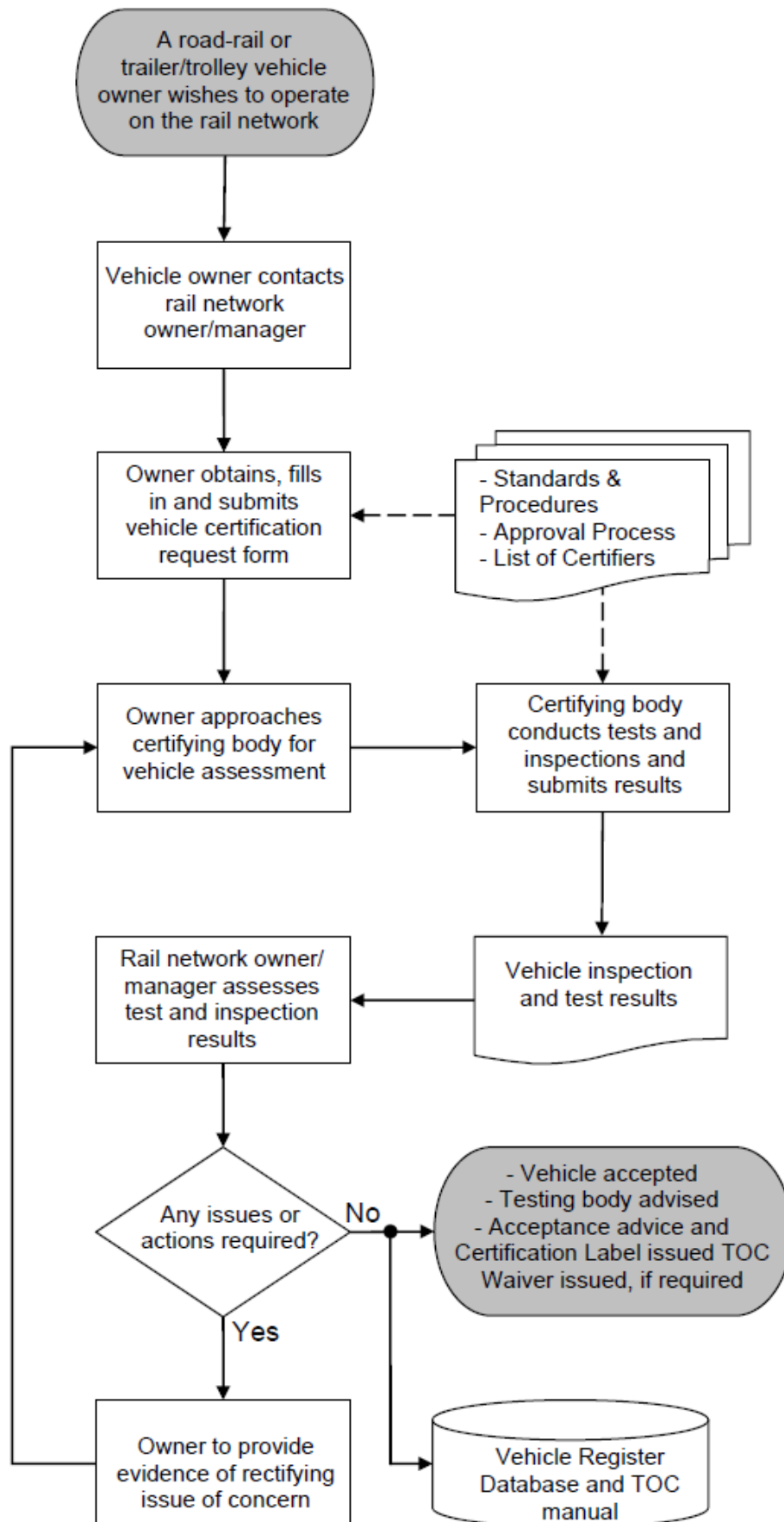
4.12 Certification and Re-certification Flow Chart

New road-rail, trailer, trolley and quadricycle vehicles, requiring certification (Process 1), will be inspected/tested by an approved Certifier and assessed by the CRN Manager before acceptance for operation on the CRN.

