E17L ROLLING STOCK PLANT AND EQUIPMENT SAFETY

PURPOSE AND SCOPE
This Procedure specifies the requirements and provides guidelines for preparing or adopting rolling stock engineering and operating procedures to comply with the relevant safety standards, rail regulatory requirements and applicable Rail Transport Operator systems.

Plant and other equipment are used daily in the execution of railway operations. It is essential that it be used, maintained, transported and stored in accordance with manufacturer’s instructions in order to ensure that it continues to be safe in all circumstances.

As part of this requirement it is also essential to ensure that only properly trained and competent persons operate such plant and equipment. Failure to do so jeopardizes other workers, the plant, the infrastructure, railway operations and the general public.

This Procedure outlines the strategies which Laing O’Rourke will use to ensure the continuing safety of plant and plant users involved in railway operations.

PROCEDURES

Legislation Relating to Plant
Legislation relating to plant is contained within various states’ legislation. All personnel using plant, or with responsibility relating to plant, are to ensure that they are familiar with the requirements contained within the respective state legislation.

Work Health and Safety legislation also requires a number of supporting Codes of Practice to be referenced and applied in certain circumstances.

This guidance material and standards are not legally binding however they have the force of law if specifically referred to in State legislation and may be used in evidence in legal proceedings.

Identification of Plant/Equipment
All plant and equipment shall be identified with a unique asset number which shall be displayed clearly in a prominent position on the plant or equipment.

Plant and Equipment Movement in a Yard or Depot
There will be times when plant and equipment is required to be moved within a Depot. It is essential that a risk assessment is undertaken to determine how these movements will be controlled and that the processes are clearly defined and advised to all who will be involved in such operations.

Let’s all get home safely, every day.
**Maintenance and Repair**

The routine maintenance of plant and equipment shall be undertaken in compliance with the criteria set down in [E17B Monitoring, Maintenance and Repair of Rolling Stock](#) and is recorded by the Select representative in the MEX system. Any changes of location and hire details shall be recorded by the Select Depot Manager who ensures that all machines receive maintenance on frequencies at the least in accordance with the manufacturer’s specification.

Routine daily maintenance and pre-start inspections are the responsibility of the Operator. The Track Supervisor or other equivalent that has the day to day control of the plant shall ensure the plant pre-start check list forms are forwarded to the Select Depot Manager on a weekly basis. Such daily maintenance for mobile plant is recorded by the operator on a Pre-Start Inspection form. This form shall be submitted to the Select Depot Manager.

The Select Depot Manager shall record the daily engine hours on a weekly basis with the hours recorded for servicing purposes.

In the event that a piece of plant requires non-scheduled maintenance (as per the flow chart in [Element 17B](#)) then a MEX work instruction will be raised. This work instruction remains open in MEX until the job is completed. Once completed, the maintenance record will be saved in MEX and a hard copy in the plant asset folder.

On completion of the necessary repairs the relevant details are entered onto the relevant work order and processed in MEX. This form is completed by the Select representative and a copy is provided to the Select Depot Manager.

In addition to the above a suitable isolation system of ‘danger tagging’ and ‘out of service tagging’ shall be used to ensure that plant is not used when it is in an unfit condition or is being repaired by a competent person. For full details refer to the Primary Standards PS Energised Plant Isolations and Lockouts. Where the RIM have their own isolation procedures, these must be followed in addition to Laing O'Rourke procedures.

**Guarding & Safety Systems**

All pieces of operating equipment irrespective of type have dangerous moving parts which can cause serious harm or even death to persons coming into contact with the moving parts. In some cases there may be considerable machine noise which requires noise protection or sensitive parts of the equipment which require protection from the weather and dirt ingress.

See [E-G-8-0533i Equipment Safeguarding Standard](#)

There are no circumstances in which it is acceptable or permissible for plant and equipment to be used without guards firmly in place. Any intentional usage in such circumstances shall be regarded as serious misconduct and will result in disciplinary action up to and including dismissal.

Similarly where a machine or rolling stock is fitted with shields and or screens to reduce environmental noise or to keep dirt and weather away from engines, hydraulic systems and the like, they are to be kept in place at all times. They may be temporarily removed where necessary for essential maintenance or daily checks with the plant off in accordance with the Isolation and Tagging Procedure. In these circumstances they are to be replaced immediately when checks and/or repairs are complete.

**Plant Operator Competency**

*Let's all get home safely, every day.*
Only employees trained and assessed competent to operate plant and equipment will be permitted to do so unless under training, in which case they will be under constant and close supervision of the trainer or other qualified person. Laing O’Rourke has developed a competency matrix to align with the rail safety worker competency requirement determined by the respective State’s legislation which allows only those persons assessed as competent to be permitted to operate the equipment.

