WORKING IN RAIL ENVIRONMENTS

PURPOSE AND SCOPE

The Primary Standard details the FSR controls and minimum requirements to eliminate or minimise the risk associated with Working in Rail Environments that are a part of Laing O'Rourke workplaces.

This document is Mandatory and must be achieved across all Laing O'Rourke Workplaces. Where alternative controls are implemented, these must be approved through the FSR/HSEMS Requirement Dispensation process.

Definitions are detailed in Appendix 1 - Definitions

REQUIREMENTS

PLANNING WORK

FSR Obtain authority from the Network Operator to enter and work in the rail corridor, confirming that the authority defines the limits, scope of work, and agreed controls.

FSR Where plant or equipment may encroach on the Safe Approach Distance of overhead wiring, obtain an appropriate electrical permit from the asset owner and implement the defined controls.

- If lifting within the rail protection zone, the lift plan must incorporate the network operator's lifting assessment requirements, including controls to prevent slewing/load encroachment into the corridor and confirmation that ground bearing pressures and induced ground movement remain within allowable limits.
- A Safeworking Person qualified to the relevant network standards must be consulted during the planning phase of the works in the rail corridor.
- Where a work package requires work in the rail corridor, a rail risk assessment using the So far as is Reasonably Practicable (SFAIRP) methodology must be completed as part of the planning process before commencing rail corridor work.
- Where the LORAC Rail Transport Operator (RTO) Accreditation is in effect, interfaces with other RTOs or road managers, where a road intersects with a railway, must be identified and managed through a rail safety interface agreement.
- In areas with poor mobile coverage or remote work locations, suitable communications equipment, such as satellite phones, must be provided.
- Rail safety worker competency must align with Network Operator requirements and be confirmed before rail safety work is performed.
- Fitness for work programs including risk-based health assessments, fatigue management and drug and alcohol management will be developed in line with Network Operator requirements.
- Emergency management arrangements must be aligned with the Network Operator, considering communications with Network Control, response arrangements and access for emergency services.
- Transfer of rolling stock on an open network may only be done under an appropriate approval from the Network Operator.
- Where transfer of rolling stock on an open network is required, the operator must be accompanied by a suitably qualified Pilot with route knowledge of the travel path.

EXECUTING WORK

FSR Verify that Safeworking controls have been communicated to all workers, and in place, before commencing work.

- Workers who have not attended the pre-start/pre-work brief must not commence work until briefed by the Safeworking person.
- Fitness for work is verified through a self-declaration process for all persons on site including fatigue and impairment from drugs or alcohol

- The PO must question the work group after providing the Safeworking brief to check that they understand the type of Safeworking being applied and the limits of authority.

FSR Work must be performed from a position of safety outside the Danger Zone unless the track is protected or lookout working is applied.

FSR Lookout working must only be implemented when higher-order Safeworking protections are not practicable, and only in accordance with the relevant Network Rules.

FSR When lookout working, the Safeworking person must have clear line of sight and at least two effective methods of warning workers of an approaching train (e.g. whistle, air horn, physical contact).

FSR Where works are adjacent to a live track, provide delineation at 3m from the outside rail to prevent workers entering the danger zone. If 3m cannot be achieved, use a rail-operator-approved barrier system (e.g. Vortok Safety Barrier).

FSR Identify and protect rail infrastructure at risk of damage before commencing work, prioritising physical controls, or where not practicable, clearly identifiable markers.

FSR Where an electrical permit is in place, the isolation status, limits, and conditions must be confirmed and communicated to the work group before work commences.

FSR Control interfaces with other railway operations, roads, and public using physical barriers, approved traffic management measures, level crossing controls, or dedicated access routes

FSR Where there is a risk of work crews going beyond authority limits and into an energised zone, the limits must be clearly communicated by the Safeworking person and reinforced in the field with reliable warnings such as barriers, signage, delineation boards, or lights.

- A Safeworking Person must be present on site during all Intermediate and Critical Lifts within the rail protection zone or any lift that has the potential to intrude into the Danger Zone.
- Plant Spotters will be implemented in Rail Environments where it is a Network requirement for traversing plant and equipment on track.
- Track hand back must not occur until the Safeworking person confirms all workers, plant and equipment are clear of the danger zone.
- In an emergency, the Safeworking person must advise Network Control, prevent rail traffic approaching the affected portion of line, and protect people/property/environment.
- Correct PPE is available and worn in line with Network Operator requirements.
- Provide adequate lighting for works in night possessions.