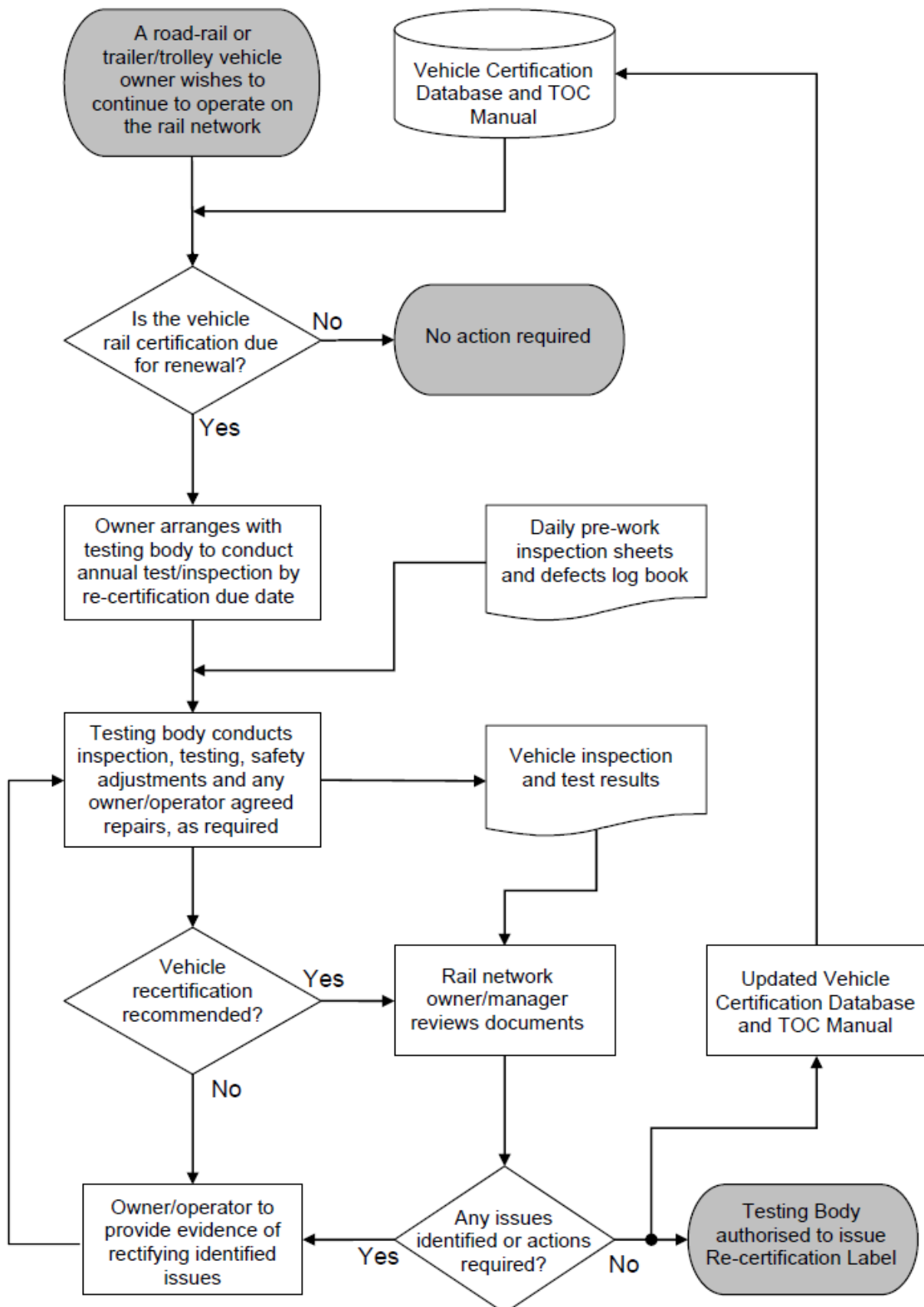
Existing road-rail, trailer, trolley and quadricycle vehicles will be required to undergo an annual vehicle approval process (Process 2), whereas vehicles involved in an incident, subject to a design modification, change of ownership or that are overdue for re-certification will undergo a situational approval process (Process 3).

The flow cycle for the three different processes are shown in the following pages.

