

# Track Maintenance Vehicle Registration and Operation

EPP-32-01

## Applicability

Network Wide

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## 1 Introduction

### 1.1 Purpose

The purpose of registration is to provide a formal process to demonstrate and record that track maintenance vehicles (TMV) are designed, manufactured, commissioned and maintained in a safe and railworthy condition.

The vehicle owner/operators will annually register and warrant track maintenance vehicles to operate on the ARTC Network.

### 1.2 Scope

This procedure applies to the following categories associated with operation of track maintenance vehicles on the ARTC Network.:

- Initial registration of track maintenance vehicles,
- Assessment of new and modified track maintenance vehicles, (including exchange of rail guidance equipment), and allocation of operating restrictions
- Annual registration of track maintenance vehicles
- Management of incidents associated with track maintenance vehicles and
- Decommissioning, disposal of track maintenance vehicles
- Exchange of ownership of track maintenance vehicles

ARTC maintains a listing of track maintenance vehicles registered for operation on the ARTC Network.

This procedure is also to allow the phasing in of the annual registration process of TMV.

Where “vehicle” has been mentioned through this document, it is intended for the application to a “Track Maintenance Vehicle”.

### 1.3 Procedure Owner

The Manager Standards is the Procedure Owner and is the initial point of contact for all queries relating to this procedure.

### 1.4 Responsibilities

Corridor Managers, Project Managers and the Plant Manager are responsible for ensuring the requirements of this procedure are communicated to vehicle owner/operators as part of contracts.

The Operations Standards Manager is responsible for maintaining track maintenance vehicles registration records, maintain the PlantGUARD application and authorising registrations of new or modified track maintenance vehicles.

Only qualified and competent operators are to operate on-track plant & equipment in accordance with ARTC Network rules and procedures.

Vehicle owner/operators are responsible for assessing and registering track maintenance vehicles for compatibility to the ARTC Network Interface standards.

Network Control and Planning have the facility to check vehicles are registered. It is recognised that they will not need to do this for every occasion but have the facility to do so should the need arise.

## 1.5 Reference Documents

The following documents support this procedure:

- ANWT 316 Track Vehicles, NSW. The Code of Practice SA, WA and Western Victoria, and the TA 20, VIC
- WOS standards as replaced by the ARTC Series of ERP-32 and EPP-32 rollingstock and plant standards and procedures
- EPP3201F-01 (former WOS01.A5) Application Pack for Registration of Rail Bound Track Maintenance Vehicles
- EPP3201F-02 (former WOS01.A6) Application Pack for Registration of Road/Rail Vehicles
- EPP3201F-03 Application Pack for Registration of TMV – Trailers, Trolleys and Support Frames
- EPP3201F-04 Assessment of Track Maintenance Vehicle Independent Competent Person
- ESD-32-01 Signalling Rolling Stock Interface
- AS7500 Series of Rolling Stock Standards

## 1.6 Definitions

Throughout this document the term ‘railworthy’ will be used, the definition of this is:

- The rolling stock, plant and equipment complies with the relevant standards
- Maintenance of the rolling stock, plant and equipment complies with the relevant standards, and is maintained to a technical maintenance plan (TMP).
- Evidence of the compliance with the relevant standards should be available to submit for annual renewal.

The following terms and acronyms are used within this document:

Term or acronym	Description
Classified heavy weight rail bound vehicles	Vehicles certified to reliably operate track circuits and permitted to work under the control of signals.
Heavy weight rail bound vehicles	Vehicles > 5 tonne gross weight and not certified for operation under the control of signals.
ICP	Independent Competent Person
Light weight rail bound vehicles	Vehicles weighing < 5 tonne gross and not able to be readily removed from track except at siding or specifically designed “take-offs” or lifted off by another vehicle
Heavy weight road/rail vehicles	Vehicles with a retractable rail guidance equipment, able to be removed from the track at some locations and weighing > 5tonne gross
Light weight road/rail vehicles	Vehicles with retractable rail guidance equipment, able to be removed from the track at most locations and weighing < 5 tonne gross.
Quadricycles and trikes	Small self-propelled vehicles for conveying personnel, tools or equipment along the track either engine or manually powered able to be lifted from the track, by two people.
RAS	ARTC Route Access Standard

Registration Label	Linking the vehicle to the RVM Register PlantGUARD, a Quick Response (QR) label (machine readable optical label) will be printed and attached to vehicles and read on site via a mobile phone application to verify the equipment's details. When scanned, it provides information such as: status of the Track Vehicle, restriction codes, any information used during the assessment of the Track Vehicle.
RIM	Rail Infrastructure Manager
RVM	Rail Vehicle Manual
RVM Register/ PlantGUARD	ARTC's electronic register for Track Maintenance Vehicles. ARTC's RVM Register is through the application PlantGUARD, accessible through both the website and a mobile application.
Substantially modified vehicle	Vehicles modified to accommodate their use for a different purpose. Vehicles undergoing major refurbishment with updated equipment which alters the braking, traction or suspension systems. Vehicles with altered equipment resulting in a reduction of vehicle mass that could alter the vehicle performance. Vehicles modified such that it may be incompatible with the infrastructure. Includes fitment of new or exchanged rail guidance equipment between vehicles.
TMV	Track Maintenance Vehicle
TOC Manual / Waiver	ARTC Train Operating Conditions Manual  TOC Waivers are waivers issued to the vehicle owner superseding the entries and conditions in the TOC Manual.
Trailer	Non-powered vehicles designed to be moved while attached to a powered vehicle. Must be equipped with a self-actuating brake which will hold the vehicle stationary when disconnected from the towing vehicle.
Transit	The movement of a Track Vehicle on the railway between locations.
Trolleys	A small non-powered infrastructure maintenance vehicle used for conveying tools and equipment along the track normally pushed by workers. Release of the operator "control" shall automatically apply a brake capable of holding the vehicle stationary. <b>Type 1</b> Rail Trolleys: <input type="checkbox"/> Support Frames for on-track tools <input type="checkbox"/> Laser Trolleys for tamping/resurfacing equipment <b>Type 2</b> Trolleys: <input type="checkbox"/> Flat top trolleys for movement of equipment <input type="checkbox"/> Any freestanding trolley that is not Type 1 or Type 3 <b>Type 3</b> Trolleys: Measuring trolleys
Motorised trolley	Small powered vehicles with operator walking (or operator riding upon), used for conveying tools and equipment. Release of the operator "control" shall automatically apply a brake capable of holding the vehicle stationary.
TMO / TVO	Track Machine Operator (RailBound)/ Track Vehicle Operator (RRV)
TMP	Technical Maintenance Plan
TMV	Track Maintenance Vehicle
Working Mode	The Track Vehicle in use performing the functions for which it is designed.
Worksite only vehicles	Vehicles and equipment limited for use only within a protected worksite and not for travel or transfer on track.