All personnel competencies shall be recorded and made available to relevant personnel (both internal and external) to ensure that only authorised personnel are utilised in the relevant tasks or operations.

No supervisor shall permit or allow an employee to operate plant or equipment unless they have satisfied themselves that the person is permitted to undertake the function allocated. Legislation details items of plant which require specific standards and certification of employees to operate them. In addition many States have additional local legislation/regulations covering such aspects. Where such exists, only personnel duly assessed as competent in accordance with the legislation will be assigned to the respective activity.

**Rolling Stock Travel Requirements**

Whilst travelling the minimum standard shall apply:

- No person is to drive a Laing O’Rourke item of rolling stock/mobile plant unless they have the competence for the type of vehicle and approval from Laing O’Rourke.
- No person is permitted to ride on the machine outside of a protected area.
- Only the operator shall ride on rolling stock unless there is equivalent protection provided for additional person. If the rolling stock is capable of carrying passengers, the operator of the rolling stock is responsible for ensuring that all passengers are seated before moving.
- If a person’s authority to operate has been revoked / suspended for any reason they must advise their supervisor and cease operations immediately. Strict adherence to posted and temporary speed limits is demanded at all times.
- Maintain minimum and maximum distances at all times whilst traveling in consist of separate, uncoupled machines as required by respective Network Owners rules.
- All insulated machines shall slow and be prepared to stop on approach to level crossings or as otherwise required by the Network Owners rules, e.g. flagging on level crossing, manual operation of systems.

**Security and Stabling of Plant**

On completion of the working shift or while stowed all plant is to be left in a secure manner and/or stabled in such a way that there is no risk to the safety and health of any persons or railway infrastructure or railway operators.

Methods by which this can be achieved are:

- Locked in a secure fenced compound
- Mechanically immobilised e.g. fuel system isolation

Let's all get home safely, every day.
- Electrically isolated
- Stabled in a well-lit area
- Stabled in a secure mode with keys removed and doors locked.

In high risk areas consideration should be given to employment of security personnel or any combination of the above or other method which achieves the objective.

When stabling the plant, the plant should be stabled in a suitable manner given the local facilities and should be as a minimum:

- Have park brakes applied
- Operating parts secured
- In all circumstances fit wheel chocks
- Engine immobilised

Note: That in all circumstances if the track machine has train air brakes (e.g. “Westinghouse”), then the air must be “built up” prior to removal of the wheel chocks and or disengaging the park brakes or the machine may roll away without adequate air to operate the main brakes.

Note: Always ensure wheel chocks are removed before attempting to move the machine or derailment may result.

**Mobile Plant and Equipment**

The variety of mobile plant in use in railway operations means that the range of hazards posed by each to the operators, bystanders and the rail infrastructure is broad. Each piece of plant will require a specific assessment on its usage to establish the risks and controls needed. This will include the operational risks, as well as the competencies required by the operators and maintainers.

In addition to the requirements that may be identified by the risk assessment, the following general requirements are to be applied irrespective of the risk identified by the assessment:

- Where there is any risk that a piece of plant/equipment could overturn or another object could contact the operator or the operator could be ejected from the seat, then suitable means of protection will be provided, maintained and implemented
- If the risk of a collision with other plant, persons or structure exists then suitable warning devices shall be provided, installed or erected as the case requires. Examples of such include flashing lights, reversing/movement alarms, physical barriers (such as bollards) and similar should be used dependent on the works and the risk to normal traffic and operations
- The carrying of passengers on mobile plant is strictly forbidden. The only exception to this is where suitable additional provision for passengers has been made in the design of the machine e.g. additional seating and seat belts
- Irrespective of any project specific requirements that may be identified by the project risk assessment, under no circumstances is any track machine to approach another track machine, work team or “on-track” worker, to a distance of closer than 20 metres within a possession. Where it is necessary to do so the machine is to stop, sound its horn and remain stationary until the other machine/track team have acknowledged the signal and given the all clear to proceed/approach

*Let’s all get home safely, every day.*
• Suitable first aid and firefighting apparatus shall be provided on all mobile plant. Alternatively suitable means for firefighting should be provided near the vicinity of its work envelope.

Note: A risk assessment shall be undertaken when employees may be required to enter the area between two closing items of rolling stock, as previously in NSW there was an industry prohibition notice issued by the then rail regulator banning personnel from being between 2 pieces of "closing rolling stock". This notice was intended to ensure the safety of personnel whilst being between rolling stock for the purposes of "coupling them" together, e.g. tamper and regulator. The risk assessment will determine the process to be applied when there is a need to couple 2 items of rolling stock.

Risk Assessment of Plant

The requirement to carry out a risk assessment is covered in various pieces of State legislation in all Australian States and Territories.