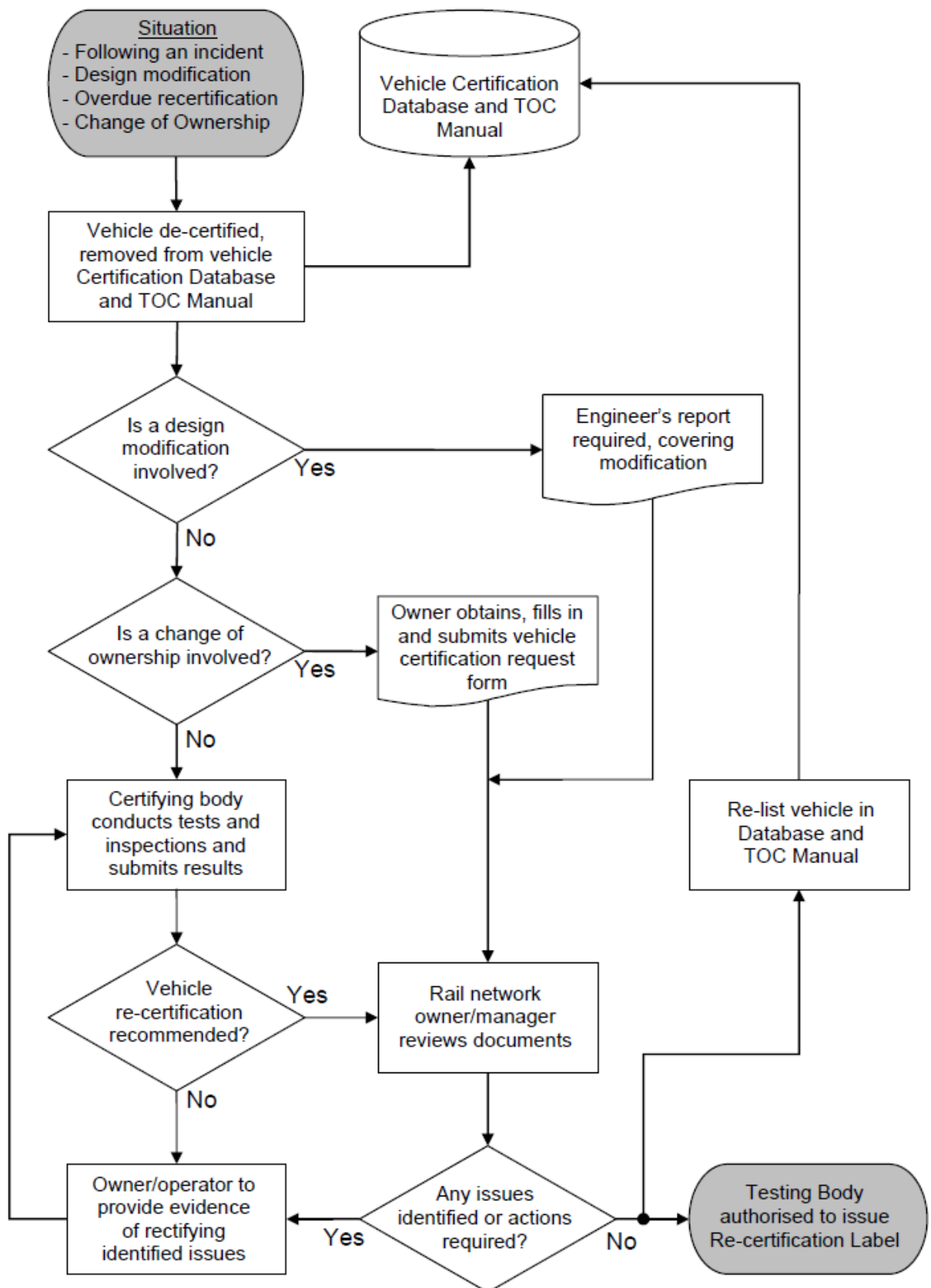
4.12.1 Process 1 – New Road-Rail, Trailer and Trolley Vehicle Acceptance



4.12.2 Process 2 – Existing Road-Rail, Trailer, Trolley or Quadricycle Vehicle Annual Re-certification



4.12.3 Process 3 – Existing Road-Rail, Trailer, Trolley or Quadricycle Vehicle Situational Re-certification



Appendix 1 Road-Rail, Trailer/Trolley and Quadricycle Vehicle Certification Sample Labels

SAMPLE LABEL

(Illustrative only, colours, format and content may vary per certifier)

Expiry Date: ##/##/###

Rail Vehicle Certification

Certifier: Joe Smith Label No: 6101 RIVR No: 6830458
Road Registration No: ABC-123
VIN/Serial No: QURPF456OUR000012
Plant No: N/A Max Speed: 30 km/h GVM: 6.75 tonne