## 2 Registration and Warranty

### 2.1 Initial acceptance into the ARTC PlantGUARD RVM Register for operation on the ARTC Network

Track Maintenance Vehicle owner/operators currently operating or intending to operate track maintenance vehicles on the ARTC Network must formally register each vehicle with ARTC annually through the new PlantGUARD RVM Register. ARTC uses PlantGUARD online software and applications to manage the track maintenance vehicle registration process.

ARTC will review the electronic application upon submission. ARTC will assign corridors on which the TMV may operate and any operating restrictions that may apply to that track maintenance vehicle while operating on the ARTC Network. All plant must be individually registered in the system. Track Maintenance Vehicles that are not registered with ARTC shall not be permitted to operate on the ARTC Network. PlantGUARD will indicate the registration status of each vehicle.

The Track Maintenance Vehicle must conform to one or more of the following standards as stated:

- Australian Railway Standard AS 7502 Road Rail Vehicles
- The ARTC standards for WOS, EPP and ERP series of interface and minimum operating Standard for Rolling Stock and Track Maintenance Vehicles
- Equivalent standards published by other Australian rail networks (where accepted by ARTC)
- Demonstrated equivalent overseas rolling stock standards
- The design shall also conform to the interface requirements specified in the ARTC Route Access Standard (RAS)

For registration to occur, the track maintenance vehicle owner/operator shall warrant track maintenance vehicles for compliance to relevant standards for new or modified vehicles. Evidence of compliance in the form of an engineering compliance certificate verified by an Independent Competent Person (ICP) shall be submitted to ARTC.

Initial registration into the PlantGUARD RVM Register will be through one of the following methods as detailed below:

- a) New vehicle that has never operated on any Rail Infrastructure Managers (RIM) network
- b) Existing vehicle that has been modified (including exchange of rail guidance equipment)
- c) Existing vehicle that has been previously registered with ARTC through the TOC Manual / TOC Waiver or PP124.F-01 Registration Form, or
- d) Existing vehicle that has been operating on another Rail Infrastructure Managers network, where proof of current registration and supporting documentation can be provided to ARTC.

## 2.2 General Overview

The following diagram, Figure 1, depicts the general work flow of an application for track maintenance vehicle registration on the ARTC Network. Refer to Figure B.1 in Appendix B for a detailed workflow of the overall registration and warranty process.



Figure 1 – ARTC Registration Workflow

## 2.3 Accessing and Creating a Company Profile in the PlantGUARD RVM Register

All contractors and sub-contractors who own vehicles and wish to operate vehicles on the ARTC Network must initially register for use of the PlantGUARD vehicle register via a user account application. To commence an application for a log on ID, the user will go to <https://plantguard.tech>

A series of online tutorial videos can be found at the site that can support users in gaining access and assist uploading their plant into the system.

The PlantGUARD APP is downloadable via the respective APP store.

Once a user log on has been organised, the vehicle owners can begin to add plant into the system and apply to link these to ARTC for approval for registration with ARTC.

### 2.3.1 Creating additional users for your company:

All contractors or vehicle owners can set up differing levels of access to support their employees. The account permissions for each user will determine what each user will see within the system.

ARTC employees can request a user login by contacting [PlantGUARD@artc.com.au](mailto:PlantGUARD@artc.com.au) .

## 2.4 Vehicles Requiring Registration

Categories of track maintenance vehicles requiring registration are as follows;

- Classified heavy weight rail bound vehicles (CHWB)\*,
- Heavy weight road/rail vehicles (HWR),
- Heavy weight rail bound vehicles (HWR), and
- Light weight road/rail vehicles (LWR),
- Light weight rail bound vehicles (LWB),
- Trolleys over 100kg Gross Vehicle Mass, both push along and motorised,
- Trailers

*\* Note: Classified heavy weight rail bound vehicles, must be assessed against the criteria applicable to locomotives for signalling compatibility ESD-32-01 if they wish to operate signalling.*



## 2.5 Track Maintenance Vehicles Not Requiring Registration

Categories of track maintenance vehicles not requiring registration are as follows;

- Powered and un-powered trollies, 'capable of being removed from track by two people' and weighing less than 100kg Gross Vehicle Mass.
- Quadricycles and trikes are prohibited from operation on the ARTC Network.

## 2.6 ARTC Track Maintenance Vehicle ICP Independent Competent Person (ICP)

ARTC will approve and maintain a register of ARTC Independent Competent Person's (ICP) that are able to certify Track Maintenance Vehicles:

- New Vehicles,
- Vehicles that are substantially modified and have new or exchanged rail guidance equipment and
- Recertification of vehicles involved in significant incidents.