FACILITIES, INSTALLATIONS, PLANT AND EQUIPMENT

FSR All rail-mounted plant must be inspected and certified by a network-approved competent person prior to onboarding and authorisation for use on track.

FSR Verify all plant on track has a certificate of registration issued by the Network Owner for its specific operating conditions.

FSR Mobile plant that may encroach into the Danger Zone must have engineering controls, such as slew restrictors, or achieve physical separation as a minimum.

FSR Where track-bound equipment is used, verify that derailment recovery plans and equipment are available, applicable to the site, and understood by all relevant personnel.

FSR When working on a skeleton track, confirm that a network-approved track certifier has verified that the track is fit for purpose before on-tracking plant.

FSR Where rolling stock is used, delineate the work area limits with visual indicators or signage to prevent any interface with other workgroups.

- Following any derailment, collision, or heavy impact involving rolling stock, a technically competent person (Select or their nominated agent) must examine the rolling stock before any movement occurs, determine the required action, and record that determination.
- Where a road–rail vehicle operating on any network is involved in a derailment, collision, or heavy impact to the rail guidance system, the vehicle must be immediately de-certified and must not return to service until it is re-assessed and re-certified by an Independent Competent Person (ICP) or through the Select Asset Manager – Rail.

SAFETY MANAGEMENT SYSTEM

There are 29 rail safety elements that need to be applied to mitigate the risks associated with the railway operations to be undertaken. How these are specifically addressed at a project is outlined in the Project Rail Safety Management Plan. Refer to the Rail Safety Management Plan Template.
Below is a list of the documents that support the regulatory requirements for each of the 29 elements which for "Rail" specific issues are shown in the Laing O'Rourke Health, Safety and Environmental Management System as an element (E):

- E01 Safety Policy
- E02 Safety culture (covered in **SR Rethinking Safety Through Inclusion + Wellbeing**)
- E03 Governance and Internal Control Arrangements
- E04 Management Accountabilities, Responsibilities and Authorities
- E05 Regulatory Compliance (covered in **SR Legal Obligations and Records Management**)
- E06 Document Control (covered in the Laing O'Rourke quality system)
- E07 Review of the SMS (contained in Management Review)
- E08 Safety Performance Measures
- E09 Safety Audits and Inspections (contained in **SR Inspections, Audits and Corrective Actions**)
- E10 Corrective Actions (contained in **SR Inspections, Audits and Corrective Actions**)
- E11 Management of Change (MoC) (contained in **SR Change Management**)
- E12 Consultation (contained in **SR Communication and Consultation**)
- E13 Internal Communications (addressed through iGate and supporting Laing O'Rourke processes)
- E14 Risk Management for Railway Operations
- E15 Human Factors
- E16 Procurement of Rollingstock
- E17 General Engineering and Operational System Safety Requirements
- E17A Commissioning of Rollingstock
- E17B Monitoring, Maintenance and Repair of Rollingstock
- E17C Modification of Rollingstock
- E17D Decommissioning and Disposal of Rollingstock
- E17E Incident Management of Rollingstock
- E17F Design Management of Rollingstock
- E17G Operation of Event and Distance Recorders
- E17H Rail Wheel Inspection
- E17I Operating Rollingstock
- E17J Registration of Rollingstock
- E17K Railway Track Signals
- E17L Rollingstock Plant Equipment Safety
- E17M Rollingstock Brakes
- E17N Monitoring Safework Arrangements
- E17O Construction of Rollingstock
- E18 Process Control
- E19 Asset Management of Rollingstock
- E20 Interface Management
- E21 Notifiable Occurrences and Railway Incident Investigations
- E22 Rail Safety Worker Competence

- E23 Security Management
- E24 Emergency Management Plan
- E25 Fatigue Management
- E26 Drugs and Alcohol
- E27 Health and Fitness
- E28 Resource Availability (contained within the Laing O'Rourke Recruitment, Transfers and Relocations Processes)
- E29 Training and Instruction (contained in the element within the overall SMS for Railway Operations).