Notes:
T12, T18

Appendix 2 Road/Rail Vehicle Certification and Re-certification Checklist

(Sheet 1 of 3)

Rail Industry Vehicle Registration No.		Label No.				
Inspection/Test Date	Location					
Vehicle Description						
Road Vehicle Rego	VIN/Serial No.					
Vehicle ID / Plant No	Vehicle Owner					
Odometer/Hour Reading	Inspected By					
		1st Inspection		2nd Inspection		N/A
		Pass	Fail	Pass	Fail	
1	General vehicle inspection	✓	✗	✓	✗	✓
1.1	Check inspection log for correct use and reporting of faults					
1.2	Check for Engineer's report demonstrating structural integrity after modifications (where applicable).					
1.3	Check for Engineer's report demonstrating compliance with stability requirements for EWP's and Work Cover Design Registration					
1.4	Check that rail guidance equipment has compliance plates					
1.5	Check for correct fitting of reflective delineators / reflectors					
1.6	Check for correct fitting of electrical danger signs (if applicable)					
1.7	Check for approved ROPS and FOPS applicable to earthmoving vehicles					
1.8	Check for correct application and operation of a reversing camera					
1.9	Check for existence of a correctly tagged portable fire extinguisher					
1.10	Check for the existence of a First Aid Kit					
2	Controls/lights	✓	✗	✓	✗	✓
2.1	Check speedometer for correct function/damage (where fitted)					
2.2	Check head, tail, reversing, hazard, flashing and marker lights for correct function / damage					
2.3	Check proximity road-rail deployment switches (where fitted) for correct function / damage					
2.4	Check warning devices, horn, sirens and audible reversing indicators (where fitted) for correct function / damage					
2.5	Check height limiting equipment and locking devices (where fitted) for correct function / damage					
2.6	Check rail wheel deployment controls to ensure that the vehicle cannot be placed on rail in an unbraked configuration					
3	Hydraulic system	✓	✗	✓	✗	✓
3.1	Check for presence and function of emergency hand pump					
3.2	Check valves and hose service condition					
3.3	Check hydraulic system for evidence of damage/leaks					
3.4	Check hydraulic pivot points and ram mountings for wear, security and adequate lubrication					
3.5	Check hydraulic system and controls for correct functionality					

Road-Rail Certification and Re-certification Checklist

(Sheet 2 of 3)

4	Rail guidance frame structure and attachment			✓	✗	✓	✗	✓
4.1	Check front and rear rail guidance suspension (or flexitor) springs for wear and/or damage							
4.2	Check splined suspension arms for wear and deterioration							
4.3	Check that rail guidance suspension arm clamping bolts are secured and in place							
4.4	Check generally for bolt security and tightness							
4.5	Check mechanical safety latches/locks or counter balance valve for correct function							
4.6	Check front axle lockout (where fitted) for correct function, adjustment, damage and/or wear							
4.7	Check anti-derail frame (where fitted) for misalignment and/or physical damage							
4.8	Check that the 'over centre' locking (or other positive locking) system is operating correctly							
4.9	Check guidance frame area, welds and mounting points for cracks and loose connections							
4.10	Check chassis where road-rail frame is connected, for cracks, wear and security							
5	Rail wheels			✓	✗	✓	✗	✓
5.1	Check rail wheel tread profiles and condition							
5.2	Check driving wheel pairs for diameter match							
5.3	Check wheel studs and nuts for security, damage and replace / correct torque if necessary.							
5.4	Check sandwich wheel rubber insulation for condition (where fitted)							
5.5	Check wheel web, flange and tread for cracks							
5.6	Check wheel bearings for wear and damage							
5.7	Crack test stub axles and flexitor splines (where fitted)							
6	Wheel Alignment			✓	✗	✓	✗	✓
6.1	Check road tyre pressure							
	Tyre pressures - front		Tyre pressures - rear					
	kPa/psi		kPa/psi					
6.2	Check and if necessary adjust back to back gauge of front and rear guide wheels to 1360 mm +0 mm / -3 mm							
	Measured at rail level							
	Back to back gauge – front		Back to back gauge – rear					
	mm		mm					
6.3	Check that the road wheel and rail guide wheel alignment is to specification							
	Wheel	Left	Right	Difference				
	Front	mm	mm	mm				
	Rear	mm	mm	mm				