The ICP register in "Appendix F – ARTC Track Maintenance Vehicle ICP Register", identifies those classifications and activities of track maintenance vehicles each ICP is competent to assess and verify. Where the ICP is not competent for a specific activity or life cycle assessment they shall assure that the appropriate certification is obtained from a person who is competent in those areas. i.e. A signalling ICP may be required to be engaged.

The vehicle owners shall use one of ARTC's listed ICPs to certify compliance to ARTC and AS7500 series standards. The certifying ICP shall also be recorded in the electronic form within PlantGUARD.

The process for becoming an ARTC ICP is detailed in Appendix A. The ARTC Track Maintenance Vehicle ICP status is awarded to an individual and not to a company. The ICP will have practical and theoretical knowledge, and experience in track maintenance vehicles or rollingstock. The ICP will critically and capably examine, determine and record compliance of rolling stock or track maintenance vehicles against ARTC's interface standards and the applicable AS7500 series.

The ICP is responsible for endorsing and issuing the certificate of standards compliance, the certificate design compliance, and where necessary, the certificate for acceptance for on track testing in accordance with AS7501 Rollingstock Compliance and Certification.

The ICP may be from the same organisation, however must remain sufficiently removed from the acquisition, design, construction, testing, and commissioning of a vehicle to demonstrate independence in line with the requirements of AS7501 Rollingstock Compliance and Certification.

The assessment of the independent component person is via EPP3201F-04 Assessment of Track Maintenance Vehicle Independent Competent Person.

## 2.7 New or Substantially Modified Track Maintenance Vehicles

Vehicle owner/operators intending to operate new or substantially modified track maintenance vehicles on the ARTC Network must formally register each vehicle with ARTC.

1. The owner of the TMV shall engage an ARTC approved ICP to endorse (or if required verify) that the Specification, Design, Construction and Testing of the RMV meets all requirements of the selected standards prior to being commissioned for use under the ARTC Accreditation.
2. There shall also be an independently assessed Technical Maintenance Plan (TMP), which will ensure the vehicle remains compliant with the Standards. The TMP shall be amended to reflect modifications where applicable.

3. Completion of applicable information pack for registration of vehicles validated by an ICP, (EPP3201F-01 to F-03). These packs shall be submitted to ARTC for authorisation and potential assignment of operating restriction requirements. Railbound vehicles wishing to operate signalling shall gain an ICP engineering certificate to show compliance to ARTCs Signalling Interface standards and submit this with their application. A list of signalling ICP's can be obtained by contacting ARTC, or through a listing in PlantGUARD showing contact details.
4. On approval the vehicle can be entered into the PlantGUARD RVM Register, and initial registration can commence.

### 2.7.1 Modified Track Maintenance Vehicles

Any vehicle which has undergone modification as defined below shall be reassessed against the same standards as above.

Modified vehicle examples include, but are not limited to:

1. Vehicles modified to accommodate their use for a different purpose.
2. Vehicles modified resulting in a change in configuration.
3. Vehicles undergoing major refurbishment with updated equipment which alters the braking, traction, vehicle outline, or suspension systems or which have the potential to alter performance.
4. Vehicles being moved with equipment removed or added resulting in a redistribution of vehicle mass that could alter the vehicle performance.
5. Vehicles modified such that they may be incompatible with the infrastructure.
6. Software additions or modifications where the software performs safety critical functions.
7. Vehicles that have had their rail guidance equipment exchanged with new or with another vehicle's equipment.

Depending on the modification additional tests may be required for assessment, refer Appendix C – Matrix of Modifications and Associated Tests.

## 2.8 Existing Vehicles

To allow phased implementation, existing vehicles fall into three categories for registration. For registration to occur, the vehicle owner/operator shall warrant vehicles for compliance to relevant standards. If the existing vehicle has been modified, the application will be undertaken as detailed above.

### 2.8.1 Vehicles Previously Registered by TOC Manual / TOC Waiver

Vehicles previously registered in NSW in the TOC Manual or holding a TOC Waiver will be accepted for registration on receipt of confirmation of current owner and vehicle details. A certificate of registration will be issued and the renewal process including proof of "rail-worthiness" shall commence. The vehicle owner will upload the TOC waiver documentation or nominate which page of the TOC Manual the vehicle was listed.

### 2.8.2 Vehicles Previously Registered by PP124.1F-01 Registration Form

Vehicles operating outside of NSW that have been previously registered on the ARTC Network through a PP124.1F-01 Registration Form will be accepted for registration on receipt

of confirmation of current owner and vehicle details. The vehicle owner will upload the signed PP124.1F-01 form and enter the year of registration in the register on application.

### **2.8.3 Vehicles Registered with another Rail Infrastructure Manager (RIM)**

Vehicles registered for operation on another RIM may be accepted for registration on receipt of confirmation of current owner and vehicle details. Supporting documentation shall be provided such as: prior approvals and operating restriction conditions, or documentation of proof of reliable operation on another RIM. Any operating conditions or restrictions shall be clearly highlighted on application to ARTC. The vehicle must still comply with ARTC's interface standards.

## **2.9 Assessment Non-Compliance**

Where any item is non-compliant with any part of the application/assessment, the applicant must highlight the deficiency in the vehicle registration pack. Track Maintenance Vehicles with these non-compliances to ARTC Interface standards may be given concessions to operate, however they may be subject to operating restrictions.

## **2.10 Registering Road Rail Vehicles older than 15 years**

Road Rail Vehicles that are older than 15 years are to be assessed by an ICP. The ICP will assess compliance to AS7502 and ARTC interface standards, and if not compliant, then list all areas of noncompliance for application to ARTC.