LEGISLATION

Key Legislation is as follows:

- Work Health and Safety Regulation 2011(QLD, ACT), 2012 (SA), 2017 (NSW, NT) and 2022 (WA).
- Occupational Health and Safety Regulations 2017 (Victoria)
- Rail Safety National Law Act (various states)
- Rail Safety National Law Regulation (various states).

PLANS, FORMS AND TEMPLATES

For relevant plans, forms and templates see the Laing O'Rourke HSEMS at www.lorhsems.com.

APPENDIX 1 – DEFINITIONS

Term	Definition
Accreditation	Formal recognition by the rail safety regulator (e.g., ONRSR) that a rail transport operator has the competence and capacity to manage rail safety risks for its defined scope.
Competent Person	Someone who has acquired, through training, qualification, or experience, the knowledge and skills necessary to safely and effectively carry out a specific task.
Danger Zone	Any area in or near a railway where the movement of trains, rail vehicles, or associated equipment presents a risk of serious injury or death to a person. This measure is commonly referred to as 3 meters from the outside rails and any distance above or below this area unless a safe place exists or is created.
Derailment	An event where a rail vehicle fully or partially leaves the rails.
Lookout Working	A Safeworking method where nominated lookouts warn workers of approaching trains under controlled conditions. This method should only be used when higher order protections are not practicable.
Network Control	The RIM function responsible for controlling train movements and issuing/confirming rail access authorities.
Plant mobilisation process	The formal process of authorising plant for its first use on a project or workplace, completed by an appointed, or otherwise authorised, competent person who verifies that the plant meets Laing O'Rourke's minimum requirements for its type and configuration, and is free from defects or unauthorised modifications.
Rail Corridor	The land and rail environment controlled by the RIM that includes track and associated rail infrastructure, access ways, structures, and defined protection zones.
Rail Guidance System	The components that guide a road–rail vehicle on the rails (guidance wheels, linkages, associated structure).
Rail Infrastructure Manager (RIM)	The party responsible for managing and controlling rail infrastructure and associated rail safety risks for a defined network (also called Network Owner/Manager).
Rail Mode	Configuration where a road–rail vehicle is operating on track with guidance engaged and rail-mode controls/limits applying.
Rail Protection Zone	The area defined by the rail network operator within which work has the potential to affect the rail corridor or rail operations and therefore requires specific rail safety controls. This includes any area where plant or loads could intrude into the rail danger zone or affect track stability and clearances.

Term	Definition
Rail Safety Interface Agreement	Documented arrangements that define how interface risks will be controlled, communicated, monitored, and reviewed between RTOs.
Rail Safety Work	Work that can affect the safety of railway operations.
Rail Safety Worker (RSW)	A person who performs rail safety work, as defined by the Rail Safety National Law.
Rail Transport Operator (RTO)	An organisation accredited under the Rail Safety National Law (RSNL) to carry out railway operations as a rail infrastructure manager and/or rolling stock operator.
Railway Operations	Activities that affect rail safety, including operating rolling stock, managing rail infrastructure, controlling train movements, and managing safe working in/near the rail corridor.
Railway Track Signals	Explosive signalling devices used to warn/stop rail traffic under specific conditions and strict storage/handling/placement rules.
Road–Rail Vehicle	A vehicle capable of operating on road and on rail (hi-rail), typically using rail guidance wheels and rail-mode braking/controls.
Rolling Stock Operator (RSO)	The party responsible for operating rolling stock on a rail network (including safe operation, maintenance controls, and operational procedures).
Safe Approach Distance (SAD)	Is the minimum air gap required between a person, vehicle, or machinery and live electrical equipment/overhead powerlines to prevent arcing. These mandatory exclusion zones are defined by the Asset owner and vary in distance based on the voltage levels.
Safeworking Person	A competent person who can establish, maintain, brief, and remove worksite protection in accordance with RIM rules.
SFAIRP	So Far As Is Reasonably Practicable
Skeleton track	the incomplete track formation where the rail is supported by sleepers placed on top of bottom ballast. This acts as a "working railway" during construction, before commissioning works are finalised.
Track-bound equipment	Rail-only machinery that must remain on railway tracks for travel and operation. (e.g. locomotives, wagons, tampers, regulators, track grinders)
VOC (Verification of Competency)	A formal assessment and record confirming an individual can safely perform a specific task or operate specific plant/equipment to the required standard, considering the actual workplace conditions and controls