Road-Rail Certification and Re-certification Checklist

(Sheet 3 of 3)

6.4	Conduct a twist test to ensure that the maximum wheel unloading does not exceed 60%							
	Vehicle Side	Maximum % wheel unloading						
		Front rail wheel	Rear rail wheel					
	Left							
Right								
7	Brakes			✓	✗	✓	✗	✓
7.1	Test foot, park and road-rail brake (where fitted) for correct function							
7.2	Conduct brake test from TOC Manual listed maximum speed to satisfy minimum requirements							
	Parameter	Measurements						
	Initial Speed	km/hr						
	Deceleration	m/s/s						
7.3	Stopping Distance			metres				
	Test parking brake holding ability on 1 in 30 grade							
	Grade test (Yes/No)		Pull test (Yes/No)					
8	Others			✓	✗	✓	✗	✓
8.1	Measure rubber tyre or excavator track width and categorise in accordance with CRN RS 006 Clause 2.3.3							
	Wheel	Measurement/Category						
	Minimum width	mm						
	Maximum width	mm						
	Category (Circle one)	1	2	4				
8.2	Check for Rolling Stock outline (Narrow non-electric) compliance– MUST provide justification in comments section if vehicle outline fails to comply							
This vehicle has been inspected according to the above guidelines and manufacturer's requirements and is deemed to be (Please circle):				Fit for service		Unfit for service		
Comments:								
Authorised Vehicle Certifier				Name (Print)				
Company				Signature				
Date								

Appendix 3 Road - Rail Trailer, Trolley and Quadricycle Certification and Re-certification Checklist

Rail Industry Vehicle Registration No.				Label No.				
Inspection/Test Date				Location				
Vehicle Description								
Road Vehicle Rego				VIN/Serial No.				
Vehicle ID / Plant No				Vehicle Owner				
Odometer/Hour Reading				Inspected By				
				1st Inspection		2nd Inspection		N/A
				Pass	Fail	Pass	Fail	
1	General inspection			✓	✗	✓	✗	✓
1.1	Check for engineer's report demonstrating structural integrity after modifications							
1.2	Check that the vehicle and drawbar are fitted with compliance plates							
1.3	Check for correct fitting of reflective delineators							
1.4	Check for correct fitting of electrical danger signs (if applicable)							
2	Controls/lights			✓	✗	✓	✗	✓
2.1	Check tail, hazard, flashing and marker lights for correct function / damage (where applicable)							
3	Structure			✓	✗	✓	✗	✓
3.1	For folding trolleys, check for mechanical safety latches/locks for correct function							
3.2	Check frame areas, welds, mounting points for looseness, damage and evidence of cracks							
3.3	Check for bolt and attachment integrity (tightness)							
4	Wheels			✓	✗	✓	✗	✓
4.1	Check rail wheel for condition and correct/match dimensions							
4.2	Check web, flange and tread for cracks, wear and profile condition.							
4.3	Check wheel bearings for wear, adjustment and damage – rumble test							
5	Wheel Alignment			✓	✗	✓	✗	✓
5.1	Check and if necessary adjust back to back dimension of front and rear guide wheels 1360 mm +0 mm / -3 mm Measured at rail level							
5.2	Check and if necessary adjust the alignment of the front and rear rail wheels. The front and rear wheel centrelines must be parallel The front to rear wheel alignment must not exceed 10mm off the vehicle centreline.							