## **2.11 Supporting Documentation to be uploaded with Registration**

The following documentation shall be loaded into PlantGUARD when registering a vehicle:

- The vehicle details (notations are indicated where the information is compulsory to enter)
- Technical maintenance plan (or equivalent)
- Completed twist test documentation completed by a qualified competent maintainer
- For new or modified vehicles, the ICP approved information pack
- For transferring vehicles, Supporting RIM approvals, ARTC TOC Manual reference / TOC waivers, or PP124.F-01 Registration Form
- Safe-working method statements where requested
- Relevant operating manuals where requested
- Any supporting services or maintenance documentation to support that the vehicle has been maintained in a railworthy condition (Use of PlantGUARD electronic forms is up to the discretion of the vehicle owner).

## **2.12 Vehicle Operating Conditions and Restrictions**

Vehicles registered on the ARTC network shall display in detail any operating restrictions that may be applicable. Vehicles previously given an operating condition or restriction shall continue to have these applied with the new registration unless justification for the removal of that condition can be provided and verified by an ICP. The operating restrictions will be visible against each individual vehicle in

PlantGUARD. A full list of operating restriction Codes and applicability notes are detailed in Appendix D - List of ARTC TMV Operating Restriction Codes. Additional operating restrictions may be applied further to this list.

### 2.13 Confirmation of Interim Registration

Once assessment has been completed by ARTC, an option within PlantGUARD will be enabled to the vehicle owner to print off an Interim Registration Letter and Vehicle Data Sheet. This vehicle data sheet must always be stored with the vehicle to provide proof of registration and details of vehicle characteristics and operating restrictions where the PlantGUARD system cannot be accessed.

### 2.14 Annual Registration Renewal

Ongoing annual registration is a requirement to operate any track maintenance vehicle on the ARTC Network. The track maintenance vehicle owner shall nominate representatives authorised to warrant and declare the compliance of the track maintenance vehicle to ARTC standards and railworthiness. This representative shall complete the electronic registration, declaring:

- The track maintenance vehicle is still owned or contractually leased by the registering company
- Has not been modified since initial registration
- Has been and shall continue to be maintained to an appropriate technical maintenance plan
- Is still compliant with the relevant operational and interface standards
- Is in "Railworthy Condition" to operate on the ARTC Network

When registered the vehicle will be registered for 12 months, nearing expiry of registration the plant representative will be electronically notified via email of the annual renewal nearing the expiry date with instructions for renewal. Using the link provided or logging on to the register, the owner shall complete the registration renewal process to renew the registration for a further 12 months.

The system will indicate whether the vehicle is registered or not through flag status.

### 2.15 Change of Plant Identification Number

If the vehicle changes plant number or has a change of road registration number, it is the responsibility of the vehicle owner to update the vehicle details in PlantGUARD and print the applicable data sheet and organise a new registration label with the updated vehicle details.

### 2.16 Change of Ownership

If the vehicle changes ownership, it is the responsibility of both parties to change ownership of the vehicle in PlantGUARD. Within the PlantGUARD vehicle's details, there is an option to transfer ownership of the vehicle to another party.

### 2.17 Operational Status

The PlantGUARD system indicates operational status through flagging the equipment with representative coloured flags.

- **Green Flag** – Indicates that the plant is registered and compliant
- **Warning symbol**- Indicates the plant is nearing due date for renewal of registration, this will trigger at 30 days prior to expiry of registration.

- **Red Flag** – Indicates the plant is unregistered or is currently non-compliant, decommissioned or has been involved in an incident.

If a vehicle has a red flag against it, a corresponding “case” is raised within PlantGUARD. While a red flag is current against a vehicle this vehicle cannot be operated on the ARTC Network. Once the case has been closed within PlantGUARD the vehicle status will revert to green flag and operational. For all cases where a red flag has been created against the vehicle, the owner will receive an electronic notification of change of condition. Where a red flag was created for a compliance issue, only ARTC can approve the red flag removal.

## 2.18 Track Maintenance Vehicle Accidents/Incidents

Where a Track Maintenance Vehicle has been involved in a rail safety incident (whether on ARTC’s Network or that of another RIM), has sustained damage to the road rail equipment or has been involved in an incident/accident off track, the Track Maintenance Vehicle shall be immediately red flagged in PlantGUARD through raising a case. The case should be raised by the TMV owner within ten business days, however ARTC may raise a case subject to the nature of the incident.

Dependant of the nature of the incident or the extent of the damage, ARTC may request that the vehicle is inspected by an ICP.

- Where possible, this should be carried out by a different assessor to the track maintenance vehicle’s previous assessment unless otherwise approved by ARTC;
- A complete report and assessment document indicating that the vehicle is fit for operations post incident following inspection of the vehicle.

Dependent on the extent of damage, the operation of the vehicle may be compromised and permission to move the vehicle on rail may be required from ARTC.

## 2.19 Track Maintenance Vehicle Decommissioning and Disposal

Where a track maintenance vehicle has been decommissioned, disposed of or had rail guidance equipment removed, the vehicle shall be deactivated by the vehicle’s owner in PlantGUARD through using the online tools.

## 2.20 Vehicle Gauge Configuration

On registration the vehicle will be noted as to what gauge configurations, (i.e. gauge convertible) the vehicle has been previously registered or assessed.

If the vehicle is intended to be operated in differing gauge configurations, the vehicle shall be assessed by an ICP in all gauge configurations at submission for approval, then registered as these gauges in PlantGUARD. Supporting documentation on the assessment and maintenance of the vehicle in the varying gauge configurations shall be loaded into PlantGUARD to support differing gauge configurations. If additional gauges are to be used for the plant after it has been assessed and registered, then this shall be treated as a modification.