A detailed risk assessment needs to be undertaken on those tasks involving rolling stock and machinery. In considering this assessment the following aspects should be evaluated:

Hazard Identification by:
• Visual inspection of the rolling stock, plant or equipment
• Testing
• Technical evaluation of the rolling stock, plant or equipment
• Analysis of injury/dangerous occurrence data
• Discussion with relevant ‘experts’ such as designers, importers, suppliers, manufacturers, installers, erectors, operators and others
• Means of quantitative risk assessment as the case may require

These risk assessments may be carried out on an individual basis at a particular worksite or on a ‘generic’ basis of a class of machine generally. Where generic assessment is used the assessment is to be clearly identified as such so that the user can carry out modification as may be necessary for the particular circumstance in which it is being used. For a generic assessment to be valid all use parameters must be demonstrably the same as when the original assessment was carried out.

Means of Control

The hierarchy of controls described in E14 Risk Management for Railway Operations must be applied when determining controls but it is also important to determine controls that can be applied so far as is reasonably practicable. Guidance material to assist in determining this process is contained in material issued by the the Office of National Rail Safety and RISSB.

Only where each control has been applied so far as is reasonably practicable can the progress down the control hierarchy commence. Any identified hazards shall be entered into relevant Project Risk Register and if significant passed to the Rail safety & Compliance Manager for inclusion in the Risk Register for Railway Operations.

SR Change Management shall be applied when considering any changes or modifications to any rolling stock to ensure all hazards are identified and appropriate controls applied.
Third Party Plant and Equipment

Unless advised otherwise by the Network owner all rolling stock operations conducted by Laing O’Rourke will be undertaken in terms of Rolling Stock accreditation they hold.

Before any subcontractor brings any plant or equipment into use at a Project the subcontractor shall complete the Potential Supplier and Subcontractor Questionnaire and the relevant Pre-Mobilisation Plant Checklist which is subsequently checked by a site representative.

Where the plant is engaged on a “Wet or Dry Hire” basis, the equipment will be hired through Select Plant. Select will ensure that the supplier has been verified through the Vendor process.

For Wet Hire: evidence of the competency & verification of the competency of the operator(s) of the plant and equipment shall be provided before being permitted to commence work. All personnel to be engaged by Laing O’Rourke to undertake rail safety work must also be the holder of a Rail Industry Worker Identification Card. (Refer to E22 Rail Safety Worker Competence)

Laing O’Rourke reserves the right to have any piece of plant, equipment and/or its operator removed from the work site at any time for a failure to comply with the contract conditions, safety legislation, Worksite Protection rules, or for machinery safety transgressions.

Modification/Change to Plant

One of the greatest risks which can arise in the use of plant is its modification. This can include “in the field” modifications to try and finish the job.

Other examples include using a machine for a purpose other than for which it was designed or putting attachments on it “after-market” to try to make it more versatile.

It is vital that any changes to plant are done only by authorised personnel with knowledge and understanding of the effect that such changes may cause to the operation of the plant. Even then there is a risk that there may be underlying subtle changes to the plant that are not foreseen and cause harm or other damage.

If it is required that a piece of plant be changed or the maintenance regime relating to it be altered, it is vital that it be put through a formal and structured process to carefully and critically examine the requested change. This way the change can be fully explored to identify all the potential effects the change may have on the plant and its safe, efficient and economic use.

There is a specific process to be followed in these instances and this is prescribed in Laing O’Rourke’s System Requirement SR Change Management. This process sets out the steps to be followed and the checks and examinations to be performed for the change to proceed and ensure the safety and reliability is not compromised. The process to manage the change must have all aspects documented and signed off by the respective people.

REGULATIONS, GUIDES AND STANDARDS

Rail Safety National Law
ONRSR Guideline Preparation of a Safety Management System
RISSB Standards relating to rolling stock and in particular specific safety equipment.
Rail Infrastructure Managers Rolling Stock Standards
Rail Infrastructure Managers Train Operating Conditions

Let's all get home safely, every day.
Manufacturer’s standards and operators manual
WH&S Safety legislation relevant to the State or Territory where the item of rolling stock is to operate.

FORMS, TEMPLATES AND RECORDS
The following documents will be retained / produced in accordance with this Procedure:
- E-G-8-0533i Equipment Safeguarding Standard
- Manufacturers standards and specifications
- Change management documents relative to the change
- Inspection and test Plans
- Commissioning Checklists and reports
- Engineers Reports as required
- Rail Infrastructure Managers Registration
- Accreditation certification documents
- Machine Assessment Report
- Pre Mobilisation Checklist
- Pre-start Checklist for Rail track machines (relevant to the respective item of rolling stock)