6	Brakes - Prime Mover Hauled Rail Trailers			✓	✗	✓	✗	✓
6.1	Conduct brake test to satisfy minimum deceleration requirement for fully loaded trailer with compatible prime mover							
	Parameter	Measurements						
	Initial Speed	km/hr						
	Deceleration	m/s/s						
	Stopping Distance	metres						
6.2	Conduct breakaway test to confirm loaded trailer brake is failsafe.							
6.3	Test loaded trailer parking brake holding ability on 1 in 30 grade							
	Grade test (Yes/No)		Pull Test (Yes/No)					
7	Brakes - Powered Quadricycles			✓	✗	✓	✗	✓
7.1	Conduct brake test to satisfy minimum deceleration requirement for the fully loaded vehicle							
	Parameter	Measurements						
	Initial Speed	km/hr						
	Deceleration	m/s/s						
	Stopping Distance	metres						
7.2	Conduct brake test to confirm emergency brake operation							
7.3	Test loaded vehicle parking brake holding ability on 1 in 30 grade							
	Grade test (Yes/No)		Pull Test (Yes/No)					
8	Brakes – Hand Trolleys			✓	✗	✓	✗	✓
8.1	Confirm that the vehicle has fail safe brakes							
8.2	Conduct brake test to satisfy minimum requirement (Fully loaded trolley moving at walking pace must stop within 5 metres once brake lever released)							
8.3	Test loaded trolley parking brake holding ability on 1 in 30 grade							
9	Others			✓	✗	✓	✗	✓
9.1	Check for Rolling Stock outline (Narrow non-electric) compliance– MUST provide justification in comments section if vehicle outline fails to comply							
This vehicle has been inspected according to the above guidelines and manufacturer's requirements and is deemed to be (Please circle):				Fit for service		Unfit for service		
Comments:								
Authorised Vehicle Certifier				Name (Print)				
Company				Signature				
Date								

Appendix 4 Rail Trailer, Trolley and Quadricycle Vehicle Pre-Work Inspection Checklist

Rail Industry Vehicle Registration No.		Label No.	
Inspection/Test Date		Location	
Vehicle Description			
Road Vehicle Rego		VIN/Serial No.	
Vehicle ID / Plant No.		Vehicle Owner	
Odometer/Hour Reading		Inspected By	

Note: The vehicle shall not be permitted to operate if it fails any item below.

		Pass	Fail
Item No.	Before going on track, check the following items: (where applicable)	✓	✗
1	Inspect rail wheel rims for security and signs of cracks or fatigue		
2	Check rail wheel studs and nuts for security or damage		
3	Inspect rail wheel profile for excessive wear or damage		
4	Inspect rail equipment safety locks, etc. for correct operation or damage		
5	Test head, tail, flashing, hazard lights, etc. for correct operation		
6	Check lifting and/or elevating equipment for correct function (where applicable)		
7	Ensure load is secured correctly and evenly, within gauge and GVM axle load limits		
8	Ensure electrical warning signs and reflective delineators are fitted		
9	Ensure all fluid levels are at the proper level for safe operation.		
10	Ensure there are no fuel or oil leaks		
11	Test warning devices, horns, reversing beepers and sirens for correct operation		
Operator Initials			
Item No.	After the vehicle is placed on track, check the following items:	✓	✗
12	Inspect rail guidance equipment/suspension for damage or misalignment		
13	Check rail guidance equipment hydraulics for correct function or damage		
14	Inspect the rail guidance equipment assembly for misalignment or structural damage		
15	Inspect the over centre locking mechanism for correct adjustment or damage		
16	Check for correct rail wheel/axle alignment for rail operation		
17	Inspect all rail sweeps for correct position or damage		
18	Inspect anti-derail frame for misalignment or damage		
19	Check electrical controls for correct function or damage		
20	Ensure foot, park and rail brake function correctly.		
Operator Initials			
Operational Defects Noted		Reported by	Date
Worksite Supervisor/ Track Manager Endorsement (Current Rail Industry Registration Label MUST be displayed on or accompany the vehicle)			
Name (Print)		Signature	
			Date

Appendix 5 CRN Approved Road-Rail, Trailer/Trolley and Quadricycle Vehicle Certifiers

Road-rail and trailer/trolley vehicles can be certified for compliance with CRN Standards by any of the following individuals in NSW.

Certifier(s): Bruce Durie
Tim Durie
Company: Hinton Engineering Pty Ltd
Address: 29 Elizabeth Street
CARRINGTON NSW 2294
Phone: (02) 4902 8429

Certifier(s): Mark Barnett
Company: TracEast Vehicle Engineering Pty Ltd
Address: 42 Gateway Boulevard
MORISSET NSW 2264
Phone: (02) 4870 5551

Certifier(s): Jason Underwood
Company: JUDesign
Address: PO Box 44
GORDON, Vic 3345
Phone: (02) 6863 4433

Certifier(s): Tom Barker
Company: RRVC
Address: 830 Barkly St
Mt Pleasant, Vic 3350
Phone: 0417 576 879

Certifier(s): Stephen Muscat
Company: Rail Confidence
Address: 408/55 Holt St
Surry Hills, NSW. 2010
Phone: 0401 719 971