## 2.21 Permitted Track Maintenance Vehicle Configurations

Track Maintenance Vehicles that are capable of being configured in several different configurations must have each Track Maintenance Vehicle configuration assessed by the ICP. For example, a Flatbed Truck (RRV) can be stand alone and can be configured with an Elevated Work Platform or Ballast Hopper fitted. Permitted Track Vehicle Configurations will be recorded with the vehicle in PlantGUARD.

Variations to the vehicle configurations will be treated as modifications and shall be assessed by an ICP for submission to ARTC.

### **3 Procedures**

#### **3.1 Registration and Warranty Notification**

The vehicle owner/operator demonstrates vehicle compliance to all interface standards as follows:

- The vehicle owner/operator completes an initial application in PlantGUARD,
- The vehicle owner/operator uploads the appropriate supporting documentation and submits this within PlantGUARD.

The Operation Standards Manager will assess the submitted assessment and apply operating restrictions where applicable. Upon acceptance, the applicant will receive a notification with instructions on how to download the Vehicle Registration Label.

#### **3.2 Track Maintenance Vehicle Operation**

Track maintenance vehicle operation shall comply to applicable ARTC rules and procedures, be maintained to meet ARTC's interface standards, and operate on track in all conditions on the network including but not limited to;

- with the maximum allowable vehicle operating speed listed in the operating conditions approved in PlantGUARD or as permanently displayed in the vehicle for operator compliance; otherwise operate at a maximum speed of 15km/h for all road rail vehicles,
- comply with any other speed restrictions related to the nature and characteristics of the vehicle as determined by the constructor, maintainer or vehicle manufacturer,
- comply with operating conditions assigned by ARTC while operating on the ARTC Network
- all safety operational lights and audible warning devices shall be used where required when operating on ARTC track in accordance with ARTC rules and procedures.
- data loggers, event recorders, vigilance systems and speedometer / audible overspeed warning devices will be used where applicable.

#### **3.3 Registration Label Display and Printable Documentation**

##### **3.3.1 Registration Label**

On initial registration a "Registration Label" is generated unique to the vehicle, listing the owner's vehicle ID, and PlantGUARD unique ID.

The Vehicle Registration Label will be emailed in a confirmation letter. At this point a label sticker can be ordered through PlantGUARD for a fee or printed by the owner to create a sticker. Alternately the owner can print a label, then laminate or place in a clear plastic sleeve that could be displayed on the vehicle. The process should result in a water proof, non-perishable label.

The label shall be affixed in a visible position on the plant windscreen or other accessible position where the QR code can be scanned by a person on the ground.

**NOTE:** Exchange of labels between vehicles IS NOT PERMITTED, the registration label is only valid for use by the actual vehicle that is registered. If the vehicle operator or owner is found to have exchanged the labels the vehicles will be red flagged until a resolution is found.

An example of the Registration Sticker is in Appendix E.

### 3.3.2 Vehicle Data Sheet:

A print out of the vehicle data sheet from PlantGUARD should always be maintained with the vehicle detailing the vehicle characteristics and attributes and operational restrictions. This is required in the event that the PlantGUARD system cannot be accessed and the information is required on site. An example of the Data Sheet is in Appendix E.

## 3.4 Scanning Vehicle Status and Vehicle Site Attendance Log

By scanning the registration label QR code, the user will be able to read the vehicle compliance registration status, restriction codes, attributes, and supporting documentation such as inspection and maintenance checklists (if used within the application). The user's visibility has security and permissions access, so only specific users can see allowable information.

The site manager has the ability within PlantGUARD to record what vehicles have attended a location in the daily site log attendance form. At this time the visibility of the use of electronic prestart checklists and any maintenance activities can be witnessed. Use of hard copy pre-start checklists should be noted as being witnessed if no electronic versions were completed.

### 3.4.1 In the event PlantGUARD is not accessible on site

In the unlikely event that the PlantGUARD application cannot be accessed the following process shall be undertaken:

1. The print out of the vehicle data sheet shall be used to verify the vehicle characteristics, operating conditions and operating restrictions.
2. A verbal confirmation shall be given to the site representative that would normally check PlantGUARD (i.e. Protection Officer, Site Controller) that the pre-start has been completed.
3. The occurrence of PlantGUARD not being able to be accessed shall be reported into the project / site records.
4. If there has been a PlantGUARD application failure the incident shall be reported by email to [PlantGUARD@artc.com.au](mailto:PlantGUARD@artc.com.au)

## **Appendix A – Independent Competent Person (ICP) Competency Unit Requirements**

### **A2.1 Unit descriptor**

This unit describes the knowledge, skills and experience necessary to undertake the certification of rolling stock, plant, and equipment operating on ARTC tracks under ARTC's rail safety accreditation. The certification is to be in accordance with Australian Standard AS 7501 as published 2013.

### **A2.2 Application of the Unit**

This unit shall apply to internal ARTC staff and external persons certifying rolling stock and plant and equipment for operation on ARTC track under ARTC's rail safety accreditation. The competency may be restricted to certifying a limited range of items that operate on ARTC tracks.

The ICP shall be sufficiently removed from the rolling stock acquisition, design and construction process but it is not a requirement that they are employed from an external company (third party) (AS 7501 clause 4.9).

### **A2.3 Pre-Requisites**

Qualifications which satisfy the criteria for membership of a Professional Engineering Body (AS 7501).

- Certified Practicing Engineer with 5 years relevant experience
- Professional Engineers holding an Engineers Australia accredited or recognised four-year professional engineering degree or equivalent qualification with a minimum of seven years relevant experience
- Engineering Technologists holding an Engineers Australia accredited or recognised three-year engineering technology degree or equivalent qualification with a minimum of ten (10) years relevant experience
- Engineering Associates hold an Engineers Australia recognised advanced diploma or associate degree of engineering or equivalent qualification with a minimum of ten (10) years relevant experience

### **A2.4 Employability skills information**

The person must have sufficient skill in the English language to be able to converse with technical staff regarding railway rolling stock and plant and equipment, and to be able read technical information and to write technical reports.

