1. Scope:

This document sets out engineering standards for –

- operation of the heritage rolling stock in the custody or ownership of the Transport Heritage NSW (THNSW),
- operation of heritage rolling stock hired from other heritage rail operators, and
- inspection and maintenance of that equipment.

To ensure all rolling stock is safe to operate, maintenance activities will be undertaken in accordance with:

- applicable engineering standards of the NSW Transport Asset Standards Authority (ASA), Australian rail track Corporation (ARTC), John Holland Country rail network (CRN), and other Rail Infrastructure Managers,
- industry standards issued by the Rail Industry Safety and Standards Board (RISSB),
- Railways of Australia (ROA) Manual of Engineering Standards & Practices (used as a reference where the above documents do not cover the situation), and
- Other applicable standards for former NSW rail organisations, including but not limited to NSWGR, NSWR, PTC-NSW, SRA-NSW, which are used as reference material where documents from the above mentioned organisations do not specifically apply to heritage rolling stock.

2. Responsibilities:

Maintenance, application and review of engineering standards for rolling stock is the responsibility of the Fleet Manager.

3. Related Documents:

FORM No.	TITLE / DESCRIPTION
SMS-12-FM-1200	Pre-trip inspection for steam locomotives
SMS-12-FM-1201	Annual inspection for steam locomotives
SMS-12-FM-1202	Five-yearly inspection for steam locomotives
SMS-12-FM-1203	Air compressor test for steam locomotives
SMS-12-FM-1204	Drivers Brake Inspection GX
SMS-12-FM-1206	Pre-trip inspection for diesel-electric locomotives
SMS-12-FM-1207	Annual inspection for diesel-electric locomotives
SMS-12-FM-1208	Five-yearly inspection for diesel-electric locomotives
SMS-12-FM-1211	Pre-trip inspection for hauled rolling stock
SMS-12-FM-1212	Annual inspection for hauled rolling stock

SMS-12-FM-1213	Five-yearly inspection for hauled rolling stock
SMS-12-FM-1214	Single car air test for hauled rolling stock
SMS-12-FM-1216	Pre-trip inspection for Railcar / Railmotor
SMS-12-FM-1217	Annual inspection for Railcar / Railmotor
SMS-12-FM-1218	Five-yearly inspection Railcar / Railmotor
SMS-12-FM-1303	Wheel inspection form
SMS-12-RG-1219	Fleet asset management register
SMS17-FOR-ORS-0002-2	Boiler water testing

Former SRA documents:

Derailment Handbook

Vehicle Diagram books

Rolling Stock Outline Drawings

Examiner's Field Manual

4. Background:

Standards for operation of heritage rolling stock in terms of engineering specifications replicate the former NSW railway standards, as described earlier in this document, unless a later industry standard has been issued and adopted (e.g. RISSB standards).

Standards for inspection and maintenance, such as inspection intervals or the basis for component inspection, scheduled maintenance or replacement, may differ from the original where engineering analysis has demonstrated a basis that is more appropriate to the level and frequency of use of heritage equipment.

Where appropriate, inspection (particularly of infrequently-used items of rolling stock) will be based on condition rather than fixed time intervals. In such cases, pre-trip inspections will incorporate appropriate elements of scheduled annual inspections.

5. Review of standards:

Engineering standards for rolling stock will be reviewed every three years, or more frequently if circumstances change in the meantime, to ensure that they are appropriate for the level, frequency and nature of operation, and the age and condition of the equipment.

Reviews will take into account –

- any changes to industry standards,
- performance history and condition data,
- level, frequency and nature of operation, and
- any data arising from incidents or occurrences during operation.

Reviews will be confirmed by advice from an independent engineering adviser who is appropriately qualified in the technical area concerned.

Reviews and changes to standards will be overseen by the Safety & Environment Review Committee.

6. Rolling stock operating standards:

Rolling stock will not be permitted to enter traffic unless it complies with the minimum standards for normal service, below. If a fault or faults develop en-route, the defect will be repaired, or operations altered, so as to ensure the safe operation of the train, e.g. if necessary working back to depot or an alternative service centre.

7. Rolling stock routine inspection & maintenance schedule:

Locomotive-hauled vehicles

Locomotive-hauled vehicles will be maintained and inspected on a time interval basis as follows:

Inspection Type	Relevant Documentation
Pre-trip examination	THNSW Pre-trip inspection sheet
Annual inspection	THNSW Annual Inspection of Hauled Rolling Stock form
Five-yearly inspection	THNSW Five-Yearly Inspection of Hauled Rolling Stock form

Locomotives (steam and diesel-electric)

Locomotives will be maintained and inspected on a time interval basis as follows:

Inspection Type	Relevant Documentation
Pre-trip examination	THNSW Pre-trip inspection sheet
Annual inspection	THNSW Annual Locomotive Inspection form
Five-yearly inspection	THNSW Five-Yearly Inspection of Locomotives form

Railcars & Railmotors

Railcars and railmotors will be maintained and inspected on a time interval basis as follows:

Inspection Type	Relevant Documentation
Pre-trip examination	THNSW Pre-trip inspection sheet
Annual inspection	THNSW Annual Railcar / Railmotor Inspection form
Five-yearly inspection	THNSW Five-Yearly Inspection of Railcar / Railmotor form

8. Prioritising of Rolling Stock Maintenance

Maintenance of rolling stock will prioritised following the basis as follows:

Priority	Definition
1	Not to go until repairs are completed and signed off
2	Work to be completed prior to releasing for next operation (based on Pre-Trip Inspection form)
3	Completed when time available; not safety critical (captured during Annual Inspection works)
4	Completed when time available; not safety critical; not required for Annual inspection (captured during Annual Inspection works)

Prioritising of work to be recorded on the Fleet Asset Register; SMS-12-RG-1219.

9. Rolling stock pre-trip inspection:

Pre-trip inspections of all trains will be carried out according to the THNSW Pre-trip inspection sheet. All trains will be examined by an authorised and competent THNSW engineering representative prior to departure.

The locomotive(s) and the train will also be examined for defects en-route whenever possible and at the end of each trip.

10. Rolling stock and component maintenance marking:

Locomotive hauled rolling stock will be marked to indicate the date of their last Single Car Air Test (SC date) and Brake Cylinder Lubrication (BC date). Pneumatic brake components will be stamped with their last service date.

Bogies will be marked to indicate the Bearing Lubrication Date.

11. Certification of vehicles to run after derailment or collision:

In the event of a derailment or an incident involving significant collision damage to any unit of rolling stock, the unit so involved will be inspected by THNSW's authorised engineering representative to determine the fitness of the vehicle to travel. The representative will have the necessary competency, expertise and responsibility to make such a determination.

The THNSW engineering representative, prior to making any final decision relating to certifying a derailed or damaged heritage vehicle as fit to travel, will comply with any reasonable recommendation made by the representative of the relevant network owner/manager on technical issues that relate to the movement of damaged rolling stock upon the network.

Where a decision is made that requires the vehicle to be moved under supervision to the nearest location where repairs can be performed, or to a recognised repair facility, the requirements for such a movement will be as specified by the network owner/manager.

12. Version Control

Version	Change from previous	Date	Comment
1.0	First release	15/06/2016	
2.0	Changes to organisation structure	09/01/2017	
3.0	Updated Related Documents	20/03/2017	