AUSTRALIAN RAIL TRACK CORPORATION LTD

Discipline: Engineering (Track & Civil) **Category: Standard**

Examination of Track and Structural Clearances

ETE-07-01

Applicability

New South Wales	✓	**CRIA (NSW CRN)**	

Primary Source

ARTC NSW Standard TEP 10

Document Status

Version	Date Reviewed	Prepared by	Reviewed by	Endorsed	Approved
1.2	18 Jun 10	Standards	Manager Standards	Exec Manager SS&P 21/06/2010	CEO

Amendment Record

Version	Date Reviewed	Clause	Description of Amendment
1.0	01 Dec 09		Implementation draft. Supersedes NSW Standard TEP 10 v2.2
1.1	22 Mar 10	7	Implementation draft update. Requirement to use PP166F-01 included
1.2	18 Jun 10		Banner added regarding mandatory requirements in other documents and alternative interpretations.

Contents

Mandatory requirements also exist in other documents.

Where alternative interpretations occur, the Manager Standards shall be informed so the ambiguity can be removed. Pending removal of the ambiguity the interpretation with the safest outcome shall be adopted.

1 Introduction

This specification details the procedure for the examination of the:

- Lateral clearance to structures;
- Vertical clearance to overhead structures;
- Track centres between adjacent tracks.

2 Minimum Examination Frequencies

Examinations are to be carried out at the frequencies specified in Technical Maintenance Plans.

3 Lateral Clearance Examination

The lateral clearance examination is required for all tracks where there are structures that could infringe on the structure gauge. "Structures" include retaining walls, rock faced cuttings, bridge members, tunnel walls, overhead wiring masts and signals.

Requirements for passenger platforms are shown in section 4.

It is not to be assumed that all structures are vertical. If there is an overhang, a plumb bob or other method is to be used to establish the position of the structure relative to track centreline.

Whilst the minimum lateral clearance nominated is generally 2135mm for structures above platform level, all structures within 2500mm on straight track are to be recorded on ETE0701F-01 Examination of Clearances.

On curves, the 2500mm limit for recording is to be increased to allow for the vehicle displacement and the effect of superelevation.

The design and measured clearances are to be entered on ETE0701F-01 Examination of Clearances.

4 Platform Examination

All platforms, including passenger and freight, are to be examined for conformity to ETM-07-01.

At platforms where survey plaques detailing the correct position of the adjacent track are provided, design and actual dimensions are to be recorded for horizontal and vertical clearances and superelevation (ETE0701F-01).

Where survey plaques are not available, the design dimensions detailed in ETM-07-01 are to be used.

Platform measurements are to be recorded at each survey plaque. If plaques are not available, measurements should be taken at a maximum interval of 50m.

Platform height is to be measured from the low rail.

5 Vertical Height Clearance Examination

On straight tracks where the operation of rolling stock, other than double stacked rolling stock, is approved if the vertical clearance is less than 5000mm, within 2135mm of either side of the track centre line under any structure, the minimum actual dimension is to be recorded on ETE0701F-01 Examination of Clearances.

On curved tracks where the operation of rolling stock, other than double stacked rolling stock, is approved if the vertical clearance is less than 5250mm within 2135mm of either side of the track centre line under any structure, the minimum actual dimension is to be recorded on ETE0701F-01 Examination of Clearances.

It is policy to provide special survey plaques at structures with restricted clearances. If these are provided together with the necessary instructions, the measured and design distances of the rails from the plaques are to be recorded instead of the actual clearances.

Any infringement of the structure gauge is not permitted and prompt action to rectify any fault is necessary, depending on the amount of the infringement.

6 Track Centres Examination

The Track Centres Examination is required on lines with multiple tracks to ensure that the track centres, and the resulting vehicle or structure clearances, are not reduced below a safe minimum.

Track centres are to be measured on lines where operating speed in excess of 20km/hr is possible.

Track centres examination is optional where the design track centres for the appropriate rolling stock on the particular line exceeds 4500mm.

Track centres and superelevation are to be recorded on ETE0701F-01 Inspection of Track Centres and Rail. (The track centres may be directly measured or calculated from alignment to survey pegs).

These measurements are to be compared with the design details provided by the authorised ARTC representative and the variation recorded.

Reductions in track centres are to be reported where the combined error due to track misalignment and variation of superelevation for adjacent tracks totals 90mm or more.

6.1 Measuring Track Centres

On straights the design track centres at each Tangent Point are to be recorded together with the actual track centres and the superelevation for each track.

If the straight is more than 250m long, intermediate measurements at not more than 250m are to be taken. If there is any visible swing in the tracks on the straight between measuring points, records are to be taken at these locations also.

On curves the design track centres at each 50m are to be recorded, together with the actual track centres. Similarly, the design and actual superelevation at these points is to be noted.

If there is any visible variation in line or superelevation between these points that would bring vehicles closer together, the measurements at these points also are to be recorded.

6.2 Clearance Points

At locations where tracks converge or diverge (ie sidings or crossing loops) a specified clearance point is required to ensure vehicles stand clear of adjacent tracks.

These clearance points may be protected with catchpoints, fixed signals, track circuits etc.

A check is to be made of clearance points during track centre examinations to ensure that correct clearances are maintained.

7 Action to be Taken

Where reportable exceedents requiring immediate attention are identified, the action is to be arranged during the inspection as for a Routine Track Patrol.

Other reportable are to be listed by the Length Inspector/Examiner on PP166F-01 Inspection /Defect Report form.

Clearance infringements are to be managed in accordance with the requirements of ETM-07-01.

8 Appendix 1: Forms (examples only)

8.1 ETE0701F-01 Examination of Clearances

Engineering (Track & Civil) Code of Practice – General Appendix - Form
ETE-07-01 Examination of Track & Structural Clearances

Form Number: ETE0701F-01

EXAMINATION OF CLEARANCES

Length: | Length Inspector/Examiner Signature: | Date:

Structure: | Track:

KILOMETRAGE	HORIZONTAL CLEARANCE STRUCTURE			VERTICAL CLEARANCE TO STRUCTURE			SUPERELEVATION			DIRECTION OF SUPER	
	DESIGN	ACTUAL	VARIATION	DESIGN	ACTUAL	VARIATION	DESIGN	ACTUAL	VARIATION		
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8.2 ETE0701F-02 Inspection of Track Centres and Rail Level

Engineering (Track & Civil) Code of Practice – General Appendix - Form
ETE-07-01 Examination of Track & Structural Clearances

ARTC

Form Number: ETE0701F-02

EXAMINATION OF CLEARANCES

Length: ____________ Length Inspector/Examiner Signature: ____________ Date: ____________

Tracks Measured: Track "A": ____________ Track "B": ____________

KILOMETRAGE	Track Centres			Superelevation Track "A"			Track Layout			Superelevation Track "B"			Rail Level "A"		Rail Level "B"	
	DESIGN	ACTUAL	VARIATION	DESIGN	ACTUAL	VARIATION	A B ‖	A B «	A B »	DESIGN	ACTUAL	VARIATION	DESIGN	ACTUAL	DESIGN	ACTUAL
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