The person needs to be physically able to climb onto and down from mobile plant and equipment on rail.

The person needs to pass the medical examination for a Rail Industry Worker.

### **A2.5 Elements and performance criteria**

The ICP will endorse the completed certification documentation if acceptable, irrespective of the source of their authorship (AS 7501 clause 4.1).



**Appendix A – Independent Competent Person (ICP) Competency Unit Requirements**

The ICP can perform their duties for the certification using documentation and supporting data provided by the operator or owner of the rolling stock or plant or equipment (AS 7501 clause 4.1).

If a non-conformance to the standard utilised is recorded, the operator may propose to the ICP the control measures to be implemented to verify the use of other standards for certification process, with or without conditions. The approval of these control measures rests with the Operator or Owner and with ARTC. The use of other standards should be endorsed by the ICP (AS 7501 clause 4.3).

The ICP will be issued with all standards that are required for the certification process by the Operator or Owner (AS 7501 clause 4.4).

The ICP will request the Operator or Owner to provide the relevant Certification Documentation submission, and any supporting information, and may request additional information for clarification, if required (AS 7501 clause 4.5).

The ICP shall have responsibility for recording the completeness, evaluation, accuracy and content of the Data Register, Standards Compliance Register, Risk Assessment, Design Compliance Certificate, Certificate of Standards Compliance and if required Certificate for On Track Testing (AS 7501 clause 4.6).

The ICP shall endorse the Certification Documentation by signing where required (AS 7501 clause 4.7).

## **A2.6 Required Knowledge and Experience**

The ICP shall have required knowledge and experience for the railway rolling stock or plant or equipment that they assess, in accordance with the following:

- Experience in assessing rolling stock or plant or equipment against standards (AS 7501 clause 4.8a)
- Knowledge of rolling stock or plant or equipment Standards (AS7501 clause 4.8b)
- Knowledge of the relevant rail safety legislation (AS 7501 clause 4.8c)
- Knowledge of AS 4292 (AS 7501 clause 4.8d)
- No undeclared conflicts of interest (AS 7501 clause 4.8e)
- The ability to demonstrate independence (clause 4.8f)
- Knowledge of risk assessment (AS 7501 clause 4.8g)
- Knowledge and experience in the testing of rolling stock (AS7501 clause 4.8h)
- Knowledge and experience in the interfaces with other disciplines including civil, signalling electrical and environmental (AS 7501 clause 4.8i)
- Demonstrated experience in the areas in which they are undertaking certification such as design, manufacture, testing, operations and maintenance (AS 7501 clause 4.10c)
- Ability to demonstrate knowledge of the life cycle of track maintenance vehicles and suitability of technical maintenance plans.
- Demonstrated experience in the assessing the railway plant, equipment or rolling stock that they are assessing.

## **A2.7 Evidence Guide**

The applicant shall prepare a submission addressing each of the points listed in the section on required knowledge and experience.

Attested CV demonstrates relevant experience.

If required an interview may be held to clarify the applicant's knowledge and experience.

## A2.8 Range Statement

### Types of railway plant, equipment and rolling stock:

The assessment may be for:

- Small items able to be removed by track by two people
- Rail Guidance equipment such as commercial road vehicles or earthmoving plant
- Medium and large size rail bound track maintenance and construction machines
- Items of rolling stock that are locomotive hauled.

### The area of assessment may be:

- Design
- Construction
- Testing
- Commissioning
- Operation
- Maintenance.

### Specialist support:

The Certifying ICP may seek specialist assistance for any aspect of the certification process.

The ICP may also rely on written reports.

### Assessment process:

The ICP may use a range of methods for assessing an item. This may include but is not limited to visual observation, measurement, testing, review of reports, verbal questioning.

### Differing standards:

A range of standards may be used for the assessment. These may be specified by the owner or the ICP may be required to select the appropriate standard.

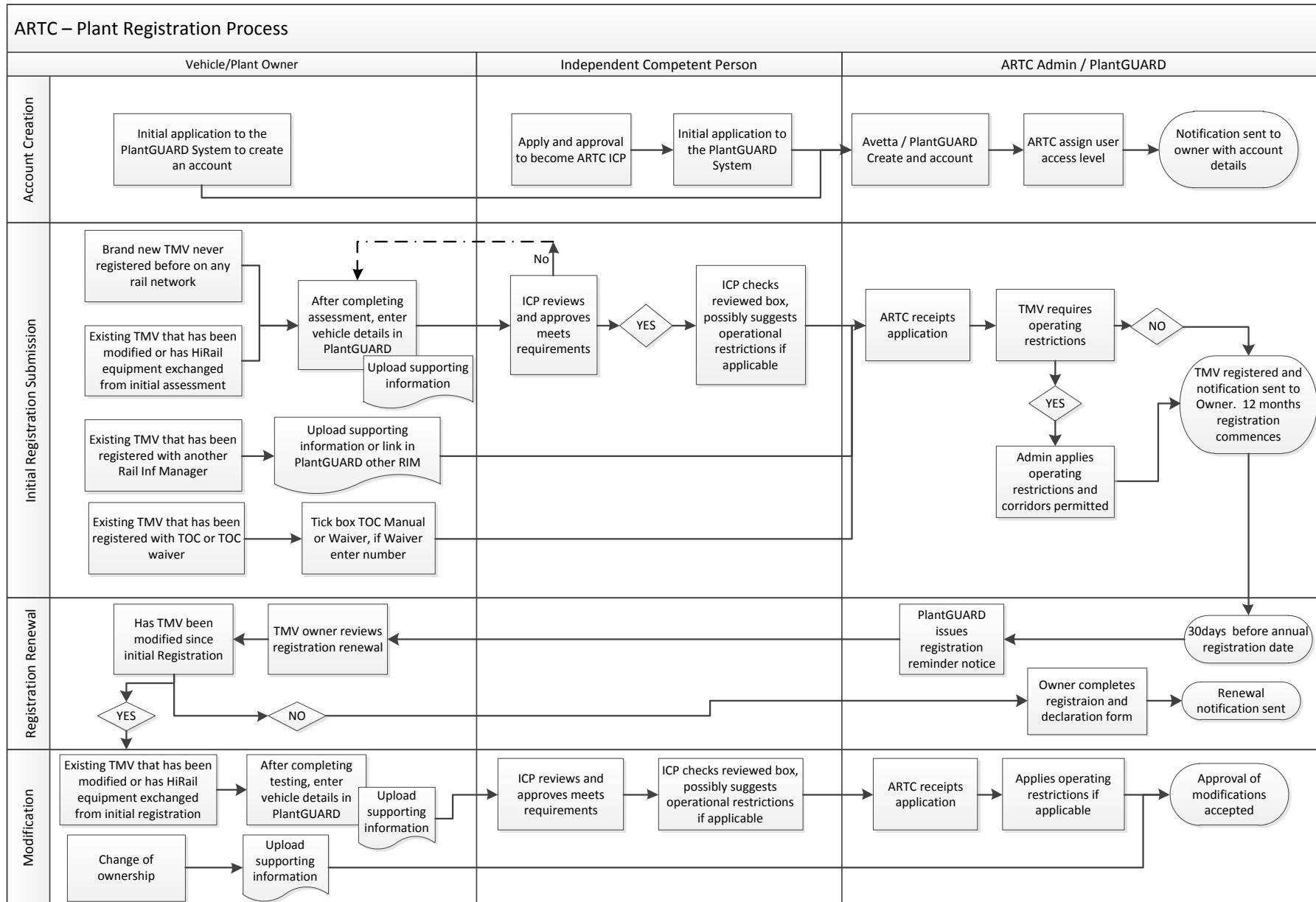
Standards that are commonly used by ARTC are:

- The WOS Standards
- The ROA standard
- The RISSB Australian standards
- Overseas standards such as the UIC standards

### Requirement for Certification:

The items requiring certification are specified in ARTC Standards and Procedures EPP-32-01, Section 2.4.

## Appendix B – Flow Charts



## Appendix C – Matrix of Modifications and Associated Tests.

When compared to existing Complying Rolling Stock, does the Modified Rolling Stock have a:	ASSESSMENT REQUIRED?											
	STATIC TESTS								DYNAMIC TESTS			
	Static Rolling Stock Outline Test	Measured Vehicle Mass Test	P2 Force Assessment	Static vehicle twist test	Static vehicle/bogie swing test	Static vehicle/vehicle swing test	ARTC Bridge assessment	Static brake test	Ride performance test	Park Brake performance test	Kinematic rolling stock outline test	Environmental tests
Lighter tare mass?	♦	✓		✓				✓	✓			
Heavier tare mass?		✓						✓		♦	♦	
Increased gross mass	✓		✓				✓	✓		✓	✓	
Higher or more off-centre Centre of Gravity?				✓					✓		✓	
Additional / removal of body features	✓	✓		✓					♦		✓	
Change in Configuration	✓			✓					♦			
More torsionally rigid underframe?				✓								♦
Different spacing between axles of a bogie or between bogies?					✓	✓	✓					
Different coupler length or different spacing between or drawbar pins?					✓	✓						♦
Larger Rolling Stock outline?	✓			♦		✓					✓	
Stiffer bogie springs?				✓					✓			♦
Less stiff (softer) bogie springing?									✓		✓	
Change in bogie damping?									✓		✓	♦
Fitment of constant contact side bearers?				✓					✓		✓	♦
Change to clearance of gapped side bearers?				✓							✓	
Smaller wheel diameter?	✓	✓	✓		✓				♦			
Larger wheel diameter	✓		♦		♦				✓			
Change to centre bearing design?				✓					✓		✓	
Change to air brake system								✓		♦		
Change to park brake										✓		
Higher speed			✓						✓		✓	

♦ may be required in some cases

## Appendix D – List of ARTC TMV Operating Restriction Codes

Code	Description	Criteria Applied
T1	Vehicle can be removed from rail using portable take off	
T2	Vehicle can be coupled into a train consist. Refer to specified maximum trailing load.	
T3	Vehicle permitted to operate under the control of track signalling and not under block working conditions.	Must be certified by a signalling ICP
T4	Maximum speed on a 1 in 30 grade 10 km/h	
T5	Maximum speed on a 1 in 30 grade 20 km/h	
T6	Maximum speed of vehicle when coupled in a train consist 80 km/h	
T7	Maximum speed of vehicle when coupled in a train consist 50 km/h	
T10	Maximum speed of vehicle when coupled in a train consist 60 km/h	
T12	This vehicle is restricted to a maximum speed of 20 km/h in the forward direction (or maximum speed of the vehicle, whichever is the lowest), and 5 km/h in the reverse direction when traversing track fitted with check rails or guard rails such as at points, crossings, bridges and level crossings.	R-R vehicle with wheels /tracks between 1100 –1365mm and/or 2160 - 2260mm from CL
T13	This vehicle is restricted to non-train stop areas and speed is restricted to 20 km per hour in the forward direction and 5 km per hour in the reverse direction when traversing track fitted with check rails or guard rails such as at points, crossings, bridges and level crossings. Care must be taken in areas where there is high ballast shoulders, sleepers laid out, rail lubricators, etc.	R-R vehicle with wheels /tracks between 2260 – 2440mm from CL
T14	This vehicle is restricted to operation within a possession area / worksite only. All movements shall be controlled by the possession officer. No other vehicles will be permitted to pass these vehicles on any adjacent lines until the possession officer / safe-working officer has been advised that these vehicles have come to a stand and are clear of the adjacent line. Transit on rail between worksites is not permitted.	R-R vehicle with wheels /tracks between 2260 – 2440mm from CL Also applies to excavators and other plant which can slew and foul adjacent tracks.
T15	These vehicles Exceed the Rollingstock Outline Plate A and are not permitted to operate on the Moss Vale to Unanderra Line.	
T16	This vehicle is fitted with an automatic coupler and air brake coupling hoses on the rear end and air compressor. This vehicle can be used to shunt rail vehicles.	Caution with this type of vehicle as it may require Train Driver equivalent qualifications to operate.
T17	This vehicle can be marshalled within a train consist in a position consistent with its draw capacity and the train can operate under the control of track signalling and not under block working conditions. The train conveying these vehicles must operate under block working conditions when these vehicles are in the rear of the train.	
T18	Vehicle identified with this note shall operate in travel mode with a driver safety system incorporating two independent safety features. The two independent safety features shall consist of a vigilance system (task linked preferred) plus a suitable authorised person OR alternatively, a task linked vigilance system plus a driver enabling device (Deadman). The latter is a mandatory requirement for driver only operation. An authorised person in this case, is a second person, accompanying the vehicle driver/operator, with sufficient knowledge of the vehicle to take control and bring the vehicle to a stand in the case of an emergency.	

Code	Description	Criteria Applied
T19	<p>Special care must be taken when traversing track fitted with check rails or guard rails such as at points, crossings bridges, and at level crossings and in areas where there are high ballast shoulders, sleepers laid out, rail lubricators etc – maximum speed 3 km per hour.</p> <p>Special care to be taken when travelling on un-tamped /skeleton track to prevent guide wheel lift or climb.</p> <p>When travelling boom must be centred in line with travel direction and placed low as safely possible. Do not carry loads on boom when travelling using road-rail guide wheels.</p> <p>Extra care to be taken in areas such as high embankments, bridges and curved track when using road-rail guide wheels to ensure units remain on rail at all times. Operators daily inspection regime particularly noting guide wheel condition and operation applies. All operators of the unit to be competent and fully aware of the above details and any other operator requirements relating to use of the unit on track.</p>	
T20	This vehicle is restricted to a maximum speed of 5 km/h in both directions when traversing track fitted with check rails or guard rails such as at points, crossings, bridges and level crossings. Care must be taken in areas where there is high ballast shoulders, sleepers laid out, rail lubricators etc.	Same as T13 but for vehicles more susceptible to wheel lift over obstructions, e.g. outside wheel track >2440mm.
T24	This vehicle is fitted with an elevated work platform (EWP) that shall not be utilised when the vehicle is on rail. Travel of the vehicle on rail, with the EWP stowed in the travel position, is permitted. For road/rail vehicles, the EWP may be used if the vehicle is in road mode not utilising the rail wheels.	
T25	This vehicle is fitted with an elevated work platform (EWP) that is permitted to be utilised when on rail. The EWP is not permitted to be utilised while the vehicle is in motion (vehicle shall be stationary for EWP use). Travel of the vehicle on rail, with the EWP stowed in the travel position, is permitted.	
T26	Dump trucks, tilting trucks or other similarly configured vehicles are not permitted to travel in working mode (i.e. Tilting) while in motion. If required to move while dumping clearances to all structure shall be confirmed before commencement of motion.	
BW	Vehicle Must be Block Worked	
<b>Trailer and Trolley Specific</b>		
TR1	Gross mass of trailer shall not exceed the tare mass of the hauling vehicle.	
TR2	Trailer must always be accompanied by an excavator or crane capable of lifting the trailer off the track.	
TR3	Trailer must be coupled to an excavator fitted with a compatible brake system to operate the fail-safe brake system. All operators of the combined excavator and trailer unit are to be competent and fully aware of the above details and any other operator requirements relating to use of the combined trailer and tow unit on track.	
TR4	This trailer may only be towed by listed approved vehicles	
TR5	Trailer pre-start, Plant Hazard Risk Assessment and operating instructions must be kept on the hauling vehicle at all times	
TY1	Trolleys do not require lights during daylight operation, however during conditions of poor visibility, night operations within tunnels, suitable front and rear lights must be fitted.	
TY2	Vehicle can be removed from the track by hand in tare condition.	
TY3	Trolley to be always attached to tow vehicle when on track	

Appendix E – ARTC PlantGUARD Registration Label and Data sheet Example





690M1

Type: Ballast Regulator  
 Internal ID: BX031  
 Road Reg: N/A  
 ARTC - Australian Rail Track Corporation

General Details		Specifications		Plant Image
Supplier Name	Demo Supplier for ARTC	VIN/Serial	xxxx	
Plant ID	773M1	GVM	10,400 kg	
Plant Type	Truck - Welders	Length	3,400 mm	
Plant Status	<span style="color: green;">■</span>	Height	2,450 mm	
		Seating capacity	2	
		Year of Manufacture	2015	
		Road Registered	YES	
		L Road Registration Number	xxxx	
		L State	NSW	
		Make	Hino	
		Model	400	
		Track Vehicle (Rail)	YES	
		L Rail Gauge	Narrow	
		L Track Vehicle Type	Road Rail Vehicle	
		L ARTC Class Code	HWR	